

Coastline

The Coast Action/Coastcare Newsletter

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Communities caring for our coast

From the State Program Coordinator.

Welcome friends of Victoria's magnificent marine and coastal environment to this first issue of 2005. We have truly one of the world's great coastlines and like you I too am concerned that we need to care for and wisely manage this unique environment for both present and future generations. In this issue of Coastline you will read about some of the important ways we are addressing the issues.

One man who is inspiring many at the moment and raising the coastal profile through his 'Walk the Talk' is Victorian Coastal Council member Lynn Murrell. Lynn's effort to traverse the entire Victorian coastline on foot highlighting the values of our coasts and seas and the important role we all play in caring for it is nothing short of remarkable. You can read of his epic journey on the following page and also check him out on the cover. We also have a number of articles featuring some of the great work carried out by volunteers who are "walking the talk" by getting the job done, many of whom have made a point of meeting Lynn in their patch.

This issue of Coastline also features a focus on the important role of 'Interpretation' for connecting Victorians with our coast. Interpretation is the form of communication used to 'help others make sense of the natural world' and is one of the ways we promote caring for our coasts and seas.

We have a number of interpretive pieces written by our Regional Facilitators. Denis Cox helps us to understand how our coast is shaped by wind and waves, while Tracey Pennington reveals some of our incredible coastal migrant species. Bruce Atkins gives some insight into rockpool critters; Glen Forster introduces us to a deep water visitor, while Di Moore reveals how Interpretation can transcend cultural boundaries.

Our collection of images provides a snapshot of some of the many interpretive sessions delivered through the Summer Activities Program 2005 together with some thoughts from participants.



Edithvale foreshore: Lynn is joined by CoastAction/Coastcare Facilitators Glen Forster, Bruce Atkin (left and centre-right) and State Program Coordinator Mark Rodrigue (centre-left).

Perhaps the greatest compliment our program could be given was this one from a happy Summer Activities Program participant...

"Informative, educational, well presented and above all great fun". We hope you all enjoyed it and look forward to next year.

On the program front for this year Coast Action / Coastcare have many exciting initiatives underway. A project is underway to produce some great resources for Victorian teachers and students while we are also delivering a Marine and Coastal Ecology Course for those directly involved in coastal management. We are working with communities across Victoria to secure funds through the Australian Government's NHT and Envirofund programs are being provided to protect and enhance our Coastline, and continuing to work and build communities with a strong sense of stewardship for the coast.

I am personally delighted to be acting in Catherine Clancy's role as the State Program Coordinator whilst Catherine attends to significant life events. She has just had a bouncing baby boy (named Noah because his birth coincided with Victoria's big wet in Feb). Congrats to Mum, Dad, and family.

Yours for the Coast,

Mark Rodrigue
State Program Coordinator

Walk the Talk – A journey from west to east...

By Cathy Ronalds, Project Officer – Victorian Coastal Council

On the bleak morning of Tuesday 4 January this year, Victorian Coastal Council (VCC) member Lynn Murrell set off from the South Australian border on the first solo walk of Victoria’s coastline, a journey that was to take him four months to complete.

His journey would take him along beaches, cliffs, through coastal National Parks and along the shores of each Marine National Park and Sanctuary, and of course through the growing coastal urban environment of our towns and cities.

“The Victorian coast is as diverse as our weather,” Lynn said, as his walk coincided with the storm event that buffeted our coast on Thursday 3 February . Lynn said that his journey is one of immense physical challenge but that the chance to raise awareness of the efforts being made to preserve our coasts for future generations was well worthwhile.

Lynn is an active community member both within his local community of Nelson and a representative for the wider community on various Boards and Committees at a regional and state level. In addition to his role on the VCC Lynn is Chairman of the Western Coastal Board, a member of the Glenelg-Hopkins Catchment Management Authority and President of the Friends of Cape Nelson Landcare/Coastcare Group.

“I’ve been involved in the management and conservation of Victoria’s coasts for many years from behind a desk, with lots of talking” Lynn said. “I have wanted to get out and ‘Walk the Talk’ for a long time.”

In one of his many highlights along the journey, Lynn was welcomed in Port Melbourne by Minister for Environment, John Thwaites. Minister Thwaites presented Lynn with a new

pair of walking shoes to complete his remaining journey, and proceeded to join him on his walk towards St Kilda.

Lynn has been rarely alone for too long on his journey so far being joined by many people along his way. These include members of Parliament, mayors and councillors from local government, school groups, chairs of Catchment Management Authorities and many community group members.

He spent a great deal of time talking with local people about their local patches of coast. Lynn has recorded the many issues he has learnt of through these conversations with locals and will be presenting his record of observations and insights to the Victorian Coastal Council.

Lynn’s journey has been recorded on his website www.walkthetalk.ws . Photographs can be found at www.vcc.vic.gov.au

Port Melbourne: Minister Thwaites, after presenting Lynn with his new walking shoes and Marine National Park postcards.



Marine National Parks – A Volunteer's Perspective

By Jon Duthie, Title –Group?

This is a personal reflection on the important contribution volunteers can make to our Marine National Parks and Marine Sanctuaries. Jon presented this at the second birthday celebration of the Marine National Parks system at Ricketts Point on 16 November 2004. Jon Duthie is the immediate past President (10 years) of Friends of the Bluff, Barwon Heads.

I am a member of Friends of the Bluff. It was at the Barwon Bluff Marine Sanctuary that I once licked a sea anemone.

OK. Given the fact that anemones tend to share their mouth with their anus, the lingering confusion caused by the doubt as to whether it was a girl or a boy anemone and the excruciating pain inflicted on my person by the aforementioned gender non-specific sea anemone, this is not something of which I am that proud. The point is, I would never have had this extraordinary experience if I were not a member of a friends group.

Friends groups provide a level of intimacy with the environment that may not be otherwise available. And with intimacy come questions. And with questions come answers, with answers comes knowledge, with knowledge comes



understanding and with understanding comes passion. And that's what friends groups do best. They provide purpose to peoples passion.

Let me give you the example of Dianne. Dianne is passionate about diving. If Dianne were to join a Marine National Park 'Friends' group she would immediately become involved in the Reefwatch program. Her Reefwatch kit would give her a solid grounding in species identification. She would be encouraged to design, map, plan and follow specific dive trails monitoring, recording and photographing the flora and fauna found thereon building up a vast wealth of local knowledge on the seasonal comings and goings of marine wildlife. The information can be added to the Reefwatch data base thus adding to the national perspective of her Marine National Park.

Dianne will eventually want to share her encyclopaedic knowledge and passion with others and so will develop a host of educational activities. She may produce a CD and web site like 'Living on the Edge' (www.barwonbluff.com.au). She and other like minded 'Friends' would draw on the talents, resources and passions of dozens of other people to produce a CD that is a field guide, a teaching aid and a virtual rockpool ramble with thousands of images that seduce, enlighten and inform. 'The Living on the Edge' CD could be distributed locally, statewide, nationally and globally.

