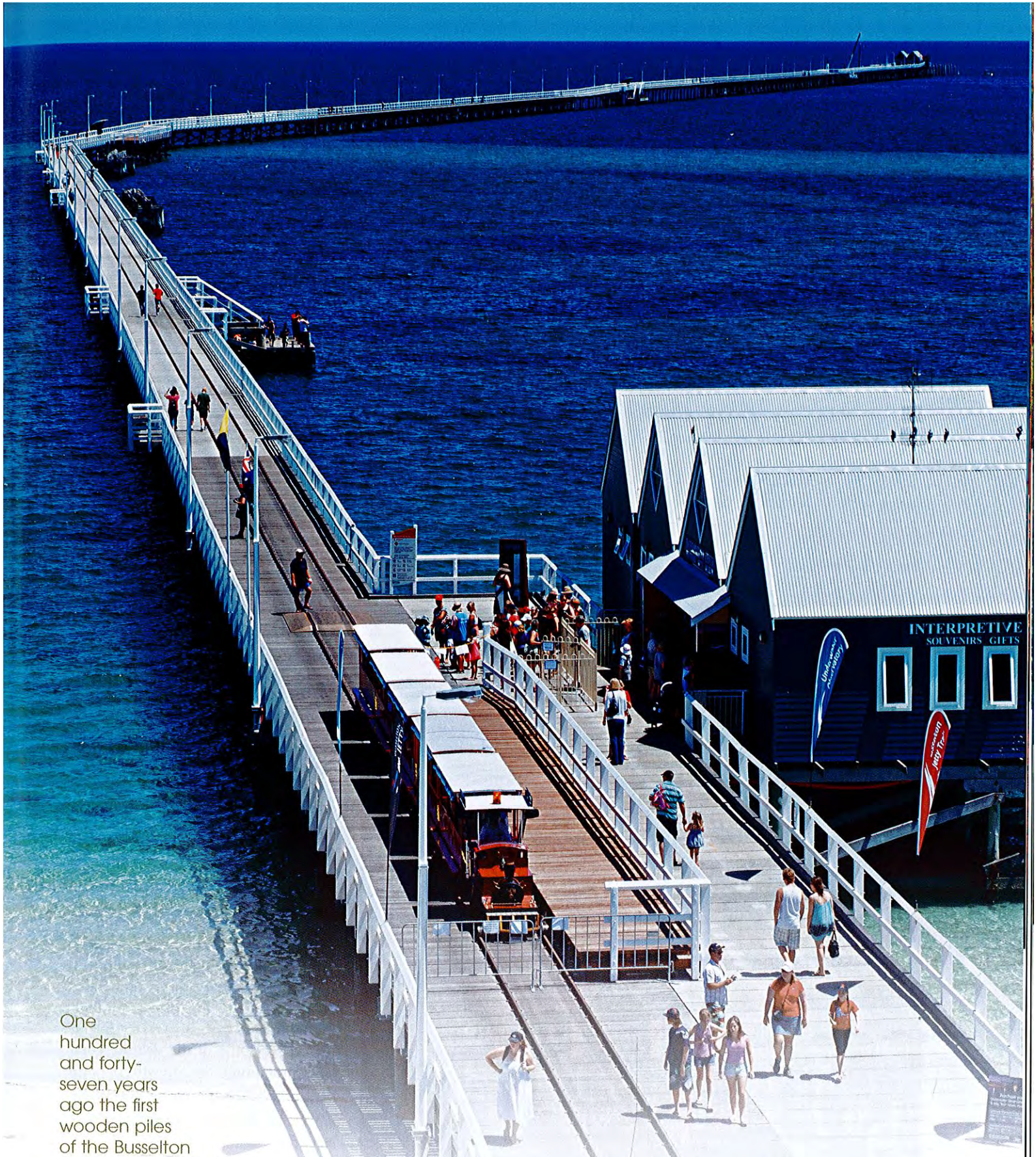


One hundred and forty-seven years ago the first wooden piles of the Busselton Jetty were erected in Geographe Bay. Since then, thousands of people have been involved in building, saving, repairing and refurbishing this historic structure that protrudes nearly two kilometres into the ocean.

