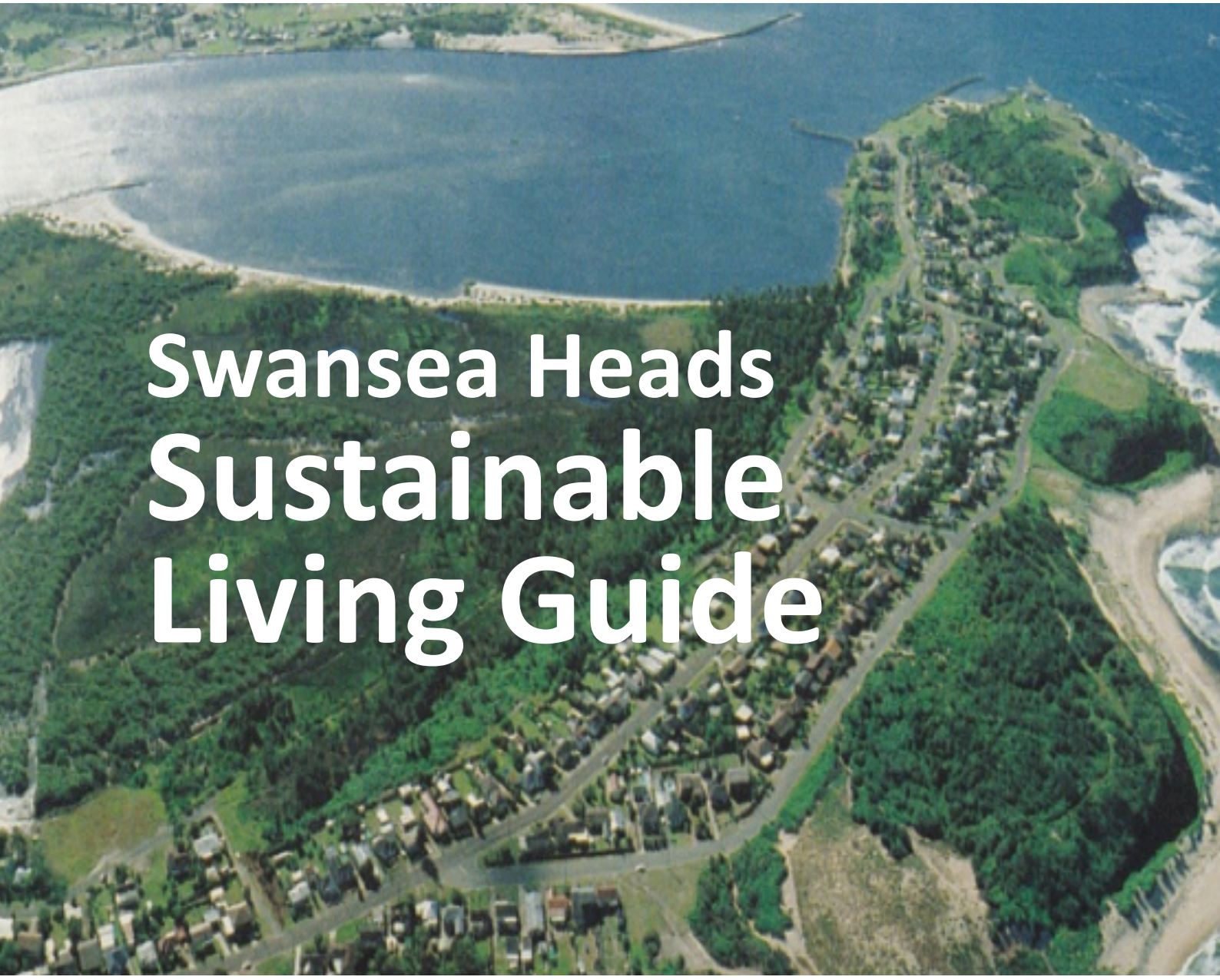
Swansea Heads Sustainable Neighbourhood Group



Swansea Heads
Sustainable Living Guide

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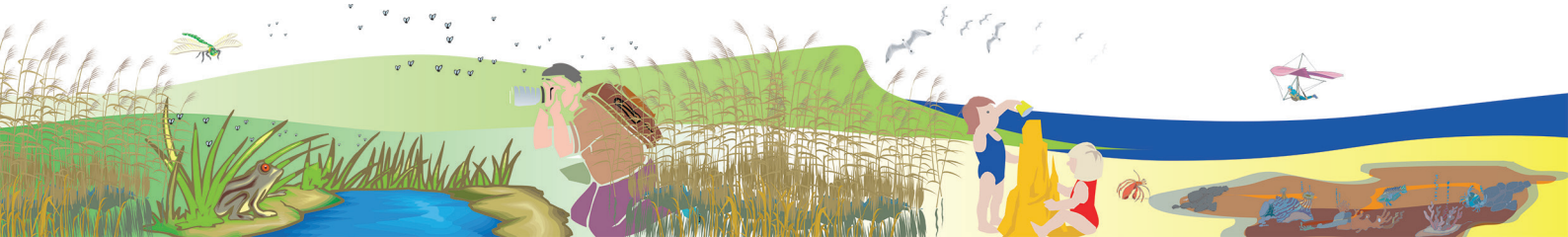

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Introduction

In June 2011, NRMA Insurance awarded the Swansea Heads Sustainable Neighbourhood Group (SHSNG) a $5000.00. funding grant.

The purpose of the funding grant was to provide initiatives that would raise awareness and/or promote community engagement with environmental sustainability activities. Preference was be given to projects which demonstrated strong environmental education, decrease carbon emissions and directly engage communities.