Armed with a resource like this Dianne can set up an interactive display at the local festival and spruik about the wonders and mysteries of Marine National Parks. She can engage with local

Caption below





Remember:

- Friends' groups give purpose to people's passions;
 - Friends groups provide an important community voice; and
 - Unless it is on a plate, never lick marine wildlife.
- Remember you will never be too young or too old to let your passion make a difference to the future of our wonderful marine and coastal environment.
- Visit www.barwonbluff.com.au if you would like to know more about the Living on the Edge project.

Captions left

schools, conduct rockpool rambles, slide nights, seminars, workshops and forums. These activities will enhance the community's understanding and appreciation of our Marine National Parks and because of her knowledge and passion. Dianne will assist Parks Victoria in developing a sustainable management plan for her Marine National Park.

Dianne will also look outside park boundaries to other marine and coastal features that need protection and establish relationships with other marine groups with the view to solving issues or sharing ideas about management, research and interpretation.

In the future, between editing the group's newsletter, writing a monthly column on marine stuff in the local newspaper and co-ordinating working bees for adjacent coastal protection activities, Dianne will look to establish a marine resource centre, develop an on line network with Friends' groups around the Pacific rim, and eventually facilitate the first statewide conference of Marine National Parks friends' groups. She will also hold a full time job and raise a family.

So there you have it. Five minutes ago Dianne was just another diver, mucking about in the shallows. Now she is a dedicated and valued member of the global family of under funded, community Friends groups passionately involved in retention and protection, management and administration, monitoring and research, education and interpretation of our wonderful coastal and marine environment.

Caption below



Seagrass in Westernport

By Tim Ealey, Project Coordinator –
Coronet Bay Community Seagrass Project

Seagrasses are marine flowering plants not seaweeds (algae). In Western Port these plants play a vital role in trapping energy and through their breakdown provide energy for a wide range of species from worms and shrimp, to birds and seals. Seagrasses provide a habitat for many small invertebrates and for juvenile fish by providing them with protection from larger animals. In addition seagrasses also bind sediments, slow water currents and increase water clarity.

It is therefore no wonder that their decline is a major concern for Victoria not only in Western Port but in many other bays, inlets, and estuaries. Over the last 30 years seagrass in Westernport have declined about 80% and there has been only limited recovery.

Many of the factors believed to inhibit growth or kill seagrass are still operating. Sediment from catchments and nutrients from urban and agricultural land both create conditions making it difficult for seagrasses to grow faster than the rate at which they may be covered. Clearing of

the great Koo Wee Rup Swamp last century and degraded streams feeding the bay carrying silt and nutrients are seen as likely causes. A recent inspection of Reef Island showed the regenerating seagrass to be completely



smothered by the green algae *Enteromorpha*, an indicator of high nutrient levels.

To understand growth patterns of seagrass and assist in reversing this problem, the Western Port Seagrass Partnership has carried out several years of research. In 2003 a dedicated crew of volunteers and a Green Corps team ignored gales and high waves to plant over 1000 cores around Coronet Bay beach. In October 2004, volunteers collected a further 500 cores of seagrass that the Green Corps planted using slow release fertiliser, on over 2000 square metres of sand flat. Many have been unfortunately washed away in storms although some plants have managed to thrive.

"We found that plants with slow release fertiliser added grew to 60-70 centimetres in four months with leaves four times longer than controls and if they were covered by sand they grew faster than they could be smothered," said Dr Tim Ealey. An EPA test of the water near the plants showed negligible increased levels of nutrients compared with seepage from the beach and offshore water.

It is hoped that by April 2005 there will be large patches of seagrass thriving at Coronet Bay beach. "We know whiting and mullet are attracted to seagrass, so once we get the grass back we can look forward to improved fishing," Dr Ealey predicted.

NOTE: The EPA is currently preparing a brochure to raise awareness of the importance of seagrass and identification of seagrass species. The brochure is currently in preparation and is expected to be available from the EPA Victoria soon.



Summertime, and the Elephant Sharks are back....

By

With five sets of reproductive structures, including one on the head the Elephant Fish is one of our most unusual summertime visitors. While very different looking to many of their cousins, the Elephant Fish (*Callorhinchus milii*) is related to sharks and rays and sits in the class *Chondrichthyes*. Unlike true bony fish, all these animals have a skeleton made of calcified cartilage throughout their body which gives them their form and structure. Elephant Fish belong to a subgroup called *Chimaeras* (Ghost Sharks), most species of which are rarely seen, being mainly found in the deep sea.

The most distinctive feature of the Elephant Fish is a plough shaped nose that is used to forage for food on the seabed. The end of the snout is covered in sensory pits, which are used to detect movement, water currents, and even electrical impulses in the nerves of prey. Behind this snout is a mouth containing two very hard crushing plates used to feed on a range of hard shelled molluscs and crustaceans. They also scavenge the remains of fish and other marine creatures from the seabed and as such are an important link in the nutrient recycling chain.

Elephant Fish are predominantly a deep sea fish living at depths of at least 200 metres off the continental shelf of Australia and New Zealand. Males and females migrate in from these deep waters to sheltered inshore bays and estuaries in late summer to breed. Females then lay their large golden coloured egg cases in the muddy and



Female Elephant fish (*Callorhinchus milii*) laying eggs

sandy substrates before returning to their deep ocean habitats.

It is during this time that the Elephant Fish becomes a popular target for recreational anglers, particularly in Western Port, the lower section of Port Phillip Bay and large estuaries like the Barwon. Because their flesh lacks fine bones these fish are a popular target for the table.

All fish caught during the period from February through to May in Western Port are breeding adults and, with relatively little known about their biology and life cycle, anglers are encouraged to exercise discretion and keep well within their limits. Shark scientists at PIRVic – Queenscliff (formally MAFRI) have been undertaking research into Elephant Fish for a numbers of years and have asked the coastal communities of Western Port to assist them in monitoring the location of washed up egg cases.

It is thought that the movement of Elephant Fish into areas such as Western Port may be a relatively recent phenomenon and come as a result of the degradation of preferred coastal spawning grounds around New Zealand and Tasmania. All these factors should be taken into account when fishing for and choosing to take Elephant Fish.

Anyone interested in assisting in the Elephant Fish research can contact Terry Walker or Justin Bell at PIRVic on 03 5258 0111.



Elephant fish (*Callorhinchus milii*) egg case

SEASTAR TEAM 2004 – A Partnership between the Community and Government to Eradicate a Marine Pest

Like pest animal and plant outbreaks on land, marine pests are a threat to biodiversity and have the potential to seriously affect habitats, food chains and the wider ecosystem. While prevention is the key, marine pest outbreaks do occur, triggering formal emergency procedures.

An outbreak of an introduced seastar on the Bass Strait coastal town of Inverloch in January 2004 prompted such an emergency response. The Northern Pacific Seastar is a voracious shellfish eater that has infested the Derwent River in Tasmania and Port Phillip Bay in Victoria.

