AUSTRALIAN

LIGHTHOUSES

AUSTRALIAN LIGHTHOUSES

By Ron Turner

Please note that this is a growing community project and not a comprehensive resource. None of the information mentioned herein is meant for navigational purposes and all gps locations are general guides only and should be checked with a third party before travelling. If you are able to help us grow this project, we would love to talk with you.

Special thanks to Kathie Maynes and David & Debbie Hibbert

Photographic contributions:
Ron & Yvonne Turner, Bunbury Museum & Heritage Centre, Cook Shire Council, Queensland Government, Royal Western Australian Historical Society
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View Lighthouses of Australia Map

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INTRODUCTION

FOR YVONNE, MY LIFE'S PARTNER FOR 58 YEARS, AND COUNTING

Recently married, hiking from Tidal River to Wilsons Promontory lighthouse with Yvonne in 1961 was a defining period in my life, changing from indoor trade work to environmental management.

After 3½ years working in the mountains of New Zealand's South Island, the lighthouse, keeper's houses and windbreak walls all sitting atop the rugged cliffs with magnificent coastal scenery was spectacular. The sense of isolation and history left an indelible mark on my mind. The keepers made us welcome – especially as we delivered newspapers and a carton of cigarettes.

Across the years we lived and worked in many national parks, visited lighthouses, stayed at some, and were always fascinated to learn about them. They are not all round, nor always tall and white, and in one instance not even coastal. Their operation is similar, but not identical. Becoming volunteers at two of Queensland's lighthouses helped develop our understanding of how they worked, and of the keepers and their families who lived in isolation to operate them.

From understanding came a sense of history. The story of early 'educated guesswork' navigation and countless shipwreck disasters emerged. I became quite passionate about lighthouses and their place in Australia's maritime history. They were built for the safety of all who travel across the world's oceans, regardless of colour, race, religion or sect. They are part of our rich history, standing testament to the engineers who designed them, the builders who erected them and the keepers (and especially their wives) who manned them in all weathers to keep others safe.

Should you wish to explore my fascination with lighthouses further, journey with me around Australia's coastline, in which I have endeavoured to impart a sense of the rich history associated with a selection of Australia's lighthouses. Each has it own individual story to tell. Do explore the Appendix within the Glossary section.

Becoming part of the Artworkz team has enabled me to impart my passion to others, and I am indebted to many individuals who have so generously contributed photos and advice, especially David Hibbert, the Bustard Head Lighthouse Association and ex-lightkeepers Stuart Buchanan, Dudley Fulton, Reg Hatch, Lyndon O'Grady and Sarah-Jane Lakshman of AMSA. The work is not complete. It is a community project and we hope to improve this eBook as other photos and information arrive from the community.

The sequence of flashes at individual lighthouses can sometimes be complex. I have opted for a simpler method of conveying basic differences to the casual visitor.

In striving for accuracy, errors may occur. Positive feedback is welcome.

ryturner@skymesh.com.au

NEW SOUTH WALES

- Barrenjoey
- Cape Byron
- Clarence River
- Crowdy Head
- Fingal Head
- Green Cape
- Hornby
- Kiama
- Macquarie
- Norah Head
- Smoky Cape
- South Solitary Island
- Sugarloaf Point
- Tacking Point
- Warden Head
- Wollongong Head

BACK TO THE START

NEW SOUTH WALES

BARRENJOEY

BACK TO THE START

BARRENJOEY

Height:	20 m tower / 113 m focal plane
Location:	Palm Beach, Sydney
First lit:	1881
Construction:	Local sandstone
Flash:	4 flashes every 20 sec.
GPS:	S33.580182, E151.329859
Facilities:	There are no public toilets or drinking water on site

Initially a customs station to control early smuggling operations, this light guides shipping into the safe haven of Broken Bay and Pittwater. The present tower replaces two wooden lighthouses built in 1868. A four wick oil burner provided the original light source in the new tower. In 1932 this light was converted to automatic operation with the installation of acetylene gas apparatus utilising a light activated Dalen Sun Valve. (Nils Dalen was awarded the Nobel Prize for Physics for this invention which revolutionised lighthouse operation. Acetylene gas produces an ultra white bright light. The Sun Valve used a black rod surrounded by three gilt rods. Sunlight expands the black rod slightly, which closes the gas supply valve turning the light off in the morning, but leaving a pilot flame burning. This reduced gas usage by 94%. The Dalen mixer provides the correct mixture of air and acetylene to keep a mantle burning brightly). Re-supply of the heavy gas cylinders onto Barranjoey Head proved difficult and the light was converted to mains electricity in 1972 with a diesel powered standby unit. It is now lit by a 120 V, 1000 W quartz halogen lamp. Parts of the site were vandalised prior to control of the headland passing to the NSW National Parks and Wildlife Service in 1997, when it was included in Ku-ring-gai Chase National Park. Volunteers have been active and by means of a helicopter have removed 600 bags of exotic plants from the headland. Access to the lighthouse is by a 1 km walk along a beach and up the track to the headland. The nearest town is Palm Beach. Tours of the station are available; charges apply. Telephone 03 9472 9300.

Managed:	Australian Maritime Safety Authority (AMSA)
Phone:	02 6279 5000
Web:	www.amsa.gov.au
Address:	82 Northbourne Avenue, Braddon, ACT, 2612
Postal:	GPO Box 2181, Canberra, ACT, 2601

BACK TO THE START

NEW SOUTH WALES

CAPE BYRON

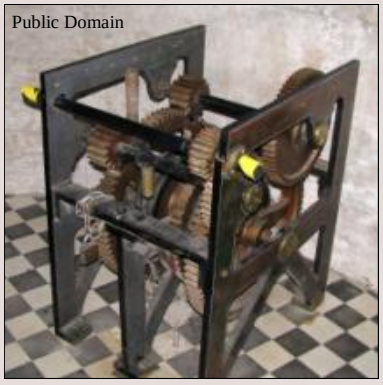
BACK TO THE START

NEW SOUTH WALES

CAPE BYRON

Height:	22 m tower / 118 m focal plane
Location:	3 km from Byron Bay
First lit:	1901
Construction:	Rendered interior and exterior concrete blocks
Flash:	1 flash every 15 sec.
GPS:	S28.638535, E153.636357
Facilities:	Limited car parking (fees apply), toilet, museum

This headland, the most easterly point of the Australian mainland, was named in 1770 by Lt. Cook after John Byron, a British explorer. Attached to this stunning lighthouse is an entrance porch, lobby and two service rooms. The head keeper's cottage and duplex for two assistants are nearby. The tower houses a 2 m diameter first order Fresnel bivalve lens, comprising 760 pieces of highly polished prismatic glass that rotate continuously. This is the first and only such equipment used in Australia, weighs 8 t and originally floated in a 360 kg bath of mercury. The light was initially a six-wick kerosene burner emitting 145,000 cd. In 1914, this was upgraded to use incandescent oil vapour and mantles emitting a light rated at 500,000 cd. In 1922, a triple mantle apparatus was installed increasing the light intensity to 1,000,000 cd. It was replaced in 1956 when mains electricity was connected making this Australia's most powerful lighthouse with an output of 2.2 million candelas. The current light is a Sealite SL324 LED array reaching over 40 km out to sea. A fixed red light at a lower plane warns of dangerous rocks to the north. The lighthouse was fully automated in 1989 and the last lightkeeper departed. The original hand operated clock mechanism, a fourth order lens and an Aldis lamp (used for signalling passing ships after dark using Morse code) are on display inside the tower. The headland is extremely popular for viewing sunrises and for whale watching (in season). There is a walking track linking the township and lighthouse reserve. Tours of the tower are available and the original lightkeeper's residences are available for rental. Contact NSW National Parks and Wildlife Service for more information.



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NEW SOUTH WALES

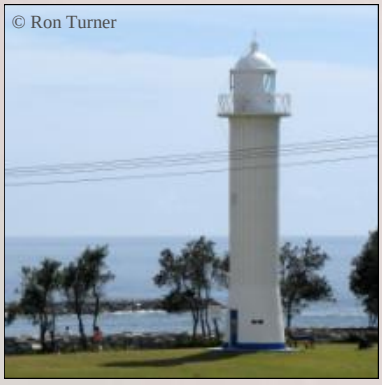
CLARENCE RIVER

BACK TO THE START

CLARENCE RIVER

Height:	17 m tower / 41 m focal plane
Location:	Pilot Station Reserve, Yamba
First lit:	1955
Construction:	Concrete
Flash:	3 flashes every 15 sec.
GPS:	S29.432480, E153.364038
Facilities:	Carpark, public reserve grounds open to public

In 1866, a small wooden hut was built with a large kerosene lamp placed on a bench to guide shipping into the Clarence River. In 1880, a permanent lighthouse was built to the design of James Barnet, being one of five such lighthouses built along the NSW Mid North Coast. It was automated and demanned in 1920. As the light was being obscured by nearby building construction it was replaced with a more modern, fluted cylindrical tower in 1955. Mains electricity now lights a 12 V, 75 W quartz halogen lamp FA 251 beacon, with a battery reserve. The beam shines 30 km out to sea. A replica of the 1880 tower has been re-built by volunteers on the site of the original tower and is currently in use as the Yamba community radio station. An original Fresnel lens was donated by the Australian Maritime Safety Authority and can be observed in the former tower.



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BACK TO THE START

NEW SOUTH WALES

CROWDY HEAD

BACK TO THE START

CROWDY HEAD

Height:	7.3 m tower / 61 m focal plane
Location:	6 kms from Harrington
First lit:	1879
Construction:	Rendered stone, painted white
Flash:	2 flashes every 10 sec.
GPS:	S31.843414, E152.753488
Facilities:	Parking; interpretative signage, picnic table

Between 1873 and 1896 there were numerous wrecks along this stretch of coastline and alarmed authorities wished 'to light the coast like a street with lights'. Crowdy Head is the last of five of this type of lighthouse built in New South Wales. Designed by Colonial Architect James Barnet, they all have a bluestone platform supported by corbels of the same material and similar air vents. This tower is 480 mm thick at the base and is rendered and painted white. The attached building is an oil store and duty room for the keeper who lived nearby. A fixed white light was initially used inside a fourth order lens; a red pane of glass was used to warn of the dangerous Mermaid Reef. The light was converted in 1928 from kerosene to a carbide lamp producing acetylene gas and then automated. Mains power was connected in 1972. The light currently uses a Vega FA-251 lens with a 12 V, 75 W quartz halogen lamp. The fourth order lens from this tower was sold for $20,000 and is currently exhibited in the Sea Girt Lighthouse in America.

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Phone:	13 22 13
Web:	www.rms.nsw.gov.au
Address:	20-44 Ennis Road, Milsons Point, NSW, 2061
Postal:	Locked Bag 928, North Sydney, NSW. 2059

BACK TO THE START

NEW SOUTH WALES

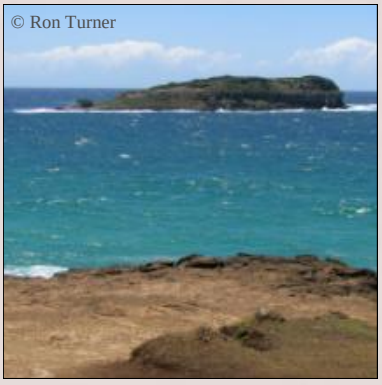
FINGAL HEAD

BACK TO THE START

FINGAL HEAD

Height:	7 m tower / 24 m focal plane
Location:	Fingal Head, south side of the Tweed River bridge
First lit:	1878
Construction:	Brick, rendered with cement
Flash:	1 flash every 5 sec, showing red to the east
GPS:	S28.200024, E153.570817
Facilities:	Parking; picnic area, interpretative signage

The Fingal Head lighthouse is located 5 km south of the New South Wales – Queensland border and is accessed via Fingal Road. It is the oldest public building in the Tweed Shire, being built in 1878. The present day tower was built of bricks rendered with concrete and incorporated a bluestone platform supported by shaped bluestone corbels. This light replaced an earlier 1872 wooden pole structure holding a fixed kerosene wick burner 9 m above ground. This early light was lit by a keeper who had to row his boat across the Tweed River each day to access the light. The tower is the third structure based on a design by Colonial Architect James Barnet, who designed five lighthouses built along the north coast of New South Wales. Each of the five structures were designed with an attached oil storage room and each had black painted hand railing. The foundations of the original four room keeper's residence are nearby. The residence was demolished in 1923, after the lighthouse was converted to automatic operation using acetylene gas in 1920, and demanned. Mains electricity was connected in 1980, with a battery standby. The current light source is a 12 V, 75 W quartz halogen lamp, inside a FA-251 Beacon, reaching 31 km out to sea. The nearest town to the lighthouse is Tweed Heads. The tower is closed to public and there is interpretative signage at the site, with a picnic area located just north of the tower.