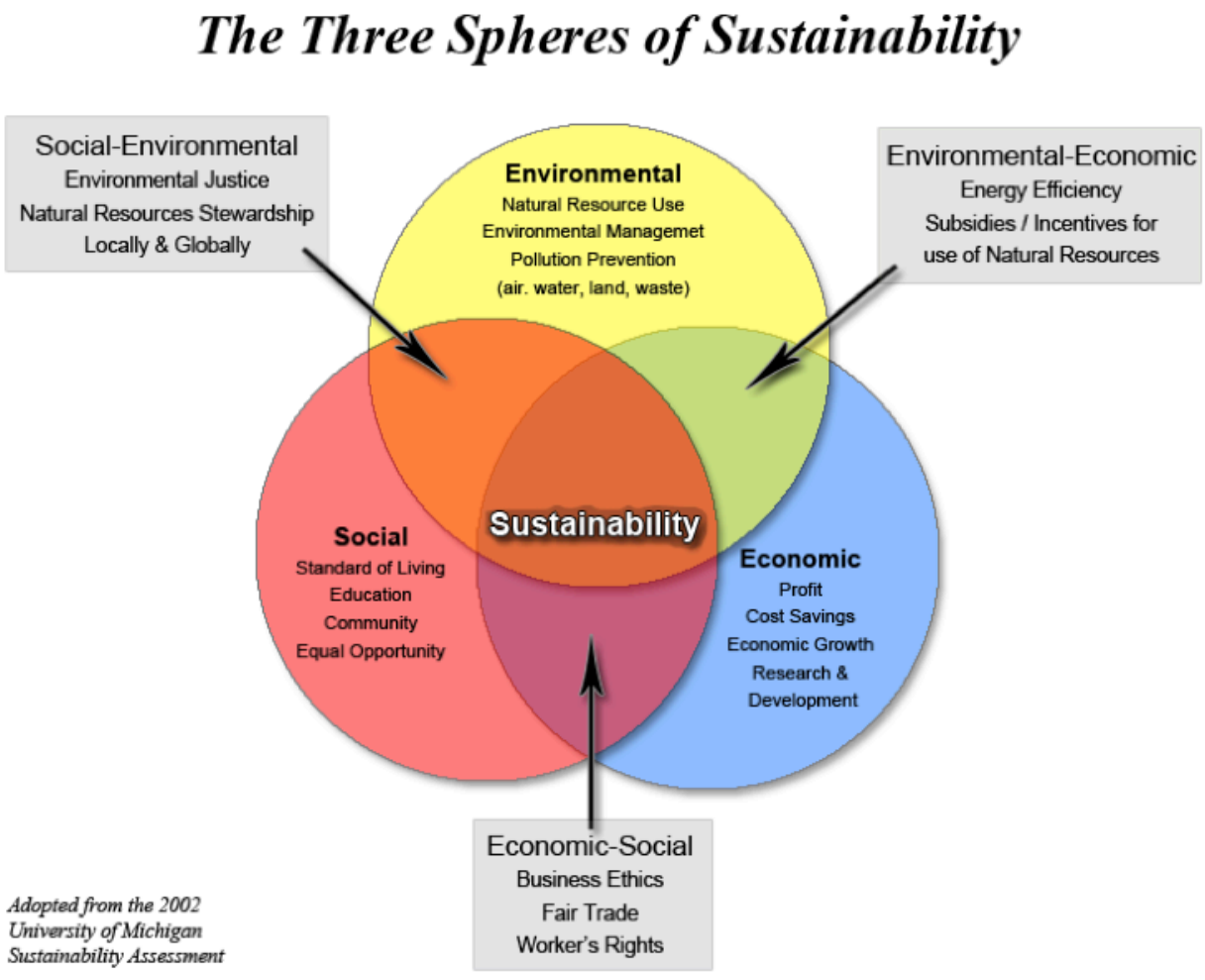
The SHSNG Proposal included:

- the preparation of the Swansea Heads Website www.swanseaheads.org,
- the rollout of a Simple Home Energy Audit study and
- the development of this Swansea Heads Sustainable Living Guide Booklet.

We wish to thank the NRMA Insurance for assisting SHSNG with the development and distribution of these community based projects.

What is Sustainability?

Sustainability is broadly defined as “meeting the needs of the present generation without compromising the ability of future generations to meet their own needs”.



What does this mean for the Swansea Heads community?
Acting in a “Sustainable” way to Environmental, Social and Economic Issues that may impact on the future of our local neighbourhood.

What is Special about Swansea Heads?

Swansea Heads is a place of diverse natural beauty within an area of just 1.4 square kilometres.

The neighbourhood contains six of the nine ecosystem types that exist in Lake Macquarie City, including Ocean, Coast, Lake, Wetlands, Heath Complex, and Rainforest.

There are four endangered ecological communities including Littoral Rainforest, Saltmarsh, Themeda Grasslands, and Swamp Oak Floodplain Forest. Swansea Heads contains the highest ecologically diverse rock platform in the region.

There is currently a proposal for the area to be listed as a marine reserve or intertidal protected area.
Black Neds Bay is a feeding place for migratory birds that live in the northern hemisphere for half the year and Swansea Heads for the other half.

Why would you want live anywhere else?

1. Important feeding area for migratory birds and other waders
2. Largest area of Coastal Saltmarsh in Lake Macquarie City
3. A popular walking trail through the Rainforest
4. Salts Bay Littoral Rainforest—an endangered ecological community
5. Swansea Channel—the gateway to Lake Macquarie
6. Reids Reserve—a community park
7. Most biodiverse rock platform on the Central Coast. Contains fossilised tree stumps.
8. Aboriginal reburial site— zoned as a Sensitive Aboriginal Cultural Landscape
9. Coast Guard Swansea
10. Kangaroo Grass (Themeda) Grassland—an endangered ecological community
11. Whale-watching platform
12. Heath vegetation—a haven for coastal plants and animals
13. A great place to surf!

A short History of Swansea Heads

Aboriginal History

The rich Aboriginal cultural heritage of Lake Macquarie almost certainly dates back tens of thousands of years. An archaeological dig of state significance was conducted by Dr. Leonard K. Dyall in 1972 at Swansea Heads and radio carbon dating put the earliest samples at about 8000 years old. A large midden was exposed by the beginnings of a housing development, and Dr. Dyall and volunteers from the Newcastle University conducted a hasty salvage dig over 6 weeks, uncovering thousands of artefacts, shells, animal bones and even many graves.

The remains of fifteen people were discovered, including young and old. Artefacts included 1736 stone implements, such as knives, hammerstones, anvils and two edge-ground axes of a stone material most closely available at either New England or in The Blue Mountains.[2] The remains of the people found during the dig have since been reburied at Swansea Heads overlooking the ocean and a memorial placed there.

The area itself was resource rich and provided a variety of food and materials to fashion into useful or decorative items such as shelter, weapons, bowls, and jewellery. The Dyall dig showed that the local diet included many shellfish, fish, birds, eggs, lizards, over a dozen different species of marsupial and even some seals.[2]

The people who lived around Lake Macquarie and Newcastle were known as the Awabakal - which means “the people of the flat surface” presumably referring to the Lake and its flat surrounds. It is also evident that although of the same tribe, “Awabakal,” there were two separate clans that existed here.[3]

The Heads area was known to the tribes as “Nikkeenba” meaning place of black stone, or coal, which was found in abundance in the region. Swansea Heads was also called “Yirriteeba,” meaning a sacred place. One of the significant sacred sites there was known as Mullung-bula, or to the Europeans, “The Sisters.” Two large vertical rocks that were situated above Reids Reserve, just before the curvature of the headland, were described

in the local culture as being two sisters that had been turned to stone after their deaths.[3] There are no known drawings or photos of these great rocks, nor is it known how, why or where they were removed to. They still appeared on maps as late as 1887.[4]

European Discovery

The headland by the entrance to Lake Macquarie, is known as Reid's Mistake after Captain William Reid who, in 1800, became the first European to make his way into the lake.