Saving the jetty

words by Ann Storrie and Anna Micha
photos by Ann Storrie

Under the jetty is a profusion of life. On a calm, clear day, pedestrians on the jetty can look down to see thousands of fish swirling around the piles. Snorkel, or dive, and you will be surrounded by enormous schools of yellowtail and Australian herring that dart past in feeding frenzies, mouths wide. These schools are often followed by equally large schools of predatory longfin pike and tailor. Juvenile globefish congregate in groups of a dozen or more, sometimes hiding among the branches of *Carijoa* sp. corals that protrude from the piles. Schools of old wives gently cruise around with western talma, leatherjackets and wrasse as they pick invertebrates from the structures. Young dusky morwong, bighead gurnard perch, wobbegong sharks, rays and the occasional seadragon shelter among the algae and seagrasses around the jetty. Descend into the Busselton Jetty Underwater Observatory and you can view much of this splendour in dry comfort.

Historical drama

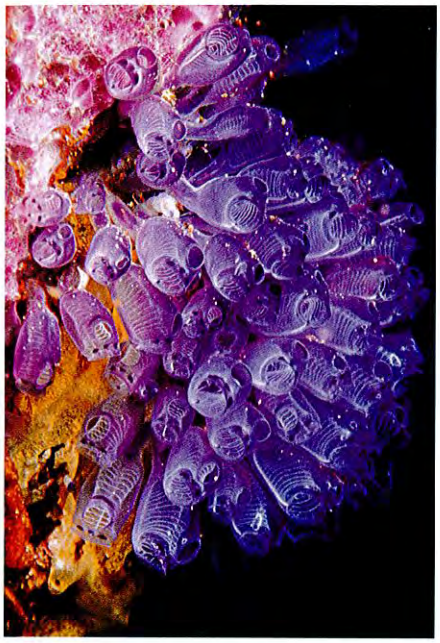
The story of the Busselton Jetty can read a little like a soap opera. From its inception in 1865 until 1960, the jetty was extended further and further into deeper water to counteract the build-up of drift sand. It originally serviced the thriving timber export industry until it was officially closed to state shipping in 1973. Severe storms, including ex-tropical cyclone Alby in 1978, took a huge toll on the old piles, and the jetty was declared a hazard and marked for demolition. Luckily, hundreds of people raised funds and lobbied local and state governments to repair the jetty. Despite further degeneration from normal wave action, storms, marine worms and fire, the main structure survived. In 2001 an informative and interesting interpretive centre was built beside the jetty near shore. In 2003 the world-class underwater observatory was established close to the end of the jetty and a tourist train ferried passengers, including divers, to and from the facility.

However, this was not the happy ending many hoped it would be. In 2008, a structural examination of the jetty deemed many areas to be unsafe for the train. Public access became an issue and the jetty was closed in May 2009. During the jetty's refurbishment, many of the wooden piles with encrusting marine life had to be removed, the end of the jetty demolished and the decking of the whole structure (other than a small section surrounding the underwater observatory) dismantled. This resulted in direct sunlight beaming onto the surviving marine life, destroying some of the delicate corals and promoting the growth of algae that smother ascidians (sea squirts) and many sedentary invertebrates such as

Previous page
Main Open for business, the Busselton Jetty has been a feature of the area for nearly 150 years.
Inset The jetty after a fire in 1999.
Photo – Wayne Storrie