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NEW SOUTH WALES

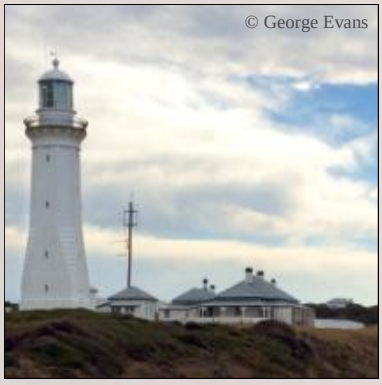
GREEN CAPE

BACK TO THE START

GREEN CAPE

Height:	29 m tower / 44 m focal plane
Location:	Green Cape, Ben Boyd National Park
First lit:	1883
Construction:	Mass concrete (tallest in NSW)
Flash:	2 flashes every 10 sec.
GPS:	S37.260367, E150.048966
Facilities:	Carpark, toilets, water, BBQ, camp grounds (in park)

This was Australia's first concrete lighthouse, but due to a band of clay beneath the surface, the foundation was excavated to 8.8 m. A timber tramway was purpose built to convey equipment from nearby Bittangee Bay to the site. Aggregate for the concrete was obtained nearby. While the base of the tower is square rising to become octagonal in shape, the inside is round with a matching circular staircase. The tower is topped by a circular bluestone balcony. A small domed oil store is attached to the base of the tower. An original Chance Bros first order lens was lit by a six wick kerosene light. In 1912 an incandescent oil vapour apparatus was installed using a 55 mm mantle. The station was electrified in 1962 using a diesel generator; one keeper was withdrawn. In 1967, use of a 1000 W lamp increased the light intensity to 1,000,000 cd. Solar power was installed in 1992 and the last keeper withdrawn. AMSA then constructed a 15 m high steel lattice tower 60 m distant. This came into service in 1994 using a VRB 25 lens with a 12 V, 35 W halogen lamp; it has a range of 32 km. In 1886, the ill fated *SS Ly-ee-Moon* struck rocks almost beneath the lighthouse on a fine and clear night with a loss of 71 lives; many people were buried in a cemetery 500 m north-west of the station. Built in 1859 this former opium trade ship had been sunk, raised and refitted, then subsequently almost completely burnt out in 1877. The New South Wales National Parks and Wildlife Service assumed control of the site and the original heritage tower in 1997. A park entry fee applies. Turn left 18 km south of Eden into Edrom Road. Follow this for 6 km, then turn right onto unsealed Green Cape Road. Accommodation is available in the original lightkeepers cottages.



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BACK TO THE START

NEW SOUTH WALES

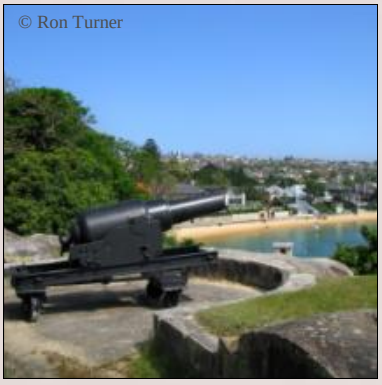
HORNBY

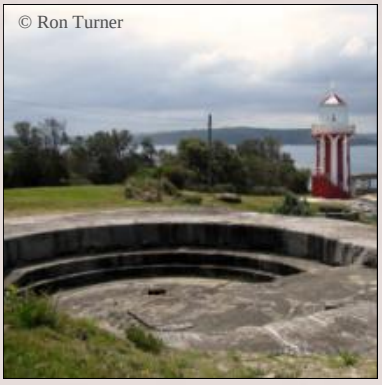
BACK TO THE START

HORNBY

Height:	9 m tower / 27 m focal plane
Location:	South Head, Sydney
First lit:	1858
Construction:	Local sandstone
Flash:	1 flash every 5 sec.
GPS:	S33.833552, E151.280977
Facilities:	Car parking nearby

The Hornby lighthouse was built in 1858 and was the third to be established in the young colony of New South Wales. This followed the tragic loss of two ships on the nearby cliffs in 1857, with a death toll of 142 people. The Hornby tower was painted white with red stripes both as a day mark, and to avoid confusion with the nearby Macquarie light, which was painted white. Initially powered by kerosene, Hornby was converted to incandescent oil vapour using mantles in 1904, then connected to mains electricity in 1933, when it was automated and demanned. The current light is operated by a 12 V, 55 W quartz iodide lamp which has a range of 26 km. The site was also vital as a strategic defensive position, with the initial gun pits dug by hand in 1858. Construction of a second gun battery in 1870 continued and expanded the military use of the headland. Despite its prominent position at the entrance to Sydney Harbour, this lighthouse was not transferred to Commonwealth control after Federation as it was considered a harbour light, not a coastal light. The area was used exclusively by the army and navy and a permit was required for entry. During the Second World War, most of foreshore fell under control of the army. In 1975, the National Trust classified the site and it was gazetted as a national park. The army vacated the area in 1977 and the headland was added to Sydney Harbour National Park which is now administered by NSW National Parks and Wildlife Service, who have restored the lighthouse and adjacent original cottages. There is no official carpark, but nearby street parking is available. A short walk will lead you to the lighthouse.





Managed:	Port Authority of NSW
Phone:	02 9296 4999
Web:	www.sydneyports.com.au
Address:	Level 4, 20 Windmill Street, Walsh Bay, NSW, 2000
Postal:	Level 4, 20 Windmill Street, Walsh Bay, NSW, 2000

BACK TO THE START

NEW SOUTH WALES

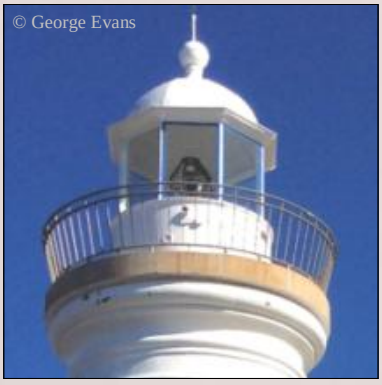
KIAMA

BACK TO THE START

KIAMA

Height:	15.5 m tower / 36.3 m focal plane
Location:	Near Kiama Blowhole, east of Kiama township
First lit:	1887
Construction:	Brick with concrete rendering
Flash:	4 flashes every 20 sec.
GPS:	S34.671804, E150.862651
Facilities:	Public Reserve with parking available all year

Built on Blowhole Point, the foundation for this lighthouse measures 3.7 m in diameter and 4.3 m in depth. The original apparatus was a fourth order Chance Bros lens lit by an oil burner, then converted to local town (coal) gas in 1908. This was converted to acetylene in 1920 after which it was officially demanned, although one source claims it was already unwatched in 1913 as the keepers cottages were vacant. It was converted to mains electricity in 1969 with 120 V backup batteries and is currently lit by a 120 V, 1000 W quartz halogen lamp with a range of 31 km. There are four ladders providing access to the lantern floor. The remaining keeper's cottage is currently occupied by the Kiama Historical Society which opens on weekends, but there are no tower tours. Also known as the Kiama Harbour Light, it is controlled by the NSW Government. In 2017 it became the first lighthouse in Australia to display a commercial banner following strong lobbying by the Kiama Jamberoo RSL and Kiama Council, in the face of widespread protests. Despite the RSL undertaking to remove the logo after an initial two year commemorative period (2019), permanent status was sought for their exclusive use of the tower. Neither organization owned, maintained or controlled the heritage listed tower and other worthy charities were disadvantaged by this arrangement. In October 2019 the advertising was removed. The lighthouse and precinct had never been, and should never again become a War Memorial for Kiama. This advertising logo set a precedent which could now be applied to the other 12 State controlled lighthouses along the NSW coast. It is still a navigational aid both by day and night, and its unique architecture has remained remarkably unchanged during its 130 year history.



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BACK TO THE START

NEW SOUTH WALES

MACQUARIE

BACK TO THE START

NEW SOUTH WALES

MACQUARIE

Height:	26 m tower / 105 m focal plane
Location:	Lighthouse Reserve, South Head, Sydney
First lit:	1883
Construction:	Local sandstone
Flash:	2 flashes every 10 sec.
GPS:	S33.853941, E151.285166
Facilities:	Street parking nearby

The first of Australia's lighthouses, lit in 1818, was designed by convict Francis Greenway. Unfortunately, the tower was constructed of inferior sandstone; it was not water-proof and started to crumble. By 1878, the tower was being held together by iron bands. A completely new and identical tower was erected and for a time, the two towers stood side by side. In June 1883, the old tower was decommissioned and the light in the new tower was lit. Electricity was generated on-site by giant 2½ ton magnetos powered by an 8 hp engine burning gas from town mains. This plant was duplicated so that one could take over from the other or, with both in use, the intensity of the light could be doubled in bad weather. With both generators operating, the light was estimated between five and six million cd, making it the most powerful light ever used in Australia. An observer on a ship's deck could reportedly read a newspaper at a distance of 8 km. A gas lamp was installed and, as a further back up, an oil lamp was provided. The system became too expensive to maintain and operate and in 1912, an incandescent kerosene apparatus was installed and power was reduced to 100,000 cd. Conversion to mains electricity took place in 1933 when a fourth order lens was installed. Together with a 1000 W electric filament lamp; the intensity of the light was increased to 1,140,000 cd. This has since been de-intensified in conjunction with a 120 V, 1000 W tungsten halogen lamp giving a range of 48 km. The adjacent keepers' cottages have been restored, but are not available to the public. The lighthouse is managed by the Sydney Harbour Federation Trust. The site is open to the public daily. Contact the Trust for tours of the lighthouse.

Managed:	Sydney Harbour Federation Trust
Phone:	02 8969 2100
Web:	www.harbourtrust.gov.au
Address:	Building 28, Best Avenue, Mosman, NSW 2088
Postal:	PO Box 607, Mosman, NSW, 2088

BACK TO THE START

NEW SOUTH WALES

NORAH HEAD

BACK TO THE START

NORAH HEAD

Height:	28 m tower / 46 m focal plane
Location:	Between The Entrance and Budgewoi, NSW
First lit:	1903
Construction:	Locally made concrete blocks rendered inside
Flash:	1 flash every 15 sec.
GPS:	S33.281647, E151.576433
Facilities:	Car park, toilet

As a result of many wrecks in nearby waters, this tower was the last manned lighthouse built in New South Wales, also the last to the design style of James Barnet. Using local aggregate, the concrete blocks were made on site. On top of the tower is a bluestone gallery and balcony and the lantern house reaches a further 3.7 m. An etching in glass set into the cedar door reads 'Olim Periculum Nunc Salus', meaning 'Once perilous now safe', while above the door is 'A 1903 D'. Within the tower there are 96 steps in four stages. The original Chance Bros first order dioptric Fresnel lens floated in a bath of mercury and a wind-up grandfather clock mechanism was operated manually to keep the lens turning. Lit by an incandescent oil vapour apparatus with a mantle, the light was visible for 33 km. An improved model burner was installed in 1923. The light was electrified with mains power in 1961 and the station was finally automated and demanned in 1995. The current light is a 120 V, 1000 W tungsten halogen lamp with an intensity of 1,000,000 cd. The tower also exhibits a red light to warn coastal shipping of danger areas. The station is 1.6 km from the township of Norahville and is a popular site for whale watching during the season. Tours of the station are conducted each half hour between 10 am and 1 pm, except Anzac and Christmas days. A maximum of ten people are allowed on each tour and bookings are recommended. Two heritage listed cottages are available for overnight accommodation; contact the Norah Head Lighthouse Trust for more.

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BACK TO THE START

NEW SOUTH WALES

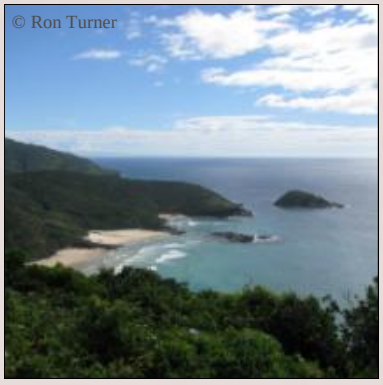
SMOKY CAPE

BACK TO THE START

SMOKY CAPE

Height:	17 m tower / 128 m focal plane
Location:	South West Rocks, Hat Head National Park
First lit:	1891
Construction:	Mass concrete
Flash:	1 flash every 20 sec.
GPS:	S30.922514, E153.086730
Facilities:	No facilities - nearest town is South West Rocks

The headland was named by Lt Cook on 13 May 1770, when he noticed fires from local Aboriginals of the Dunghutti Nation. Designed by colonial architect Barnet, granite aggregate was used to form walls 920 mm thick at the base, and 620 mm thick at top. The light originally used oil burning wicks. This was changed in 1912 to incandescent oil vapour using mantles, then again in 1962 to electricity generated by an 8.5 hp engine. The current light is a 120 V, 1000 W tungsten halogen lamp producing 1,000,000 cd. It still operates using the original lens. In 1962, when the light was converted to electric operation, the clockwork weight driven machinery was removed together with the vaporized kerosene lamp. The light was automated in 1988. An unusual feature of this lightstation is that a telegraph was connected in 1891. The off-shore waters proved hazardous to many mariners. At least 46 craft have been lost in the Macleay River – Smoky Cape area. The light failed on one occasion when a lightkeeper plugged in his electric frypan and the light had to be kept turning by hand. In 1997, the NSW National Parks and Wildlife Service (NPWS) assumed custodianship for the lightstation which was then included in Hat Head National Park. The lighthouse tower remains under the control of the Australian Maritime Safety Authority. Lighthouse tours are available Wednesday, Thursday and Saturday. Contact the NSW NPWS Arakoon office on 6566 6621 for details. The original keeper's cottages are available for rent. There are no toilet facilities on site and the nearest township is South West Rocks.