Aboard the ship Martha, a small schooner of 30 tonnes, he came from Sydney to collect coal from the mouth of the Hunter River and mistook the channel for the river estuary. He ventured inside what was then a lagoon, not the Channel we know today, and there encountered some members of the Awabakal tribe, who directed him to a seam embedded in the headland. It was only upon his return to Sydney that he realised he had got the wrong coal and the wrong harbour.[1]

The same mistake was again made a year later by another ship, the Lady Nelson, who sent ashore a Dr. Harris to explore. He met there, upon the shore, an Aborigine who named himself as Budgeree Dick (trans. – "Good Dick") and jumped aboard their dingy with a load of fish, shouting "Whaleboat! Whaleboat!" and left with the party when the Lady Nelson departed.[1]

European Settlement and Early Industry

One of the first settlers in Lake Macquarie was Reverend Lancelot Threlkeld. In 1824 he established a Mission to protect and study the Awabakal Aborigines on 10,000 acres of land stretching from Pelican to Valentine. He wrote many books about the local people and made a very detailed study of their language. He says in his writings that only 11 Aborigines lived around the Swansea Heads area at that time, as opposed to the large number described by Captain Reid and Dr Harris.

In 1841 he began mining at what is now Coal Point and a depot was constructed at Reids Reserve to store coal to be picked up there by larger ships heading to Sydney.[1] It is believed that a jetty was constructed there at this time.6

In 1835 the first local industry was started with a Salt Mine begun at Swansea Heads. J.H. Boughton was granted 149 acres of land and purchased a further 450 acres. It was very short-lived. The operation was completely manned by convicts who lived in small huts at the site. Late in 1835 some escaped convicts crossed the Swansea Channel, stealing boats from the mine site.

Whilst it is not known whether the mining convicts assisted them, when the authorities discovered that there was no oversight of the workers, Boughton was told this was unsatisfactory. He decided to close the venture and it was finished up in January 1836.[1]

By 1840 other free settlers had moved onto the Boughton estate and were squatters there. At this time there was a lot of cattle theft going on around Wyong and Dora Creek and it was suspected that the squatters at Swansea Heads were involved, Mr. Henry Denny in particular was known to be helping get the stolen cattle across the Channel, after which they were moved on to the Hunter Valley. It took a few years before the police were able to catch the thieves in the act and Denny and 6 or 7 others were arrested and a major criminal enterprise stopped.[1]

European seafarers settled in the vicinity as early as the 1860's. Records list at least eight families living in the area – William Boyd, William Forbes, Henry Jackson, Merriet, Noir, Michael Murray, Donald Strachan and Toop, after which Toops Hill was named. By the 1880's most of the people had moved into the township of Pelican Flat, as Swansea was then known.[3] It was about this time that the Breakwall from Black Neds Bay was constructed out to the Heads.

In the 1920's many families started moving onto the flat ground at Reids Reserve and a little village sprung up that came to be known as Flagstaff.[5] The first of these settlers was Mr Gerry Blacklock, followed closely by Sid Edwards and eventually about 20 dwellings sat there between the Channel and the headland.[3]

About 1960 a lady named Lucy Kealy moved into Gerry Blacklocks old house with her husband Tony. When the authorities eventually began moving people out of these unauthorised dwellings, Lucy resisted and eventually was granted permission to stay. It was this Lucy for whom Lucy's Breakwall was named when it was built in the early 1980s.[3]

Aerial photo of Salts Bay Swansea 9 August 1961 looking west across Black Neds Bay. Photographer Keith (Dalkeith Llwellyn) Hilder

In 1947 coal mining commenced at the Reids Mistake headland. The pit entrance to the Swansea Channel Colliery was situated where the last couple of houses are at the end of Lambton Parade today. The mine itself spread out to the south and in areas where it sloped down towards Salt's Bay, former miners report that it was so wet, that the water coming from the roof of the cave was like a constant rain. The mine apparently paid very well compared to others operating at the time. The operation ceased in 1953.[7]

Other industry in the area included a lot of forestry. When the first settlers moved into the area it was described as "thickly timbered."[4] For boat building red cedar, beech and rosewood were cut. Tea tree and cabbage tree palm were also cut for other uses. The last red cedar from the whole area was cut from the Swansea Heads littoral rainforest area, according to local legend.[5]

Aerial photo of Swansea Heads, 5 August 1961. Photographer Keith (Dalkeith Llwellyn) Hilder

References:
1. Clouten, Keith, (1967) Reid's Mistake, Lake Macquarie Shire Council, Speers Point, NSW.
2. Dyall, Leonard K., (2012) The Swansea Channel Midden and Burial Ground, A Report on the 1972 Excavations Directed by Frances A. Bentley and Leonard K. Dyall, Wallsend, NSW.
3. Boyd, George and Noelene, (2007) What's In A Name. East Lake Macquarie Historical Society, Swansea, NSW.
4. Coode, Sir John, (1887) NSW Harbours. Lake Macquarie Entrance Plan, Shewing Works Recommended – Map.
5. George Boyd, East Lake Macquarie Historical Society, (2012) pers. comm.
6. Vicki Williamson, East Lake Macquarie Historical Society, (2013) pers. comm.
7. Sparks, Len, (2013) pers comm.

Evolution of the Swansea Heads Sustainable Neighbourhood Group

Swansea Heads Sustainable Neighbourhood Group started in early 2008 as an initiative of the sustainability department of Lake Macquarie City Council. A group of residents and council staff had a number of meetings to discuss sustainability issues and plan the first workshop in May 2008 which introduced residents to the idea of sustainability groups.An introductory workshop was attended by 80 interested residents ranging from babes in arms to octogenerians.

Following this meeting an enthusiastic group of residents from Swansea Heads met monthly at each other's houses and hosted workshops on various interesting aspects of our environment. Topics included worm farming, weeds, and birds of Swansea Heads.

Each session was followed by a barbeque or afternoon tea. Not only was it a great way to learn about the arctic tern that travels from Alaska to Swansea Heads for the summer, it was also a great way to get to know the interesting people living in our community.
A telephone survey was conducted in September 2009 sampling 100 of the 246 household in the area. This confirmed what became clear in the workshop that Swansea Heads residents enjoy their outdoor lifestyle and were concerned about the environment.

Later meetings were held in the Swansea Centre with visiting presenters discussing topics related to sustainability including permaculture and the history of flooding in Swansea.