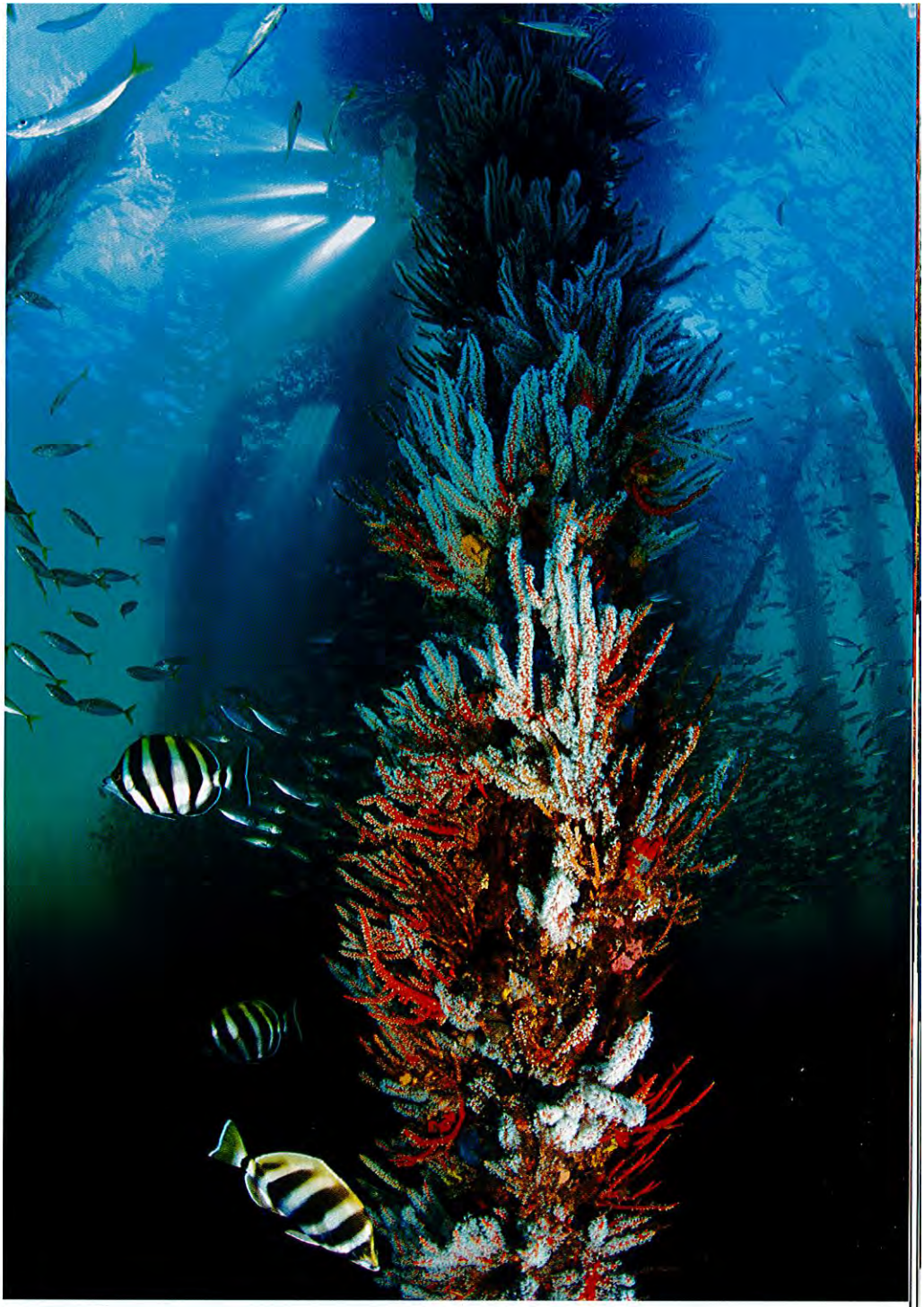
Above left Restoring the Busselton Jetty.

Left The 2011 Busselton Jetty swim.



Above Blue-throated ascidians (*Clavelina moluccensis*) live on the jetty piles.

Right Fish such as the moonlighter (*Tilodon sexfasciatum*) are common visitors to the jetty.
Photo – Shannon Conway



the sponges, bryozoans and *Carijoa* sp. corals (which are commonly wrongly referred to as telesto coral, derived from the previous classification of this species in the genus *Telesto*). If too much of this habitat is lost, mobile invertebrates such as crabs, shrimps and nudibranchs also disappear. Fish life is then affected; not only the direct inhabitants on and around the piles, but pelagic fish, such as tailor, no longer visit to feed. It was imperative that the restoration process be expedited before too much vital habitat was lost.