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BACK TO THE START

NEW SOUTH WALES

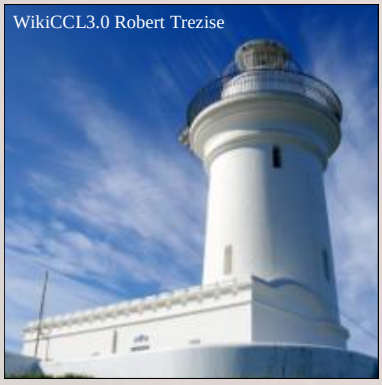
SOUTH SOLITARY ISLAND

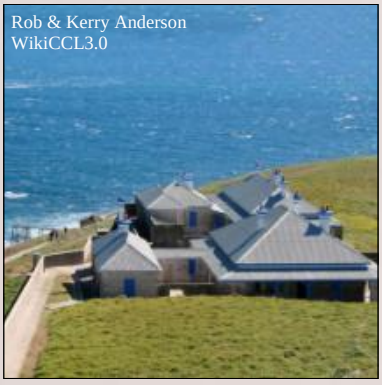
BACK TO THE START

SOUTH SOLITARY ISLAND

Height:	20 m tower / 58 m focal plane
Location:	15 km north east of Coffs Harbour
First lit:	1880
Construction:	Mass concrete walls (1.4 m at base and 0.7 m at top)
Flash:	1 flash every 5 sec.
GPS:	S30.206711, E153.267293
Facilities:	None, but commercial tours are available

This barren and windswept 9 ha island proved to be a hostile environment for keepers and their families, with no vegetation above a tough grass cover. Residents, food and stores were hoisted by winch from small boats via a canvas bucket to a jetty from where a horse and trolley were used to reach the tiny settlement. Living quarters were lit by kerosene until the 1950s, with coal used for cooking and warmth. The keepers' children were initially taught by a governess, and later by correspondence. The fortnightly resupply of stores, initially from Sydney, was always problematic due to frequent rough weather. Waves from one storm reached 27 m above normal sea level. Sheep, goats and rabbits were released onto the island to provide a source of food. In 1937, a pedal radio permitted communication with Norah Head Lightstation. Before this, contact with the mainland was by heliograph to a station at Signal Hill on the mainland, tasked to relay messages from the lighthouse. Maud Dammeral, daughter of the Signal Master at this station, became proficient in signalling. She established a romantic relationship with Harry Fisher, one of the keepers on the island, by means of a signalling lamp using Morse code of a night and semaphore flags during the day. On occasions, he would row to the mainland to picnic with her on Shelley Beach. After marriage, they worked at almost all of the lighthouses along the NSW coast. The light was extinguished in 1942 due to intense Japanese submarine activity along this coast during WWII. Solar power was installed in 1975 and the light was automated. The station is now part of the Solitary Islands Marine Park with $400,000 spent restoring the buildings while AMSA spent $1.5 m repairing and repainting the crumbling cement tower. *See next page for signal station information.*


WikiCCL3.0 Robert Trezise


Rob & Kerry Anderson
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Managed:	NSW Department of Primary Industries
Phone:	02 6691 0600
Web:	www.dpi.nsw.gov.au
Address:	36 Marina Drive, Coffs Harbour, NSW, 2450
Postal:	PO Box 4297, Coffs Harbour, NSW, 2450

BACK TO THE START

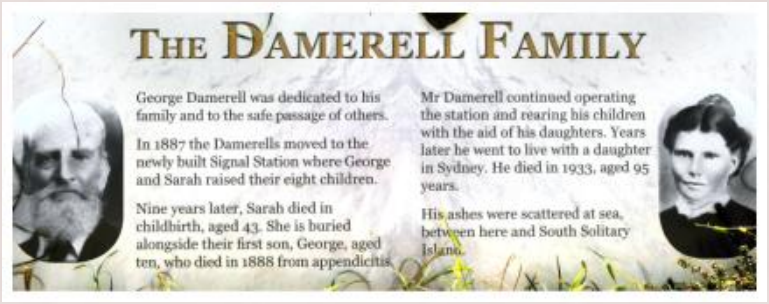
SOUTH SOLITARY ISLAND

Location:	Emerald Beach Headland
Operated:	1887–1918
Relics:	Relics relocated to current site 1967
GPS:	S30.172800, E153.190034
Facilities:	Open to the public and well signed with good pathways
Other:	Refer previous page
Photo Credits:	Courtesy of Coffs Collections

South Solitary Island Lighthouse Signal Station

Denis Martin, 16 November 2021

Most of the material contained in this eBook pertains to actual lighthouses. However sometimes a human story behind the main feature can provide some deep insights into what families living in such harsh and isolated conditions endured. Like the story of the WA, Breaksea Island Light, where the Lighthouse Keeper's daughter messaged troops leaving for war service during WWI. Another very human story emerges from the history of the South Solitary Island Light, located offshore from Coffs Harbour, NSW. Lighthouses were occasionally connected to signal stations, usually located on the mainland, tasked to pass on messages from the lighthouses before the advent of more modern telegraph systems. The signal station keepers and their families were subjected to many of the same privations including isolation and loneliness as those located in the actual lighthouses. A world-famous lighthouse that had a signal station was Bell Rock Lighthouse off the coast of Scotland. Some remnants of the signal station facilities linked to the South Solitary Island light have been preserved at Emerald Beach Headland. The artefacts (graves, signal tower parts) were relocated from the original site, now a subdivision. In 1887 the Damerell family were located at this signal station. Maud, daughter of George and Sarah Damerell, communicated with Harry Fisher, son of the then Lighthouse Keeper on South Solitary light, despite many obstacles. There was no internet available then. They used Morse Code and Semaphore to send messages. Occasional picnics were had with Maud and Harry on the nearby Shelley Beach by Harry rowing ashore (a distance of 18 km) from the Lighthouse to the mainland. Maud and Harry married in 1912 and continued to follow their family traditions in working at many of the lighthouses along the NSW coast for many years. Unfortunately, no photos of the original signal station or buildings appear to exist.




Signal Hill relocated site
© Denis Martin


Original signal station site
Courtesy Coffs Collections


Maude a year before she passed in 1968
Courtesy of Coffs Collections

Home-made signal lamp like the one used by Harry to signal Maude


Courtesy Coffs Collections

BACK TO THE START

SOUTH SOLITARY ISLAND

Location:	Emerald Beach Headland and subdivision
Operated:	1887–1918
Relics:	Original signal station, grave and lighthouse optics
GPS:	See below:
Facilities:	Grave on tiny reserve, signal station site private house
Other:	Optic now located at Coff's Harbour jetty approach
Book Credit:	BJ Holder (Dec.) 1984, The History of the Coastal Strip

South Solitary Island Lighthouse Signal Station and Relics

Denis Martin, 23 November 2023

Refer to pages 27–30 for more background to this story.

The original Signal Station site ceased operation in 1918. Some surviving relics were moved when the Emerald Beach Estate was developed in 1967. This article details the sites of the original signal station off Signal Pt Road, the grave site of Sarah Damerell (Dammerel) and her son George, Dammerel Cres, together with the current location of the original South Solitary Island Optic, Coffs Harbour Jetty approach. (Two spellings of Damerell are contained in the records.) First, the location of the original signal station was at the current house site, No 10 Signal Street, which is now a private residence. This location was verified through personal communication with the owner. He indicated that the original signal tower was located in the middle of his current lounge room. The second photograph gives context as to how this site is the highest spot in the locality. Second, the original grave of Sarah is located off Dammerel Crescent in a tiny public reserve, located on the south side of the street – outside the private residence at No 32. (Two dates are given for Sarah's death in the records.) The plaque at the site reads***: "Original Grave Site. Sarah Damerell. Deceased 1896 Aged 43. Son George Aged 10."*** Third, the original optic from the lighthouse is now located in a new purpose-built showcase (right) beside the footpath approach to the historic old wooden jetty at Coffs Harbour. Access can easily be obtained from a nearby car park, from which it is a short walk towards the jetty to the display. There are plans to light the optic according to local information.

Close-up view
© Denis Martin

House context
© Denis Martin

Grave location context
© Denis Martin

Grave plaque
© Denis Martin

BACK TO THE START

NEW SOUTH WALES

SUGARLOAF POINT

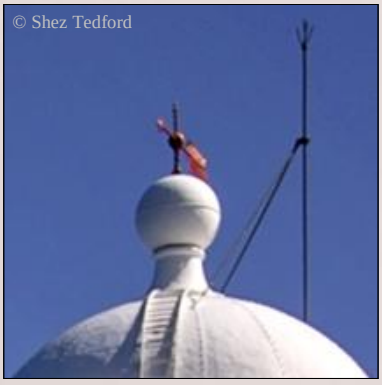
BACK TO THE START

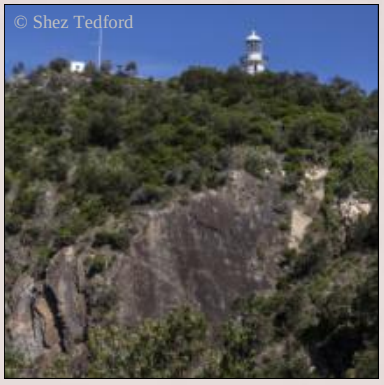
NEW SOUTH WALES

SUGARLOAF POINT

Height:	15 m tower / 79 m focal plane
Location:	Myall Lakes National Park
First lit:	1875
Construction:	Cement rendered brick
Flash:	1 flash every 7.5 sec.
GPS:	S32.440889, E152.539020
Facilities :	Carpark, interpretive signage, parkland with seats

Designed by James Barnet, this beautiful tower was his first lighthouse. Its lantern galley is built out over shaped corbels and it is one of only a few in Australia with external steps; these were paved with bluestone. The lower area within the tower was used as an oil store, and when the tower took a direct lightning strike in 1890, an explosion and fire followed. Telephone wires conducted the electricity to the cottages 90 m away, scorching paint and blasting a sheet of iron through a fence. This is not a high tower, being only 7 m to the lantern floor; the efficacy of the light depends on its elevation above the ocean. The lantern was initially lit by multi-wick oil lamps, but in 1911 it was converted to pressurised kerosene using a 55 mm mantle. In 1966 the station was converted to electricity with a diesel motor as back up. A 100 V, 1500 W lamp increased the intensity of the output to 1,000,000 cd. In 1984, the light became automatic. Despite the presence of the lighthouse, a further 20 ships were wrecked in this vicinity. It is considered ship's masters were keeping too close to the shore to avoid strong southerly currents further offshore. In 1984, a red light was introduced to warn shipping of dangerous rocks off the lighthouse. The tower may be accessed from Seal Rocks village. Take the Lakes Way from the Pacific Highway and follow the unsealed Seal Rocks Road at Bungwahl. There is a 700 m walking track from the car park. A national park entry fee applies. Accommodation in the old keeper's cottages is available.





