GREAT LAKES COUNCIL
ENVIRONMENTAL & DREDGING LEVY

INDIVIDUAL PROJECT REPORTS

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Natural Systems Branch

Great Lakes
COUNCIL

8 MARCH 2013

BACKGROUND TO INDIVIDUAL PROJECT REPORTS

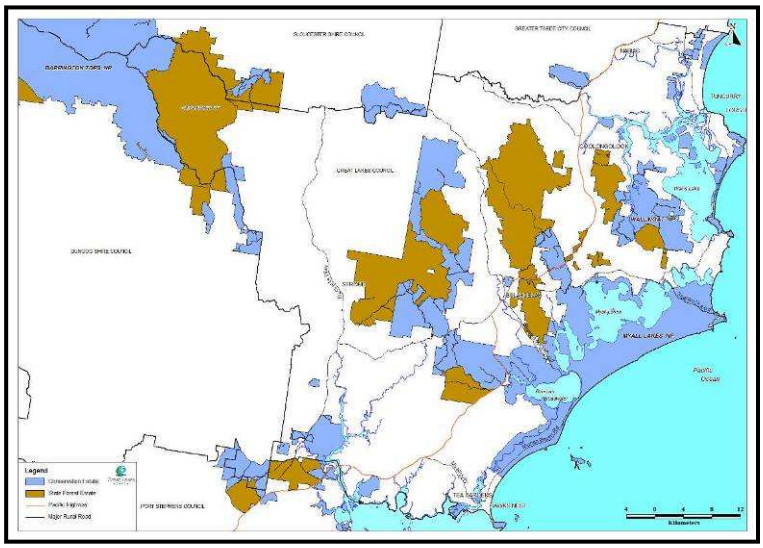
The Great Lakes Local Government Area (LGA) is located on the New South Wales' mid north coast and comprises an area of 3,374km^2. The LGA extends from the coastal landscapes of Black Head in the north to Hawks Nest in the south and west to the Karuah River valley and Barrington Tops foot-slopes on the Great Dividing Range. It is unique in that, at separate extremities, it contains the world-recognised Myall Lakes Ramsar site in the east, as well as the world-recognised Gondwana Rainforests of the Barrington Tops area in the west.

The Great Lakes LGA contains 35,000 permanent residents and receives significant visitation from tourists and travellers. It is an adventure play-ground for major population centres at Newcastle and Sydney and offers a scenic respite for through-travellers on the Pacific Highway. The natural environment and the quality of aquatic, estuarine and near-shore marine environments are significant tourist drawcards and tourism is a major driver of the regional economy.

The other major regional economic driver is associated with primary production and resources (such as fish, oysters, beef, dairy products, timber, and extractive resources).

As such, a functional and resilient natural environment is critical for the ecological, economic and social well-being of the Great Lakes LGA.

The 1997 Hepatitis A event in Wallis Lake oysters showcased the vulnerability of the natural environment and clearly demonstrated the critical linkage between environmental quality and the state of the regional economy and community well-being. This tragic event was a direct catalyst for the introduction of the Great Lakes Environmental Special Levy (ESL).



The Great Lakes LGA and major environmental assets

The ESL has been in operation since 2001. It has been responsible for significant achievement in relation to the protection, restoration and enhancement of the quality and function of the natural environment, progress towards greater sustainability performance and proactive contributions to the social and economic wellbeing and way of life of residents and visitors alike.

This report has been compiled to identify and describe the major (but not all) individual projects funded and facilitated by the ESL, including a description as to future aspirations and objectives within each project. The continued application and administration of the ESL is critical to consolidating the outcomes so far achieved, as well to continue and extend these outcomes into the future for the benefit of current and future generations.

The following projects have been compiled and described within this report:

As identified above, these projects do not represent the totality of the expenditure and achievement associated with the Great Lakes ESL.

Sustainability Initiative

PROJECT JUSTIFICATION

Councils are required to address sustainability and to balance social, environmental and economic values in all aspects of decision making and operations. This responsibility is outlined within the *Local Government Act 1993*. In a practical sense though, this is often difficult to achieve. There is a need to work creatively and effectively to achieve progress towards sustainability and its principles. This is critical to managing our region and its values for the benefit of current and future generations. Achieving greater sustainability in decision-making requires coordinated and informed planning and a greater understanding of issues, risks and consequences. Community values underpin sustainability priorities.

As such, Council has developed and adopted a Sustainability Strategy and is working to implement sustainability actions.

Sustainability Advisory Committee Members

PROJECT OBJECTIVES

To work towards a better future for the community and the natural environment, Council will focus on achieving key objectives within the overall Sustainability Initiative. These initial objectives include:

- Use a collaborative approach to become a more sustainable organisation through discussion and action
- Increase the capacity of staff to incorporate sustainability into their everyday decision-making and operations
- Be leaders in sustainability and showcase our efforts to the local community and businesses
- Guide the development of a sustainability strategy to coordinate sustainability initiatives
- Access adequate funding to deliver sustainability projects

PROJECT DESCRIPTION – FUTURE DIRECTION

The Great Lakes Sustainability Initiative commenced with the development of a Sustainability Strategy and staff training focused on sustainability principles and their application. This led to the establishment of a Sustainability Advisory Committee (S-Team) to facilitate a coordinated approach towards sustainability within the organisation. The S-Team are focused on guiding the development of the Great Lakes Sustainability Strategy, undertaking energy and water audits, providing a forum for discussion and collaboration, offering support to staff undertaking sustainability initiatives in their everyday work practices, monitoring the organisations progress towards becoming more sustainable and accessing funding to implement tangible sustainability projects.

In the future sustainability and its principles will be incorporated into corporate administrative frameworks through the integrated planning process to establish a framework for sustainability and cultural change. The Initiative to date has focused on Councils operations and is intended to be expanded to the wider community. Additionally the Initiative will guide the implementation of a Sustainability Strategies Action Plan.

RELEVANT PLANS AND STRATEGIES

Great Lakes Water Quality Improvement Plan – 2009

Great Lakes 2030 Community Strategic Plan – 2011

Strategy for a Sustainable Future – 2009

NSW Government Sustainability Policy – 2008

ACHIEVEMENTS TO DATE

The Initiative has delivered considerable outcomes since its inception. These include:

- The formation of a Sustainability Advisory Committee
- The completion of the sustainability health check for the organisation
- The preparation and adoption of a Sustainability Strategy
- Recognition as a Bronze Partner in the NSW Sustainability Advantage Program
- Implementation and adoption of ongoing monitoring systems for resource consumption
- The undertaking and implementation of energy and water audits resulting in reduced energy and water use
- Accessing significant funding to deliver tangible sustainability projects such as energy efficiency upgrades to key buildings and water-use reduction

In addition there is a realisation that sustainability makes good business sense and that it requires a whole of organisation approach to be successful signifying a changing in culture and thinking within the organisation.

Regional Partnerships

PROJECT JUSTIFICATION

Great Lakes Council is a member Council of Hunter Councils. Hunter Councils is an incorporated body comprising 11 Local Government Areas within the Greater Hunter Region. Membership of Hunter Councils facilitates positive outcomes through cooperation, collaboration and shared resources. In particular, Council is a member and active contributor to the Environment Division, which is strategic unit within Hunter Councils. Through this membership, Great Lakes Council benefits from participation in regional environmental programs, shared learning through cooperation, collaborative resourcing as well as access to experts, environmental legal services and specialised training services. Great Lakes Council also participates in environmental programs associated with the Mid North Coast Regional Organisation of Councils (MIDROC), such as GIS and weeds programs.

Hunter Councils has developed a Roadside Toolkit

PROJECT OBJECTIVES

Great Lakes Council actively participates in regional partnerships in order to:

- Actively participate in and benefit from regional and sub-regional environmental programs and initiatives
- Learn from the expertise and experiences of adjoining Councils through shared learning, collaboration and consultation
- Collaborate with respect to the sharing of resources for environmental programs
- Benefit from access to environmental legal services and registered training providers
- Assist other member Councils with information and feedback arising from Council's own projects

PROJECT DESCRIPTION – FUTURE DIRECTION

Great Lakes Council has significantly benefitted from its membership and active participation with adjoining regional organisations of Councils. The ESL has supported annual participation fees and has contributed to shared regional projects, including those relating to weed management in priority landscapes, sustainability and compliance initiatives and water quality programs. Council will continue to actively participate in these regional organisations and benefit from the sharing of resources, shared learning and access to regional programs and expertise.

It is anticipated that Council will adopt and implement the Electronic Review of Environmental Factors products to ensure that our commitment to statutory assessment of Council activities are met. We will also continue our association with regional vegetation mapping and classification initiatives and benefit from an involvement in Hunter Council's Biodiversity Prospectus program, which is supported by a Biodiversity Fund grant. Council is also set to roll-out the Regional Roadside Management Program, including the roadside marker scheme and best management practice operational policies. Further, we will continue to seek collaborations with Hunter Councils and the Mid North Coast Group of Councils relating to sustainability, weeds management, water quality and climate change adaptation.

RELEVANT PLANS AND STRATEGIES

Hunter Councils documents – various

ACHIEVEMENTS TO DATE

Council has benefitted significantly from its involvement with the Hunter Councils Environment Division and its broader regional organisation. In particular, this association has delivered programs and products relating to the following:

- Greater Hunter Regional Vegetation Mapping and biodiversity programs
- Climate change adaptation and risk management
- Roadside environmental management initiatives, including standardised roadside marker scheme
- Electronic Review of Environmental Factors project
- Water quality management programs in particular Water Sensitive Urban Design
- Weeds management
- Sustainability initiatives and environmental awareness and compliance programs

Council has similarly benefitted from a professional association with the Mid North Coast Group of Councils, particularly in relation to weeds and GIS programs. Significant benefits have arisen from active participation with regional groups.

Environmental Management Systems – Improving Council Environmental Performance

PROJECT JUSTIFICATION

Environmental management systems (EMS) are an effective tool for improving Councils overall environmental performance. This structured approach to managing environmental risks is a necessary step towards 'leading the way' in our community on sustainability.

In line with Councils Sustainability Strategy and the EMS framework, the Sustainability Team oversee the development of site and activity specific EMS.

Continued design and uptake of EMS will ensure continuous improvement and ongoing review of performance.

Council staff undertaking sediment and erosion control audit

PROJECT OBJECTIVES

The objectives of this project are to work with Great Lakes Council staff and, particularly, the Sustainability Team to:

- Manage key corporate sites or activities that have been identified as having high environmental risk to council by progressively developing and implementing an Environmental Management System
- Build the capacity of Council staff to identify and manage environmental risks
- Promote improvements to environmental performance to Council, staff and the community

PROJECT DESCRIPTION – FUTURE DIRECTION

The framework for managing environmental risk will be used to identify the next highest priority activities or sites. Over time, new EMS will be developed and existing systems will be reviewed to ensure that the targets set are being achieved. EMS targets will be monitored (eg. for erosion and sediment control, regular audit results will be conducted) and formal reporting to the Sustainability Team will be established. Communication across the organisation about managing environmental risk will be linked to the corporate risk management framework and improvements in environmental performance will also be promoted among staff and within the community.

Support will be provided to key staff who have previously been involved in environmental audits on their sites (Tuncurry Depot and Waste Transfer Station) to develop those audit s into a formal EMS.

RELEVANT PLANS AND STRATEGIES

Environmental Risk Management Framework – 2012
Strategy for a Sustainable Future – 2009

ACHIEVEMENTS TO DATE

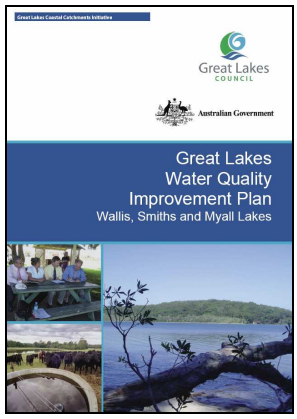
A framework for managing environmental risk has been developed. This framework sets the methodology for developing EMS for high risk sites and activities undertaken by Council. Two EMS for high risk activities have been developed, one for erosion and sediment control practices on Council road construction and maintenance and one for the Part 5A assessment process and development of the review of environmental factors. Staff involved in undertaking these activities were engaged in coming up with the solutions for improved performance using an intensive process review methodology.

For erosion and sediment control, audits were undertaken across the LGA to track performance and areas for improvement. Improved systems and templates were set up to assist with improving performance and a series of training sessions were held on practical best practice approaches to erosion and sediment control as well as environmental legislation and the approach to developing the review of environmental factors. The EMS and their implementation and monitoring has greatly enhanced Council environmental performance.