Unlike the population now well established and breeding in Port Phillip Bay, there was a small window of opportunity to eradicate this pest from Inverloch. The fear was that if allowed to get a foothold, the seastar would spread along the east coast of Victoria and into the southern waters of NSW in coming years.

It was reports of individual seastars that had never been seen around Inverloch by local beachcombers that attracted attention. A partnership was immediately forged between the Inverloch community and Government agencies to respond to the outbreak.

The community was involved throughout the incident, providing input into decision making and management actions. The SEASTAR TEAM 2004 included over 300 volunteers. This included some individuals attending every dive event during the month spent looking for the population, and then the months spent hand collecting them. Volunteers included divers, boat drivers, the Red Cross, SES, Surf Life Saving Club, commercial fishers, beach combers, the local Environment Committee, Rate Payers Association, local businesses, and various Government agencies.

A formal debrief of the emergency response was completed in early 2005, through the Office of Emergency Services, and recommendations will be adopted for future marine pest responses.

The debrief highlighted the low likelihood that eradication is ever feasible when a pest is spread and that this was a unique opportunity. Prevention was highlighted as the key to protecting the marine waters including ensuring that all recreational boats and gear are cleaned properly after each use.

The SEASTAR TEAM 2004 has received a number of awards for their efforts including the United Nations "World Environment Day Award", the Commonwealth Ministers "Coastal Custodian's Award" and the Australian Invasive Species Council "Froggatt Award".

The TEAM returned to Inverloch in late February to assess whether breeding of seastars has been prevented in Inverloch. No juveniles and only one adult were found. CSIRO are currently assessing these results and the need for further dives, but these results are looking promising that the efforts of the SEASTAR TEAM may have been successful.



Keeping Marine Pests in their Place

By Ingrid Holliday - Marine Biodiversity, DSE

Victoria's marine and coastal habitats are home to more than 12,000 types of marine animals and plants. Our way of life and many marine industries depends on a healthy marine environment, an environment that can be seriously threatened by marine pests.

More than 250 marine species are known to have been introduced to Australia. However only a handful of species have actually become 'pests'. With two to three new species being introduced each year, the potential for new a 'pest' species to establish is clearly recognised. Some of the better known marine offenders in Victoria include the Northern Pacific Seastar, the kelp *Undaria* and the Sabellid Fanworm that are all now established in Port Phillip Bay.

As most of Victoria is free from these and other pests we do not want to introduce them to new areas. Almost impossible to get eradicate once they have arrived "prevention is clearly better than cure". It is important therefore that the spread of marine pests is limited, not only from locations in and around Victoria, but also from place to place in Australia.

While action is being taken to prevent the spread of marine species through ballast water and on ship hulls, the potential for species to be transported by the increasing number of small vessels being used in our waters is now well understood.

All people who use equipment that is transported from one part of the coast to another can play a role to prevent pests spreading. This includes use of small vessels for fishing, sail boats, skis, sea

kayaks, canoes, and scuba gear. Microscopic larvae of pests can exist in the bilge water or in damp places or adult forms may occur in uncleaned gear or equipment.

Six simple steps help ensure that small vessels and their equipment are kept clean of marine pests (from the *Brochure – Treat 'em Mean – Keep your Boat Clean*).

DISLUDGE all plants and animals and bin them;

DRAIN water from boat and gear. (Try to stop it draining back into the water body);

DISPOSE of unwanted live bait in the bin;

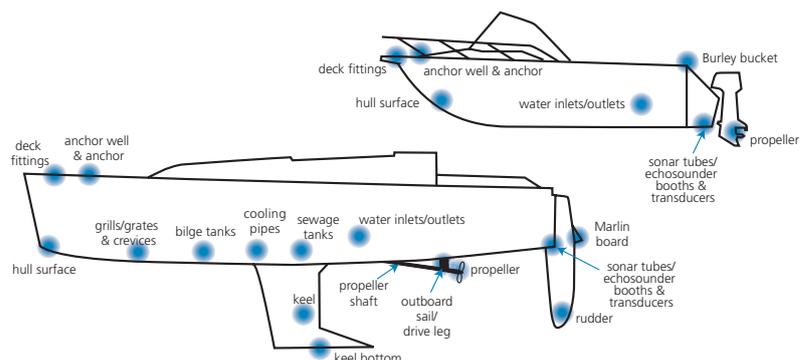
DOUSE your boat and gear with freshwater. (Try to stop it draining back into the water body);

DRY your boat and equipment; and

DON'T FORGET to apply an authorised antifoulant where appropriate.

For more information or obtain a brochure on marine pests visit the DSE website at www.dse.vic.gov.au/marine or contact your local DSE / Parks Victoria office.

Areas on your boat to target



Summer Activities Program 2005

Quotes from Participants' attending activities during the Summer Activities Program ins 2005



"Why is there not more area protected in National Marine Parks?"

(Underneath the Arches Marine Sanctuary Dive)



"We learned that the journey is more important than the arrival."

(Koori Cultural Walk, Venus Bay)



"I was surprised by the diversity and colour of marine life in Port Phillip Bay."

(Meet Our Unique Marine Life, St. Kilda)



"Terrific exposure for the children to have fun and learn from volunteers who are committed to the environment."

(Rockpool Ramble, Shoreham)



"More of the same as I believe teaching young children environmental awareness at a young age helps them to grow up respecting the environment and nature."

(Cape Conran Rockpool Ramble)

"I have walked past many similar environments without any knowledge of what was underfoot. From now on its tread gently."

(Barwon Bluff Marine Sanctuary)





*"Definitely a highlight of our school holiday program. We'll be back."
(Point Addis Marine National Park Snorkel)*

*"Our family has enjoyed these activities run by Marine Discovery Centre and Coast Action/Coastcare and feel it has helped us appreciate and understand our environment so much more."
(Swan Bay Mudflat Meander)*

*"It's incredible how many things we do impact on the river and sea."
(Sea Kayaking Tour, Lower Yarra)*



*"I didn't know that you should leave shells for other critters to live in. I'm gonna bring my sister's shell collection back to the rockpool"
(Discovery Bay Marine National Park)*

*"Excellent way to get the message about the beach across. Hope to see you next year."
(Sing and Dance with 'Starfish' at Chadstone)*



*"There is so much to look at. I didn't realise so much lived here."
(Merri Marine Sanctuary)*

*This is a great way to get to know about the environment"
(Mysteries of the Sea, Lorne)*

"It's very good for future generations to learn to respect the sea and sea creatures."

*"It's a hard time to feel good about the sea (re Tsunami) but your songs made us feel better about it."
(Warrnambool Coast Action/Coastcare Concert)*



*"When I showed the group a Little Green Seastar, and asked, 'What colour is it, how big is it...therefore, what would you call it?', a small boy, about five or six, said 'Fred!'
(Corner Inlet Discovery Walk)*





A youth adventure on the coast.

By Dianne Moore, Coast Action/Coastcare Facilitator – Port Phillip East



Last year's National Coastcare Week was celebrated at Barwon Heads on Saturday 4 December with a program focussing on youth participation in coastal and marine activities.