Managed:	NSW Office of Environment and Heritage
Phone:	1300 361 967
Web:	www.nationalparks.nsw.gov.au
Address:	Level 14, 59-61 Goulburn Street, Sydney, NSW, 2000
Postal:	Level 14, 59-61 Goulburn Street, Sydney, NSW, 2000

BACK TO THE START

NEW SOUTH WALES

TACKING POINT

BACK TO THE START

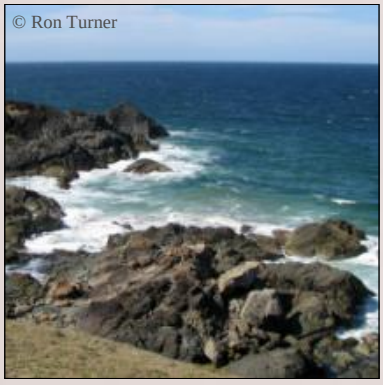
NEW SOUTH WALES

TACKING POINT

Height:	8 m tower / 34 m focal plane
Location:	5.7 km south east of the Port Macquarie Post Office
First lit:	1879
Construction:	Cement rendered bricks
Flash:	4 flashes every 20 sec.
GPS:	S31.475646, E152.937360
Facilities:	Carpark, interpretative signage, walks, seats

As settlement spread north from Sydney, there were 419 shipwrecks with a large loss of life between 1873 and 1896. A directive was issued by the Marine Board to illuminate the coastline like a street with lamps. Tacking Point was the fourth of five identical lighthouses built along the mid north coast to the design of Colonial Architect, James Barnet. Only four towers survive and this is one of two that still have the original storeroom attached. The tower has recessed VR 1879 air vents highlighted in blue (below far right). In 1919, the double wick kerosene oil burner was converted to automatic acetylene operation; the keeper was withdrawn the following year. The light was converted to mains electricity in 1974, (with a battery backup) using a 12 V, 75 W quartz halogen lamp. Light intensity is now 12,800 cd reaching 30 km out to sea. A secret sea battle raged along these coasts during WWII. In total, nineteen vessels were sunk by Japanese submarines which struck swiftly and disappeared. The SS Wollongbar was one such vessel carrying both passengers and cargo when a torpedo struck. It sank not far from here, near Port Macquarie, with the loss of 35 lives; only five people survived. The foundations of the keeper's cottage are preserved nearby. One keeper died accidentally when his sulky overturned and his son continued to operate the lighthouse temporarily. There are several good interpretive signs displayed at the reserve on Lighthouse Road, which is accessible to the public all year. When in season, it is also a popular site for whale watching.


© Kathie Maynes


© Ron Turner


© Ron Turner


Original air vent
© Ron Turner
© Ross Thompson

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Phone:	02 6279 5000
Web:	www.amsa.gov.au
Address:	82 Northbourne Avenue, Braddon, ACT, 2612
Postal:	GPO Box 2181, Canberra, ACT, 2601

BACK TO THE START

NEW SOUTH WALES

WARDEN HEAD

BACK TO THE START

WARDEN HEAD

Height:	12 m tower / 34 m focal plane
Location:	Deering Street, Warden Head, Ulladulla, NSW
First lit:	1873 at original location; 1879 at present site
Construction:	Steel framed clad with wrought iron plates
Flash:	2 white flashes every 10 sec.
GPS:	S35.365554, E150.490898
Facilities:	Vehicular access and adjacent car park

Following several shipwrecks on nearby reefs, this lighthouse was originally built on the Ulladulla Breakwater. Due to frequent rough weather, an external ladder provided access into the tower at the first level. Shortly afterwards, the tower and keeper's slab cottage were moved 1.5 km to the more elevated Warden Head. Sheets of curved wrought iron were prepared at Mather's engineering works in Sydney, adjacent to Wearnes Anchor Brand flour mills (photo below shows a tower under construction). Internal ribs each consisting of two lengths of angle iron, bolted back to back, were arranged vertically. The wrought iron sheets were fixed to the angle iron by riveting, most likely while the rivets were red hot. External horizontal bands of metal were fixed in place by riveting through both the wrought iron cladding and a matching metal band around the interior surface. It was then transported to Ulladulla and erected on site. During re-erection at Warden Head, the external entrance ladder was removed and the door aperture sealed (photo of sealed door below). Access into the tower is now at ground level. Originally, steel ladders were used by keepers to move between the internal wooden floor levels: wooden ladders are now in use. The tower is one of only two NSW lighthouses constructed in this manner (its twin is the original lighthouse at Wollongong Breakwater (1871), now superseded by the Wollongong Head lighthouse). The original oil fuelled apparatus was replaced in 1920 with acetylene gas and the station demanned. In 1964, 240 V electricity was connected with a battery backup. The current light source is a Sealite SL 216 LED array inside a fourth order Chance Bros optic: its range is 26 km. Warden Head is named after a family of shipwrights: it was originally called Long Nose Point.

Managed:	Transport for New South Wales
Phone:	02 4253 2600
Web:	www.transport.nsw.gov.au
Address:	Block C, Level 3, 84 Crown Street, NSW, 2500
Postal:	PO Box 5215, Wollongong, NSW, 2500

BACK TO THE START

NEW SOUTH WALES

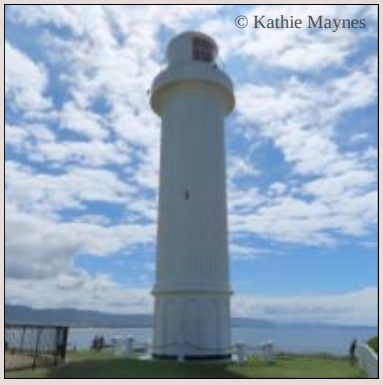
WOLLONGONG HEAD

BACK TO THE START

WOLLONGONG HEAD

Height:	25 m tower / 40 m focal plane
Location:	Endeavour Drive, Wollongong, NSW
First lit:	1936
Construction:	Reinforced concrete fluted tower, 3 m diameter
Flash:	1 flash every 6 sec.
GPS:	S34.421925, E150.909704
Facilities:	Parking; picnic facilities, and adjacent car parking,

Wollongong is the only port on the eastern Australian coast that has two lighthouses. The older Breakwater Lighthouse (first lit 1871) assisted shipping into Wollongong Harbour. This light, built close to sea level, was inadequate to cater for the emerging coal and steel industry at nearby Port Kembla, and the Flagstaff Point Lighthouse was built on a more elevated site nearby. It has a circular concrete stairway. Due to delays in supply of lighting equipment from England, acetylene gas was used inside a first order Chance Bros lens until 1938. This light became the first to install fully automatic flashing lights powered by mains electricity and was never manned. The apparatus then used a dual system with an electric globe and a back up acetylene gas burner. In 1973 it was converted to mains electricity, with diesel backup. In addition to the white light extending 35 km out to sea, a red light warns of headlands, shallows, and the Five Islands a short distance off the coast. The current equipment uses a Sealite SL324 Light Emitting Diode array. During WWII the military occupied this headland site, formerly known as Flagstaff Hill Fort, which was built during fears of a Russian invasion in the 1870s. Three '68 pounder' muzzle loading cannons were mounted in the gun pit. A smaller gun was installed nearby being known as the 'One o'clock gun'. Doorways led back into the hillside where ammunition, stores and underground watertanks were sited. In later years a 6 inch (150 mm) hydro pneumatic disappearing gun was mounted in the pit. The Breakwater Lighthouse was deactivated in 1974. It was fully restored and is relit on special maritime occasions.



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Web:	www.amsa.gov.au
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Postal:	GPO Box 2181, Canberra, ACT, 2601

BACK TO THE START

NORTHERN TERRITORY

Emery Point

Point Charles

BACK TO THE START

NORTHERN TERRITORY

EMERY POINT

BACK TO THE START

EMERY POINT

Height:	9 m tower / 18 focal plane
Location:	Darwin
First lit:	1915
Construction:	Square metal skeletal tower, painted white
Flash:	3 flashes every 2 sec, repeating every 15 sec.
GPS:	S12.453790, E130.815568
Facilities:	No facilities (Closed military installation)

Emery Point, originally known as *Goondal* by the Larrakia Aboriginal people, is situated within the Larrakeyah Forward Defence Military Base. An original lighthouse was built here in 1900, which was dismantled in 1915 when the current tower and light commenced operation using a fourth order lens. The original light source was acetylene gas. This was converted to 120 V, 1000 W tungsten halogen lamp electric power in 1966, with acetylene gas as standby for emergencies. The white light is visible at 35 km, while a red light, visible at 26 km, can be seen at 181°. Emery Point was the only functional navigational aid during and after Cyclone Tracey destroyed the city of Darwin, in 1974. While filament lamps such as the tungsten halogen unit have an expected life of 2000 hours (with an average of 500 hours), this system was vastly improved in 2013 by installation of six light emitting diodes (LED). This reduced the power load to four percent of the original, making solar power viable. It also overcame the need for moving parts, such as the automatic 1000 V lamp changer.

Managed:	Darwin Port Corporation
Phone:	08 8919 0816
Web:	www.darwinport.com.au
Address:	11 Export Drive, Berrimah, Darwin, NT
Postal:	GPO Box 390, Darwin, NT, 0801

BACK TO THE START

NORTHERN TERRITORY

POINT CHARLES

BACK TO THE START

NORTHERN TERRITORY

POINT CHARLES

Height:	32 m tower / 39 m focal plane
Location:	Cox Peninsula; 21 km north-west of Darwin
First lit:	1893
Construction:	Hexagonal, pyramidical, cast iron, skeletal tower
Flash:	1 flash every 5 sec.
GPS:	S12.389336, E130.630929
Facilities:	No facilities

Approaches into Darwin Harbour for shipping were dangerous due to shallow waters, swift currents and shoals, many uncharted. Following numerous shipwrecks, the first lighthouse in this area commenced operation using a first order dioptric lens lit by an incandescent oil vapour apparatus. The light was visible for 31 km; green, white and red lights were shown. The central cylinder is 2 m in diameter and contains a spiral staircase. Frequent damage to the mantles by insects caused the light source to be changed to a 'Trinity' wick oil burner, in 1894. Residences for keepers were built of corrugated iron with wooden floors and verandahs. The light source changed to acetylene gas (carbide lamp) in 1932, when it was automated and the site demanned, in 1933. Radio Australia installed tall transmission masts just to the south of the lighthouse with powerful lights on top, visible for 41 km. In 1971, the role of the lighthouse became merely that of a day marker, when its light was extinguished. During Cyclone Tracey in 1974, the radio towers were extensively damaged, but the lighthouse survived almost intact. Within a month, a small low power lamp had been installed in the lighthouse, operating on batteries. In May 1982, diesel powered alternators were installed and in July, the tower was finally electrified and a 1,000,000 cd lamp installed. This was later replaced by solar equipment. The current light source is a 12 V quartz halogen lamp emitting a white flash every five seconds. There is vehicular access to the site which is 138 km from Darwin. However, the Northern Aboriginal Land Trust is negotiating for control of this area and intending visitors need to contact them. Alternatively, it is a 12 minute ferry trip from Darwin to Mandorah, with a need to hire a vehicle.

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Phone:	02 6279 5000
Web:	www.amsa.gov.au
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BACK TO THE START

QUEENSLAND

- Bulwer Island
- Burnett Heads
- Bustard Head
- Cape Bowling Green
- Cape Moreton
- Cleverland Point
- Double Island Point
- Grassy Hill
- Lady Elliot Island
- Low Isles
- New Caloundra
- North Point
- North Reef
- Old Caloundra
- Pine Islet
- Point Cartwright
- Sandy Cape
- Windmill Tower
- Woody Island

BACK TO THE START

QUEENSLAND

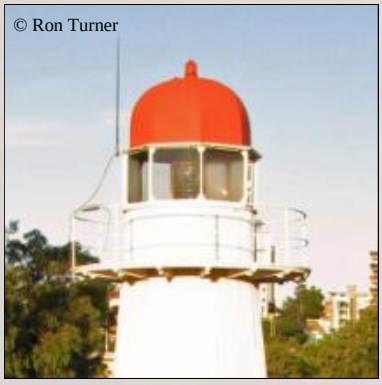
BULWER ISLAND

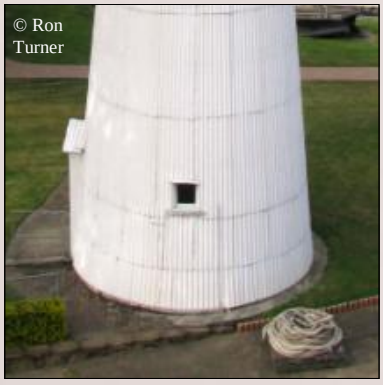
BACK TO THE START

BULWER ISLAND

Height:	16 m tower **(DECOMMISSIONED)**
Location:	Brisbane Maritime Museum
First lit:	1912
Construction:	Wood frame covered with corrugated iron sheets
Flash:	N/A
GPS:	S27.481583, E153.026611
Facilities:	Limited on-site parking, further parking nearby

This lighthouse was formerly established on Bulwer Island, near the entrance to the Brisbane River, in 1909. It is another of Queensland's wood framed lighthouses, round in shape and clad with corrugated iron. A replacement modern skeletal tower was installed in 1983 when the original tower was decommissioned. Remaining inactive after 1983, the original tower was eventually relocated to the Queensland Maritime Museum on the South Bank of the Brisbane River, opposite the city. At least 16 of these wooden lighthouses have survived and nine remain active. A Queensland Government grant in 2004 supported major restoration of the tower which is currently open. Housed within the museum are many exhibits relating to lighthouses, including the 4.5 m high, 5 tonne lens from Cape Don, with its now empty mercury bath and wind up mechanism, and a model of a former pile light hit by a British naval tanker and destroyed in 1949. Its three lightkeepers were rescued from the water. Among the many exhibits on display in the museum grounds is *Ella's Pink Lady*, the yacht that inspirational teenager Jessica Watson sailed single-handed around the world. The naval frigate, *HMAS Diamantina*, is also open for visitors. The hammocks I slept in above the mess table during national service on its sister ship (*HMAS Shoalhaven*) in 1955, were rigged ready for use. The engine room, where I spent my duty hours, was closed due to asbestos – now deemed dangerous. For the first time I was able to view the officers' quarters on the upper deck.