Water Quality Improvement Plan

PROJECT JUSTIFICATION

The ecological, social and economic significance of the Wallis, Smiths and Myall Lakes and their catchments have long been recognised at local, State, national and even international levels. Despite these values, and in keeping with general trends, there was significant evidence of cumulative and ongoing decline in the condition and function of aquatic systems across the Great Lakes LGA. The Great Lakes Water Quality Improvement Plan was developed to collate scientific data to understand the state of our coastal lakes systems and the pressures and threats affecting them. The Plan identifies strategies to improve water quality and ecological condition of these waterways. Through partnerships with the community, agency and industry stakeholders, Council will provide the resources and leadership necessary to achieve the ecological health targets for Wallis, Smiths and Myall Lakes.



Great Lakes Water Quality Improvement Plan

PROJECT OBJECTIVES

The overall objective of this project is to improve the water quality and ecological health of Wallis, Smiths and Myall lakes through the progressive implementation of protection and remediation actions identified in the Water Quality Improvement Plan. Great Lakes Council has an important role to play in both the implementation of key actions and the co-ordination of those identified for other agencies and stakeholders.

The Water Quality Improvement Plan outlines recommendations for the protection and restoration of Wallis, Smiths and Myall Lakes and links catchment management actions to ecological improvements in the estuaries. It identifies priority actions for water quality improvement in rural and urban areas and outlines how pollution control systems and lake use activities can be improved to achieve additional benefits.

PROJECT DESCRIPTION – FUTURE DIRECTION

Progressive implementation of the Plan has involved action related to a number of ongoing projects, including:

- Rural land management
- Urban stormwater quality improvement
- Waterways and Catchment Report Card and scientific investigations
- Improving Council's erosion and sediment control practices
- Implementation of the Wallis Lake Wetland Strategy
- School Environmental Education Program
- Urban engagement

Key areas for further action have been identified to include best practice management of rural roads as well as improved management of pollution control systems and lake use activities.

RELEVANT PLANS AND STRATEGIES

Great Lakes Water Quality Improvement Plan – 2009
Great Lakes 2030 Community Strategic Plan – 2011

ACHIEVEMENTS TO DATE

The Water Quality Improvement Plan has provided a sound scientific basis for the development of policy and programs aimed at achieving the water quality and ecological health targets outlined in the Plan.

The Plan has played a fundamental role in attracting Commonwealth and State funding to implement key projects such as the Sustainable Farming Program, urban stormwater quality improvement projects, improving Council's environmental performance and practices, developing a water sensitive design policy for development, the ecological report card project, wetland protection and rehabilitation, as well as community engagement initiatives.

The Water Quality Improvement Plan has led to a greater understanding of the state, as well as the pressures on and risks to the condition and function of local waterways. It has provided for greater awareness of the need for action and the tools required to maintain and enhance local waterways. It is reasonable to say that the implementation of the Plan has benefitted the quality and integrity of local waterways and with continued implementation, such achievements will be consolidated and extended, for the benefit of the natural environment and residents and visitors to the Great Lakes.

Urban Stormwater Quality Improvement

PROJECT JUSTIFICATION

The Water Quality Improvement Plan clearly identified that nutrients, sediments and gross pollutants within urban stormwater can cause a significant impact on the ecological health and functioning of Wallis Lake. The management of such through the reduction of pollutants from urbanized catchments is thus a priority action within the Water Quality Improvement Plan.

To reduce these inputs, Council has undertaken an extensive program of urban water quality improvement by maintaining and upgrading existing structural solutions to water quality protection and by retrofitting existing urban areas with water sensitive urban design devices such as bioretention systems, litter baskets, gross pollutant traps and constructed wetlands.

Bioretention system – Palms Estate, Forster

PROJECT OBJECTIVES

The objectives of this project are to:

- Reduce the input of nutrients, sediments and gross pollutants from urban areas by constructing new water quality improvement devices such as bioretention systems
- Maintain and enhance the effectiveness of existing water quality improvement devices
- Identify areas and priorities for future investment in water quality improvement in urban areas in line with the Water Quality Improvement Plan, expert scientific advice and the needs of the community

PROJECT DESCRIPTION – FUTURE DIRECTION

To meet the water quality targets in the Water Quality Improvement Plan and improve the ecological health of Wallis Lake, considerable further investment is required. Priorities for future investment have been identified and new stormwater quality projects with high cost benefit ratios will be progressively established. There will also be continued retrofitting of additional bioretention systems to existing urban areas as well as the protection and restoration of existing areas of native vegetation to protect water quality environmental services functions. Further work is also required to finalise the Stormwater Management Plan, involving urban stormwater modeling of specific sub catchments and negotiations with private landholders. To complement the on-ground activities in this project, Council will continue to engage with urban residents to raise awareness of stormwater pollution issues, implementing urban engagement actions from the Water Quality Improvement Plan. To ensure that stormwater pollution from new development does not cancel out the gains made through the on ground works in this project, Council will continue its commitment to the water sensitive design development control plan (DCP 54) which will ensure that all new developments will have no new impacts on water quality. ESL funding will continue to support the maintenance of the existing water quality improvement devices which will ensure that the water quality gains that have been made are not lost.

RELEVANT PLANS AND STRATEGIES

Great Lakes Water Quality Improvement Plan – 2009

Wallis Lake Estuary Management Plan – 2005

Forster/ Tuncurry Stormwater Management Plan – 2013 (Draft)

ACHIEVEMENTS TO DATE

Great Lakes Council has installed or acquired 252 litter baskets, 6 Gross Pollutant Traps (GPTs), 8 constructed wetlands and 3 Nicholas Ski Jumps and manages these for water quality protection. Two wetlands, at Bramble Parade and Goldens Road, have been re-constructed to improve their capacity to remove nutrients and 7 new bioretention systems have been constructed in the Pipers Bay catchment. As part of this program, these structures are regularly monitored and maintained to ensure that they are operating effectively and efficiently. Litter baskets are typically cleaned out once every month and GPTs and wetlands are maintained on an as-needs basis. Regular surveillance of wetlands and bioretention systems is conducted and typical maintenance of wetlands and bioretention systems involves cleaning out accumulated sediment and ensuring plant communities are maintained including weeding, re-planting and the management of water levels. Council is also working strategically to protect remnant native vegetation in the catchment that provides for significant water quality environmental services functions.

To identify opportunities for future water quality improvements in urban areas a draft Stormwater Management Plan for Forster/ Tuncurry has been developed.

Development Control Plan – Water Sensitive Design

PROJECT JUSTIFICATION

The Water Sensitive Design Development Control Plan (DCP 54) has been designed to reduce the impact of stormwater on the waterways in Great Lakes Council. The need for this DCP was one of the key recommendations from the Water Quality Improvement Plan. It identified that urban areas exert a disproportionate impact on water quality as compared to other land uses in the LGA.

When implemented, this DCP will contribute to achieving the overall targets for nutrient removal and ecological health of Wallis, Smiths and Myall Lakes. By providing for the employment of key staff, the engagement of expert urban water quality management practitioners and the resourcing of the development and implementation of the DCP, the ESR has facilitated this award-winning project.

Small-scale bioretention system for water quality

PROJECT OBJECTIVES

The objectives of the Water Sensitive Design DCP are to protect and enhance natural waterways by reducing the impact of urban development and land use on stormwater quality. To achieve these objectives, this project aims to:

- Regulate and control development such that it has a neutral or beneficial effect on existing waterways to prevent further decline and enhance the resilience of aquatic systems
- Build the capacity of our local community to achieve effective design, construction and maintenance of bioretention systems
- Continue to adapt and improve DCP 54 based on lessons learnt during early implementation of the plan
- Build community acceptance and support for DCP 54

PROJECT DESCRIPTION – FUTURE DIRECTION

DCP 54 requires developers to comply with strict water quality targets for new and re-development. For new development, these targets ensure that there are no new impacts of nutrients and sediments to our waterways. For existing areas, improvements in water quality are achieved. This project focuses on continuing to build the local community's capacity to design, establish and maintain effective bioretention systems suitable for both individual houses and larger subdivisions. It involves a combination of training and one to one advice on individual designs. An area for future work will involve training and support for builders in the construction of these systems.

Raising overall awareness within the community about the importance of bioretention systems will also be a central aspect of this project, contributing to their acceptance and ongoing maintenance.

Tours of Council's bioretention systems and involving students in water quality projects will be ongoing and further efforts will be made to raise awareness of the importance of these systems, as well as their maintenance requirements.

RELEVANT PLANS AND STRATEGIES

Great Lakes Water Quality Improvement Plan – 2009

ACHIEVEMENTS TO DATE

DCP 54 was developed with extensive input from internal and external stakeholders. The external working group made up of local planning consultants, developers and builders were engaged in providing practical input to the design of the DCP.

To ensure effective implementation of DCP 54, training has been provided to local builders, planning consultants, developers, architects and draft-persons. Two separate training sessions involved how to use the small scale stormwater quality model and how to design bioretention systems for large and small scale development.

DCP 54 was adopted for large scale development in January 2012 and small scale development (single housing) in July 2012. Since adoption, every Development Approval has been required to meet the objectives and targets in the DCP. This has greatly enhanced water quality outcomes associated with ongoing development and land use. The issues of water quality decline as a consequence of development will be avoided by ongoing application of the DCP.

Urban Community Engagement

PROJECT JUSTIFICATION

The Great Lakes Water Quality Improvement Plan, the Wallis Lake Estuary Plan and the Smiths Lake Coastal Zone Management Plan recognise that everyone in the community has an important role to play in improving water quality and the ecological health of our waterways. As a direct result, Council has expanded its commitment to sustainability initiatives and a range of community engagement actions from the Sustainability Strategy have been undertaken.

This project focuses on engaging with people to raise awareness as well as developing programs to encourage changes to individual behaviour within our urban communities to help protect and restore the condition and function of the natural environment.

Gardening for Sustainability Facilitators

PROJECT OBJECTIVES

The objectives of this project are to engage with our urban community to:

- Build the community's capacity to protect water quality and undertake sustainability initiatives through every day actions
- Raise awareness and understanding of local environmental issues
- Help create a culture of environmental awareness, responsibility and involvement in the Great Lakes area.

PROJECT DESCRIPTION – FUTURE DIRECTION

This project will continue to find innovative ways to engage with the urban community to encourage individuals to undertake water quality and sustainability actions at the local level. Council will continue to support sustainable gardening initiatives, and in the next stage, there will be a focus on encouraging 'champions' within the group to lead the program.

Community sustainability initiatives will complement Councils sustainability actions (such as energy and water efficiency retrofits of community buildings), these sites will be used as demonstrations of what can be achieved locally. Council will continue to source funding to implement projects such as plastic bag reduction in our local communities and develop collaborative networks within the community to identify new projects and work towards sustainability.

The ESL will continue to be used to raise awareness about local environmental issues including media, tours and field days, workshops, catchment model demonstrations, presentations to community groups and market stalls.

RELEVANT PLANS AND STRATEGIES

Great Lakes Water Quality Improvement Plan – 2009

Strategy for a Sustainable Future – 2009

Wallis Lake Estuary Management Plan – 2005

Coastal Zone Management Plan for Smiths Lake Estuary – 2011

ACHIEVEMENTS TO DATE

As a result of the ESL, Council has developed a number of behaviour change and awareness raising projects to engage with the urban community to reduce their impact on the local environment. Projects have included:

- Household energy and water efficiency project involving 53 people to reduce their overall water and energy usage
- Involving 21 people in a "*Living Smart*" program about integrating sustainability initiatives within the home
- Assisting 40 residents to undertake sustainable gardening to reduce their individual impact on water quality
- Promoting achievements in environmental management through attendance at local markets and promotion of environmental events such as Earth Hour and International Wetlands day
- Tours showcasing achievements of projects undertaken to improve water quality, wetland conservation and management and estuary health

Business Community Engagement

PROJECT JUSTIFICATION

In 2001, Council established the Healthy Lakes Business Program (HLBP) to address urban water quality issues through business community education and awareness. The driver for this program was several studies which have identified stormwater pollution, fuelled by significant population and development pressures, as a significant threat to water quality. Since then, the program has expanded into the Great Lakes Sustainable Business Program to incorporate education for sustainability principles and themes which align with regional strategies and priorities. Additional funding and resources have been secured and partnerships have been established with local businesses and business groups. The program is evolving to meet the needs of the community with a broader focus on climate change, energy and water use, ecological foot-printing and sustainable living.