In spring 2009 and summer 2010 newsletters were distributed in the area. The group organised a very successful Clean Up Australia day event in March 2010.

On World environment day June 5, 2010 a second community workshop was held in the Swansea Centre. Residents involved developed the draft Swansea Heads Sustainable Neighbourhood Action Plan (SNAP). This SNAP was launched on National Tree Day on 1 August 2010 along with the official opening of an access gate at the entrance to the Swansea Headland to reduce dumping in the area.

In 2010 and 2011 a series of workshops were held educating residents about the littoral rainforest and the rock platform at the Swansea Headland, both are rare and diverse ecological communities. There was also a workshop on snakes and fire awareness and "Take 3" an initiative to reduce rubbish in our environment.

In 2011 we received a grant from NRMA Insurance to support the rollout of

- Development of the Swansea Heads SNG website
- A study involving Simple Home Energy Audits
- Development of a Swansea Heads Sustainable Living Guide Booklet

The simple home energy audits were rolled out. Results of the audit process are a bit later than expected, due to work commitments, but can be found later in this document. The SHSNG website has been developed and can be viewed at swanseaheads.org.au
In 2012 SHSNG inconjuction with Landcare and LMCC organised the "over your back fence" initiative for residents of Northcote Ave on the council reserve on the back of their properties.

In 2012 , the Swansea Heads Sustainable Neighbourhood Group (SHSNG) organised a successful Clean Up Australia day in March. In June 2012 the Swansea Heads SNG joined with the Swansea SNG, Lake Macquarie Council and students from Glendale TAFE to host a community film night. A movie called "BAG IT" was shown with introduction from Tim Silverwood, a surfer and community activist and founder of "Take 3". The night was well attended and the message of how we are destroying our world with plastic was felt by all who were there.

In 2013, the Swansea Heads Sustainable Neighbourhood Group organised another successful Clean Up Australia day in early March.

If you would be interested to become involved in the activities of the Swansea Heads Sustainable Neighbourhood Group, please have a look on the website and contact our representative that would will be happy to add you to our mailing list for future events.
Or you can contact our SHSNG neighbourhood coordinator on 4017 1721.
Or email us at swanseaheads@gmail.com
Or look up our website at www.swanseaheads.org

Swansea Heads Community Survey

In September 2009, 100 out of 246 Swansea Heads households completed the Swansea Heads Sustainable Neighbourhood Survey. The Lake Macquarie City Council Sustainable Neighbourhood Community Research (2009) revealed the following results.

1. Neighbourhood Features of Swansea Heads

That the natural environment and friendly neighbourhood are the most valued features of the Swansea Heads neighbourhood. Swansea Heads residents spend a lot of time outdoors with more than 91 % of respondents out walking, swimming, picnicking, cycling, or boating in the four weeks prior to the survey.

2. Neighbourhood Attitudes to Climate Change

74% of Swansea Heads residents believe that climate change will affect their daily lives over the next two decades, and 68% believe behaviour change at the household level has the capacity to slow climate change.

3. Reducing Neighbourhood Household Footprints

Swansea Heads residents take steps to reduce their ecological footprint, with 95% of households are fitted with water and energy saving appliances and 95% of households have compost bins.

4. Neighbourhood Environmental Concerns

Weed control, rubbish, and stormwater management were identified by survey participants as environmental concerns for Swansea Heads.

5. Neighbourhood Actions

Residents surveyed believed the most important things residents could do in their neighbourhood were to protect and maintain the natural environment, reduce rubbish and energy consumption, and learn how to manage stormwater in their yards. Households surveyed indicated that they would take part in neighbourhood clean ups (94%), growing native gardens (86%), and improving their skills and knowledge to protect the environment (69%).People of Swansea Heads are more likely to volunteer compared to the average resident of Lake Macquarie City.

The Littoral (Coastal) Rainforest

Littoral rainforests grow in areas sheltered from the wind and salt spray where a moist "microclimate" exists. Shelter can be provided by land forms and vegetation at the margins. Most littoral rainforests are in the hind dunes but can be on headlands or near estuaries.

At Swansea Heads there is substantial area of littoral rainforest at Salts Bay adjacent to salt marsh of Black Neds Bay. It is protected from the ocean winds by the Swansea headland. Both littoral rainforest and salt marsh are endangered ecological communities. The rainforest has a large stand of huge cabbage tree palms (Livistonia Australis) and paperbarks (Melaleuca Quinquenervia) as well as other species found in subtropical rainforest. Closer to the salt marsh, Sheoaks (Casuarina) along with spiny rush (Juncus) predominate.

Numerous birds, frogs and insects find habitat in the area. The area is well known to birdwatchers. Southern Emu Wren, Bartailed Godwit and the Rednecked Stint can be seen in the area. It is a wonderful place to visit with rainforest abutting the shallow waters of Salts Bay. There is a walking track along the old disused pipeline from the end of Ross Street to the beach of Salts Bay.w

Threatened and regionally significant fauna that live in the littoral rainforest include the Sooty Owl, the Grey headed Flying fox, the Top Knot and White headed Fruit Pigeons, the Satin and Regent Bower birds, Ospreys and the White Breasted Sea Eagle.

Another area of remnant littoral rainforest remains on the Swansea headland east and adjacent to Illawong park. This area has a number of rare and threatened subtropical rainforest plants including the hard Quandong (Elaeocarpus obavatos) and the Magenta Lillypilly (Syzygium Paniculatum). Tuckaroo (Cupaniopsis Anacardioides) and Banksia Integrifolia form the vegetative barrier to protect the more sensitive plants from the salt spray. Clusters of Flannel flower can be seen on the cliff edge near this area.

Illawong Park has an area of remnant Themeda grassland which is also endangered ecological community. There are scattered areas of Themeda grassland along the Swansea headland.

Recently the federal government has listed Littoral rainforests as Critically Endangered under the EBAC act. These areas are threatened by invasion of Bitou bush, Lantana and exotic grasses and by human destruction. Fauna are threatened by cats, dogs, foxes and rabbits and destruction of habitat.

The Swansea Heads community can play a vital part in valuing and protecting these special areas that are part of our natural heritage. Observing and learning about the natural world in our own environment can enhance our lives. Caring and preserving the ecological diversity around us will enhance the lives of our children and grandchildren.