A grand re-opening

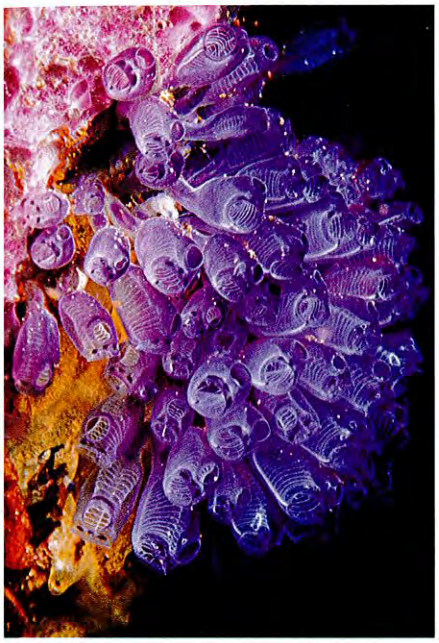
On Sunday 6 February 2011, the Shire of Busselton had its biggest-ever event. An estimated 10,000 residents and visitors gathered on the town's foreshore to witness the official re-opening of the Busselton Jetty. This was followed by a display of fireworks. The annual jetty swim the next morning attracted thousands of competitors and spectators were allowed free access onto the 1.7 kilometres of new decking. The underwater observatory opened later that day where the marine life put on an awesome show. Ironically, the enormous schools of yellowtail, herring and tailor seemed to have increased during the rebuild and most of the coral growth was intact on the old piles around the underwater observatory. This major event brought the community together as never before.

Along with essential replacement of piles and decking, many new features have been added to the jetty. These include interpretive signs, fish cleaning bays, swimming and diving platforms, rain shelters and heritage sculptures. The jetty train was soon running to capacity, carrying more than 40 passengers, nine times a day, to and from the underwater observatory. Together with pedestrians, more than 600 people have visited the underwater observatory in a single day.

Completing the jetty refurbishment by the deadline of February 2011 was not an easy task. Winter storms created dangerous conditions at times and work had to be suspended for three to four months of the year. A change in contractors extended the work period and the finishing touches to the jetty were only just completed before the official opening. The final 100 metres of decking, north of the observatory, will be completed in autumn 2012.