A local business receives a free water use audit

PROJECT OBJECTIVES

The primary objectives of business community engagement for sustainability activities are to:

- Engage the local community in education for sustainability initiatives to generate an understanding of environmental issues affecting the Great Lakes
- Build the capacity of business owners and staff through participatory action learning activities to reduce the occurrence of everyday living impacts on the local environment
- Form strong working relationships with key stakeholders including government organisations, the community and businesses to facilitate long term behaviour change and sustainability outcomes

PROJECT DESCRIPTION – FUTURE DIRECTION

Engagement of local businesses to embrace sustainability and incorporate sustainability principles into their organisations will continue to be embedded through the networks and partnerships that have been developed through the Great Lakes Sustainable Business Program. Further funding will be sought to continue the delivery of education, knowledge, technical support and advice, as well as the maintenance of the collaborative network within our business community for sustainability.

The future direction of the business program will be determined in close consultation with local businesses and business groups to align with changing needs, issues and available funding and resources for business groups.

The continuation of ESL funding will ensure the presence of a dedicated officer to coordinate funding and activities and the ongoing implementation of business sustainability within the LGA.

RELEVANT PLANS AND STRATEGIES

Great Lakes Water Quality Improvement Plan – 2009
Great Lakes 2030 Community Strategic Plan – 2011
Wallis Lake Estuary Management Plan – 2005
Wallis Lake Catchment Management Plan – 2003

ACHIEVEMENTS TO DATE

The Great Lakes Sustainable Business Program was developed as the 'next step' from the Healthy Lakes Business Partners program that had engaged over 100 businesses on best practice stormwater management. The Great Lakes Sustainable Business Program has been expanded and now provides a holistic approach to business management. The program has intensively engaged around 34 local businesses. These businesses have been provided with audits of their business followed by the provision of systems and tools for ongoing monitoring and implementation of sustainability actions within their businesses. Partner businesses have participated in capacity building workshops such as resource efficiency, business case for sustainability, supply chain management, goal setting and decision making and green marketing. The program has developed strong partnerships with Great Lakes Business, Great Lakes Tourism and the Forster Tuncurry Chamber of Commerce. The program also sponsors the annual 'Environmental Sustainability' business award as part of the Great Lakes Business Awards through the chamber of commerce. To date, business partners have recorded significant reductions in energy consumption, water use, waste disposal, and an increase in recycling rates. They are now communicating this to their clients and community to encourage more widespread action, and further involvement within the business community.

Wallis Lake Estuary Management Plan

PROJECT JUSTIFICATION

In 2005, the Wallis Lake Estuary Management Plan was adopted as the guiding document for the management of Wallis Lake. Wallis Lake is a wetland of national significance, containing the largest area of estuarine seagrasses in NSW, and is considered unique in terms of its diversity of aquatic sponge fauna. Wallis Lake supports very important fishing, tourism and oyster industries and is a recreational asset of significant value. The Wallis and Smiths Lake Coast and Estuary Committee administered by Council provides stakeholder input to guide plan implementation. The ESR is used to undertake actions outlined in the plan. The 2005 Estuary Management Plan is currently under review and will combine the Wallis Lake Estuary and Catchment Management Plans to provide for unified management of the Lake and its catchment.

The Wallis Lake Estuary near Forster and Tuncurry

PROJECT OBJECTIVES

The objectives of the Wallis Lake Estuary Management Plan are to:

- Conserve, protect and enhance areas of significant cultural, ecological and aesthetic value
- Restore or remediate degraded areas
- Balance the recreational, commercial, social and cultural needs of the estuary
- Increase the economic value of the estuary in an ecologically sustainable manner, and
- Increase community awareness of estuarine processes and management issues.

The objective of the review process is to learn from the successes and challenges of implementing the original plan, draw on new scientific information and produce an up-to-date plan for all of Wallis Lake and its catchment.

PROJECT DESCRIPTION – FUTURE DIRECTION

The Wallis Lake Estuary Management Plan sets out specific actions to address eight (8) major themes: water quality and flow, ecology, fisheries, oyster aquaculture, sedimentation, foreshore management, waterway usage and community education. Major on-ground projects which will be ongoing include the Darawakh wetland restoration, School environmental education, Wallamba River erosion control, urban stormwater quality improvement, Wallis Lake Wetland strategy implementation and maintenance dredging.

Currently under review, the plan will be updated, combining both Catchment and Estuary actions. The revised plan will give consideration to emerging issues such sea level rise and will also identify actions to manage ongoing pressures on the catchment and estuary. Priority actions from the revised plan will be implemented and ongoing input from the Wallis and Smiths Lake Coast and Estuary Committee will be facilitated and administered. The ESR, both with respect to direct funds for works and the officers it employs, is critical to the continued implementation of the Wallis Lake Catchment and Estuary Plan.

RELEVANT PLANS AND STRATEGIES

Great Lakes Water Quality Improvement Plan – 2009
Wallis Lake Estuary Management Plan – 2005
Wallis Lake Catchment Management Plan – 2003

ACHIEVEMENTS TO DATE

To date, of the 143 listed actions within the Wallis Lake Estuary Management Plan – 2005, the following progress has been achieved:

- Fully commenced actions: 40 (28.0%)
- Ongoing actions: 58 (40.6%)
- Partially commenced actions: 17 (11.9%)
- Not commenced: 28 (19.6%)

There has been considerable progress made towards implementing actions in the plan, and these have delivered major improvements to the condition and quality of management of the Wallis Lake environment. The review of the plan is well underway and the Coast and Estuary Committee and Catchment Committee have been engaged to provide stakeholder input to the review.

Smiths Lake Estuary Management Plan

PROJECT JUSTIFICATION

The Coastal Zone Management Plan for the Smiths Lake Estuary was adopted by Council in 2011 and updated the previous Smiths Lake Estuary Management Plan (2001). The Wallis and Smiths Lake Coast and Estuary Committee, administered by Council, involve key stakeholders and community representatives to guide the implementation of the Plan. The ESL is used directly to administer the Committee and to deliver documented actions and outcomes required by the adopted Plan. Staff employed by the ESL have key responsibilities in administering and delivering the plan. The Smiths Lake Estuary is a sensitive and significant natural waterway. It is an intermittent open/ closed lagoon and as such, is vulnerable to water quality decline. It supports significant tourism, recreational and commercial fishing and is valued as a scenic resource.

The Smiths Lake Estuary

PROJECT OBJECTIVES

Several objectives have been identified within the Coastal Zone Management Plan to guide its implementation, namely:

- Protect, conserve and maintain estuarine habitats, ecosystems and natural processes
- Achieve ecologically sustainable use of estuarine resources
- Initiate repair of past damage and prevent future degradation
- Conserve recreational, commercial, cultural and aesthetic values of the estuary
- Balance the effects of existing and future use and development within other lake management objectives
- Facilitate lake management by increasing community awareness, support and involvement
- Acknowledge the traditional owners of the land and their cultural values and aspirations

PROJECT DESCRIPTION – FUTURE DIRECTION

The implementation of the Smiths Lake Coastal Zone Management Plan involves the progressive implementation of priority actions from the Plan. This involves a number of ongoing projects including the installation and maintenance of facilities to protect water quality from impacts associated with urban development, community education and awareness including the Estuary Health Report Card, monitoring of water quality, erosion and entrance conditions and weed management and bush regeneration.

Priority actions that are to be implemented into the future, with the support of the ESR, include the following:

- Catchment erosion control through table drain management and road sealing
- Bush regeneration to improve foreshore vegetation
- Control of vehicle access in sensitive lake and coastal environments
- Regular implementation of the opening procedure, including monitoring and regular adaptive review

RELEVANT PLANS AND STRATEGIES

Coastal Zone Management Plan for Smiths Lake Estuary – 2011
Great Lakes Water Quality Improvement Plan – 2009

ACHIEVEMENTS TO DATE

The ESR revenue has secured substantial income through the NSW Coast and Estuaries Program for the implementation of projects identified within the relevant Smiths Lake estuary management plans, including:

- Facilitation of an Estuary Management Committee for the Smiths Lake Estuary
- Overseeing the development of the Smiths Lake Flood Study
- Maintenance of gross pollutant traps installed during the period from 2001 to 2004
- Installation of signage and regulation restricting 4WD access to the northern end of Cellito Beach
- Community education and awareness on lake health and management of foreshore areas
- The sealing of Tarbuck Bay Road to reduce erosion and runoff entering the lake
- Rock lining table drains in Patsy Flat and Macwood Road to prevent erosion
- Bush regeneration of littoral rainforest on Cellito Beach
- Providing input on major developments in terms of water quality improvement

Port Stephens Estuary Management Plan

PROJECT JUSTIFICATION

The Port Stephens/ Myall Lakes Estuary Management Plan was developed in 2000 through the joint Port Stephens Great Lakes Council Estuary Management Committee.

Port Stephens is an oyster growing area, supports an extensive tourism industry and is part of the Port Stephens/ Great Lakes Marine Park.

Port Stephens Council and Great Lakes Council continue to participate with the Estuary Management Committee, overseeing the management of the estuary via the implementation of the adopted Estuary Management Plan.

The North Arm Cove Foreshore – Port Stephens Estuary

PROJECT OBJECTIVES

The project aims to progressively implement the actions set-out within the Port Stephens/ Myall Lakes Estuary Management Plan to ensure the sustainable management of the Port Stephens waterway and relevant tributaries. The committee oversees reporting on project outcomes and plan review and amendment.

The plan is intended to guide the use and development of the estuary and its surroundings, so that the environment and lifestyle that are highly valued by the local community are protected and enhanced. A key priority has been the development of the Port Stephens Foreshore Management Plan. This plan was adopted in 2009 and provides a framework for co-ordinated management of the entire foreshore.

PROJECT DESCRIPTION – FUTURE DIRECTION

Implementing ongoing actions from the Port Stephens/ Myall Lakes Estuary Management Plan will involve:

- Work with the Port Stephens/ Myall Lakes Coast and Estuary Management Committee to review actions in the plan and identify future directions and priorities
- Investing in monitoring sediment accumulation and navigational dredging
- Implement actions from the Great Lakes Water Quality Improvement Plan in rural areas by engaging with landholders through the rural land management program
- Research and document the ecological health assessment of the Myall River Estuary
- Maintain and extend the on-ground works associated with the Durness – Borland Landcare Corridor project at Kore Kore Creek

In addition, a major focus in the short term shall be associated with implementing actions from the foreshore erosion study, including those actions associated with land use/ development control and their influence on foreshore stability.

RELEVANT PLANS AND STRATEGIES

Great Lakes Water Quality Improvement Plan – 2009
Port Stephens/ Myall Lakes Estuary Management Plan – 2000

ACHIEVEMENTS TO DATE

In partnership with Port Stephens Council, Great Lakes Council has provided input to the co-ordinated management of Port Stephens through the Estuary Management Committee. Key projects delivered to implement the Estuary Management Plan and Water Quality Improvement Plan funded or part funded by the ESL include the following:

- Development of the Foreshore Management Plan
- Development of the Pindimar and Bundabah foreshore erosion study and guidelines
- Assessment of the ecological condition of the Lower Myall River Estuary including a report card grade
- Sediment and hydrodynamic assessment of the Lower Myall River Estuary
- Navigational dredging of the Lower Myall Estuary
- Participation in the Durness – Borland Landcare Corridor project
- Rural Land Management Program in the Myall Catchment

These projects have assisted in the protection and management of the Port Stephens estuary.

Wallamba River Erosion Control

PROJECT JUSTIFICATION

The Wallamba River is an important natural feature and a major tributary of the Wallis Lake system. As a result of the Wallis Lake oyster Hepatitis A crisis in 1997, Council has actively promoted the sustainable use of Wallis Lake and its tributaries to ensure improved water quality. This will ensure that key industries associated with tourism, oyster-growing and commercial and recreational fishing to continue. The Wallamba River contains a significant portion of the oyster leases within Wallis Lake and is a popular recreational asset for boating. Poor water quality has resulted in lost production from 63-hectares of oyster leases. The health of the Wallamba River has suffered from past removal of riverbank vegetation, stock grazing and significant impact from boat wash. Bank erosion has resulted in deterioration of water quality, loss of seagrass and impacts on private property.

Bank erosion on the Lower Wallamba River

PROJECT OBJECTIVES

The project seeks to engage key stakeholders and identify solutions to river sustainability. Its objectives are to:

- Improve the sustainable management and improve water quality of the river by addressing bank erosion through tackling the impacts of boat wash, cattle access and vegetation loss
- Work in partnership with landholders and agencies to implement riverbank management solutions

The Wallamba River Memorandum of Understanding (MOU) seeks to ensure that boating practices maximise safety, responsibility and enjoyment, protect the values of the waterway and provide a consistent approach to the management of issues. The MOU was amended in 2010 with 9 agreed additions that included a complete ban on excessive wake-generating activities in the Wallamba River.