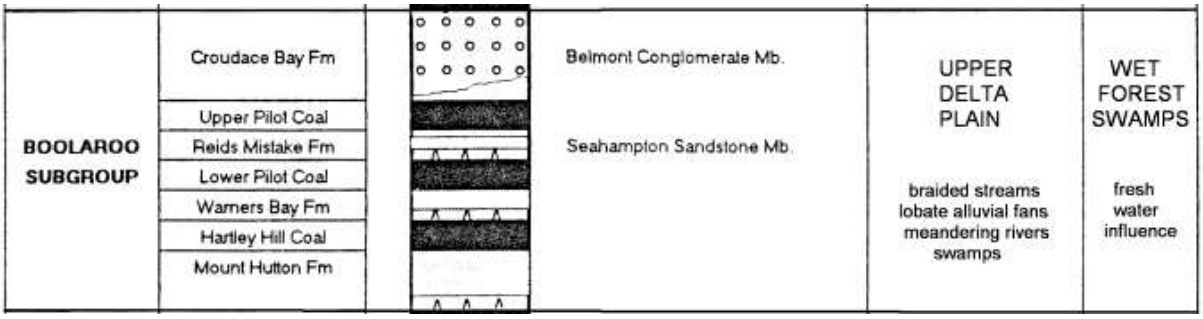
Thermeda Grassland in the foreground and Rainforest around the edges at Illawong Park

The Rock Platform

Geology

The wave cut rock platforms are expansive regions projecting seawards from the base of rocky headlands. Erosion by ocean waves has formed rock platforms in the zone between high tide and low tide levels, where waves are most active. The rock platforms are made principally of hard and resistant sandstone and conglomerate, with minor softer layers of coal, shale and volcanic ash.

The geology of Swansea heads showcases the rock units from the Boolaroo Subgroup which makes up the middle part of the Newcastle Coal measures. The cliff exposure at Swansea Heads (below the pilot's station) features the Reids Mistake Formation, an 8 metre thick layer of volcanic ash (called tuff), which fell on the ancient forests and peat swamps which were flourishing in the area at the time (around 250 million years ago). Peat formation was interrupted by the ash fall which separates the upper and lower bands of the Pilot Coal Seam. The ash arrived from explosive volcanic eruptions (similar to Mt St Helens in USA) occurring to the east and northeast as indicated by the direction of fallen fossilised trees preserved at the contact between the lower pilot seam and the base of the Reids Mistake Formation.



The ash from these eruptions snapped the trunks of standing trees and swirled around the lower trunks which remained standing and were fossilised (silicified) in place. Swansea Heads is one of only a handful of well exposed examples of this geological phenomenon.

The Reids Mistake Formation occurs as grey to white, fine grained tuff and tuffaceous sandstone extending from the Heads around to Crabs Creek and forms the soft white knob on the rock platform at the northern end of Crabs known locally as “Chalkies”. The tuff is the source of the distinctive well rounded white cobbles and boulders at Crabs. Overlying the upper pilot seam is the Belmont Conglomerate, a massive unit of pebble to cobble conglomerate which forms the cap to the cliffs at Swansea Heads.

Chalkies from the north, sitting on sandstones and siltstones of the Warners Bay Formation

Chalkies from the east looking towards Caves Beach
Erosion since then by the sea has removed some of the conglomerate and tuff, exposing the Permian fossilised forest, which consists of many ancient Glossopteris tree stumps, branches and leaves. You can see many leaf fossils in the fine laminated grey tuff.

Glossopteris tree trunk in the rock platform (note the internal structure is preserved)

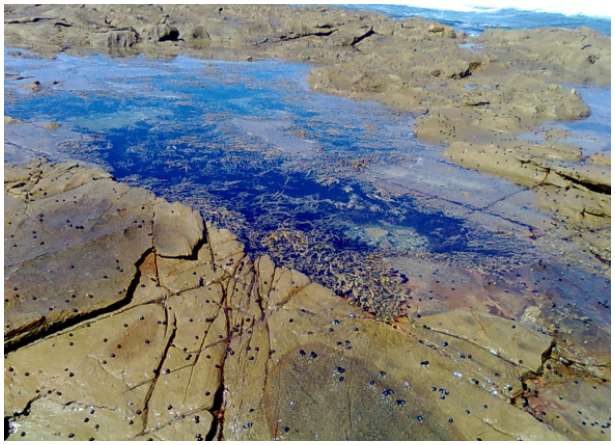
Tree trunk showing internal growth rings

Coalified branches and leaves in grey tuff

Biodiversity

The Swansea Heads rock platform has been recognised as the most biodiverse rock platform in NSW in regards to intertidal organisms, birdlife and habitat.

In 2007, a study was undertaken by University of Newcastle. 0f a total of 230 species of intertidal organisms identified across 15 rocky shores in the study, the highest number were recorded at Swansea Heads (127 Species).

Species included Mollusca Rhodophyta, Phaeophyta, Arthropoda, Chlorphyta, Echinodermata, Annelida, Chordata, Cnidaria, Porifera; Bryozoa, Platyhelminthes, Nemertean and Cyanobacteria.

Additionally, Swansea Heads came runner up in the rare species category with 12 rare species found on the rocky shores.

White bellied sea eagles, Whistling Kites and threatened species such as the Sooty Oyster Catcher and the Osprey can also be seen.

White Bellied Sea Eagle

Osprey

Sooty Oyster Catcher

Whistling Kite

Kelp Gulls can be seen on Moon Island as well as Gannets, Albatross and Shearwater.

Kelp Gull

The more common pelicans, sea gulls, cormorants can be found near most shore lines looking for another feed.



Migratory birds such as the Bar-tailed Godwit can be seen along the beaches at various times of the year.

Bar-tailed Godwit

Along the Black Neds to Salts Bay walking track, the Southern Emu Wren and Little Grassbirds may be seen.

Southern Emu Wren

In June right whales and humpback whales use the seas below Illawong Park to rest in their migration.

What you can do.

- Take a bag with you when you walk and pick up plastics and fishing tackle which cause so many problems for the platform's biodiversity.
- Learn more about the platform and its diversity.

Source : Lake Macquarie Landcare Resource Centre, OCCI, University of Newcastle

How can you promote biodiversity at home?

- Consider your lawn. What impact is it having? It drinks water, encourages pest species like Indian Mynahs, provides an alien landscape with no shelter for native species. Think about replanting with local native groundcovers, grasses, shrubs and taller plants. www.treesinnewcastle.org.au
- Avoid weedy plants that can escape into natural areas
- Use Unbleached, recycled paper products.
- Create a frog pond. http://www.lakemac.com.au/downloads/Fact%20Sheet%2011%20-%20Managing%20backyard%20environments%20sustainable%20gardening.pdf
- Bell the Cat! Keep your cat in at night and attach bells to its collar so native lizards and birds have some warning of its approach.
- Build a nest box. http://www.lakemac.com.au/downloads/Fact%20Sheet%2011%20-%20Managing%20backyard%20environments%20sustainable%20gardening.pdf
- Avoid pesticides and chemicals. Check out ABC Organic Gardener magazine for ideas on organic alternatives.
- Grow some bush food such as Warrigal greens, Lillipilly, etc.
- Contact LMCC for info about their "Backyard Habitat for Wildlife" program. www.lakemac.com.au/backyard-habitat-for-wildlife
- Join a local bush regeneration group

Local Native Plants

Local provenance plants are indigenous native plants growing in their home range. Local provenance plants are used for landcare and bush regeneration projects to preserve ecosystem integrity and biodiversity. They can also be used in urban gardens and landscaping projects.