Coast Action/Coastcare in association with Parks Victoria and local friends groups, Friends of the Bluff and Friends of the Lobster Pot, welcomed over 50 youths from inner Melbourne to Barwon Heads and introduced them to the local rocky shore environment and the creatures that live there.

Members from Brimbank Youth Services and the Western Young People's Independent Network in Footscray embarked on a marine adventure at the Barwon Bluff Marine Sanctuary. For some participants it was their first visit to the coast having come from refugee camps in North Africa and never experiencing salt water before.

The young people participated in a rockpool rambles and followed by a guided tours of the Barwon Estuary Heritage Centre that had them all enthralled, particularly by the hermit crabs. The many small creatures that live within the rocks in the Marine Sanctuary also surprised them. Some participants even tried using a mask and snorkel to see under the water. This was a particularly exciting experience, although a somewhat surprising one!

The program was a great way to bring people together from a variety of backgrounds and

provide them with the opportunity to experience and learn about our unique coastline. It also provided coastal managers and volunteers with practical strategies and a better understanding of how they can more inclusive in regards to different age groups and cultures when undertaking education and management programs.

The event was also a great opportunity to showcase Victoria's marine protected areas and to extend the awareness of these spectacular sites to the managers caretakers of tomorrow, our youth.

The day concluded with participants playing a game of soccer on the beach and taking the plunge into the cool temperate waters of Barwon Heads. This was a particularly exciting opportunity for many and for some it was their first swim in the ocean. Although they may have left with chattering teeth, you could not wipe the smiles off their faces.

The contribution of many volunteers from local community groups made the day possible, hosting rockpool rambles, guided tours of the Heritage Centre and cooking the BBQ. We look forward to providing further opportunities to establish links between youth, including those from culturally diverse backgrounds, our wonderful coastal volunteers, and the coastal and marine environment.



Our Migratory Marvels

By Tracey Pennington, Facilitator – Coast Action/ Coastcare

Within our midst is a unique group of extremely seasoned travelers, who often go unnoticed by many of us. One group flies thousands of kilometres each spring to reach our shores from as far afield as Siberia, China and Japan, spending all summer feeding and enjoying the sun. They later head north again in our autumn to live the endless summer. Another group navigates our southern oceans - departing Antarctica when it gets too chilly, staying a few months on our south west coast to relax, mate and even have babies!

I am of course not referring to jet setting people but migrating animals that face extremes of weather, storms, predation, exhaustion and even starvation. Added to the natural challenges are human interferences such as ships, planes, pollution and habitat destruction. Many species in the animal kingdom must migrate at different times of the year to find food, a suitable climate and conditions for themselves and their young. Their lives and those of their off spring, in fact, the survival of their entire species, depends on it.

So which migratory marvels are in our midst? We are lucky to have many right here in Victoria, which can be observed at different times of the year.

Southern Right Whales

The Southern Right Whale's migration sees animals move north from their summer feeding grounds off Antarctica, to shallower, warmer coastal waters off southern Australia, New Zealand, South Africa and South America. In Victoria, we are very fortunate to be able to observe them close to shore at Logan's beach in Warrnambool, where whale numbers have steadily grown over the past few years. Arriving in May, pregnant females give birth before or during their stay, while other animals relax, or mate before departing for their summer feeding grounds again in early October. For information on whale arrivals, call the Warrnambool Visitor Information Centre on 03 5564 7837.

Migratory Wader Birds

What is so amazing about these birds is the sheer distances they fly across the globe - twice a year! The different species, which vary greatly in size and shape, come here to feed in shallow waters of inland and coastal wetland areas like estuaries,

bays and inlets. Many arrive in September and leave in April returning to their northern nesting grounds. Some, like the Eastern Curlew, travel from Russia, while the Latham's or Japanese Snipe travel from Japan. Top coastal viewing locations from March to September include mudflats and coastal wetlands located in Marine and Coastal Parks and our Marine National Parks and Sanctuaries.

Short-tailed Shearwaters

The Short-tailed Shearwater is another incredible migratory bird that covers an astounding 30,000 kilometres a year in the round trip between their breeding grounds on Australia's south east coast, and northern destinations as far afield as the Arctic Ocean. Their full journey takes five months to complete, as they pass New Zealand, Japan, the Bering Sea and Alaska before crossing the Pacific Ocean back to Australia. The Shearwaters can be seen from late September to early April at Mutton Bird Island in Port Campbell National Park, Griffith Island, Port Fairy and Philip Island.

Orange-bellied Parrot

The beautifully coloured endangered Orange-bellied Parrot migrates between Tasmania, Bass Strait islands and Victoria's coastline in search of ever shrinking salt marsh habitat. Birds migrate north from Tasmania between March and April, staying in south eastern coastal areas of the mainland until mid October.

How you can help our Migratory Marvels

- Always keep your dog on a lead at the beach and well away from known wader bird areas;
- Keep to main access tracks at the beach as many birds like Shearwaters, nest in the dunes;
- Litter kills coastal and marine life, so please dispose of all rubbish, oils and chemicals responsibly;
- Observe birds and whales from a distance so as not to disturb them – binoculars are worthwhile; and
- Ensure boating regulations are followed when observing whales.

For more information on these migratory coastal and marine creatures contact Tracey Pennington on 03 5263 3715.

Ninety Mile Beach Marine National Park

By Ty Caling, Marine Planner –Parks Victoria

Located approximately 40 kilometres from Sale and 500 metres from the township of Seaspray, Ninety Mile Beach Marine National Park, covering 2750 hectares, protects a representative area of the Ninety Mile Beach.

Ninety Mile Beach Marine National Park preserves an internationally significant sandy environment, recognised for its exceptionally high diversity of marine invertebrates. Although the sandy seafloor may appear to be lacking in life, the world's highest recorded levels of marine biodiversity for a sandy environment have been found in this area. More than 600 different invertebrate species have been found within ten square metres of sand, making it one of the most biologically diverse marine environments in the world.

Low reefs of ancient dune limestone are scattered throughout the offshore sandy plains, supporting unique invertebrate fauna, including colourful sponge gardens. Current induced sand movement causes these reefs to be periodically covered by sand. Feeding on the abundance of invertebrates within the seafloor are schools of pelagic fish including pike, whiting and snapper. The long sandy beach of the park also provides extensive habitat for shore birds, including international migratory wader birds and the threatened Hooded Plover.

The Park provides excellent opportunities for beachwalking with an ever changing collection of flotsam and jetsam waiting to be observed by the curious beachcomber. Recreational opportunities are generally restricted to shorebased activities, as the strong currents make diving and swimming unsafe. Indigenous people are traditionally and culturally associated with the area within the Marine National Park.

Photo: Jonathon Stevenson



Photo: John Ariens

Beware Reef Marine Sanctuary

Located 30 kilometres southeast of Orbost and five kilometres offshore from Cape Conran, Beware Reef Marine Sanctuary covers an area of 220 hectares. Rising from about 30 metres at its base on the sea floor to two metres above the water surface, the partially exposed granite reef provides habitat for a rich diversity of marine biota.