PROJECT DESCRIPTION – FUTURE DIRECTION

Riverbank erosion continues to be one of the most significant and widespread problems confronting the future management of the Wallamba River. Following the publication of the Wallis Lake Catchment and Estuary Management Plans, a Rivercare Plan was prepared for the Lower Wallamba River to tackle the key community and industry concerns regarding water quality and sustainability issues associated with river use. The Rivercare Plan identified, through stakeholder engagement, priority recommendations for improving the management of the riverbank. Council has been proactive in investing in on-ground works to address riverbank erosion on the Wallamba River, and with additional support from funding partners and stakeholders, have successfully carried out a number of restoration activities targeting erosion control at priority sections of the river. Despite the key achievements already made, further extensive restoration activities are required to restore riverbanks and improve water quality and the ecological health of the Wallamba River. ESL funding is critical to enable the continuation of targeted restoration works. Council will continue to invest in works to address the key issues identified in the relevant plans, with particular emphasis on the Rivercare Plan. Specific actions will involve the installation of rock fillets and revetment works and the restoration of riparian zones through stock exclusion fencing, mangrove establishment and bush regeneration.

RELEVANT PLANS AND STRATEGIES

Great Lakes Water Quality Improvement Plan – 2009
Wallis Lake Estuary Management Plan – 2005
Lower Wallamba River Rivercare Plan – 2003
Wallamba River MOU – 2010
Wallis Lake Catchment Management Plan – 2003

ACHIEVEMENTS TO DATE

The project has delivered the following outcomes and benefits:

- Agreement with user groups, landholders, caravan parks and agencies on the sustainable use of the Wallamba River and its riparian zone
- Rehabilitation of 5.5-kilometres of riverbank through installation of rock fillets, rock revetment, stock exclusion fencing and bush regeneration with plantings of over 8,000 native plants
- Relocation of Manns Road from the riverbank to facilitate a safer access and revegetation of the riverbank
- A plan for investing in bank protection work over the 9-kilometre ski zone
- A model for addressing conflict over the recreation use of natural resources and environmental degradation
- Sensitive resolution of a longstanding conflict
- Improvements in water quality through reduction in bank erosion and waterway sedimentation and nutrient inflow

Wallis Lake Wetland Strategy

PROJECT JUSTIFICATION

Wetlands are habitats of critical environmental, social and economic importance. They provide key environmental services functions, including the protection of water quality in rivers, estuaries and lakes, they provide fish and crab breeding grounds and provide habitat for significant biodiversity, including threatened species. The Wallis Lake Catchment Management Plan and the Wallis Lake Estuary Management Plan identified the need to develop and implement a wetland strategy for Wallis Lake and the Wallis Lake Water Quality Improvement Plan recognises the critical importance of wetlands in protecting and enhancing water quality. Consequently, strategic and targeted management and restoration of wetlands is an important ecological management goal.

Mangrove Woodland in Wallis Lake

PROJECT OBJECTIVES

The Strategy seeks to document a set of guiding principles, identify the specific wetlands of the Wallis Lake catchment and set-out actions for their appropriate protection, management and, where required, their restoration. Thus, the Strategy seeks to:

- Establish a set of guiding principles for wetland protection and management in the Wallis Lake catchment
- Recognise and promote the value and importance of the wetlands of Wallis Lake
- Develop and document actions, strategies and implementation schedules to achieve relevant, effective and appropriate management, protection and restoration of key wetland systems
- Provide for the monitoring and adaptive management of the wetlands of Wallis Lake
- Establish a working model that can be deployed for wetland systems elsewhere across the Great Lakes LGA

PROJECT DESCRIPTION – FUTURE DIRECTION

The need for a Wetland Strategy for the Wallis Lake catchment stemmed from a recognition that wetlands provide ecosystem services and functions that are vital to the quality and integrity of natural systems and contribute significantly to biodiversity, aesthetics and economy. Further, most wetland communities are of high conservation value and importance. Since the adoption of the Wallis Lake Wetlands Strategy, Council has been working to proactively implement all of the required actions. However, continued and enhanced implementation of the Strategy is now required to capitalise on the gains already achieved and to meet the project's key objectives. Continued support from the ESL is thus very important.

Council is proposing to strategically implement all thirteen (13) actions and ensure that the wetlands of Wallis Lake are managed in accordance with the vision and the guiding principles identified in the Strategy. In a broader context, Council is seeking to refine the mapping of wetland systems across the Local Government Area and prepare and adopt a Wetlands Strategy for the LGA, based on the Wallis Lake Wetlands Strategy model.

RELEVANT PLANS AND STRATEGIES

Great Lakes 2030 Community Strategic Plan – 2011
Great Lakes Water Quality Improvement Plan – 2009
Wallis Lake Estuary Management Plan – 2005
Wallis Lake Catchment Management Plan - 2003
Wallis Lake Wetland Strategy – 2010
NSW Wetlands Policy – 2010

ACHIEVEMENTS TO DATE

The Wallis Lake Wetlands Strategy was completed and adopted in 2010. In 2011, the Strategy was Highly Commended in the Natural Environment Policies, Planning and Decision-making at the LGSA Excellence in the Environment Awards. The Wetlands Strategy is being actively implemented. For example, Council has commenced a strategic program to recognise wetlands in the land use zoning scheme and is working to enact a Local Environmental Planning provision to protect and manage wetlands across the LGA. In specific strategic and development assessment planning decision-making, Council has worked to recognise, conserve and restore wetland systems. Outcomes associated with four (4) separate local wetland complexes have been delivered, including public land acquisition, restoration activities and weed control for conservation purposes at Darawakh Creek/ Frogalla Swamp wetland, Minimbah Sandbeds wetlands, North Tuncurry wetlands and South Forster wetlands. Furthermore, Council has delivered programs to educate the community on the importance of wetlands and protect and manage Council-owned wetlands across the Wallis Lake catchment. Finally, through an association with Southern Cross University, Council has funded a biological investigation of wetlands, including saltmarshes and is working on researching wetland restoration in an acid sulfate soil landscape, which will benefit broad scientific understanding of wetland processes.

Darawakh Creek/ Frogalla Swamp Wetland Restoration Project

PROJECT JUSTIFICATION

The Darawakh Creek/ Frogalla Swamp is a 910-hectare coastal floodplain wetland that had been extensively modified by the effects of artificial drainage (24-km of drain has been established across the landscape) and clearing and grazing. The wetland is underlain by acid sulfate soil. During the 1990's, it was realised that the drainage network had created conditions leading to the oxidation, generation and transport of severe acid sulfate and toxic metal discharges to the Wallamba River. This discharge was described as being like a toxic waste dump. In 2002, Council and its supporting agencies, embarked on a program to remediate and restore the land and protect the Wallamba River from impacts associated with acid sulfate discharge.

Restored floodplain wetland at Darawakh Creek

PROJECT OBJECTIVES

Objectives are listed in the Darawakh Creek/ Frogalla Swamp Wetland Restoration Management Plan and comprise:

- Progress the restoration of the wetland project area from its current condition towards a state that resembles its condition prior to broad-scale clearing and draining works across the land
- Remediate the landscape so that the natural potential acid sulfate soils that occur within it are returned, as far as is possible, to a stable, non-oxidising, non-reactive and immobilised state
- Manage, as far as possible, processes within the landscape to restore functioning, self-sustaining, intact and resilient natural ecological communities to the land
- Protect the land from new and further disturbances and harm and conserve the land for future generations

PROJECT DESCRIPTION – FUTURE DIRECTION

The need for action to restore and remediate the wetland was identified in a Scoping Study (1999) and a Management Plan (2002), which clearly identified that to meet the project objectives, the wetland project area needed to be publicly acquired, threatening processes and actions needed to be removed (grazing, etc), drains and levees needed to be removed to restore pre-disturbance hydrology and natural vegetation communities needed to be reinstated and restored on the land. Implementation of such actions commenced in 2003 and has been ongoing to the present time. The project has yielded significant positive outcomes since its commencement and would not have been possible without the ESL funds, which have been directly applied and used to lever significant external funds.

There remains more of the restorative works to complete to achieve the project outcomes, including finalising the two (2) outstanding private land acquisitions (63-hectares in total), completing the restoration works to reinstate the pre-disturbance hydrology and continuing bushland regeneration and weed control works. A 3-year scientific assessment of the success of acid sulfate remediation has commenced with Southern Cross University. ESL funds are required to complete the actions set-out in the adopted Darawakh Creek/ Frogalla Swamp Wetland Restoration Management Plan.

RELEVANT PLANS AND STRATEGIES

Great Lakes 2030 Community Strategic Plan – 2011
Great Lakes Water Quality Improvement Plan – 2009
Wallis Lake Catchment Management Plan – 2003
Wallis Lake Estuary Management Plan – 2005
Darawakh Creek/ Frogalla Swamp Wetland RMP – 2012
Hunter-Central Rivers CMA Catchment Action Plan – 2007

ACHIEVEMENTS TO DATE

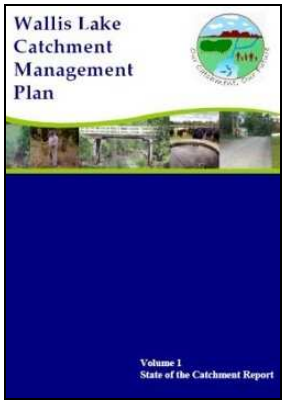
This innovative project has been an outstanding success and has benefitted from significant external funding support. It won the LGSA Excellence in the Environment: Biodiversity Management Award in 2008. This project has delivered:

- Public acquisition of 1,148-hectares of land by Council and partnering agencies (MidCoast Water and NSW OEH). Public acquisition has precluded damaging, changed and intensified private land use, such as grazing and has increased the area of the gazetted Darawank Nature Reserve to over 1,100-hectares
- 22-kilometres of artificial drains have been removed or otherwise de-commissioned (91.5% of the total drain network) restoring natural hydrology to over 830-hectares of the wetland
- 1.5-kilometres of major levee banks have been removed (69.7% of the total levee area)
- A tidal headwall on Darawank Creek has been removed
- Water quality monitoring has been enacted that demonstrate that significant acid sources are being stemmed
- Significant areas of weed control have been undertaken using contract bushland regenerators and large areas of the wetland project area are being subject to supervised natural regeneration

Wallis Lake Catchment Management Plan

PROJECT JUSTIFICATION

The Wallis Lake Catchment Management Plan provides a vision for the future of this significant and sensitive catchment. The Catchment Plan was a direct response to the 1997 oyster Hepatitis A event that so clearly showcased the social and economic consequences of ecological impairment. It incorporated a catchment assessment based on scientific expertise and analyses. The Plan reports on the issues that affect the catchment, such as clearing, weed invasion and inappropriate soil, riparian and landscape management. The plan also outlines a range of actions to address catchment degradation and reverse environmental decline. The Great Lakes Catchment Committee comprising key stakeholders and community representatives meet regularly to guide the implementation of the Plan. The ESL directly assists with the delivery of actions under the Plan.



The Wallis Lake Catchment Management Plan – 2003

PROJECT OBJECTIVES

The project seeks to actively implement, monitor and review the Plan. Priority actions set-out within the Plan include:

- Protect, maintain and enhance natural habitats, processes and values of Wallis Lake and its catchment
- Develop partnerships with stakeholders to increase community awareness of issues affecting the catchment
- Administer a Committee to oversee natural resource management in the catchment and supervise the implementation of the Plan
- Develop partnerships with landholders to develop innovative solutions for holistic land management that protect and enhance the natural resources and biodiversity of the lake and its catchment
- Acknowledge the traditional owners of the land and their cultural values and aspirations

PROJECT DESCRIPTION – FUTURE DIRECTION

The implementation of the Wallis Lake Catchment Management Plan involves the coordination and cooperation of key stakeholders working. Continuing efforts from the overseeing Committee will ensure the ongoing supervision and direction of these on-ground actions. Many of the actions in the plan have already been completed but there is still much work to be done. Ongoing priority projects include:

- Improving water quality through nutrient and riparian management, education and erosion control
- Providing support for the protection and regeneration of native vegetation in priority areas
- Engagement with landholders to integrate water quality improvements with production systems
- Sealing of creek and river crossings at priority sites within the Great Lakes gravel road network

Priorities for the future include developing stewardship incentive schemes and innovative engagement programs to encourage landholders to implement NRM actions including habitat connectivity and progressive land management.