Managed:	Queensland Maritime Museum
Phone:	07 3844 5361
Web:	maritimemuseum.com.au
Address:	412 Stanley Street, Brisbane, Qld. 4101
Postal:	412 Stanley Street, Brisbane, Qld. 4101

BACK TO THE START

QUEENSLAND

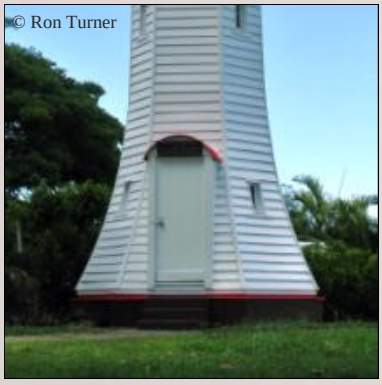
BURNETT HEADS

BACK TO THE START

BURNETT HEADS

Height:	18 m tower / 20 m focal plane
Location:	Mouth of Burnett River, Bundaberg
First lit:	1971
Construction:	Concrete
Flash:	4 flashes every 20 sec.
GPS:	S24.758250, E152.412750
Facilities:	There are no facilities at this location

This modern tower is an important landfall guiding ships into the mouth of the Burnett River. The Port of Bundaberg is currently an important international port for mixed cargo, especially sugar and molasses. To the east is the 30 km long, dangerous undersea Breaksea Spit which has claimed over 30 vessels. The nearby Sandy Cape light also warns of this hazard to navigation. The lightship *Breaksea* (see lost or destroyed section) was formerly anchored above the Spit. The New Burnett lighthouse varies from the norm in that the acrylic Vega lens is mounted on top. Its 12 V, 50 W tungsten halogen lamp is lit by mains electricity and reaches 24 km out to sea. One of two Cospas Sarsat satellite ground receiver stations in Australia is also mounted on top of the tower. Next to the tower the concrete base of the original lighthouse still exists. This early tower has been moved to a nearby park. It was manned by a permanent keeper and operated by kerosene until conversion to acetylene gas in 1932, and oversaw the entry of large numbers of settler immigrants from Europe, and South Sea islanders and Ceylonese destined to be employed in the early sugar industry.



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BACK TO THE START

QUEENSLAND

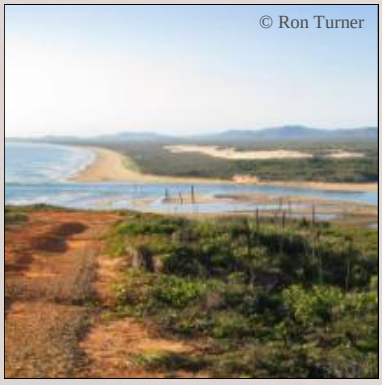
BUSTARD HEAD

BACK TO THE START

BUSTARD HEAD

Height:	10 m tower / 98 m focal plane
Location:	20 km north-west of Seventeen Seventy
First lit:	1868
Construction:	Heavy cast iron panels bolted together
Flash:	1 flash every 7 sec.
GPS:	S24.022231, E151.764174
Facilities:	Provided by *1770 Environmental Tours*

Queensland's first coastal lighthouse is remote and can only be reached by water. This tower was ordered 'off the shelf' from Bridgewater, England, and shipped to Queensland. The light source was originally a wick lamp burning China oil. A grandfather clock mechanism kept the 5 t, 3 m high second order lens turning at night. In 1917, the light source was converted to use incandescent oil vapour using pressurised kerosene and mantles. This greatly extended visibility of the light out to sea. In 1935, 12 V DC electricity was connected to the lighthouse. This was converted to 240 V AC in 1965. In 1985 an overhead 240 V cable was connected to the lightstation prior to its demanning. The electricity is converted to 12 V to light the tiny 100 W quartz iodine globe; the Vega acrylic lens now turns continuously with solar panels and batteries supplying emergency power, if needed. Fire destroyed two of the three original cottages and two new houses were built in 1935. These were destroyed by vandals after staff were removed in 1986. A Bustard Head Lighthouse Association was formed and obtained a lease over a small part of the headland. Together with volunteers, former lightkeepers rebuilt the two cottages. Some visitors reach the lighthouse by means of private water craft and can tour the station by prior arrangement. *1770 Environmental Tours P/L* operates a day-long commercial tour using an amphibious LARC along the beach, north of Seventeen Seventy. A tour of the lighthouse is available. There are numerous exhibits of the manned lighthouse era on display.



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BACK TO THE START

QUEENSLAND

CAPE BOWLING GREEN

BACK TO THE START

CAPE BOWLING GREEN

Height:	22 m tower **(DECOMMISSIONED)**
Location:	On display at the National Maritime Museum, Sydney
First lit:	1874
Construction:	Timber frame with light iron cladding
Flash:	N/A
GPS:	S33.868670, E151.199288
Facilities:	Public transport recommended

Cape Bowling Green was built to assist vessels using the Inner Route through the dangerous Great Barrier Reef waters; there had been many groundings of vessels on sand shoals in this particular area. It is one of 22 lighthouses utilising a timber frame design with a light iron cladding, serving the Queensland Coast. In 1874, there was one lighthouse keeper and three assistants operating the station. The light source was initially an oil lamp using kerosene as a fuel; this was changed in 1913 when incandescent oil vapour with mantles was used. The station was demanned in 1920 after an acetylene apparatus was installed. A marine radar responder beacon was installed in 1985. In 1987, the lighthouse was replaced with a modern tower and the original structure was relocated to the National Maritime Museum located at Darling Harbour, Sydney. The museum is open for tourists, but fees apply. See the Australian National Maritime Museum (link below) for more. The is located in Darling Harbour, Sydney, and is funded by the Australian Government. It was first opened in 1991 and joins five other federally funded Museums in Australia. The museum is broken into numerous galleries, each highlighting a different stage of Australia's development. These include: the discovery of Australia, the relationship between the Australian Aborigines and the water, past water based travel to Australia, the resource of the ocean, water entertainment, the Australian Navy and our relationship with the United States of America.

Managed:	Australian National Maritime Museum
Phone:	02 9298 3777
Web:	www.anmm.gov.au
Address:	2 Murray Street, Darling Harbour, Sydney, NSW, 2000
Postal:	2 Murray Street, Darling Harbour, Sydney, NSW, 2000

BACK TO THE START

QUEENSLAND

CAPE MORETON

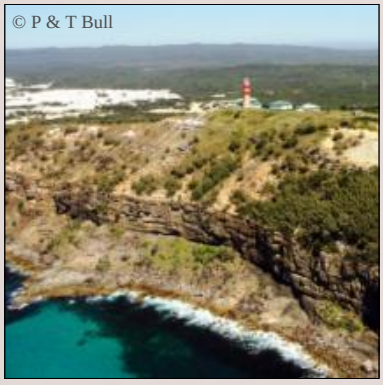
BACK TO THE START

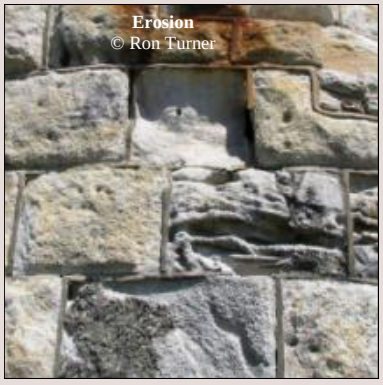
QUEENSLAND

CAPE MORETON

Height:	23 m tower / 122 m focal plane
Location:	North-eastern end, Moreton Island
First lit:	1857
Construction:	Rough faced sandstone blocks, quarried nearby
Flash:	4 flashes every 20 sec.
GPS:	S27.031834, E153.465939
Facilities:	Unstaffed Information Centre, carpark, toilet

For many years this was the only lighthouse along Australia's east coast north of Sydney, when the area was part of New South Wales. It is now the only stone lighthouse tower in Queensland, which is unusual in that it has external steps to the entrance. This and the Point Cartwright tower are the main lights guiding shipping into Moreton Bay, and the Port of Brisbane. A notoriously dangerous area to shipping, there have been many wrecks and strandings since early settlement. The light originally consisted of tiers of parabolic reflectors each lit with an oil wick light. It was converted to acetylene with an incandescent mantle in 1930, two years after the height of the tower was increased. In 1937, 110 V electricity was connected and shortly afterwards, a third order Chance Brothers lens installed. In 1967, availability of Lighter Amphibious Re-supply Cargo (LARC) vessels enabled bulk delivery of fuel. Diesel motors and alternators were installed providing 240 V power. This also enabled a better standard of living for light-keepers and their families. Converted to solar power in 1997, the light was subsequently automated and lit by a 12 V, 35 W lamp inside an acrylic Vega VRB-25 lens. 4WD access is by Micat ferry from the Port of Brisbane to the *Wrecks* at Tangalooma. Permits are needed to drive on the island. The lighthouse precinct is managed by Queensland Parks and Wildlife staff and volunteers. (Please respect their privacy). The lighthouse is not open for visitors. The tower is five minutes walk from the carpark and toilets. The headland is popular for marine animal viewing, including whales from June to November. A smaller, seven metre high, square white lighthouse tower is located on nearby North Point.





Managed:	Australian Maritime Safety Authority (AMSA)
Phone:	02 6279 5000
Web:	www.amsa.gov.au
Address:	82 Northbourne Avenue, Braddon, ACT, 2612
Postal:	GPO Box 2181, Canberra, ACT, 2601

BACK TO THE START

QUEENSLAND

CLEVELAND POINT

BACK TO THE START

QUEENSLAND

CLEVELAND POINT

Height:	5 m tower **(DECOMMISSIONED)**
Location:	Shire Street North, Cleveland
First lit:	Navigation beacon lit in 1847
Construction:	Timber framed, clad with timber
Flash:	N/A
GPS:	S27.510239, E153.289065
Facilities:	Carpark, Toilet, picnic area and playground

Cleveland became a thriving community and maritime sea port after 1825, when the former penal colony of Moreton Bay moved from this district to the site of present day Brisbane. When the coastal area was opened for free settlement, a new port was proposed here avoiding shallow waters at the entrance to the Brisbane River. A small beacon was established on Cleveland Point in 1847, replacing various lights formerly used by private landowners. The tapered, hexagonal, timber clad lighthouse was built in 1864 to an experimental design, replacing the earlier beacon. It is now the last of the early wooden lighthouses originally built to service Moreton Bay. There are three platform levels connected by vertical ladders. An upgrade in 1872 saw the lens from Cape Moreton lighthouse transferred to this tower. The second Keeper at this light, James Troy, reportedly held a record as the longest serving keeper at any Australian lighthouse; 40 years from 1877 to 1927. In 1934, the light was converted from kerosene to electricity. In 1962, experiments began at this lighthouse in the use of laser beams as navigation aids. However, Point Danger to the south is recognized as the first lighthouse to use laser technology, in 1971. A new modern tower was built in 1977 and in 1978 the wooden tower was decommissioned and moved 30 metres to its present location. It was then renovated by the Redlands City Council who currently manage the site. The tower is located in Cleveland Point Recreation Reserve which has 38 parking bays, including a disabled parking bay, but parking is limited on weekends due to the site's popularity.

Managed:	Redlands City Council
Phone:	07 3829 8999
Web:	www.redland.qld.gov.au
Address:	Corner Middle and Bloomfield Streets, Cleveland, Qld 4163
Postal:	PO Box 21, Cleveland, Qld 4163

BACK TO THE START

QUEENSLAND

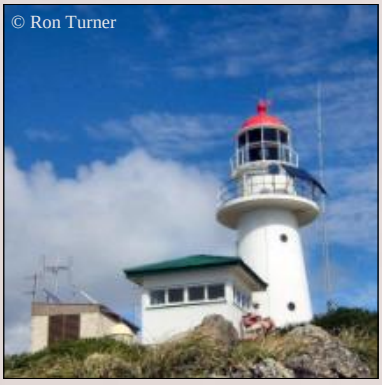
DOUBLE ISLAND POINT

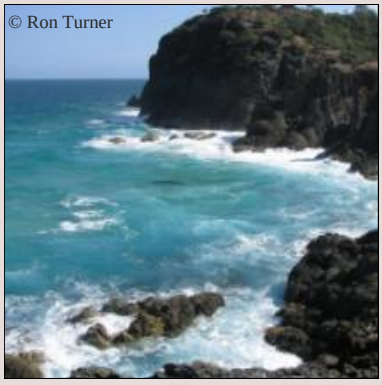
BACK TO THE START

DOUBLE ISLAND POINT

Height:	12 m tower / 96 m focal plane
Location:	Double Island Point, Great Sandy National Park
First lit:	1884
Construction:	Timber frame clad with flat iron topped with a red cupola
Flash:	1 flash every 7.5 sec.
GPS:	S25.931877, E153.190680
Facilities:	No toilets or drinking water

The second of this type of Queensland lighthouses was built at Double Island Point in under 12 months. Three keeper's houses were built adjacent to the tower. A grandfather clock type mechanism was used to keep the light revolving. In most early lighthouses the weights descended down a cast iron weight tube. At Double Island Point a wooden weight tube was made on site. Originally lit by a petroleum oil burner, the light intensity was increased in 1923 by installing an incandescent mantle lit by vapourised kerosene, then again in 1933 by use of 110 V DC electricity. At this time two new cottages were built in a more sheltered location nearby due to cyclone damage to original dwellings. In 1980 diesel generators were installed providing 240 V AC. electricity. The current 12 V light is powered by solar panels and batteries. Care and maintenance of the tower surrounds is being carried out by the Noosa Parks Association, a conservation group based at nearby Noosa. Volunteers have worked hard to remove detritus from past usage, eradicate exotic plants and replanting with vegetation endemic to the site. They also provide a two hourly interpretive service to visitors for one hour either side of low tide at the watch hut adjacent to the tower. The headland is a popular observation point for marine animal viewing, especially dolphins, turtles and various rays; migrating hump back whales pass here during the July to October period. A 4WD vehicle is necessary to traverse beaches. Good walking tracks are provided from beaches either side of the headland.