Fish, including Butterfly Perch, Long snouted Boarfish and Maori Wrasse are abundant within the sanctuary, as are a range of invertebrates, including soft corals, sponges, sea anemones, and zooanthids. The exposed rocky platform also provides a haul out site for Australian Fur Seals, feeding in the waters of the sanctuary.

Due to the influence of the East Australian Current, the waters of the sanctuary and surrounding areas are generally warmer than elsewhere in Victoria. Cool southern waters mix with warm northern waters bringing increased nutrients and creating an ecosystem high in productivity.

As the name suggests, Beware Reef is a navigational hazard and the site of three steamship wrecks (the Auckland, Ridge Park and Albert San) whose extensive remains lie around the reef. Indigenous people are also traditionally and culturally associated with the area within the Sanctuary.

Beware Reef Marine Sanctuary is a diver's paradise, with rock walls, shipwrecks, crevices, swim-throughs and gutters covered in life of every conceivable shape and colour. As the Sanctuary is located offshore, diving and snorkelling are exclusively boat based.

Please remember that our Marine National Parks and Marine Sanctuaries are protected areas and, like National Parks on land, activities that involve harming or removing marine life or artifacts are not permitted.



Photo: William Boyle

Ocean Waves

by Denis Cox, Coast Action Facilitator, Port Phillip East

The power of sea waves and currents that pound the Victorian coast is all generated by wind. Wind is an outcome of atmospheric heating and cooling over vast land and water masses and involves incredible complex of variable influences, just ask any meteorologist!

In the open Southern Ocean, enormous waves are generated as powerful winds from Antarctic storms blow over open sea. Waves 20m high and travelling 80km an hour have been recorded. Large waves move towards the shore as a swell and where there are no obstructions beat powerfully and continuously on exposed coasts. The waves are larger and the currents stronger where the wind is stronger, has the greater the fetch (ie. the distance over which it blows) and is of greater the duration.

Waves move in an orbital motion. But as the drag of the shallowing ocean floor increases during the forward movement of waves to the shore this motion becomes more elliptical until the wave breaks. Offshore islands also interrupt the passage of an ocean swell and change its direction as it is refracted around obstacles.

A swell may approach with very little angle and produce a long smooth wave as it reaches the shore. But where the swell is deflected around solid objects whether above or below the water a series of cross-waves are created. Dangerous rough water conditions in parts of Bass Strait are caused by ocean swells criss-crossing between islands and reefs.

Swells that approach the coast at an angle can generate currents that lift and transport sand to erode and deposit it as longshore drift. The swash of waves breaking on the shore is followed by backwash as water rushes out to sea again as undertow or localised rips. Both actions are much stronger on ocean beaches and have the potential to carry swimmers with them. Gentle waves can sweep sand to the shore while steeper storm waves will cut back beaches and dunes, taking the sand out to sea.

In enclosed bays and inlets, smaller waves and currents are generated where surrounding land features confine and complicate wind speed and direction and the sea floor is shallower. These waves and currents however are often still powerful enough to erode the shore and transfer sediments along the coastline. Seasonal winds variation can alter wave and current direction.

The energy inherent in the sea is why the coast can be so dynamic and unstable. If you live near the sea, understanding basic principles of the sea and the natural influences that direct it is a good first step in your safety. The second is to always expect the unexpected on the coast.

Eagles Nest in the Bunurong Marine National Park is part of a basalt promontory that receives the full force of the Bass Strait swell. Underwater



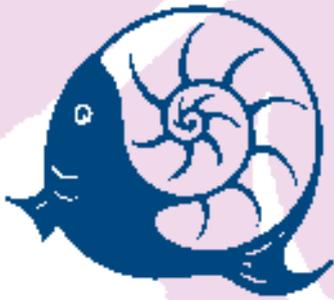
rock shelves absorb much of the oceans full energy of the swell before it reaches the shore.

Choppy conditions occur where ocean swells converge near land and winds are high

As waves drag the sea bottom the orbital motion of waves becomes more elliptical and crests become breaking waves



Photo: Bruce Atkin



CoastKids

by Tracey Pennington

Autumn 2005

Hi CoastKids,

In this edition we are celebrating *Seaweek 2005*, by taking a closer look at some of the amazing sharks in our oceans, finding out more about them and even how to help protect them !

It's no joke - many of our sharks like the Grey Nurse Shark, the huge Whale Shark and even the Great White Shark, are in danger of becoming extinct. So why should that matter?

When sharks die out, the natural food web in the sea becomes unbalanced. The animals sharks would have eaten tend to increase in numbers and can eat themselves out of house and home, placing other creatures and plants at risk too.

So take our true or false quiz, test your knowledge with our shark crossword and more, to uncover some of the mysteries of sharks. **SOS** – help **Save Our Sharks** !

True or False Quiz

1. Sharks are marine mammals
2. Sharks have been on the Earth for around 10 million years
3. The *Wobbegong* is a bottom dwelling shark
4. Sharks can replace broken or worn teeth as needed
5. A Grey Nurse works in a hospital and wears a grey uniform
6. All sharks are man-eaters
7. Sharks have very smooth, rubbery skin like a dolphin
8. The Whale shark eats whales and other large prey
9. Sharks have four pairs of open gills
10. The biggest threat to shark survival is climate change
11. More people die in car accidents than from shark attack
12. A shark skeleton is made of light-weight bones to help flotation

★ Junior Joke ☆ ★

Which fish build the best homes in the sea?

Answer Junior Joke: The Hammerhead and Saw Shark

Answers to Unjumble the letters – Elephant, Wobbegong, Hammerhead, Megamouth, Thresher, Great White

BOOKS

The Marine Education Society of Australia website has heaps of great new shark stuff for kids as well as teachers and others for *Seaweek 05*. Check it out at www.mesa.edu.au

The Gould League has a fantastic shark poster (\$6.50) and a Green Guide to Sharks & Rays of Australia (\$16.95) which has colourful photos & useful info. Visit www.gould.edu.au

You can see live Grey Nurse Sharks , Wobbegongs, Black Rays, and many other sharks and relatives on display at the Melbourne Aquarium

Did you know ?