RELEVANT PLANS AND STRATEGIES

Wallis Lake Catchment Management Plan – 2003

ACHIEVEMENTS TO DATE

The Wallis Lake Catchment Management Plan implementation is an award-winning program. The delivery of actions in the Plan has had a direct positive influence on the health of Wallis Lake and its catchment and has helped to deliver significant long term environmental benefits and enhanced community understanding of environmental risks and threats and their management and remediation. There has been a successful history of achievement with regards to Plan actions. The project has delivered rural NRM projects that have permanently conserved important native vegetation through private conservation instruments, protected riparian zones from stock through exclusion fencing and off-stream, watering, stabilised actively-eroding areas, revegetating cleared landscapes and facilitating weed control activities. The project has assisted educate and empower rural landholders in the catchment with regards to best management practices. Further, priority wetlands in the Wallis Lake catchment have been secured in public conservation ownership and management, allowing the ecosystem services functions of such landscapes to be secured. The project achievements have been delivered in partnership with key partners, including the Hunter/ Central Rivers Catchment Management Authority, Local Government partners and the rural catchment community, as well as the support of external funding providers.

Karuah Catchment Management

PROJECT JUSTIFICATION

The Karuah River and its catchment feed into the Port Stephens Estuary and Marine Park. The Karuah River Estuary is a priority oyster production area which has experienced periodic water quality issues associated with catchment runoff. The Estuary Management Plan that has been prepared for the Port Stephens Estuary identifies nutrient inputs as a key issue to be addressed. The catchment also contains significant environmental assets and is highly productive in relation to primary production and resources. Recently, Council has completed an ecological health assessment of the Karuah River Estuary and Catchment. In the 2012, the Karuah Estuary received a 'C' grade. Engaging the community in catchment planning and on-ground action are the next necessary steps towards improving the water quality and ecological health of the Karuah River Catchment.

Native riparian vegetation on The Branch Creek

PROJECT OBJECTIVES

The objectives of this project are to:

- Engage with the Karuah Catchment community and stakeholders to develop and ultimately implement a Karuah River Catchment Management Plan
- Increase community skills and knowledge of catchment management and sustainable land management practices
- Provide support for on-ground improvements in catchment management and the condition and function of the natural environment

PROJECT DESCRIPTION – FUTURE DIRECTION

The Karuah River Catchment is a large and significant catchment within the Great Lakes LGA. However, it has received limited attention in past years, whilst work has focused on the Wallis Lake and Myall Lakes Catchments. This project will draw on the lessons learnt in catchment management and coordinate actions that lead to improvements in the condition and function of the Karuah River Estuary and its catchment.

This project will engage with land managers and stakeholders to develop a Karuah River Catchment Plan. It will introduce the Estuary Health Assessment findings, and will work collaboratively and cooperatively with landholders and agency stakeholders to develop, adopt and then implement actions to address current risks and threats and enhance the condition and function of the Catchment. A component of the project will focus on engaging landholders through an extension of the current Rural Land Management Program. In addition, the project will seek to implement priority catchment actions to remediate previous degradation, conserve and manage existing values and functions and restore environmental condition and productivity to the catchment landscape.

RELEVANT PLANS AND STRATEGIES

Port Stephens/ Myall Lakes Estuary Management Plan – 2000
Ecological Health Assessment of the Karuah River Estuary – 2013

ACHIEVEMENTS TO DATE

An ecological health assessment and report card grade for the Karuah River Estuary was completed in 2012. This report provides a sound scientific basis for future catchment management planning.

Reducing the sediment load has been the focus of previous on-ground works in the Karuah Catchment. This has involved sealing 5 road creek crossings and their approaches and installing associated erosion and sediment controls. One weir has also been removed to improve fish passage. There has been some investment in the protection of priority wetland systems in the Karuah River catchment.

Landholder workshops on Sustainable Farming topics have generated significant interest within the Karuah Catchment community, providing a strong indication that continued work in this area will realise great benefit both in terms of community skills, knowledge and engagement and the interest and capacity of landholders to undertake on-ground works.

Rural Land Management Program

PROJECT JUSTIFICATION

Agriculture accounts for a large proportion of land use within the Great Lakes LGA. Accordingly, and as detailed in the Wallis and Myall Catchment Plans, the HCRCMA Catchment Action Plan and the Great Lakes Water Quality Improvement Plan, agricultural practices have a major impact on the overall health of our environment.

Sustainable agriculture that maintains and improves the resource base of soil, water and biodiversity serves the best interests of individual landholders, the wider community and environment alike. This program links the need to maintain a viable local agricultural industry with the need to protect and enhance environmental values.

Rural landholders at a best management practice workshop

PROJECT OBJECTIVES

The project objectives are to:

- Facilitate a widespread understanding of farms as integrated systems and promote a holistic approach to rural land management
- Promote networking, co-operation and information sharing between rural landholders
- Promote land management practices which increase agricultural diversity, enhance biodiversity and habitat linkages, eliminate soil erosion and reduce reliance on fertilisers and chemical inputs, thus reducing and reversing land degradation and water quality deterioration and enhancing ecosystem services functions
- Promote innovative land management and stewardship practices

PROJECT DESCRIPTION – FUTURE DIRECTION

The Rural Land Management Program supports land managers to increase awareness, knowledge, skills and confidence to implement holistic land management practices. The program also has a strong focus on building capacity within the rural community to reduce the impacts of agriculture on the environment. Participatory Action Learning (PAL) is used as a proven adult learning strategy, giving participants' ownership of their learning experience and to promote sustained outcomes of personal change. The PAL framework is used to connect landholders with each other and facilitators, building capacity and promoting an understanding of sustainable land management. Localised and regional networking and action research will continue to help empower land managers to develop locally adapted, co-operative solutions for sustainable agriculture. Capacity for development will build upon an existing knowledge base and learning outcomes will be enhanced through the delivery of information on soil health, best practice grazing management, carbon sequestration, biological agriculture and environmental resilience.

The PAL framework has been well received, and ongoing support for this proven model of capacity building will ensure continued support for rural landholders to implement on-ground actions modelled on best practice management.

RELEVANT PLANS AND STRATEGIES

Great Lakes Water Quality Improvement Plan – 2010

Wallis and Myall Catchment and Estuary Management Plans

Hunter-Central Rivers CMA Catchment Action Plan – 2007

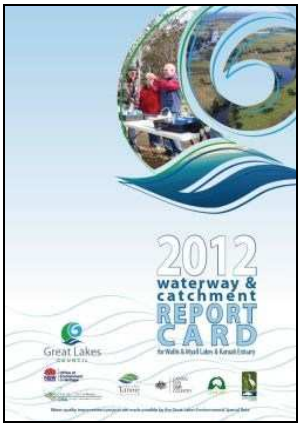
ACHIEVEMENTS TO DATE

The Rural Land Management Program has had a significant influence on land managers encouraging sustainable agricultural practices and enhanced NRM outcomes. A bi-annual survey undertaken in 2012 revealed that 87% of participants reported improved land management practices on their rural properties. The main types of activities being undertaken by participants were reported as soil and erosion management, weed management, tree planting, riparian fencing, pasture improvement, use of biological fertilizers, rotational grazing and water quality management. Under the program to-date, 888 volunteers have been engaged and of these 107 retained. Ongoing support has been provided for eight (8) sustainable farming groups, six (6) best practice demonstration sites and seven (7) on-farm trials. These on-farm trials and best practice demonstration sites have contributed to local knowledge while support for sustainable farm groups and professional workshops have helped develop the capacity of landholders to build awareness and share learning successes. The Rural Land Management Program facilitates the implementation of the rural land recommendations of the Water Quality Improvement Plan – 2010 by individual land managers, through community driven engagement promoting groundcover management, nutrient management and protection of waterways. As such, it achieves key and strategic on-ground environmental, economic and social improvements.

Waterway and Catchment Report Card and Scientific Investigations

PROJECT JUSTIFICATION

One of the key recommendations for Monitoring and Evaluation in the Water Quality Improvement Plan was the development of a report card that could both inform future management efforts and the community on the condition of our waterways. The community needs to understand water quality and environmental issues generally, as the success of catchment management initiatives depends on the support and engagement of the local community. Projects like the Waterway and Catchment Report Cards provide a valuable opportunity for Council to communicate with the community and all stakeholders regarding the state of the environment and the protection and remediation programs that are being funded by the ESL. Properly designed research programs and the involvement of relevant experts significantly enhances ecological management through adaptation and knowledge.



The 2012 Waterway and Catchment Report Card

PROJECT OBJECTIVES

The objectives of the Waterway and Catchment Report Cards and scientific investigations are to:

- Collect rigorous scientific data on the health of the waterways to build up a long-term picture of environmental impacts and the success of catchment management actions
- Increase community awareness and understanding of the water quality conditions and pressures in the area, and increase the community's support for and involvement in environmental management initiatives
- Develop a detailed understanding of catchment and estuary processes to assist with future management decisions

PROJECT DESCRIPTION – FUTURE DIRECTION

Environmental Report Cards are an effective tool for reporting on the health of our waterways and key catchment management achievements. Our reports are based on scientific information provided by the Office of Environment and Heritage and describe relative condition, with each waterway graded on a scale from A to F. Data is collected for two key indicators; Chlorophyll a and turbidity. These are then compared to results from 130 sites across NSW to establish the grades. The Report Cards themselves are attractive full-colour fold-out documents, including, along with the water quality grades and assessment details, photographs and brief descriptions of many of the catchment works being undertaken by Council and its partners around the LGA. Waterway and Catchment Report Cards will continue to be produced either annually or biannually with the support of the ESR to continue to build an invaluable long-term picture of the changing conditions of Great Lakes waterways as well as environmental responses to management initiatives. Options for including additional indicators will be explored. Regular ongoing publication, announcement, media and distribution of the Report Cards will continue to build on existing community recognition, understanding and support. Areas that require greater depth of understanding will be subject to more detailed research and monitoring to enhance the utility of the Report Cards. Additional research partnerships will be pursued in the future.

RELEVANT PLANS AND STRATEGIES

Great Lakes Water Quality Improvement Plan – 2009

ACHIEVEMENTS TO DATE

Two Waterway and Catchment Report Cards have been produced in 2011 and 2012. Each Report Card documented the water quality results of seven different sites around the Great Lakes LGA. The Report Cards have been widely advertised and distributed through an official release event, media, posters, Councils '*Creek to Coast*' magazine, and distributed to each household through the rates newsletter. Over 40 community participants attended a Catchment Connections tour, which was held in conjunction with the release of the 2012 Report Card. 38 of the attendees completed evaluation forms, and of those, 36 rated Great Lakes Council's initiatives to protect water quality "*two thumbs up*" (the highest rating). Further, 36 strongly agreed that the tour "*improved their knowledge and understanding of water quality issues*".

Council is well aware of the critical role of scientific analyses and reporting in understanding complex environmental issues and utilising such knowledge in adaptive management programs. As an example, Southern Cross University has been engaged to undertake water quality and sediment analysis within the Darawakh Creek wetland project. This is an example of Council partnering with a research institution to acquire scientific knowledge to evaluate project success and establish a framework for future management.

Tops to Lakes Initiative

PROJECT JUSTIFICATION

There is increasing recognition of the need to enhance, and in some cases, restore the condition and function of the natural environment such that it provides ecosystem services and values. These ecosystem services underpin our regional economic base (tourism, primary production), provide for our way of life and conserve biological diversity and processes. The 1997 Wallis Lake Hepatitis A outbreak and blue-green algal blooms in the Myall Lakes system demonstrate the sensitivity of the natural environment as well as the environmental and economic consequences of human-induced ecological impairment. Therefore, remediation of ecological dysfunction and impairment and the restoration of ecological functioning (including connectivity) are key aims of this Initiative.

Vegetated corridors perform important ecological functions

PROJECT OBJECTIVES

The key goals of the Tops to Lakes Initiative, as set-out in the Tops to Lakes Initiative Program Overview (2013), are as follows:

- The sustainable protection, management and enhancement of natural landscapes for environmental functionality, the productivity of the land and the prevention and reversal of decline and degradation
- The establishment and management of wildlife corridors and effective conservation reserves that contribute to biodiversity protection, healthy ecosystem function and healthy people
- The engagement and empowerment of the community and the application of effective partnerships
- Effective administration including financial responsibility

PROJECT DESCRIPTION

The concept of the Tops to Lakes Initiative is that Council, in cooperative partnerships with other stakeholders and the community, can make decisions and achieve actions that contribute to the protection and reinstatement of essential environmental services functions, including but not limited to water flows and quality protection and biodiversity and cultural heritage conservation. Council, as a tier of government, can strategically utilise a range of tools to deliver outcomes of substance in this regard. Many of the relevant tools are already being utilised by Council to guide development, land use and the economic sustainability of local communities within a broader context of managing the natural environment. The Initiative seeks to coordinate the strategic application of such tools in a manner that enhances outcomes and capitalises more appropriately on synergies and opportunities. The tools available to Council include development assessment and strategic planning, facilitating private land conservation, acquisition, partnerships with relevant agencies and non-government organisations as well as corporate investment and sponsorship. There is a requirement to develop and adopt this Program, which will require commitments of staffing and resources that would only be possible by way of the continuation of the ESR.