Local native plants:

- Are the right plants in the right place.
- Have genetic integrity.
- Are more resistant to pests and diseases.
- Are drought tolerant.
- Have full nectar composition for native animals.
- Are longer lasting.
- Will distribute seed and contribute to natural regeneration.

Visit the "Trees in Newcastle" Resource Library at www.treesinnewcastle.org.au/page19199/Resourses.aspx for a wide range of downloadable booklets and information sheets on gardening with local natives, how to establish your own native plants.

Banksia

Landcare

Some of the objectives of Landcare groups are to:

- Regenerate degraded natural areas, including bushland, riverbanks, degraded waterways and rare and endangered ecosystems
- Improve the ongoing health and resilience of important ecosystems and habitats of rare and endangered flora and fauna
- Improve ecological connectivity within and between natural areas.
- Protect, restore and enhance the local environment.

Some of the activities that the Landcare groups undertake include:

- Dune Stabilisation
- Removal of Weeds & Bush Regeneration
- Planting of native trees and shrubs
- Protection of Aboriginal Middens
- Rehabilitation of Walking tracks and
- Installation of Viewing platforms

A Community Action Grant in 20011 – 2012 saw the LandCare Regeneration Group clear lantana & weeds at the rear of Northcote Avenue backing onto the Littoral Rainforest at Black Neds Bay.

Before

After

A recent funding grant has assisted the council Landcare Regeneration Group to remove a significant amount of Bitou Bush and other weeds from the Illawong Park headland area.

If you are interested to learn more about Landcare or help out where you can in your area, please contact the following:

Swansea Heads Area

Landcare Group : Salts Bay
Contact Person: LandCare Resource Centre Contact No: 4921 0392

Landcare Group : Crabs Beach
Contact Person: Doug Smith Contact No: 4972 0551

Landcare Group : Chalkies Beach
Contact Person: Jackie Blackman Contact No: 4971 1992

Landcare Group : Headland
Contact Person: Marine Rescue Contact No: 4971 3498

Landcare Group : Illawong Park
Contact Person: Rhonda Williams at Swansea Cottage Contact No: 4971 1229

Landcare Group : Frenchmans Beach
Contact Person: Glenda Doggett Contact No: 4971 0009

Fire Retardant Edge Plants

Some lucky people live in, near or next to bushland. This can be great if you want to take a walk and watch the birds, wonder about the daily routines of the wildlife, or catch a waft and witness the new flowers of the season. The Australian bush is a beautiful place, but also a dangerous one which can threaten your life and property.

For many people in the local area who live near bushland reserves the threat of fire during the warm months is very real. There are however a number of steps that can be taken to minimise risk without removing all trees and shrubs. A number of people believe that if a plant is native, it is a fire risk; if it is exotic then it's safe. This is not so: for example, many of the exotic conifers can become explosive in fire events, but are often included in landscaping close to the house.

Often during site assessment work in areas where people are complaining about the fire risk from the reserve, it can be seen that the threat is exacerbated by the property owners themselves: dried garden refuse is often dumped over the back fence on the reserve edge; fire-wood stacks are often near the back fence; gutters are full of leaves and bark.

If you are lucky enough to live near a bushland reserve, then take on the responsibility yourself for planning for a fire event:

- Clean your gutters or invest in some of the new types of guttering designed for water tanks that don't accumulate bark or leaves.
- Install a water tank (and pump, if necessary) to keep landscaping and mulch moist.
- Maintain a clear zone on your own property between the house and the bushland (a lawn, a paved area or a pool).
- Direct and spread overflow rainwater to an area designed for fire retardant native plants at a safe distance from the house.
- Prune dry foliage to promote new growth.
- Select plants that are slow to ignite or don't produce a lot of leaf litter.

Disclaimer: All plants will burn given the right conditions. The following lists of species are chosen from the local area and are more likely to be found in the “rainforest” areas within sites because the fleshier leaves are often slower to ignite.
The information contained has been gathered through landcare experience and research.

Source TIN Topic 13 www.treesinnewcastle.org.au

LMCC DCP No.1 Part 2.1- Environmental Responsibility and Land Capability 2.1.5 Bushfire Risk
“The use of trees as windbreaks is a common practice, but trees also provide a useful firebreak, trapping embers and flying debris that would otherwise reach buildings and structures. By reducing wind speed, a row of trees also slows the rate of spread of a bush fire and dense foliage traps radiant heat, lowering bush fire intensity.”

Following site preparation and mulching, the species recommended below would provide a suitable planting model. Remember that no tree is fireproof and retention of existing trees is preferable.

Trees

Blackwood (Tree), Red Ash (Large Tree)Creek Lillipilly (Tree), Native Quince (Tree), Brush Bloodwood (Tree), Red Olive Berry (Tree), Jackwood (Tree), Swamp Oak (Tree), Ebony Myrtle (Tree), Native Tamarind (Tree), Hard Quangdong (Tree), Moreton Bay Fig (v. Large Tree), Small Leafed Fig (v. Large Tree), Port Jackson Fig (v. Large Tree), Cheese tree (Tree), Guloa (Tree), Native Frangipani (Tree), White Bollygum (Tree), Snow wood (Tree), Sweet Pittosporum, Native Daphne (Tree), Plum Pine (Medium Tree), Black Apple (Tree), False Rosewood (Tree), Magenta Lillipilly (Tree),

Creek Lillipilly

Magenta Lillipilly

Native Daphne

Shrubs and Herbs

Scrub She-oak (Shrub)
Grey Myrtle (Small tree/shrub)
Coffee bush (Shrub)
Hairy Clerodendrum (Shrub)
Blueberry Ash (Small tree)
Bolwarra (Shrub)
Spiny-headed Mat-rush
Booblalla (Small tree/shrub)
Bleeding Heart (Small tree/shrub)
Rough fruited Pittosporum (shrub)
Brush Muttonwood (Small tree)
Poison Peach (Shrub)
Wilklea (Shrub)

More Information
http://www.treesinnewcastle.org.au/SiteFiles/treesinnewcastleorgau/TIN_Topic_13_-_Fire_Retardant_Plants.pdf

Ozbreeze fire retardant plants: literature review and plant list

http://www.ozbreed.com.au/download/fire_retardant_plants.pdf

www.swanseaheads.org

Lake Macquarie Landcare Resource Centre

Grey Myrtle

Rough Fruited Pittosperum

Blueberry Ash

Brush Muttonwood

Weeds

Noxious Weeds

In NSW, noxious weeds are plants that have been declared under the Noxious Weeds Act 1993 by the Minister for Primary Industries. Weeds with the potential to impact on agriculture, animal or human health or damage the environment are potential candidates for declaration as noxious weeds.