New piles of life

Many of the old wooden piles that were removed have been replaced



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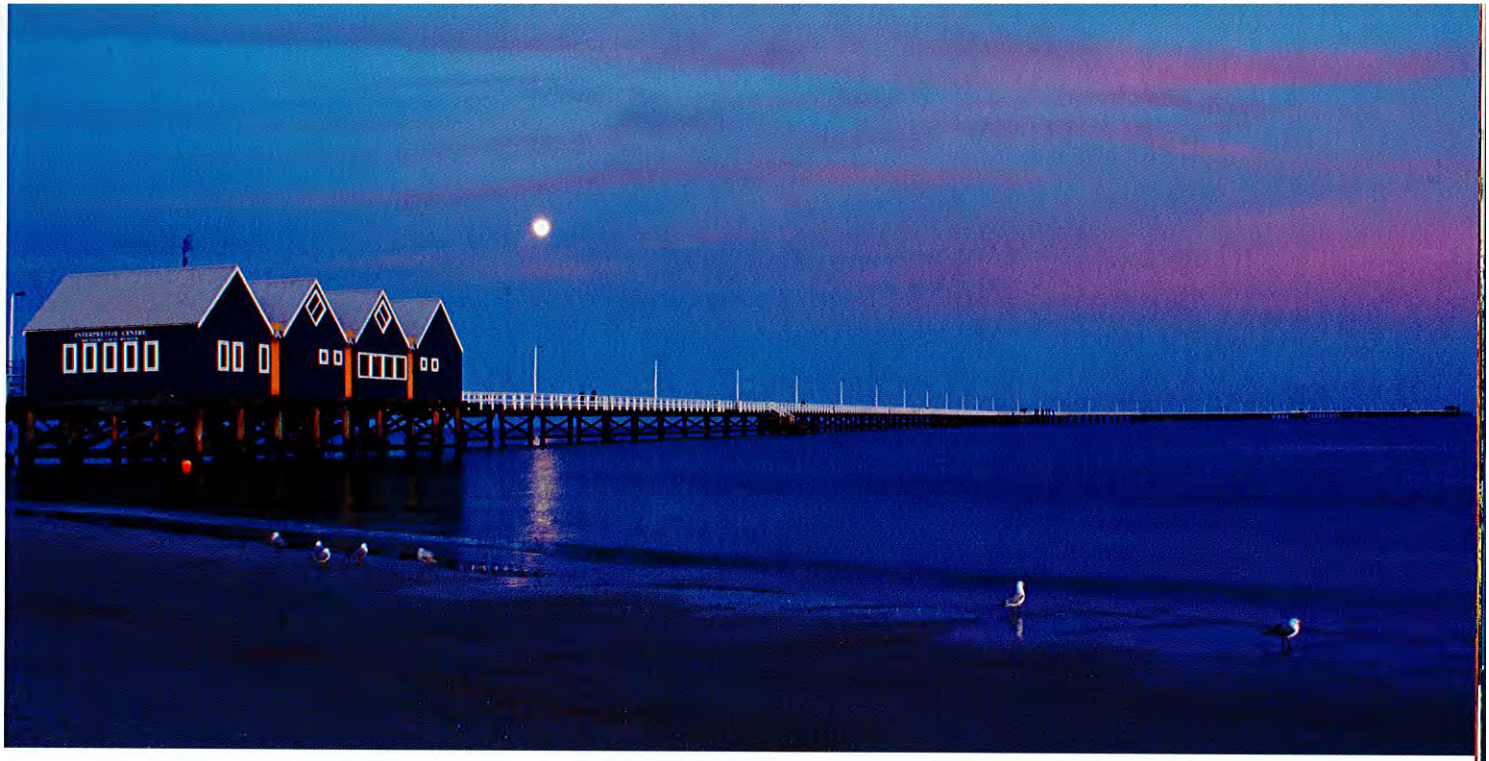
Left Admiring the view at the underwater observatory.

Below left The jetty train carries up to 40 passengers nine times a day to and from the underwater observatory.

with new treated wooden piles, while steel piles have been erected at the end of the jetty. The decking up to the underwater observatory was replaced before much of the marine life was destroyed on the remaining old piles. This will facilitate the regeneration of these invertebrates relatively quickly on both the new timber and steel piles. The area is now a living laboratory for some very exciting and unusual research, much of which can be carried out from the underwater observatory.

The jetty is managed by the Busselton Jetty Environment and Conservation Association (BJECA), a community group established to promote protection of the jetty and enhancement of the natural marine environment in its vicinity and the wider environs of Geographe Bay. BJECA has resolved to provide information, education, facilities and structures on the jetty and in Geographe Bay to assist organisations undertaking research that will promote the protection and enhancement of this natural environment. A long-term project is being planned to facilitate research into the health of the local marine life and monitoring of the overall marine environment. Re-colonisation of the new timber and steel piles by marine organisms will be monitored, with an emphasis on comparing differences between timber and steel piles. Surveys of fish life and water temperature monitoring that were originally undertaken from the underwater observatory are again in full swing.

The jetty attracts a variety of fish and other marine animals, offering a wonderful opportunity for observations of both residential and occasional visitor species. These visitors are usually tropical species brought down the Western Australian coast by the Leeuwin Current—a band of warm water that flows along the outer continental shelf from Exmouth. Tropical species of batfish, rabbitfish, butterflyfish and shrimps have been recorded around the observatory. Greatly reduced visibility during the stormy months precludes any useful observations between about May and October, and the variety of observed species around the jetty may not be truly representative of the coastal waters of southern Geographe Bay. However, these surveys are yielding an invaluable insight into the marine biodiversity of the area in summer and autumn each year. As there is a marine exclusion zone around the observatory, surveys may also contribute to a better understanding of the effect of exclusion zones on marine biodiversity in the area. Surveys are undertaken twice daily by trained guides using a 'tick sheet' of the well-known species as well as provision for the unexpected visitors. Results are collated and monthly summaries



of species are derived and compared against previous reports. Surveys often attract the attention of tourists and provide a good opportunity for public interaction and education.