RELEVANT PLANS AND STRATEGIES

Tops to Lakes Initiative Program Overview – 2013	*National Wildlife Corridors Plan – 2012*
Strategy for a Sustainable Future – 2009	*Draft NSW Biodiversity Strategy – 2010*
Great Lakes 2030 Community Strategic Plan – 2011	*Great Eastern Ranges Corridor Initiative – 2010*

ACHIEVEMENTS TO DATE

The Tops to Lakes Initiative is a relatively new program and has been in development since 2010. The Initiative was developed from Council's experience with the Durness – Borland Landcare Corridor project, which integrated water quality protection and biodiversity conservation/ connectivity within a grazing production landscape. The Durness – Borland Landcare Corridor project was awarded the Natural Environment Protection and Enhancement: On-ground Works Award at the LGSA Excellence in the Environment Awards in 2011/ 12. It demonstrated that enhanced ecosystem services functionality and outcomes could be integrated with sustainable economic productivity. In recent years, Council has been working towards Tops to Lakes Initiative outcomes within its strategic land use programs, biodiversity conservation and wetland management frameworks and sustainability programs.

There is recognition of a great potential to utilise the full suite of tools available to Council and its partners to effect positive outcomes relating to the protection, enhancement and restoration of the condition and function of the natural environment, including essential ecosystem services. The Tops to Lakes Initiative needs to be adequately resourced and be proactively incorporated into Council decision-making and actions.

Biodiversity Conservation Framework

PROJECT JUSTIFICATION

The Great Lakes LGA is a region of high biological diversity and importance. Biodiversity conservation is critically important because it is recognised that the quality of life of present and future generations depends on conserving and restoring biological diversity and processes and using natural resources sustainably. This is because biodiversity underpins the processes that make life possible. For instance, biodiversity provides key environmental services functions associated with water quality protection, oxygen production, carbon capture, nutrient cycling, etc. Biodiversity also contributes to our way of life by providing areas of recreation, green-belts, amenity and culture. Further, it underpins the local economy through primary production.

Eastern Grey Kangaroos in Saltmarsh at Coomba Park

PROJECT OBJECTIVES

Strategic and integrated biodiversity conservation is very important. Council is a primary management authority, with significant responsibilities for land use planning and regulation. Councils also manage lands of importance for biodiversity and ecological functions. Great Lakes Council has recognised that a system for achieving effective biodiversity conservation within decision-making is very important. The Biodiversity Conservation Framework thus seeks to develop and implement a Biodiversity Strategy that:

- Defines the existing biodiversity of the LGA and recognises the values and importance of biodiversity
- Documents a vision, objectives, guiding principles and guiding actions for biodiversity conservation
- Leads to on-ground actions to conserve and restore biodiversity, including priority areas as well as improve education and awareness of the importance of strategic biodiversity conservation

PROJECT DESCRIPTION – FUTURE DIRECTION

Many NSW Councils are recognising the important role that Local Government plays with respect to biodiversity conservation and management. The Great Lakes LGA is an area of great biodiversity importance and the development of a Biodiversity Conservation Framework will allow Council to achieve enhanced, strategic outcomes. As such, there is a pressing need to document and implement a Biodiversity Strategy for the Great Lakes LGA. This would set-out a vision, objectives, guiding principles and actions and provide the strategic platform and the tools/ mechanisms to enable proactive, innovative and effective biodiversity conservation, management and where required, restoration across the LGA. As such, there is a need for significant effort over the next four years to document, publish and adopt the Strategy and then an ongoing need for its rational and effective implementation, monitoring and adaptive management. Consequently, there is a need for ongoing ESR funds to strategically monitor, manage and conserve biological diversity and biological function across the Great Lakes LGA for the benefit of current and future generations. Principally, this will be directed to the development, over the next four years, of a Great Lakes Biodiversity Strategy and then the proactive subsequent implementation of this program.

RELEVANT PLANS AND STRATEGIES

Great Lakes 2030 Community Strategic Plan – 2011
Tops to Lakes Initiative Program Overview – 2013
Australia's Biodiversity Conservation Strategy – 2010
Draft NSW Biodiversity Strategy – 2010
Draft NSW Mid North Coast Regional Conservation Plan – 2010
NSW National Parks Establishment Plan – 2008

ACHIEVEMENTS TO DATE

This Framework recognises the need to better integrate biodiversity conservation outcomes within Council decision-making. In this regard, several outcomes have been achieved, including the collation of a biodiversity database for the LGA and the commencement of the preparation of a Biodiversity Strategy. Furthermore, there has been a program to enhance awareness of biodiversity by Council staff and the general public through education activities. These outcomes have established the basis for an integrated and holistic strategy for enacting biodiversity conservation, which will complement the outcomes of associated projects, including the Vegetation Strategy, Wetland Strategy, threatened species management, corridor planning and catchment initiatives. Council meets its statutory responsibilities to biodiversity conservation through the employment of an ecologist, who participates in strategic assessment and decision-making. Furthermore, biodiversity conservation considerations are incorporated across all NRM programs. Consequently, the Council has a history of performance and achievement in relation to preventing biodiversity decline and restoring key areas. Council has mapped the distribution of native vegetation and is working to incorporate a biodiversity clause within its new LEP, to better recognise and manage biodiversity. Council has also developed a landscape condition analysis methodology to track the condition and function of native vegetation within the LGA.

Vegetation Strategy

PROJECT JUSTIFICATION

Local Government is a primary land management agency and has significant responsibilities in planning and managing the natural environment. Council has recognised that vegetation management is a significant component in the attainment of sound outcomes for the management of biodiversity, catchment health, water quality, ecologically sustainable development as well as development assessment and strategic planning. Consequently, it is developing a Vegetation Strategy. There are two main components of the strategy, namely the mapping and description of vegetation communities of the Local Government Area and the development of a framework for regulation, conservation, management and restoration, where required, of native vegetation.

Dry Sclerophyll Forest at Bulahdelah

PROJECT OBJECTIVES

The Vegetation Strategy seeks to document a vision and objectives for native vegetation management and guide Council decision-making to appropriately regulate, conserve, protect and restore native vegetation in recognition of its benefits and values. The Great Lakes Vegetation Strategy seeks to:

- Describe and map the distribution and status of vegetation communities of the Great Lakes LGA
- Ascribe each of the mapped vegetation communities of the Great Lakes LGA a conservation significance in relation to its Commonwealth, State, regional or local values/ significance
- Identify the major threats affecting the vegetation of the Great Lakes LGA
- Document a series of protective actions grouped around major themes to appropriately and effectively manage, protect and, where required, restore functional native vegetation communities across the LGA

PROJECT DESCRIPTION – FUTURE DIRECTION

Prior to 2001, Council administered the investigation and description and mapping of vegetation communities within the eastern portion of the LGA through the use of contract botanists and GIS support. This project was partly funded through NHT funding and Council contributions. During the period to 2004, effort was directed to the compilation of a strategy document, including information on the conservation status of vegetation communities, key threats to native vegetation and its integrity as well as the documentation of an action plan to provide the framework for a holistic and proactive vegetation management strategy. In 2005, a Draft Strategy was approved for public exhibition, but was delayed by reforms to native vegetation and threatened species legislation in NSW at that time. Since 2005, there has been fine-scale refinement and upgrading of the vegetation mapping in key priority areas and involvement in regional vegetation programs. In the next five years, Council is proposing to continue the detailed, fine-scale local mapping of priority landscapes to work towards a whole of LGA, local vegetation map. Further, a classification of the Great Lakes vegetation will be published and a strategic framework for positive, responsible vegetation management will be prepared to guide decision-making. The support of the ESL is critical to strategic vegetation management programs in this LGA.

RELEVANT PLANS AND STRATEGIES

Great Lakes 2030 Community Strategic Plan – 2011

Tops to Lakes Initiative Program Overview – 2013

Hunter-Central Rivers CMA Catchment Action Plan – 2007

ACHIEVEMENTS TO DATE

Council is collating suitably-detailed and fine-scale vegetation community description and mapping across the Local Government Area within its Geographic Information System and is cumulatively building a Vegetation Classification System to describe natural, derived and artificial vegetation communities in the LGA. Approximately 12% of the LGA is now mapped to a suitable level of classification and detail. Furthermore, Council is actively participating in regional and State-based vegetation classification and mapping programs, including projects within the Lower North Coast and the Greater Hunter regions. Council also achieves significant outcomes with regards to native vegetation protection, restoration and management through its regulatory and strategic programs. For example, the principal aim of the Darawakh Creek/ Frogalla Swamp Wetland Restoration has been to remediate a severe acid sulfate soil landscape, but the program has conserved, in public agency tenure, some 1,148-hectares of land and has led to a doubling of the size of Darawank Nature Reserve. These sorts of outcomes have significant ecosystem services benefits and contribute to enhanced catchment health and function and water quality protection. Much mapping and strategic management of vegetation is still required, for which the support of the ESL is vital.

Threatened Species Management

PROJECT JUSTIFICATION

Council, as a primary land management agency, is significantly involved, both directly and indirectly, with threatened biodiversity management. It has direct obligations and responsibilities through threatened biodiversity recovery and threat abatement planning processes and priority action statements. Council decision-making, through strategic planning and the development assessment process, as well as the management of public lands can influence threatened biodiversity management significantly. Thus, Council has commenced a program of improved threatened biodiversity data collation and management, including mapping of endangered ecological communities and endangered populations as well as the publication of action plans for specific threatened species.

Brush-tailed Phascogale at Minimbah

PROJECT OBJECTIVES

Council has a legislative responsibility to make sound decisions that serve to protect threatened biodiversity and enhance the recovery of threatened biodiversity. As such, the focus of threatened species management by Council is to:

- Retain inherent knowledge to make informed decisions pertaining to threatened biodiversity that enhances recovery prospects in nature and at worst, does not worsen the plight of threatened biodiversity
- Collate data and information on the habitat, ecology and status of threatened biodiversity across the LGA to aid in decision making
- Document the recovery actions/ threat abatement actions to be incorporated in Council activities and decision-making to ensure that threatened biodiversity is appropriately managed, protected and recovered in nature

PROJECT DESCRIPTION – FUTURE DIRECTION

Council's Ecologist, who is employed through the ESR, maintains a threatened biodiversity database and documents information sheets and action plans for threatened biodiversity. The intent of the information sheets is to summarise data on lifecycle, habitat and ecology and provide relevant and current information on the distribution, habitat, status and ecology of threatened biodiversity within the LGA. This information is then utilised in the preparation of a list of conservation/ management actions for each species. Where a Recovery Plan is in operation, the information sheets are used as a means for documenting the relevant recovery actions and outlining a framework for the adoption of such actions. Council is thus better able to meet its statutory obligations. Furthermore, mapping of specific endangered ecological communities is being collated and there is a commitment to the ongoing education and awareness of Council staff on threatened biodiversity conservation. There is a need to continue the documentation of threatened biodiversity information and action plans and encompass such in a guiding framework. Further, there is a need to continue to develop procedures for the mapping of threatened biodiversity and their habitat. There is a significant need to develop a program of monitoring threatened biodiversity status and performance in this LGA, to be used in an adaptive framework.

RELEVANT PLANS AND STRATEGIES

Great Lakes 2030 Community Strategic Plan – 2011
Tops to Lakes Initiative Program Overview – 2013
Draft NSW Biodiversity Strategy – 2010
NSW Threatened Biodiversity Priority Action Statements
NSW Threatened Biodiversity Recovery Plans
NSW Threatened Biodiversity Threat Abatement Plans

ACHIEVEMENTS TO DATE

To date, Council has collated detailed lists of threatened species, populations and ecological communities within the LGA, through access to relevant databases, available literature and other sources. This collation and holding of knowledge contributes to effective and proactive decision-making. Furthermore, Council has commenced the documentation of threatened species information sheets and action plans, including the Osprey, *Asperula asthenes, Tylophora woollsii* and others. It also participates in the auditing and management of Flying-fox colonies. Within this program, Council has also provided in-kind support for specific threatened species management programs via multi-agency programs and partnerships. Holistic and proactive threatened biodiversity management shall benefit the quality and integrity of the Great Lakes environment generally and ensure that Council meets its statutory and moral responsibilities. The coordinated knowledge of threatened biodiversity is consistently and appropriately utilised in development assessment planning, strategic planning, assessment of Council activities, Council land management and in community education and awareness campaigns. Further, the implementation of wetland programs has led to the conservation of floodplain endangered ecological communities and considerable areas of habitat for threatened flora and fauna.