Source: http://www.dpi.nsw.gov.au/agriculture/

The Lake Macquarie City Council website www.lakemac.com.au has lists of noxious weeds that are common in this area.

Also look at Lake Macquarie Coastal Planting Guide from LMCC.

Bitou Bush
(Chrysanthemoides monilifera)

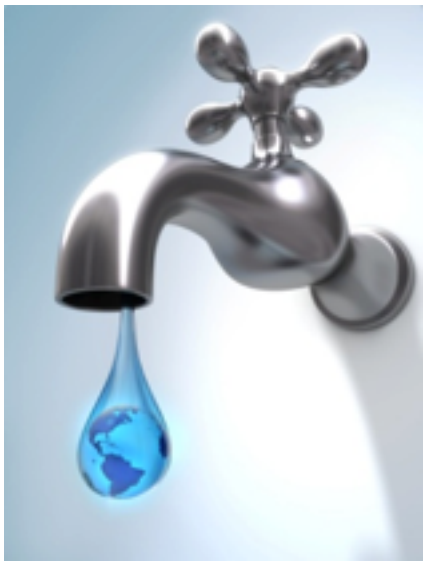
Lantana
(Lantana camara)

Pampas Grass
(Cortaderia spp)

Environmental Weeds

Environmental weeds are weeds which you have no legal obligation to control, but in most cases it is good practice to remove them.
Examples of environmental weeds include Privet, Camphor Laurel, Morning Glory, Bamboo & Wandering Jew.

Water Saving Tips



Did you know each person uses about 190 litres per day. A house fitted with water efficient appliances can reduce consumption by 25%.

What can you do?

- Check and repair leaking taps and pipes. To check for a slow leak in the toilet, place some food dye in the cistern and check after 15 minutes for colour in the bowl.
- Install a low flow water saving showerhead and use less than half the water.
- Put a bucket under the shower while waiting for it to get hot, use for garden.
- Turn off the tap while cleaning teeth or shaving.
- Aerated taps reduce water flow by 50%.
- Rinse veggies in a plugged sink.
- Microwave, steam or pressure cook veggies instead of boiling.
- Adjust load setting on washing machine to suit level of water needed.
- Install a dual flush toilet or flush regulator.
- Buy products with more stars on efficiency rating label.

Visit www.livinggreener.gov.au

Rainwater Tanks save water and reduce stormwater run-off and are available in a wide range of designs, materials, colours and sizes. For more info check out www.lakemac.com.au

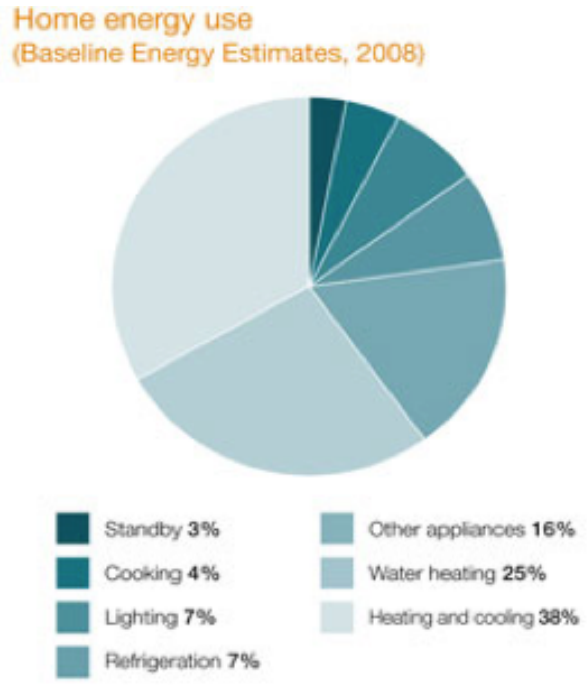
Green or enviroplumbers can be found at www.greenplumbers.com.au, or www.enviroplumbers.com.au

Greywater is wastewater from a hand basin, shower, bath, spa bath and laundry. It does not include toilet or kitchen water. There are two systems available, Greywater diversion devices and Greywater treatment systems.
Check them out at www.water.nsw.gov.au or www.health.nsw.gov.au
Source: Sustainable Living Guide, Lake Macquarie City Council 2011

Energy Saving Tips

What can you do?
If you haven't already, you can undertake a Simple Home Energy Audit. You can use the copy on our website www.swanseaheads.org

How many stars do you get?
This simple home energy audit will help you identify areas in your home where you may be able to save energy by changing the way you do things around the home. It's so simple, your children could help you.



Some of the areas included are:

- Water heating & shower, bath, taps
- Heating & cooling
- Clothes washing & drying
- Lighting
- Fridges and freezers
- Standby, Cooking & other
- Insulation, shading & draught proofing

You can also identify your average daily energy usage per quarter, compare it with others in the Swansea Heads area in the survey results on page 31.

During 2011, we carried out a Simple Home Energy Audit survey of approximately 75 of 246 homes. 25 residents in the Swansea Heads area responded with the following results:

Area	Average Actual Score	Max. Possible Score
Water heating & shower, bath, taps	4.83/11	11/11
Clothes washing & drying	3.57/4	4/4
Fridges and freezers	4.85/7	7/7
Insulation, shading & draught proofing	6.50/10	10/10
Heating & cooling	5.91/7	7/7
Lighting	1.83/2	2/2
Standby, Cooking & other	5.74/7	7/7
Total	**33.22/48**	**48/48**

Energy Usage from Energy Bill

Time of Year	Actual avg. kWh/day	Expected avg. kWh/day
Autumn	17.12	14
Winter bill	18.68	15
Spring	17.62	14
Summer	18.59	15

The results of the simple home energy audit indicate that there are three main areas for possible improvement:

- Water heating & shower bath and taps
- Fridges and freezers and
- Insulation shading and draught proofing

By managing the use of energy in these areas better we may be able to reduce our overall energy usage (avg kWh/day/quarter and reduce our energy costs.

The following pages give some tips on how energy can be saved around the home.