Water temperatures have been recorded near the observatory using self-recording temperature loggers since February 2001. The 15-minute records are converted to hourly figures and then collated into annual files, with a running plot of the monthly average and extreme temperatures to show the seasonal temperature cycle and perhaps in the longer-term detect any rising trends in temperature. This project was initiated and run by former CSIRO oceanographer Alan Pearce and BJECA provided labour, loggers and diver support. This project is currently moving across to a live stream data set with the assistance of CSIRO. In the future, the program may extend to record water salinity, sea, swell and tide heights, strength of the Leeuwin Current and effect of wind on fish observations.

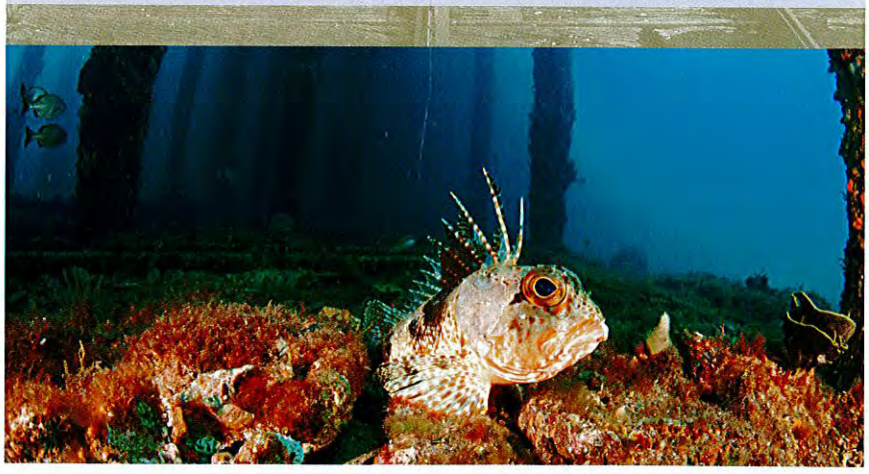
The Busselton Jetty has been a feature of Geographe Bay for nearly 150 years. It is famous around the world as an outstanding artificial reef containing more than 300 species of marine life growing within an ecosystem on its wooden piles or living underneath or adjacent to the jetty structure. It has been saved from demolition, restored from fire, patched, mended and fully refurbished and has become an emblem of marine biodiversity that has brought joy to thousands of visitors and locals who fish, swim, snorkel, scuba dive or simply walk and sightsee. The unique opportunity to catch a train to an underwater observatory to view thousands of fish and invertebrates that congregate, without barriers or feeding stations, has elevated the jetty to worldwide recognition and status. The Busselton Jetty is set to take its next step in a rich marine history.

Ann Storrie is an accomplished underwater photographer and marine enthusiast. She has contributed numerous articles to *LANDSCOPE* magazine and has co-authored and photographed Department of Environment and Conservation (DEC) books such as *Wonders of Western Waters* and *Beneath Busselton Jetty*. She can be contacted by email (naturescapes.au@hotmail.com).

Anna Micha is the Busselton Jetty Underwater Observatory manager.

All results and data from the water temperature study are available to the public via the Busselton Jetty website at www.busseltonjetty.com.au.

For more information on the history and the wonderful marine life under the jetty, the DEC publication Beneath Busselton Jetty *describes most of the species of plants and animals that inhabit this unique underwater ecosystem. See the inside back cover for information about a special offer on* Beneath Busselton Jetty.



Above Nightfall at the Busselton Jetty.

Right A gurnard perch (*Neosebaste pandus*) under the jetty.
Photo – Shannon Conway

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Subscription enquiries *Phone* (08) 9219 8000.

Prepress and printing GEON, Western Australia.

ISSN 0815-4465

Please do not send unsolicited material, but feel free to contact the editors.

Published by the Department of Environment and Conservation, 17 Dick Perry Avenue, Kensington, Western Australia.

Visit DEC online at www.dec.wa.gov.au to search the *LANDSCOPE* catalogue.

Department of
Environment and Conservation