Managed:	Australian Maritime Safety Authority (AMSA)
Phone:	02 6279 5000
Web:	www.amsa.gov.au
Address:	82 Northbourne Avenue, Braddon, ACT, 2612
Postal:	GPO Box 2181, Canberra, ACT, 2601

BACK TO THE START

GRASSY HILL

BACK TO THE START

GRASSY HILL

Height:	6.1 m tower / 160 m focal plane
Location:	Grassy Hill Lookout, 1.1 km from Cooktown
First lit:	1886
Construction:	Concrete base, timber frame clad with corrugated iron
Flash:	2 white flashes every 6 sec.
GPS:	S15.460788, E145.255356
Facilities:	Carpark, toilets located in Cooktown

Sited on a hill adjacent to the mouth of the Endeavour River, this was one of Queensland's earliest corrugated iron clad lighthouses. It was built to guide shipping bringing miners and heavy equipment for the Palmer River goldfield. However, the hill on which the lighthouse was built had already gained some earlier prominence in Australian history. Having beached his damaged ship near the mouth of the Endeavour River, Lt Cook had despaired when he climbed this hill in June 1770 and sighted a number of sand banks or shoals laying along the coast, seemingly holding he and his ship and crew as virtual castaways inside the Great Barrier Reef. Early navigational aids at Cooktown were leading lights mounted on sheds at a wharf together with a signal staff on the hill top; a flag was raised to announce the arrival of a ship. At one stage this signal staff was also used to drop a time ball. In 1882, a temporary light was mounted on the hill top. Faced with a long and dangerous coastline and difficult financial circumstances, the Queensland government embarked on construction of a new era of low cost and quick to erect wood framed lighthouses. The design was fundamentally British but relied heavily on local materials, despite the risk of termite damage. Some earlier lighthouses were wood framed and clad with timber. Considering the main purpose of a lighthouse is safety at sea, these structures have operated efficiently and stood the test of time. The initial light was powered by kerosene utilising a fourth order Chance Bros fixed lens; this was converted to acetylene in 1927, and the keeper withdrawn. During WWII the RAAF maintained an a radar on the hill. In 1987, the Commonwealth transferred the site to the Queensland government.

Managed:	Cook Shire Council
Phone:	07 4082 0500
Web:	www.cook.qld.gov.au
Address:	10 Furneaux Street, Cooktown, Qld, 4895
Postal:	PO Box 3, Cooktown, Qld, 4895

BACK TO THE START

LADY ELLIOT ISLAND

BACK TO THE START

LADY ELLIOT ISLAND

Height:	17 m tower **(DECOMMISSIONED)**
Location:	Lady Elliot Island, Queensland
First lit:	1873
Construction:	Wood frame clad with 2.5mm thick wrought iron plates
Flash:	N/A
GPS:	S24.114599, E152.711569
Facilities:	Eco-resort on island; airstrip

This island, almost 90 kilometres off Bundaberg, is located at the southern end of the Great Barrier Reef where many vessels have founded in surrounding waters. The old tower is another of Queensland's wood framed lighthouses and has stood the test of time, enduring many storms and cyclones. The old Lady Elliot tower was erected on top of a concrete foundation fixed into the coral. Its timber frame was clad with wrought iron sheets prefabricated in England. These were riveted together on the island and screwed to the wooden frame. There are four levels, each with a wooden floor. Access is via a winding wooden stairway to the third level, then by a fixed ladder to the lantern room. The light source was changed in 1923 and 1928; electricity was introduced in 1953 and converted to solar operation in 1982. However, because of the importance of the weather station, staff remained until it was finally demanned in 1988. Historically, the whole island was mined for guano, then decimated by goats left behind as food for ship-wrecked sailors. After removal of the goats, the planting of she-oak and pisonia trees, and pandanus (screw palm) commenced in 1969. This brought back nesting sea-birds. The trees grew well, but when it was decreed they could not be trimmed, AMSA was obligated to build a new 32 metre high, square prism tower in 1995, with a balcony topped by a fibreglass hut. The old tower then became redundant. A white flash is now shown every 7.5 seconds and is visible for 37 km. The island is now a national park and includes a resort accessed by air from either Hervey Bay or Bundaberg. The former keepers' cottages are used by resort staff for accommodation.


Courtesy Queensland Government

Managed:	Australian Maritime Safety Authority (AMSA) (light) Queensland Parks and Wildlife Service (Island)
Phone:	02 6279 5000
Web:	www.amsa.gov.au
Address:	82 Northbourne Avenue, Braddon, ACT, 2612
Postal:	GPO Box 2181, Canberra, ACT, 2601

BACK TO THE START

QUEENSLAND

LOW ISLES

BACK TO THE START

LOW ISLES

Height:	21 m tower / 20 m focal plane
Location:	13 km from Port Douglas, North Queensland
First lit:	1878
Construction:	Timber frame clad with light iron
Flash:	1 flash every 10 sec.
GPS:	S16.384087, E145.559804
Facilities:	Self guiding path with interpretive signs

This lighthouse was built on a 2.5 hectare coral cay, only two metres above sea level. It was the first lighthouse to mark the Inner Passage through the Great Barrier Reef and is situated on the western edge of the main shipping channel into Port Douglas, 13 km distant. It is the fourth of this style of lighthouse, although the first of this series to use portholes. The materials were pre-fabricated on the mainland, transported to the island, and erected on a concrete foundation fixed into the coral. External cladding is galvanised sheet steel. Wooden stairs give access to metal-clad wooden landings, with a final ladder to the lantern room; the stairs surround a square, wooden weight tube. In 1963, the three keeper's cottages were replaced in a more tropical style built on concrete posts, now with utility areas such as a workshop and stores underneath. Two of the three are currently used for Queensland Parks and Wildlife Service staff accommodation; the third is used as a research station. The original oil burning wick lamp, and the Chance Bros third order lens was supported on a roller-bearing pedestal. The lamp was converted to use incandescent oil vapour apparatus and mantles in 1923. The light was upgraded to electric operation in 1963, then converted to solar power in 1993, prior to the station being demanned. The tower is currently lit by a 12 V, 20 W quartz halogen lamp housed in an acrylic Vega VRB-25 lens and visible at 31 km. The site can be visited, but the tower is closed. It is a popular destination with a good anchorage for commercial and private craft from Port Douglas and Cairns. The original lens is now on display in the Court House Museum at Port Douglas.

Managed:	Australian Maritime Safety Authority (AMSA)
Phone:	02 6279 5000
Web:	www.amsa.gov.au
Address:	82 Northbourne Avenue, Braddon, ACT, 2612
Postal:	GPO Box 2181, Canberra, ACT, 2601

BACK TO THE START

QUEENSLAND

NEW CALOUNDRA

BACK TO THE START

QUEENSLAND

NEW CALOUNDRA

Height:	24 m / focal plane 52 m **(DECOMMISSIONED)**
Location:	Canberra Terrace, Caloundra
First lit:	1968
Construction:	Concrete
Flash:	N/A
GPS:	S26.801564, E153.137408
Facilities:	Adjacent street parking

A second, more modern structure (New Caloundra Lighthouse) replaced the old Caloundra Lighthouse, which was removed from the site. The new building combined a lighthouse, signal and radar station using stacks of sealed beam lights mounted on a rotating table. However, the life of this lighthouse was cut short when a new high rise development obscured views of the lighthouse from the sea, and another lighthouse was built on Point Cartwright, 14 km to the north. Despite the presence of many aids to navigation in this area, the *Anro Asia*, a 213 m long 16,336 gross tonnage RoRo (Roll on Roll off) container vessel grounded near the northern tip of nearby Bribie Island, while entering Moreton Bay on 26 sOctober 1981. Oil spill recovery equipment was brought from Victoria and South Australia. Twin-rotor heavy lift Chinook helicopters were used to remove many of the containers to shore to assist refloat of the vessel on 6 November. (The pilot received a three month's suspension of licence). The lighthouse was finally decommissioned in 1998. The tower is now used for emergency services' radio purposes. It is possible to climb the staircase to the lower balcony. Contact the Friends of Caloundra Lighthouse group (details on Old Caloundra Lighthouse site). The old lighthouse was finally restored to a site beside the new tower.

Managed:	Sunshine Coast Regional Council
Phone:	(07) 2475 7272 f 1300 007 272
Web:	www.sunshinecoast.qld.gov.au
Address:	10 First Avenue, Maroochydore
Postal:	Locked Bag 72, Sunshine Coast Mail Centre, 4560

BACK TO THE START

QUEENSLAND

NORTH POINT

BACK TO THE START

NORTH POINT

Height:	7 m tower / 25 m focal plane
Location:	Northern most point of Moreton Island
First lit:	1860s
Construction:	Wood framed and clad with corrugated iron in 1899
Flash:	
GPS:	S27.022556, E153.454690
Facilities:	No facilities, camping ground nearby with toilets

In addition to the only stone lighthouse in Queensland (Cape Moreton), four other smaller lighthouses were built on Moreton Island to safeguard what became the major sea route into the Port of Brisbane. North Point, or North Hummock Point Lighthouse as it was sometimes known, is the only surviving structure of these; it sits atop a small sand dune hummock. It commenced operation in the 1860s using a square kerosene burner and reflector. In 1899, the lighthouse was replaced with a small hardwood framed building clad with corrugated iron, the sixth of a group of eight lighthouses to be built this way. In 1909, it was described as a square wooden room carrying a sixth Order dioptric apparatus with a range of 13 km. The lighthouse can be seen from Cape Moreton lightstation. Both can only be reached only by using 4WD vehicles. A Racon has been installed here containing an ultra high radar frequency transmitter/receiver. These devices are useful where there is a confusing profusion of navigational aids, but is only useful for short distances of 20–40 km. An inbuilt identification code allows a ship to accurately display its position relative to this racon on its radar screen.