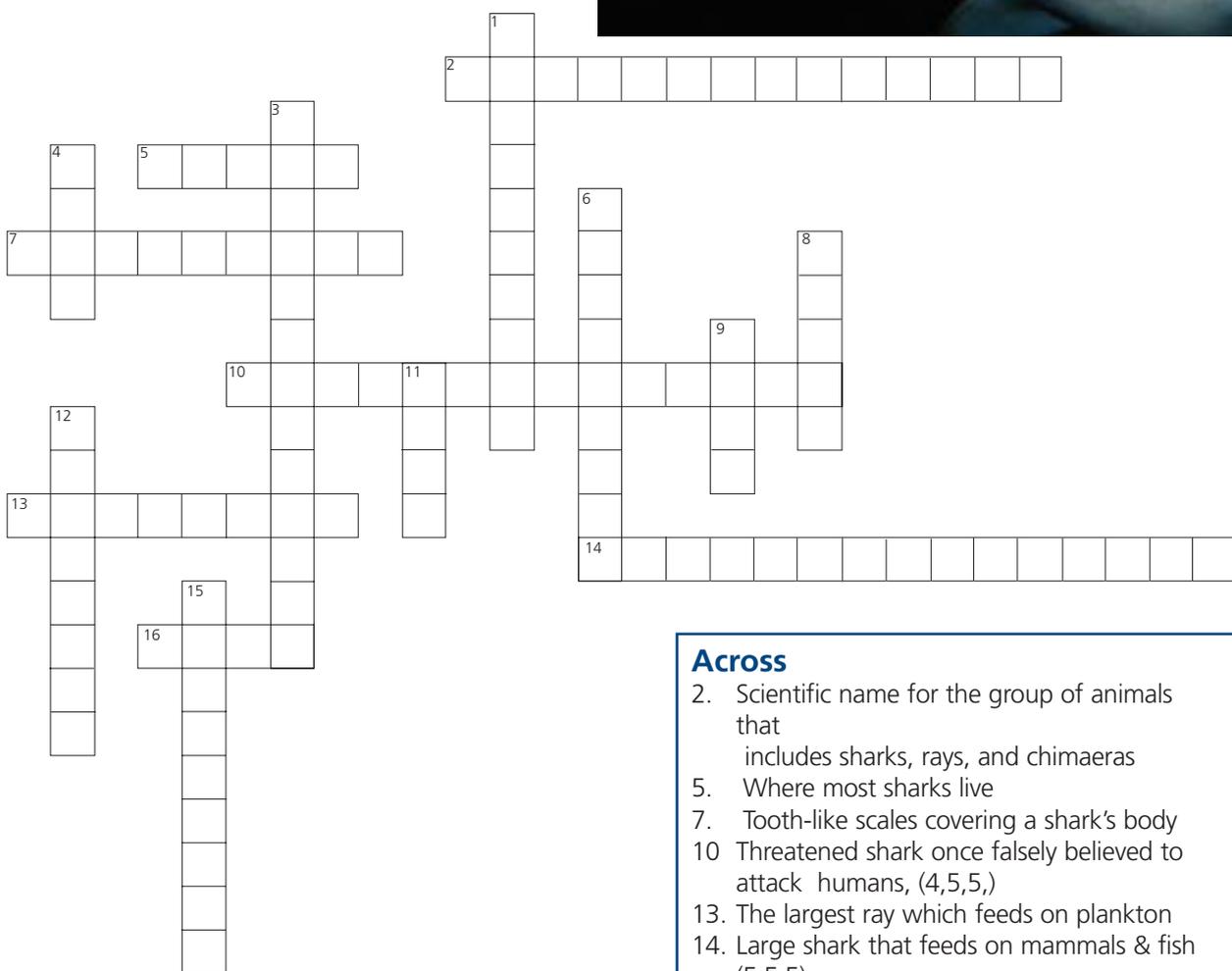
- There are some 370 species of sharks world-wide
- Almost half of all shark species (170) occur in Australian waters
- The largest shark is the Whale Shark, (20 metres), which feeds on tiny plankton
- Sharks are one of the most ancient large creatures on Earth
- Sharks and rays belong to the same class of fish known as the Chondrichthyes
- You can help protect sharks by:
 - disposing of litter, chemicals and fishing rubbish responsibly,
 - observing fishing regulations & not taking more fish than needed,
 - learning more about sharks and how they live,
 - nothing damages their burrow and dogs, cats and foxes are kept away.

Unjumble the letters to name these sharks

PANTHELE _ _ _ _ _ - _
 GOBBEWONG _ _ _ _ _
 HEADERMHAM _ _ _ _ _
 GEMATHOUM _ _ _ _ _
 RESHTHER _ _ _ _ _
 TRAGE / THIEW _ _ _ _ _ / _ _ _ _



Save Our Sharks Crossword



Answers to Shark True or False Quiz (over page)

1. False – Sharks are not marine mammals, they are a type of fish
2. False – The earliest sharks are believed to have appeared on Earth over 400 million years ago
3. True – The Wobbegong is a bottom dwelling shark
4. True – Sharks can replace broken or worn teeth as needed
5. False – A Grey Nurse is a type of shark which is under threat
6. False – Only a very small number of shark species have been known to attack and kill people
7. False – Sharks have rough, sand paper-like skin due to the teeth like denticles on their skin
8. False – The Whale shark eats plankton, by filtering it from the water as it swims
9. False – Sharks have 5-7 pairs of open gills depending on the species
10. False – The biggest threats to shark survival include overfishing, by-catch, boat strike, reduction of food
11. True – Many more people die in car accidents than from fatal shark attacks
12. False – A shark skeleton is made of cartilage, like our ears and nose

Across

2. Scientific name for the group of animals that includes sharks, rays, and chimaeras
5. Where most sharks live
7. Tooth-like scales covering a shark's body
10. Threatened shark once falsely believed to attack humans, (4,5,5,)
13. The largest ray which feeds on plankton
14. Large shark that feeds on mammals & fish (5,5,5)
16. Relatives of sharks with flattened bodies

Down

1. The largest of all sharks (5,5)
3. The theme for Seaweeek 2005 (4,3,6)
4. Part of shark removed for soup
6. Australian sharks with beautiful markings and a fringed mouth
8. Shark is sold under this name in fish and chip shops
9. Hollywood movie series that caused fear of sharks
11. Sharks are mainly caught using these
12. The food of whale sharks
15. Shark skeletons are made from this

Creature Feature: Rocky Shore Life

This summer many participants in Coast Action/Coastcare's *Summer by the Sea* program joined rockpool rambles to learn a little about the amazing biodiversity of Victoria's intertidal rocky shores. Here we briefly describe three animals you may have seen.