Water Heater

- Ensure hot water solar collectors are not shaded by trees or buildings.
- Turn off when not required, eg when going on holidays for more than a week.
- Turn down thermostat in summer.
- Check there are no leaks or drips.
- Insulate external hot water pipes, plastic is better than copper.
- Use a cold rinse for clothes and dish washers.

Fridges and Freezers

- Defrost and clean inside of your fridge and freezer at least every six months.
- Clean the coils behind your fridge annually.
- Keep the temperature in your fridge between 3^0 & 5^0C. Measure this by placing a thermometer in a glass of water in the back of the fridge for 24 hours.
- Keep the temperature in your freezer between -18^0 and -15^0C.
- Check door seals, they should hold a $5 note in place when door is closed.
- Ensure good air circulation round unit and it is in shaded and cool place.
- Purchase a unit with a high* energy rating.

Insulation, shading, draught proofing

- Check out www.acfonline.org.au the website of Australian Conservation Foundation.
- Avoid gaps, if only 5% is not insulated you can lose up to 50% of the benefit.
- Reduce heat loss with close fitting curtains or blinds.
- Exclude cold air by screening doors and windows with vegetation or shutters.
- Seal draughts with a simple fabric door “snake”.

Heating and cooling

- Close doors to minimise area you are heating. Use a space or portable heater if only one room needs heating.
- Close windows , curtains and blinds when heating.
- Open curtains and blinds on a sunny winter day.
- Heat living areas to less than 21^0 and bedrooms to less than 18^0C.

- Turn off heating overnight and when you are out during the day.
- Turn off gas heater pilot light during warmer months.
- On a hot day close all blinds, curtains, windows and doors to keep the heat out
- Cool bedrooms and living areas to no less than 24^0C.
- Put off cooking, washing, ironing till a cooler time of day.
- Keep lights to a minimum on hot summer nights.
- Open windows to ventilate the house when it's cooler outside
- Locate air conditioner on shaded side of the house, away from direct sun.

Lighting

- Turn off lights when you leave a room.
- Use fluorescent lighting or compact fluorescent bulbs in areas that are frequently lit.
- Use compact fluorescent (CFLs) bulbs, or ultra compact fluorescents (UCFLs) or light-emitting diodes (LEDs) for downlights. Please remember to dispose of CFLs responsibly, they contain mercury. Lake Macquarie Council has sites for this.
- Use timers to switch lights and appliances on and off rather than leaving them on all the time when you are on holidays.

Cooking

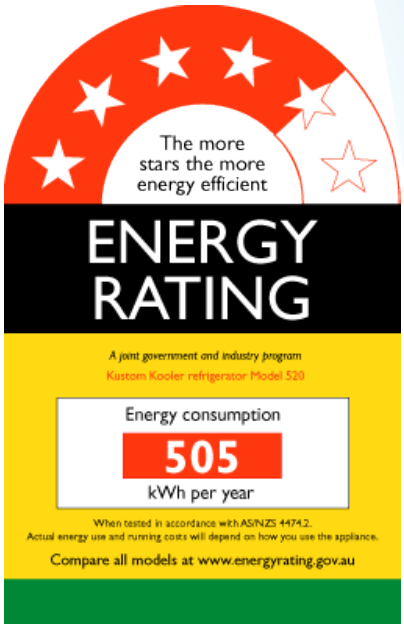
- Use a microwave or small appliances such as toaster oven or microwave instead of a conventional oven.
- Turn oven off a few minutes before food is ready.
- Use a pressure cooker instead of pots and pans.
- Thaw frozen food before cooking.

Home entertainment & computers

- Turn off appliances at the power point when not in use
- Turn off computer screen when you are away from it for more than 10 minutes, the monitor uses around 80% of the power of a typical computer/monitor combo.
- Screensavers do not reduce power consumption unless they actually turn the monitor off
- Laptops use less energy than personal computers.

Energy efficient appliances

The more stars it has the more energy efficient it is. Energy rating labels will help you save energy and water. By law refrigerators, freezers, clothes washers, clothes dryers and air conditioners (single phase) must have an energy rating label.



When looking for a new appliance, the average kilowatt hours (kWh) used per year can be obtained from the energy rating label.

www.energyrating,gov.au has charts that compare the energy ratings for appliances, white goods, hot water heaters, etc.

Source: Sustainable Living Guide, Lake Macquarie City Council 2011

What else can you do?

Greenpower is a government renewable energy accreditation program in which you use energy derived from sources that can be replaced eg solar, wind, biomass rather than black or brown coal, oil and gas.

Check it out at www.greenpower.nsw.gov.au or phone 02 82827777
Home Sustainability Assessments can be conducted in your home by an accredited assessor if you are a pensioner or Vet Affairs card holder . Call 1300 662 416 or visit www.savepower.nsw.gov.au

Power Meter Kits are available for loan from Lake Macquarie libraries. You just plug the appliance into the meter and into the wall to work out how much power they are drawing.

Source: Sustainable Living Guide, Lake Macquarie City Council 2011

In Your Backyard

Waste and recycling. An amazing 95% of households in Swansea Heads have a compost bin. What else can you do?

Rethink and Reuse

- Buy in bulk to reduce packaging.
- Buy fruit and veggies loose not pre-packaged or grow your own.
- Support your local growers market.
- Use your own cup for take away coffee.
- Repair don't replace.
- Donate unwanted goods to the Swansea Cottage.
- Start a worm farm.



Recycle

- Take plastic bags back to the supermarket.
- Take your old printer ink cartridges and photocopier toners to Australia Post Offices www.planetark.org.au
- Mobile phones, batteries and accessories at Council www.mobilemuster.com.au
- Used motor oil can be left at some service stations.
- e-waste (hand held electronic items, microwaves, TVs, VCRs, mobile phones, computers etc) at Awaba Waste Management Facility 367 Wilton Road.
- www.lakemac.com.au has a detailed Recycling directory
- Use recycled products for renovations, where possible.

Sustainable Food

"Food miles" is a way of measuring the distance food has travelled from the paddock to the plate. What can you do minimise your food footprint?

- Make your own lunch for school or work.
- Avoid wasting food.
- Eat one less serve of conventional meat or one less serve of dairy per week.
- Buy in bulk and minimise packaging.
- Choose food that is sustainably grown, local and in season.
- Buy organic.
- Support fair trade
- Cook from scratch
- Keep Chickens
- Grow your own, choose traditional and heirloom varieties.
- BYO water in a reusable bottle.
- Compost worm farm your food scraps – create soil and a backyard carbon sink.
- Read the label.
- Choose sustainable seafood.

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More information can be found at the
Swansea Heads Sustainable Neighbourhood Group website www.swanseaheads.org
Website development: Ross Woods

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www.sustainableneighbourhoods.org.au