Hawks Nest/ Tea Gardens Endangered Koala Recovery

PROJECT JUSTIFICATION

After experiencing serious decline, the population of Koalas in Hawks Nest/ Tea Gardens was listed as Endangered in 1999. In 2004, the State Government, with assistance from Council, approved a Recovery Plan for this population. Council has responsibilities within the Plan to assist restore the population to a position of viability. Council is thus working as a key part of an interagency team.

Further, Council has also recognised the need to protect and restore the koala and its habitats and act to reduce the threats to koalas which include habitat loss and fragmentation, dog attacks, road deaths, and risk of disease, for the benefit of the local community and biodiversity generally. This includes sound decision-making in DA assessment, strategic planning and reserve management.

A Koala in urban Hawks Nest (Photo: Ian Morphett)

PROJECT OBJECTIVES

The program seeks to work in partnership with other relevant agencies to make decisions and undertake actions that will assist the restoration of the koala population of Hawks Nest and Tea Gardens to a position of viability in nature. It seeks to do such through:

- Working as a partner with the NSW Government and the community to implement the Recovery Plan
- Making decisions with respect to development assessment, conservation programs and strategic planning that benefit the recovery of the koala population
- Educating the local community on the wider benefits, including biodiversity benefits of protecting the local koala population

PROJECT DESCRIPTION – FUTURE DIRECTION

Council was actively involved in the development of the Approved Recovery Plan between 2002 and 2004. The Plan recognised the significant statutory role of Council in the protection and restoration of Koalas. Since the adoption of the Recovery Plan, Council has committed funding and the in-kind contribution of technical staff to the implementation of recovery actions outlined within the Plan, including the establishment and administration of a Koala Working Group (KWG). The KWG is supervising the implementation of the Recovery Plan and the framework for effective and rational interagency and community cooperation. The KWG has been successful in securing funding for the implementation of recovery actions related to Koala habitat mapping, monitoring, roadkill blackspot identification and establishment of a records database. Of the 21 actions, 1 action has been completed, 17 actions have been commenced but not completed or are ongoing and 3 actions have not been commenced. In particular, Council has been involved in habitat mapping, assessment planning and community support. There is a need for Council to continue the implementation of the listed recovery actions set out in the Plan. This requires a continuing in-kind and financial commitment from Council. Further, there is a need to continue in-kind contributions by officers employed by the ESL to ensure that statutory decision-making is achieved and that proactive conservation and restoration programs are advanced.

RELEVANT PLANS AND STRATEGIES

Great Lakes 2030 Community Strategic Plan – 2011
Recovery Plan for the EKP of Hawks Nest/ Tea Gardens – 2004

ACHIEVEMENTS TO DATE

Key achievements and outcomes of this project include, but are not limited, to the following:

- The administration of the Koala Working Group to oversee the implementation of the Approved Recovery Plan
- Progressing the implementation of the 21 recovery actions including habitat mapping, strategic planning and community education and awareness
- Development of working documents pertaining to strategic revegetation/ landscaping and assessment
- Contributing to on-ground koala habitat enhancement through land acquisition, strategic land use planning, corridor establishment projects (eg. Durness Borland Landcare Corridor project) and public land management

The outcomes of this project will benefit not only Koalas, but also urban biodiversity and amenity generally within the Hawks Nest/ Tea Gardens locality and serve as a model for similar initiatives elsewhere in NSW. There is evidence that the severe decline that has affected this population has been stabilized and that the population is being maintained. There is now the challenge of restoring local populations towards a position of viability in nature.

Bush Regeneration and Volunteer Support

PROJECT JUSTIFICATION

The Great Lakes LGA currently has twenty-seven (27) volunteer "Care" groups (including the over-arching 'network' group) with over 300 active members working on environmental projects within the coastal strip. This membership translates into an average of 9,500 volunteer hours per year, which when valued equates to some $285,000 of voluntary effort for the enhancement and management of the coastal environment. Council coordinates and administers these groups, providing direction, resourcing and support. This project serves to utilise this resource to expand upon volunteer efforts, raise the capacity and skills of volunteers and increase membership in environmental "care" groups. Broader aims are to prioritise regeneration of high conservation value coastal habitats, such as Coastal Saltmarsh and Littoral Rainforest on public land.

Seal Rocks Weed Warriors planting trees at Boat Beach

PROJECT OBJECTIVES

The key project objectives of Bush Regeneration and Volunteer Support programs of Council are to:

- Facilitate networking between "Care" groups
- Derive external funding to support "Care" groups and their on-ground and educational programs
- Engage and educate the broader community about pertinent environmental issues
- Raise the profile and promote membership of volunteer and other environmental groups
- Build capacity of local communities with regard to natural resource management and coastal/ marine issues
- Provide relevant training, education, and information to volunteers and the broader community
- Access funding to support natural resource management works in the Great Lakes LGA

PROJECT DESCRIPTION – FUTURE DIRECTION

Great Lakes Bushland Volunteers work on around 200-hectares of public land, where they treat a range of environmental weeds, including woody weeds, and vines and scramblers, and also conduct other activities for restoration and regeneration of their site. The groups work regularly at their designated sites, treating target weeds, removing litter, replanting, installing wind barriers and dune stabilising fences and pedestrian access-ways to beaches and foreshores. Council staff offer technical and practical support, provide training and guidance, as well as materials and tools. ESL funds are also used to match external grant funding for additional on-ground works and support. Since 2004, the Council has used external funding to employ contract regenerators to work alongside volunteer groups, providing hands-on training and assistance with difficult aspects of each project (e.g. problem weeds, steep or difficult terrain). This model raises the skills and capacity of each group, and expands upon the on-ground works they complete. Council staff also run and promote field days to engage the local community into the projects. ESL funding will continue to support the existing volunteer network and their on-ground works at priority sites; as well as deliver large scale regeneration projects, across tenure, at priority sites in partnership with key agencies.

RELEVANT PLANS AND STRATEGIES

Great Lakes 2030 Community Strategic Plan – 2011
Wallis Lake Catchment Management Plan – 2003
National Weeds Strategy – 2007
HCCREMS Regional Weed Strategy – 2010
Hunter-Central Rivers CMA Catchment Action Plan – 2007
NSW Weeds Action Program Guidelines – 2012

ACHIEVEMENTS TO DATE

Great Lakes Bushland Volunteers work in 27 groups across at least 200-hectares of Council managed land and National Park Estate. A conservative estimate of volunteer labour equates to around $285,000 of on-ground restoration effort by volunteer labour per annum. Several sites contain threatened species or endangered ecological communities, such as Littoral Rainforest. The groups have established successful bush regeneration works on public land, with additional flow-on benefits such as raising local weed awareness, engaging local communities in caring for "their patch" and social and health benefits for participants (largely retirees). The outcomes particularly for bushland quality and function have been significant and are beneficial to the community as a whole. An important element of this program includes the training, skills development and education that are facilitated by Great Lakes Council staff and contractors for the community volunteers. The program has also enabled effective partnerships to be established between Council and major land managers, such NSW Office of Environment and Heritage (Parks and Wildlife Division), to manage weed threats along our coastline through long-term, and strategic grant funded programs that will engage all landholders in priority weed control in target areas.

Marine Program

PROJECT JUSTIFICATION

Our local marine and estuarine areas are very important to both the local economy and environment. Both are under pressure from human-induced impacts, such as pollution, coastal development, global warming and sea level rise, resource extraction and tourism.

The Marine Program delivers a comprehensive range of learning opportunities for local residents and industry aimed at expanding local knowledge, awareness and custodianship of our marine and estuarine environments.

Council supports local volunteers through Great Lakes Underwater Group (GLUG) and Ocean & Coastal Care Initiatives (OCCI) and promotes community support for the gazetted Port Stephens-Great Lakes Marine Park.

GLUG team members after a clean-up dive – March 2009

PROJECT OBJECTIVES

The key aims of the Marine Program are:

- To raise community awareness about marine and coastal ecosystems and their conservation and management
- To raise local awareness about marine debris, particularly plastics, and promote and support marine debris reduction and management behaviours by stakeholders and the community
- Organise and support local volunteers with lake, beach and underwater clean-up activities in partnership with national programs
- Engage local residents in proactive marine volunteering, through Great Lakes Underwater Group and Ocean & Coastal Care Initiatives

PROJECT DESCRIPTION – FUTURE DIRECTION

The Marine Program is a multi-faceted education and activity-based program focussing on the condition and function of the marine environment. The Marine Discovery Series is a series of lectures/ films delivered by marine experts. It attracts people from all ages and has proven very popular. The Summer Coastcare program is a fun school holiday series that delivers environmental learning to children (and their carers) about marine habitats and issues. Project Aware on the Rocks is a course-like project, where participants attend a series of lectures about rocky shore biodiversity and ecology, then produce a community education tool of their own choice. Beach and underwater clean-up programs are routinely delivered, cleaning up the marine environment and collecting robust, standardised data about beach and marine debris loadings. Council supports and promotes plastic reduction and a pilot 'plastic-free' program is targeted for Pacific Palms businesses and schools in 2013. Synergies with groups, such as TAKE 3 have been established and will be capitalised upon in future years. Two active volunteer groups are supported, the Great Lakes Underwater Group (GLUG) and Ocean & Coastal Care Initiatives (OCCI). Future education programs will focus largely on marine debris and plastic consumption reduction programs. Key volunteer groups will continue to be supported and the ESR will allow Council to continue to deliver the Marine Discovery Series in partnership with the Hunter Central Rivers CMA.

RELEVANT PLANS AND STRATEGIES

Wallis Lake Estuary Management Plan – 2005
Hunter-Central Rivers CMA Catchment Action Plan – 2007

ACHIEVEMENTS TO DATE

The project has been supported by the local CMA and has delivered significant educational and on-ground benefits. In summary, the following project outcomes and benefits have been realised by this program to date:

- Over 20 Marine Discovery lectures have been held since 2007 with attendance of 20 to 100 people per event
- Three separate "*Project Aware on the Rocks*" education programs have been run, engaging over 50 people
- The Summer Coastcare program has been delivered annually since January 2009. Over 100 people have attended each of the four programs
- Two proactive volunteer groups associated with marine research and activity are administered locally
- Baseline species reports for marine areas between Blackhead and Broughton Island and marine debris loads of local reef systems between Seal Rocks and Blackhead have been completed and documented
- A static marine debris monitoring site within Wallis Lake has been established
- Threatened species have been monitored by volunteer groups, including photo documentation of the local grey nurse shark population and reporting of black cod and turtle sightings

School Environmental Education Program

PROJECT JUSTIFICATION

Environmental education delivered to the local schools by Council staff supported by the ESL is generally centred around water quality, stormwater pollution and waste and recycling. The schools program is very effective. By educating students on environmental issues, there is a benefit to the wider family awareness. Furthermore, working with the school teachers and education curricula to expand instruction and knowledge of environmental issues is efficient and proactive. The school environmental education program focuses on national events such as Water Week, Clean Up Australia Day and World Environment Day. Further, Waterwatch programs are delivered to local schools. In many instances, local schools approach Council requesting assistance to deliver environmental education. However, Council also proactively approaches local schools, with respect to topical local issues.

Catchment Model demonstration with students

PROJECT OBJECTIVES

Great Lakes Council staff together with teaching staff in primary and secondary schools across the LGA have developed a close collaboration for educating on local and general environmental issues and their management.

The main objectives of environmental education in schools are to:

- Raise awareness of local environmental issues
- Encourage behavioural change within the students and their homes
- Support the teachers and the curricula in delivering effective environmental messages

PROJECT DESCRIPTION – FUTURE DIRECTION

The program seeks to build the capacity of students to understand and communicate about local and general environmental issues. It has achieved key successes and its continuation requires continued support through ESR funding. The delivery of environmental education to schools will occur in a number of ways:

- School visits involving demonstrations, displays, hand-outs, and presentations to students and teachers
- Coordinating guest speakers to visit the school to present information on environmental issues
- Field trips to local wetlands and waterways to explain natural and human-induced processes and impacts
- Excursions, such as the Stormwater Scamper, where students gain hands on experience in water quality testing, monitoring water bugs, conducting site assessments and interviewing professionals in the research field
- Liaising with teachers to develop materials and resources relevant to local issues that align with the curriculum
- Mentoring and special collaborative projects with select students

RELEVANT PLANS AND STRATEGIES

Great Lakes Water Quality Improvement Plan – 2009

Great Lakes 2030 Community Strategic Plan – 2011

Wallis Lake Estuary Management Plan – 2005

Wallis Lake Catchment Management Plan – 2003

ACHIEVEMENTS TO DATE

An effective partnership with local schools has been developed and is implemented by officers of Council engaged through the ESL funds. The program is routinely delivered through catchment model demonstrations, water quality testing (Waterwatch), water bug surveys, seagrass identification and awareness, and education on catchment processes, including wetlands and their importance. The program evolves to address curricula requirements and funding/ resourcing opportunities.