Managed:	Department of Environment & Science Queensland
Phone:	13 74 68
Web:	www.des.qld.gov.au
Address:	400 George Street, Brisbane City, 4000
Postal:	GPO Box 2454, Brisbane Queensland 4001

BACK TO THE START

QUEENSLAND

NORTH REEF

JWarnes WikiCCL 3.0

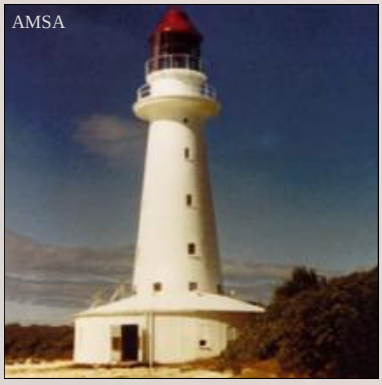
BACK TO THE START

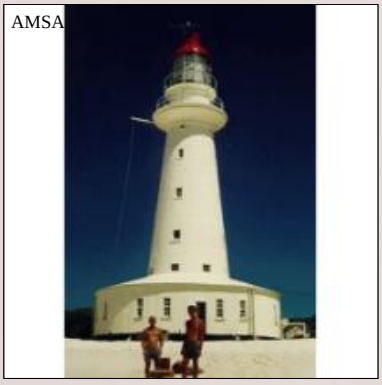
QUEENSLAND

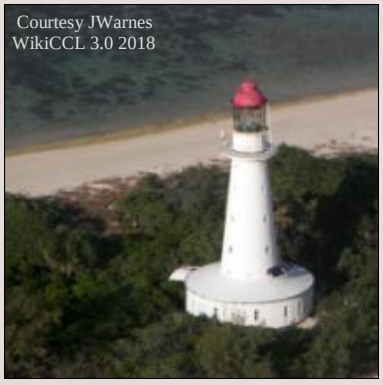
NORTH REEF

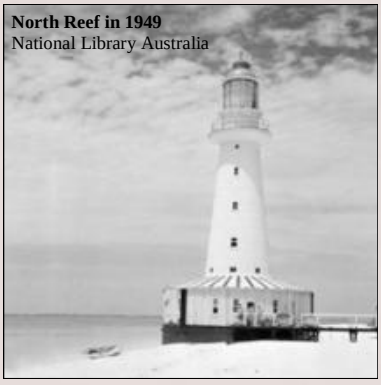
Height:	24 m tower / 23 m focal plane
Location:	120 km north east of Gladstone
First lit:	1878
Construction:	Wood framed, clad with light iron
Flash:	2 flashes every 15 sec.
GPS:	S23.185378, E151.903797
Facilities:	None. Site and tower are closed to the public

Built on a coral reef just above the high water mark, this tower represents a major achievement in Australian lighthouse construction. It is located at the north end of the Capricorn Group of islands, in the southern section of the Great Barrier Reef (120 km north-east of Gladstone). Sand has periodically accumulated around the tower after construction, only to be washed away, leaving the tower lapped by water. A current build up of sand has formed a vegetated sand island. During construction, a concrete foundation 13 m diameter was poured into the coral. A hollow tank cast into the base is used to hold fresh water caught off the roof. Wrought iron plates are bolted around the base of the tower. The residence area and tower are clad in galvanized iron. It is the tallest of the wood framed lighthouses in Queensland. Three bachelor-only keepers maintained this station. A circular residence 12 m in diameter and 5 m high was built around the tower. This contained three bedrooms, two sitting rooms, two kitchens and a storeroom. While historical details of operation are sketchy, it would appear the technology used in this lighthouse followed the evolution of many others. Originally, a second order lens was used, almost certainly with an oil burning apparatus. Incandescent oil vapour apparatus was used at one stage; upgrades in 1923 and 1929 suggest acetylene and 110 V electricity may also have been used and lens size reduced with better illumination. The station was demanned in 1978 and converted to solar in 1987. The current lens is an acrylic VRB-25 using a 12 V, 35 W quartz halogen lamp. The light is visible at 31 km.


AMSA


AMSA


Courtesy JWarnes
WikiCCL 3.0 2018


North Reef in 1949
National Library Australia

Managed:	Australian Maritime Safety Authority (AMSA)
Phone:	02 6279 5000
Web:	www.amsa.gov.au
Address:	82 Northbourne Avenue, Braddon, ACT, 2612
Postal:	GPO Box 2181, Canberra, ACT, 2601

BACK TO THE START

QUEENSLAND

OLD CALOUNDRA

BACK TO THE START

OLD CALOUNDRA

Height:	12 m tower **(DECOMMISSIONED)**
Location:	Canberra Terrace, Caloundra
First lit:	1896
Construction:	Timber frame with corrugated iron cladding
Flash:	N/A
GPS:	S26.801610, E153.137451
Facilities:	Adjacent street parking

The Old Caloundra Lighthouse is the oldest building in Caloundra. It has a tapered timber frame clad externally with corrugated iron sheeting, a design built only in Queensland between 1873 and 1900. The building method was cheap, quick and its operation efficient. Originally lit by an oil-burning wick lamp, the first ever incandescent vapour burning kerosene light used in Queensland's lighthouses was then installed here in 1910. With the advent of large container ships, Moreton Bay's deep North West Channel into the Port of Brisbane became increasingly important. A more modern New Caloundra Lighthouse comprising the lighthouse, signal and radar station was built becoming fully operational in 1968. However, the working life of this new tower was cut short by high rise development which obscured views of the lighthouse from the sea. (See the New Caloundra page for more on this second lighthouse). A third tower clear of high rise and urban lighting was subsequently built at Point Cartwright, 14 km to the north. (See the Cartwright Lighthouse page for more on this light). A Friends of Caloundra Lighthouse group are restoring the Old Caloundra lighthouse (www.caloundralighthouses.com.au). Tours are available on every second and fourth Saturday 9 am till mid afternoon for a small fee for adults and children free. Booked tours are available; costs by arrangement. Visit www.sunshinecoastplaces.com.au for more local information.

Managed:	Sunshine Coast Regional Council
Phone:	(07) 5475 7272
Web:	www.sunshinecoast.qld.gov.au
Address:	10 First Ave, Maroochydore, QLD, 4558
Postal:	Locked Bag 72, Sunshine Coast Mail Centre, QLD, 4560

BACK TO THE START

QUEENSLAND

PINE ISLET

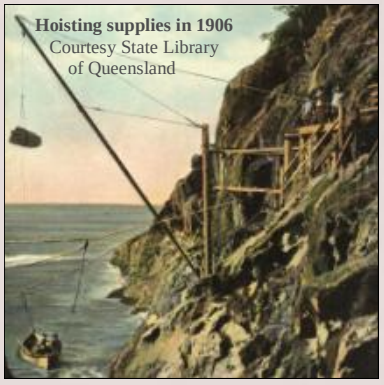
BACK TO THE START

QUEENSLAND

PINE ISLET

Height:	Initially 13 m tower / 67 m focal plane
Location:	Mackay Harbour, originally Percy Islet
First lit:	1885
Construction:	Iron plates riveted over wood frame
Flash:	N/A
GPS:	S21.110503, E149.224877
Facilities:	Car parking, interpretative signage

Also known as Percy Isles light, this was the last pressurised kerosene operated light in Australia, being deactivated in 1985. The original light used a three metre high second order Chance Bros lens with a single wick oil burner. A red shade was used to warn of the dangerous Normandy Rock, 1.6 km offshore. The tower cladding, lens, burner and winding mechanism all came from England. This mechanism needed rewinding 28 turns every two hours. In 1923 the light was changed to an incandescent oil vapour apparatus using a 55 mm mantle. Ninety pump-strokes were required every two hours to maintain kerosene pressure. Major refurbishment of the station occurred in 1927; the wooden lighthouse floor was replaced with concrete and the three original keeper's cottages were replaced. Prior to this, the grave site of one keeper's wife was exhumed to prepare a new building site. Residents of the new cottage later told of strange knocking at the door, or footsteps entering and proceeding to the lounge above the former grave site. The station was serviced every two weeks from Mackay, 125 km distant, with stores lifted by crane from the boat onto the hill side. In 1950, 110 V electricity was connected to cottages. This was followed by a 240 V system in 1965, but the lighthouse continued to operate on kerosene. Deactivated in 1985, the lighthouse was replaced with a 6.1 m high fibreglass tower using a VRB-25 lens lit by a 12 V, 35 W halogen globe. The original hardwood frame tower (clad with rivet joined iron plates) complete with the incandescent oil vapour apparatus and 55 mm mantle was fully restored and re-erected at Mackay harbour.


Hoisting supplies in 1906
Courtesy State Library of Queensland

Managed:	Mackay Port Authority
Phone:	1300 129 255
Web:	www.mackayports.com
Address:	Waterfront Place, Mulherin Drive, Mackay Harbour 4740
Postal:	PO Box 3340 North Mackay Qld 4740

BACK TO THE START

QUEENSLAND

POINT CARTWRIGHT

BACK TO THE START

POINT CARTWRIGHT

Height:	32 m tower / 53 m focal plane
Location:	Point Cartwright, Buddina
First lit:	1979
Construction:	White five sided concrete tower
Flash:	2 flashes every 15 sec.
GPS:	S26.679702, 153.138459
Facilities:	Carpark, toilet

Point Cartwright lighthouse is one of the tallest in Queensland. Built in 1979, it superseded earlier Caloundra lighthouses as the main light assisting navigation of shipping into and out of the Port of Brisbane, along the North West Channel. The lamp is a 12 V, 100 W halogen globe inside a Vega VRB-25 lens, powered by 240 V mains power. The light beam from this tiny 25 mm globe reaches 35 km out to sea.

Managed:	Australian Maritime Safety Authority (AMSA)
Phone:	02 6279 5000
Web:	www.amsa.gov.au
Address:	82 Northbourne Avenue, Braddon, ACT, 2612
Postal:	GPO Box 2181, Canberra, ACT, 2601

BACK TO THE START

QUEENSLAND

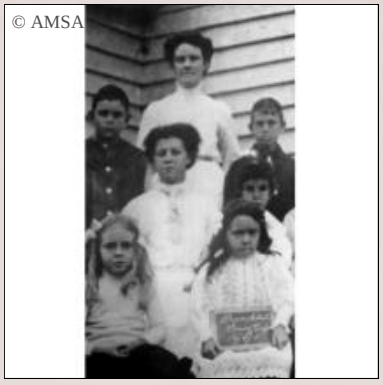
SANDY CAPE

BACK TO THE START

SANDY CAPE

Height:	26 m tower / 116 m focal plane
Location:	North tip of Fraser Island (K'gari)
First lit:	1870
Construction:	Cast iron panels bolted together on concrete base
Flash:	1 flash each 10 sec.
GPS:	S24.729969, E153.208658
Facilities:	Interpretative signage

This was to be the first coastal lighthouse built in the new colony of Queensland; but that privilege was instead given to the identical, but slightly smaller Bustard Head tower. A two-stage trolley system using wooden rails was laid across the sandy terrain from the beach and a horse used to bring materials to the site. The first stage rose 50 m over 1.2 km. The last slope was 60 degrees and a horse-powered windlass brought trolleys up the final 50 metres. A boarded roadway was laid in the 1970s to facilitate movement of stores by a Lighter Amphibian Re-supply Cargo (LARC) vessel. The Sandy Cape tower still has its external staircase; cast above the door is Kitson & Co Leeds 1866. There are five levels to this lighthouse, connected by an internal cast iron staircase. A first order lens was originally used and lit using an Argand four wick oil lamp, fuelled by colza, or rapeseed oil. Later, a six wick oil lamp was used. Rotation was powered by a hand-operated, grandfather clock mechanism which was rewound every 1 $^{1}/_{4}$ hours. An incandescent oil vapourised kerosene apparatus using a mantle commenced in 1917. In 1930, 110 V electricity was used and the optics changed to a smaller fourth order lens. In 1995, solar power was installed with a battery bank, and a diesel generator backup. It was also automated using a rotating acrylic Vega VRB-25 lantern with a 12 V, 100 W quartz iodine lamp. The station was de-manned in 1997. The nearest town is Rainbow Beach, 145 km away, and the Sandy Cape camp ground is 6 km away. Site manager is the Queensland Parks and Wildlife Service. The photo (bottom right) shows how some lighthouses were home to educators. The pictured female teacher made this lighthouse her home for 16 years.



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BACK TO THE START

QUEENSLAND

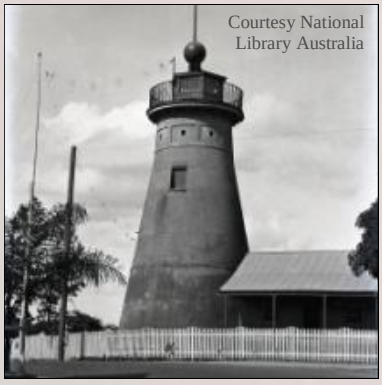
WINDMILL TOWER

BACK TO THE START

WINDMILL TOWER

Height:	16 m tower (incl. time ball & mast) **(DECOMMISSIONED)**
Location:	Spring Hill, Observatory Hill, Brisbane
First lit:	N/A
Construction:	Rendered stone and brick
Flash:	N/A
GPS:	S27.465709, E153.023081
Facilities:	Outer city parking, so busy during business hours

Initially constructed in 1828 by convict labour, this tower became a signal station in 1855. Information on shipping was relayed from the mouth of the Brisbane River by semaphore where the tower was connected to the electric telegraph. Shipping news was relayed to the public using flags hoisted on a mast. In 1861, a time ball was fitted dropping at 1 pm daily alerting ship's captains and the general public to reset their chronometers and watches. From 1866 to 1894, a cannon was fired daily at 1 pm until replaced by an electrically operated time ball. The time ball was in use until 1930. The tower is 8.4 m diameter at the base and 4.5 m in diameter at the top. There are four landings with wooden floors and a hexagonal staircase made from various native timbers that winds around a central pole up to the observation deck. The interior is wood framed with wooden floor board landings. There is a hexagonal, glass faceted timber observation room on top surrounded by metal hand railings. A cottage for the signalman was constructed in 1883. The original use of the tower was to be a four-sail, wind powered mill for grinding corn and wheat grown by convicts. Two sets of grinding stones were installed including a double treadmill. Assignment to the 23 cm wide treadmills shackled by 8 kg leg irons became the worst punishment for convicts who sometimes committed murder as an alternative; this practice ceased in 1845. Other uses for the tower include its establishment as a reference point for surveying of the Moreton district, and as an observation point by the fire brigade. During 1922-26, the Institute of Radio Engineers conducted experiments here culminating in Queensland's first television broadcast in 1934. These continued until World War II.