Chitons or Coat-of-Mail Snails

There are a number of species of these slow moving snail relatives. They are often found underneath rocks although some species are well suited to exposed wave platforms. Their most distinctive feature is that unlike other snails, the shell is composed of eight plates which allows them to bend and curl as they make their way back to the dark underside of a rock, or if they were dislodged. Chitons are most active at night when they graze tiny algae from the surface of rocks using their radula, a rasp like tongue covered in tiny teeth. Their flat bodies and strong muscular foot help them avoid being dislodged by waves or predators. ***Please always replace rocks to avoid exposing these and other creatures to the sun.***



Elephant Snails

These large snails, up to 10 centimetres long, are also found in dark places such as under rocky ledges, often in company of chitons. They also share a similar food source and graze in a similar manner. They are related to limpets, and their white shells have a similar domed shape. The shell is much smaller than the animal and the beautiful velvety black mantle sometimes covers most of the shell. Elephant Snails can sometimes be seen moving

quite actively, with their tentacles protruding, although they are most active at night. ***Like many creatures on rocky shores their survival depends on their habitat, please return both animals and rocks to their original positions when exploring these areas.***

Seastars

Many of you will have come across a variety of seastars during your rockpool rambles, perhaps the beautiful pentagonal-shaped Biscuit Star, or the Little Green Seastar (which yes, is actually little and green!). As a contrast you may also have seen an Eleven armed Seastar, one of the largest, which can grow to over 50 centimetres in diameter. They are all members of the Echinoderm family, a name that means spiny skinned (think of the connection with the Echidna!). Some, like the large 11 armed Seastar, are carnivores feeding on molluscs, while others such as the Little Green Seastar are scavengers feeding on a wide range of dead materials. All seastars feed by inverting their stomachs over their food. They partially digest it then withdraw it back into their bodies. They also have a water filled body and tiny tube feet for movement. ***Always keep seastars in the water to avoid stressing them through water loss.***



For further advice on good places to visit, or more info on the creatures, download a copy of a great rocky shores brochure at http://www.parkweb.vic.gov.au/education/marine_kit or contact your local Coast Action/Coastcare Facilitator, DSE office, or Parks Victoria office.

The Love Slug

A slimy body and the ability to squirt vivid purple ink would hardly seem to be the characteristics of one of nature's elite lovers. Wandering around rockpools or along the river banks whilst the tide is low during these warmer days may reveal a creature that not only is hermaphrodite but also utilises both sets at the same time!!

Sea Hares appear in large numbers during late summer and autumn months on both rocky shores and in seagrass habitats. The name of Sea Hares relates to the rolled tentacles on their heads that resembles the ears of a large rabbit. Sea Hares are large Molluscs (like snails) but have a much reduced thin shell which is hidden beneath folds in the skin.

There are several different species of sea hares found along the Victorian coast. The smallest are common in shallower rockpools although can be difficult to observe as their colour changes according to the colour of the algae on which they are feeding and they can be yellow, green, brown or even red. Larger species move into estuaries and embayments and feed on algae attached to seagrasses and on the mud surface. Despite their fleshy and slow moving bodies they are eaten by few creatures probably because of their disgusting taste and their ability to produce

a vivid purple dye to defend their otherwise unprotected bodies.

Sea Hares group to form mating aggregations that can consist of a number of individuals in a chain. Having boy bits in their heads and girl bits along their back they are able to simultaneously mate with one in front and one behind. Conga lines of up to a dozen individuals have often been seen.

Following mating, string like egg masses are laid that are wrapped around sea weeds, rocks, or seagrass. Consisting of literally millions of eggs these string masses gradually break apart releasing a tiny larval snail into the water column for some time at sea before returning to the shores the following season.

There are many other incredible creatures waiting for you to discover them in your local Marine National Park and Marine Sanctuary. Visit them in the flesh or have a look at www.barwonbluff.com.au for a virtual tour.

AMAZING BUT TRUE: *Individual Sea Hares have been recorded laying over 450 million eggs over a season - this is the record for any animal.*

Photos from Living on the Edge





Gippsland Regional Snippets

By Bruce Atkin & Glen Forster – Coast Action/Coastcare Facilitators

Summer Activities 2005

Summer and Coast Action/Coastcare go hand in hand and this summer has seen the completion of another successful Summer Activities Program. Thousands of people took part in activities across east Gippsland coast from Paynesville in the west through to Mallacoota in the east. Whilst the unseasonably wet and windy weather did us no favours, all who that participated had a good time and learnt some useful, practical ways to help them better care for the coast.

Grants Now Open

With the busy summer period now over it is time to start thinking about Coast Action/Coastcare projects for 2005. The Coast Action/Coastcare small grants program for east Gippsland is now open and all community groups should have made contact with me already to outline their projects and apply for funds. If you have not done so and have a project ready to go then contact me ASAP. Then we can discuss the possibility of proceeding this year. Congratulations to all those groups that have successfully applied already, I look forward to working with you throughout the year.

We've Moved

As some of you may have heard DSE has vacated the offices on Service St. and moved into the complex on Calvert St. with Parks Victoria and the CMA. Please feel free to drop by to say G'day and to see the new facilities. Give me a call on 03 5152 0439 before hand so I know you are coming.

Green Corp Comes to South Gippsland

The presence of a Green Corps team based at Yarram in south Gippsland has benefited two coastal volunteer groups this summer.

The Albert River Landcare Group approached Coast Action/Coastcare with a proposal to build two viewing/fishing platforms in the tidal section of the Albert River near Alberton. The purpose of the project was to prevent further erosion to sections of the bank already denuded of native vegetation by constant visitation. Coast Action/Coastcare was able to assist by obtaining funding for the building materials. The Landcare Group managed the project and Green Corps supplied most of the labour. Participants gained experience in basic building techniques and enjoyed the experience tremendously.

Their next project for Coast Action/Coastcare was resurfacing part of the Old Port Walking Trail at Port Albert. This involved preparation of the surface, spreading gravel and levelling it. When it became obvious that the project was a little bigger than anticipated, the assistance of a bobcat that was working nearby was enlisted and hastened completion of the project. Weather conditions on the Port Albert foreshore proved a little trying as the photograph shows.

The Green Corps program has assisted a number of young locals receive quality training in a range of skills, while participating in projects with significant environmental benefits. Based on our positive recent experience, Coast Action/Coastcare and Landcare staff in south Gippsland strongly recommend that local communities develop a proposal to have a team in their area.



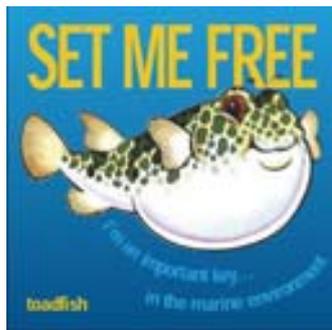
Port Phillip Regional Snippets

By Denis Cox, Dianne Moore & Fiona Stevens – Coast Action/Coastcare Facilitators

Puffers and Toadies

A number of groups throughout the region are busy undertaking small projects funded by the Natural Heritage Trust through the Regional Catchment Investment Plan. Concerned Parks Victoria Ranger Brooke Connor initiated one of these projects with the assistance of Geelong Fishcare and DPI Fisheries. The project involved developing an education program to address the inappropriate discarding of pufferfish and toad fish (often on roads and piers). Two stickers were produced to encourage responsible fishing practices and an information leaflet with additional information and messages. Fishcare will continue to disseminate information throughout the Port Phillip region at activities and events.

Featuring one of our much maligned native fish, these stickers are designed to encourage anglers to put the fish back if caught accidentally.



Koala Coast corridor

The Balnarring Foreshore Committee of Management is seeking assistance to grow and plant over at least 10,000 Koala habitat trees through an Envirofund grant. It is hoped that the trees will help develop a wildlife corridor between Somers and Shoreham. The Koala Coast Ranger at Balnarring, Neil Bayne, is itching to get started on what is hoped will become a community nursery to supply Koala trees to other Committees and interested landowners in the area. Anyone interested in assisting Neil could contact him at the Balnarring Foreshore office.