Through this strategic, targeted and proactive program, students have become more aware of natural processes within their surroundings and are informed about the range of small things and behavioural changes that they can do to improve or protect these environments. The environmental monitoring component of the schools education program provides a database of information that can be used by both council and schools and allows the students to learn how to follow up the information gained in the field. It also assists spread environmental messages to the wider community via the students, and informs the community on the projects occurring locally for environmental protection.

Dredging Program

PROJECT JUSTIFICATION

Great Lakes Council conducts navigational dredging to maintain safe depths for recreational and commercial use of tidal waters in the Great Lakes LGA. Dredging works can also improve tidal flows and flushing in estuarine waters. The relevant Estuary and Catchment Management Plans have identified priority areas in the Great Lakes where navigation dredging is required. Priorities for dredging were identified based on the amount of use at the location and the relative importance of safe navigation. Due to the popularity of waterways for boating in the Great Lakes it is essential that safe navigation is maintained at optimal depths and widths and is also aligned to facilitate sufficient access to maritime structures including jetties, wharves and boat ramps. Dredging programs also benefit the viability and productivity of oyster-growing, which is an important local industry.

The dredging of Tuncurry Channel, Wallis Lake in 2010

PROJECT OBJECTIVES

The key objective for carrying out navigational dredging is to maintain and ensure safe navigation for recreational and commercial vessels in priority tidal waterways in the Great Lakes LGA.

This objective is clearly recognised in relevant Estuary and Catchment Management Plans. Dredging is also recognised as being of importance for maintaining the viability and productivity of the estuary in relation to oyster production.

PROJECT DESCRIPTION – FUTURE DIRECTION

The need for navigational dredging at priority sites is identified in the Wallis Lake Catchment Management Plan, the Wallis Lake Estuary Management Plan and the Port Stephens and Myall Lakes Estuary Management Plan. Great Lakes Council undertakes navigation dredging projects through a 50/50 funding partnership with the State Government. Since 2009, 1% of ESR funds have been allocated specifically for navigational dredging works.

Future dredging works are planned at priority locations within the tidal waterways of the Great Lakes LGA. In Wallis Lake, proposed dredging of the Wyuna Canal at Forster Keys, Miles Island East Channel, Hells Gate and 'the Step' are scheduled to be completed during 2013/2014. Corrie Island Channel in the Lower Myall River at Tea Gardens is also scheduled for dredging in 2013/2014. In addition, locations previously dredged will require follow up dredging at frequencies of between 3 and 15 years depending on local hydrodynamic and sediment transport conditions. As council's contribution to navigational dredging comes from ESR funds, it is of the utmost importance that ESR funding is continued.

RELEVANT PLANS AND STRATEGIES

Port Stephens and Myall Lakes Estuary Management Plan – 2000

Wallis Lake Estuary Management Plan – 2005

Wallis Lake Catchment Management Plan – 2003

ACHIEVEMENTS TO DATE

Coordinated and strategic dredging projects commenced in 2010 after the adoption of the 1% dredging component of the ESR. All dredging projects have included appropriate ecological impact assessment and assessment. To date, the following dredging projects have been delivered, totalling some 103,760m^3 of priority dredging projects:

- Corrie Channel, Lower Myall River – Tea Gardens (29,000m^3) 2 sites
- Pipers Creek entrance – Wallis Lake (4,000m^3)
- Tuncurry Channel – Wallis Lake (2010 ,17,000m^3) (2013, 5,000m^3)
- Breckenridge Channel – Wallis Lake (4,300m^3)
- Point Road / Jonnel Cove Channel – Wallis Lake (10,000m^3)
- Point Road Channel – Wallis Lake (1,150m^3)
- Mather Channel – Wallis Lake (22,500m^3)
- Godwin Channel East – Wallis Lake (6,160m^3)
- Godwin Channel West – Wallis Lake (4,650m^3)

THE IMPORTANCE OF PARTNERSHIPS

Much of the successes of the ESL to date could have only been achieved through agency and stakeholder partnerships and ongoing community support. The fundamental achievements of many of the projects described in the reports above are critically reliant on establishing, fostering and maintaining effective partnerships. This is an important recognition.

An approval to continue the ESL provides the mechanisms, tools and staff to extend the existing partnerships and community connections in the future to capitalise on past successes and build on the significant momentum that has been generated to date.

This benefits environmental management across the LGA in three (3) main ways:

1. By educating partnering agencies and the community, there is behavioural change that results in great environmental outcomes and more sustainable lifestyles across the Great Lakes LGA. There is a shared vision and a common objective shared by the Council, the community and relevant stakeholders that is very powerful and which generates and sustains its own momentum
2. Partners are likely to continue their significant funding support for Great Lakes environmental programs and sustainability initiatives. It is widely reported that the ESR funds have been consistently used by Great Lakes Council to successfully lever additional external State and Commonwealth funding, to extend the quantum and effectiveness of the environmental expenditure
3. Effective partnerships also assist agency stakeholders within local, NSW and Commonwealth Government to achieve their own statutory or aspirational environmental goals, objectives and targets.

CONCLUDING REMARKS

Without the continuation of the ESL, the current and planned future programs of Great Lakes Council, including key agency partnerships, and the dynamic team that has been established within Council would be critically discontinued. This would result in negative environmental outcomes. Successful programs would be discontinued, maintenance needs may not be able to be resourced and new programs that are critically required may not be implemented. The progress that has been made would be lost, perhaps irreversibly. Potentially a more profound effect might be that the community itself would become disillusioned with the discontinuity that the cessation of programs would cause.

Consequently, there is very strong justification and critical requirement for the continuation of the ESL at Great Lakes Council.

RELEVANT DOCUMENTS CITED IN THS REPORT

Reference Document	Public availability
Australia's Biodiversity Conservation Strategy – 2010 (Natural Resource Management Ministerial Council)	http://www.environment.gov.au/biodiversity/strategy/index.html
Coastal Zone Management Plan for the Smiths Lake Estuary – 2011 (Great Lakes Council)	http://www.greatlakes.nsw.gov.au/Environment/Plans_and_Strategies
Darawakh Creek/ Frogalla Swamp Wetland Restoration Management Plan – 2012 (Great Lakes Council)	Not currently available on-line
Ecological Health Assessment of the Karuah River Estuary – 2013 (NSW Office of Environment and Heritage)	Not currently available on-line
Environmental Risk Management Framework – 2012 (Great Lakes Council)	Not currently available on-line
Forster/ Tuncurry Stormwater Management Plan – 2013 (Great Lakes Council) – Draft	Not currently available on-line
Great Eastern Ranges Corridor Initiative – 2010 (NSW Office of Environment and Heritage)	http://www.greateasternranges.org.au/
Great Lakes 2030 Community Strategic Plan – 2011 (Great Lakes Council)	http://www.greatlakes.nsw.gov.au/Your_Council/Great_Lakes_2030/Community_Strategic_Plan
Great Lakes Water Quality Improvement Plan – 2009 (Great Lakes Council)	http://www.greatlakes.nsw.gov.au/Environment/Plans_and_Strategies
HCCREMS Regional Weeds Strategy – 2010 (Hunter and Central Coast Regional Environmental Management Strategy)	http://www.hccrems.com.au/RESOURCES/Library/Weeds/HCCREMS-Regional-Weeds-Strategy.aspx
Hunter – Central Rivers Catchment Management Authority Catchment Action Plan – 2007 (Hunter-Central Rivers Catchment Management Authority	http://www.hcr.cma.nsw.gov.au/uploads/res/hcrcma_cap.pdf
Hunter Council's Environment Division publications – various	http://www.hccrems.com.au/Home.aspx
Lower Wallamba River Rivercare Plan – 2003 (2003)	http://www.greatlakes.nsw.gov.au/Environment/Plans_and_Strategies
National Weeds Strategy – 2007 (Natural Resource Management Ministerial Council)	http://www.environment.gov.au/biodiversity/invasive/weeds/publications/strategies/index.html
National Wildlife Corridors Plan – 2012 (Department of Sustainability, Environment, Water, Population and Communities)	http://www.environment.gov.au/biodiversity/wildlife-corridors/index.html
NSW Biodiversity Strategy – 2010 (NSW Office of Environment and Heritage) – Draft	http://www.environment.nsw.gov.au/biodiversity/nswbiostrategy.htm

Reference Document	Public availability
NSW Government Sustainability Policy – 2008 (Department of Environment and Climate Change)	http://www.environment.nsw.gov.au/government/policy.htm
NSW Mid North Coast Regional Conservation Plan – 2010 (Department of Environment, Climate Change and Water)	http://www.environment.nsw.gov.au/biodiversity/20100999dmncrcp.htm
NSW National Parks Establishment Plan – 2008 (Department of Environment and Climate Change)	http://www.environment.nsw.gov.au/protectedareas/npestabplan.htm
NSW Threatened Biodiversity Priority Action Statements – various	http://www.environment.nsw.gov.au/threatenedspecies/SpeciesRecoveryAndThreatAbatement.htm
NSW Threatened Biodiversity Recovery Plans – various	http://www.environment.nsw.gov.au/threatenedspecies/SpeciesRecoveryAndThreatAbatement.htm
NSW Threatened Biodiversity Threat Abatement Plans – various	http://www.environment.nsw.gov.au/threatenedspecies/SpeciesRecoveryAndThreatAbatement.htm
NSW Weeds Action Program Guidelines – 2012 (Department of Primary Industries)	http://www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/legislation
NSW Wetlands Policy – 2010 (Department of Environment, Climate Change and Water)	http://www.environment.nsw.gov.au/wetlands/nswwetlandspolicy.htm
Port Stephens/ Myall Lakes Estuary Management Plan – 2000 (Umwelt P/L)	http://www.portstephens.nsw.gov.au/images/documents/portstephens/mig/59708-EstuaryMan.pdf
Recovery Plan for the Endangered Koala Population of Hawks Nest/ Tea Gardens – 2004 (Department of Environment and Conservation)	http://www.environment.nsw.gov.au/resources/nature/recoveryplanKoalaHawksnest.pdf
Strategy for a Sustainable Future – 2009 (Great Lakes Council)	http://www.greatlakes.nsw.gov.au/Your_Council/Sustainability/Sustainable_Great_Lakes
Tops to Lakes Initiative – Program Overview (Great Lakes Council)	Not currently available on-line
Wallamba River MOU – 2010 (Great Lakes Council)	http://www.greatlakes.nsw.gov.au/Environment/Plans_and_Strategies
Wallis Lake Catchment Management Plan – 2003 (Great Lakes Council)	http://www.greatlakes.nsw.gov.au/Environment/Plans_and_Strategies
Wallis Lake Estuary Management Plan – 2005 (Great Lakes Council)	http://www.greatlakes.nsw.gov.au/Environment/Plans_and_Strategies
Wallis Lake Wetland Strategy – 2010 (Great Lakes Council)	http://www.greatlakes.nsw.gov.au/Environment/Plans_and_Strategies

ABBREVIATIONS USED IN THIS REPORT

Abbreviation	Full Description
CMA	Catchment Management Authority
DA	Development Application
DCP	Development Control Plan
EMS	Environmental Management System
ESR	Environmental Special Rate
GIS	Geographic Information Systems
GLC	Great Lakes Council
GLUG	Great Lakes Underwater Group
GPT	Gross Pollutant Trap
HCCREMS	Hunter and Central Coast Regional Environmental Management Strategy
HCRCMA	Hunter-Central Rivers Catchment Management Authority
HLBP	Healthy Lakes Business Partners
KWG	Koala Working Group
LEP	Local Environmental Plan
LGA	Local Government Area
LGSA	Local Government and Shires Association
MIDGOC	Mid North Coast Group of Councils
MOU	Memorandum of Understanding
NRM	Natural Resource Management
OCCI	Ocean & Coastal Care Initiatives
OEH	Office of Environment and Heritage
PAL	Participatory Action Learning
NSW	New South Wales
S-Team	Great Lakes Sustainability Advisory Committee