Lynn inspects the seagrass planting at Coronet Bay

On the right track

Corinella is known for its spectacular cliff landscapes but as they are eroding the Corinella Committee of Management has diverted its main walking track to Coronet Bay. This is away from the cliff tops in areas that were becoming a potential hazard for visitors. Revegetation along the track has boomed. Within a short time the initial bareness caused by track building will soften and the new plants will provide habitat for local bird life.

Grass the Sea

Coastal trekker Lynn Murrell enjoyed an evening barbecue and good company with community members at Coronet Bay recently. He had the chance to see and hear about the progress of the local seagrass planting program from Dr Tim Ealey who is very enthusiastic about what is at present limited but promising success. On the following day Tim took 120 local primary school children to Reef Island to, as he puts it, "assess mangroves and to become AWARE of mud and smells and other things".

South west Regional Snippets

By Tracey Pennington & John Amor – Coast Action/Coastcare Facilitators

New Group helping 'The Bay'

Affectionately known as 'The Bay' by locals, the Apollo Bay foreshore has received a boost over the past few months, thanks to the formation of a new friends group in the area. The Coast Action Apollo Bay - Friends of the Apollo Bay Foreshore, started just under a year ago, spurred on by a small band of interested locals. The main focus of the group has been to tackle coastal weeds invading the foreshore and indigenous revegetation, with funding support and resources from Coast Action/Coastcare. The first working bee in May last year tackled a high visibility area of the foreshore, the Seal Sculpture at the community market site. The volunteers were also made aware of invasive weed species at their first meeting, in particular Sea Spurge and the concept of 'Purge the Spurge' was developed.

Founding member and foreshore manager Gary Mc Pike, tries to organise a working bee once a month and while the average turn out is between six to eight people, he says it is amazing how much can be achieved in just a few hours. The last working bee resulted in about 30 cubic metres of pest shrubs (Cotoneaster, Coprosma, Pittosporum, and Hawthorn) being removed from a section of the Apollo Bay foreshore. A BBQ finish is set to become a part of the regular schedule, not only as a reward for the volunteers but also provides a chance to exchange ideas and socialise.

Gary says the friends group is a great way to get people involved and engaged in their foreshore. "It allows them to become involved in and aware of the issues. For the managers it is a fantastic way of getting work done while operating within very limited budgets. An added bonus for me as a manager is that the 'Friends' are protective of their patch. They are great at passing on information that they think may be of concern, like rubbish dumping, flora damage and storm damage," he said.

The group has now settled down to a core of about 12 regulars, with occasional participation by 'out of towners' who want to help. Members are now starting to suggest activities they would like to undertake, for example the next working bee will tackle self sown cypress trees on the

foreshore. With such a great partnership between the Friends group and the Foreshore Committee, you would have to say the volunteers, the locals and the Apollo Bay environment are all winners. For more information on Coast Action Apollo Bay - Friends of Apollo Bay Foreshore, or to join in a working bee, call Gary McPike on 0419 301 311.

Middle Island Invasion

In early December, fishermen contacted the Coast Action/Coastcare to report a grisly find at Middle Island, which lies within the Merri Marine Sanctuary. Several hundred little penguins and Short-tailed Shearwaters had been killed. Foxes had swum to the island to carry out the attack. Coast Action Coastcare volunteers who had for many years being involved in penguin habitat works, maintained a vigil of the island until a Council initiated fox control program was implemented. This resulted in several foxes being trapped and killed. There now are less than 100 birds left on the Island.

Since then the Conservation Volunteers Australia program Green Reserves, has been put to good use in providing ongoing surveys of fox numbers on the Warrnambool Foreshore. Participants work in partnership with the Council and the local Coast Action/Coastcare group to monitor the movements of foxes into the area. It is hoped that advanced warning of fox activity will allow control methods to begin before attacks occur on wildlife.

'Walk the Talk'

Lyn Murrell who is walking the coastline of Victoria was welcomed as he passed through the region giving many talks and walking with locals. On the Saturday 15 January an official welcome BBQ was organised by Warrnambool City Council and the local Coast Action/Coastcare group with members of the group and councillors joining Lyn for sections of the walk the following day.

New Group for Portland

Plans towards forming a Coast Action/Coastcare group in the Portland area are well advanced with the inaugural meeting date set Saturday 7 May. The group intends doing habitat revival work in the Portland Cliffs area.

Flotsam and Jetsam

Coastal News and Upcoming Events

DSE Recognition Awards

In December 2004 the Coast Action /Coastcare Program received the DSE Recognition Award in Customer Service for the delivery of the 'Conserving Our Southern Shores' community forum, held in May 2004. The overwhelming response to the Forum by community volunteers ensured it was a success, along with the many hours of planning and coordination by the Coast Action/Coastcare team. Coast Action/Coastcare continues to implement the enhancements announced by the Minister for Environment, Hon John Thwaites at the Forum and recommendations by participants provided in the Forum evaluation forms.

Marine and Coastal Ecology Course

A new training opportunity is being offered in May by the Coast Action/Coastcare program for community and agency representatives who have a direct role in governance of our coasts and seas. The program will provide a shared understanding of the way our coastal and marine systems function. For more information contact the Coast Action city office.

Coastal Awards for Excellence

This year has seen a record number of nominations for the Coastal Awards for Excellence sponsored by the Victorian Coastal Council and Coast Action/Coastcare. From education programs through to protected species initiatives, the Awards recognise the valuable contribution that volunteers, organisations and agencies in partnership can make for the marine and coastal environment. The Awards will be presented by the Minister for the Environment, Hon John Thwaites, at a presentation on Wednesday 20 April 2005.

Bringing the Sea to Schools

Coast Action/Coastcare is producing a series of education resources for Victorians schools over the next three years that will be available in both CD version as well as accessible on our web site. Currently work is underway to provide the first of the series for teachers with useful resource materials and examples of schools involvement in coastal and marine protection featured. Future products will be focussed on interactive materials for primary and secondary students.

SOS – Seaweed 2005.

As mentioned in Coastkids this year's Seaweed features the theme of SOS – Save our sharks, highlighting the diversity of Australia's shark species, the threats to certain species, and provides opportunities to learn more about the values of sharks and their relatives in ecosystems and in our culture. Visit www.mesa.edu.au/seaweed2005 for a comprehensive range of materials for the community written by some of Australia leading shark scientists and educators, including special materials for schools.

e-Coastline?

To save on printing and paper we have decided to offer all future editions of Coastlines in two formats. For many of you the traditional print version is what you want so this will continue to be provided. However some may prefer to receive an e-version through your email. To receive an e-version, to let us know about others that may be interested, or to change your mailing or other details log into our website at www.dse.vic.gov.au and use the form provided in the Coastline folder. Alternatively you can phone Gerard Clark on 03 9637 9776 to be added to 'e-Coastline'.

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www.dse.vic.gov.au/coasts

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