Courtesy National Library Australia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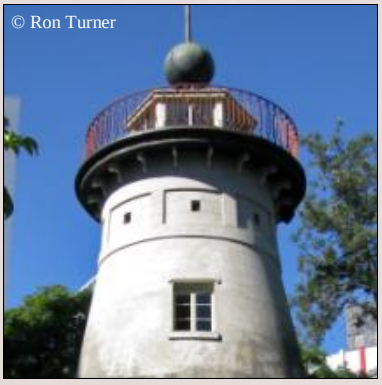
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BACK TO THE START

QUEENSLAND

WOODY ISLAND

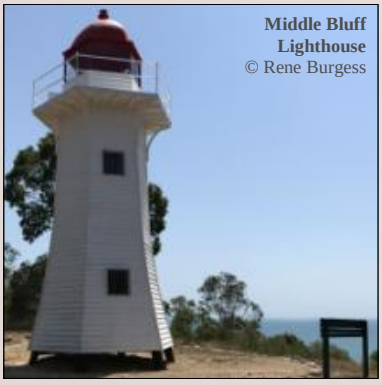
BACK TO THE START

WOODY ISLAND

Height:	7 m tower **(DECOMMISSIONED)**
Location:	Woody Island, Sandy Strait between Fraser Island & Urangan
First lit:	1867
Construction:	Timber
Flash:	N/A
GPS:	S25.298954, E152.972177
Facilities:	Private boat access only with no facilities

Ships intending to enter the busy Port of Maryborough had to clear the 35 km long underwater Breaksea Spit, north of Fraser Island, then turn 90^0 to Port. Two identical wooden lighthouses were built on Woody Island; both used Argand, double-wick oil burners, in fourth order lens. North Bluff light, positioned 43 m above sea level, was visible at 29 km. Middle Bluff light, 3.2 km south at 66 m above sea level, was visible at 34 km. Ships' captains initially avoided the shallow waters of Sandy Strait by keeping these two lights in line. When approaching the island and the two lights merged, the Captain changed course to Port. Shortly afterwards, when a red light became visible, he again turned to Port. When a second red light became visible he turned to Starboard. A green light indicated another slight turn to Starboard. Only one keeper was appointed for the two lighthouses. His duties were to light North Bluff at sunset, then walk to and light Middle Bluff. He again walked to Middle Bluff at 9 pm to top up the kerosene. An assistant was appointed in 1868. Both lights were extinguished at sunrise. Passing ships could be signalled using flags. In 1870, an underwater telephone line was connected from the mainland at Urangan. Cast iron poles were used across the island. North Bluff was converted to acetylene gas in 1937 and a trestle railway was built to assist movement of heavy cylinders to the tower. This eventually ceased operation in 1959 and the building fell into disrepair. Middle Bluff was converted to acetylene gas in 1959. Cylinders were stored in a shed and a copper pipe took gas up to the light. It was converted to a solar operation in 1985. This tower became redundant in 1987, when solar beacons were used to line the edge of the channel.


Middle Bluff Lighthouse
© Rene Burgess


Middle Bluff Lighthouse
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Original lens now held in the Hervey Bay Museum
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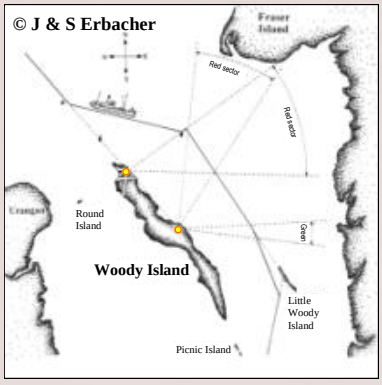

Managed:	Department of Environment & Science Queensland
Phone:	13 74 68
Web:	www.des.qld.gov.au
Address:	400 George Street, Brisbane City, 4000
Postal:	GPO Box 2454, Brisbane Queensland 4001

BACK TO THE START

SOUTH AUSTRALIA

- Cape Banks
- Cape Borda
- Cape du Couedic
- Cape Jaffa
- Cape Jervis
- Cape Martin
- Cape Northumberland
- Cape Willoughby
- Point Lowly
- Point Malcolm
- Port Adelaide
- Robe
- St Albans
- Troubridge Point
- West Cape

BACK TO THE START

SOUTH AUSTRALIA

CAPE BANKS

BACK TO THE START

CAPE BANKS

Height:	15 m tower / 28 m focal plane
Location:	Cape Banks
First lit:	1883
Construction:	Local limestone
Flash:	2 flashes every 10 sec.
GPS:	S37.898072, E140.376628
Facilities:	None

Captains of early shipping heading for Australia from England via the Cape of Good Hope, frequently did not know precisely where they were. Bad weather would obscure the sun and stars for lengthy periods. Seeking advantage from stronger tail winds, they would often head along the 'Roaring Forties' (latitude 40° S) to the narrow passage between the Australian mainland and Tasmania, known as the 'eye of the needle'. Hundreds of people drowned in many early shipwrecks in this area. Cape Banks became one of the lighthouses so vital to ship's captains warning they were off course, and too far north. The orange colour is an important day mark, distinguishing it from other nearby lighthouses. Eight ships were lost off-shore here before the light became operational. Another four were lost after the light was lit. The original tower was 7.5 m high, but this was raised to 15 m in 1928, when the station was demanned and keepers' cottages removed. It was originally lit by incandescent vapourised kerosene apparatus with a mantle and three groups of lights, two white and one red. There were three lamps in each group. It then operated on acetylene gas using a Dalen flasher until 1976, before conversion to mains electricity with a standby battery. It uses a 120 V, 1000 W tungsten halogen lamp with a range of 28 km. The lantern room has an unusual, distinctive fourteen-sided design. Access is by sealed road from the small fishing village of Carpenter Rocks, then by several kilometres of gravel road.

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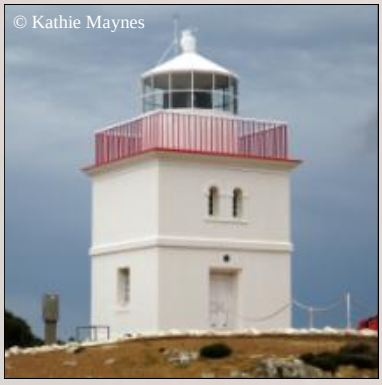
BACK TO THE START

CAPE BORDA

CAPE BORDA

Height:	10 m tower / 155 m focal plane
Location:	North-west Kangaroo Island, South Australia
First lit:	1858
Construction:	Random limestone & weak lime mortar; walls 66cm thick
Flash:	4 flashes every 20 sec.
GPS:	S35.752785, E136.593421
Facilities:	Carpark, toilets, museum

Built to guide sailing ships leaving the Roaring Forties, this was the first landfall for ships' captains intending to use the Investigator Passage to approach Adelaide. It is the only square stone lighthouse in South Australia and one of only three to retain its original, fourteen-sided Deville lantern room. A landing for stores and equipment was developed at Harvey's Return 5 km away due to steep, high cliffs adjacent to the lightstation. Steel tracks were laid and a horse and windlass hauled stores 150 m up the 45 degree slope, then along the cliff tops to the station. Originally lit by oil, incandescent oil vapour using mantles was introduced about 1912. Two diesel generators were installed in 1932 with an acetylene gas plant for emergencies. Mains electricity was connected about 1983, with a back-up diesel generator. The light became automatic in 1989. A fourth order Fresnel lens utilises a new $3600 Sealite LED lamp containing 30 LED's with a life expectancy of 10 years. The 12 V 40 W output is much safer, cheaper and brighter than the previous 120 V 1000 W tungsten halogen lamp. A telegraph line was connected to the station in 1876. Before radio was developed, a small cannon was fired to assist ships' crews to check their chronometers used to determine longitude. (It is still fired daily at 1pm.) There are 16 headstones in a cemetery near Harvey's Return. The lightstation was not a good place for children with some being lost over the cliffs, or simply vanishing in rugged bushland. Cape Borda is situated within the Flinders Chase NP. The nearest town is Parndana, 66 km away; the final 32 kms is gravel, sometimes corrugated. Tours of the lighthouse and museum are available. The original cottages are available for rent.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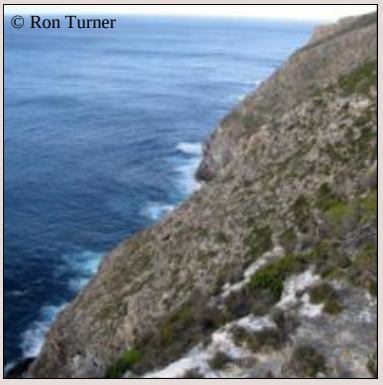
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BACK TO THE START

CAPE DU COUEDIC

BACK TO THE START

CAPE DU COUEDIC

Height:	25 m tower / 103 m focal plane
Location:	South-west Kangaroo Island
First lit:	1909
Construction:	Local granite
Flash:	2 flashes every 10 sec.
GPS:	S36.057920, E136.705251
Facilities:	Car parking; toilets; walking tracks

The dangerous south western shores of Kangaroo Island were the final resting place for 14 ships between 1875 and 1906, three of which claimed 79 lives. Two thousand pieces of local stone were used to build this lighthouse, warning of an underwater reef with two islands (the Casuarinas) extending 40 km south of the cape. The point was named by French explorer Nicholas Baudin in 1803. A telephone line was connected in 1908, before the lighthouse was built. A jetty was built at Weir's Cove, 1.5 km distant. All stores were initially carried up a zig zag track hewn out of a 92 m cliff, until a flying fox was built. Two horses and a winch were then used to haul all stores and people to the cliff top. A storeroom was built on top with three rooms; one for each lightkeeper's family. A rocket apparatus was stored at the lighthouse with rope ladders to effect rescues up the steep cliffs, if necessary. The light was initially lit by kerosene incandescent oil vapour using mantles; a white stone shed near the tower was used to store the kerosene. Keepers had to wind up the grandfather clock mechanism every two hours to keep the light rotating. In 1957, the light was automated by conversion to acetylene and the station demanned. It was converted to mains electricity in 1974 with a diesel powered generator on standby, and now uses a 120 V, 1000 W tungsten halogen lamp. The lighthouse is located 112 km from Kingscote and is part of the Flinders Chase National Park. Accommodation is available in old keepers cottages. The lighthouse itself is closed to visitors.


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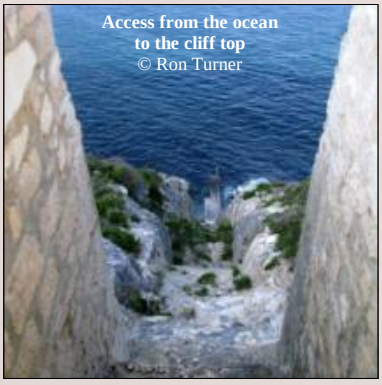
Access from the ocean to the cliff top
© Ron Turner


Ruins of the former storeroom
© Ron Turner

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BACK TO THE START

SOUTH AUSTRALIA

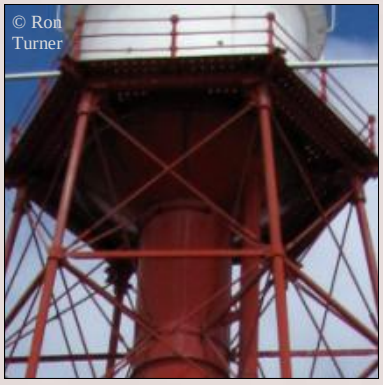
CAPE JAFFA

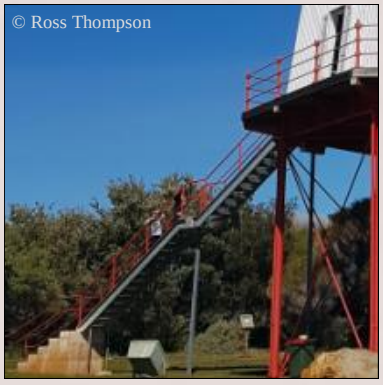
BACK TO THE START

CAPE JAFFA

Height:	34 m tower **(DECOMMISSIONED)**
Location:	Marine Parade, Kingston
First lit:	1872
Construction:	Heavy wrought iron
Flash:	N/A
GPS:	S36.835903, E139.845913
Facilities:	None, street parking, Kingston township is nearby

Also known as the Margaret Brock Reef Lighthouse, this was a screw pile lighthouse, the first of its kind in Australia. It was originally built on Margaret Brock Reef, 8 km off Cape Jaffa. The *Margaret Brock* was only one of at least fourteen ships which struck here between 1852–72. Strong currents in the area drew wind-powered ships onto dangerous underwater reefs. Thirteen holes were drilled three metres into the bed-rock and this took 13 months. Large threads were attached to the feet of the piles which were then screwed into the rock. The rock was so hard and the weather so rough that on some days, the screws only penetrated for 3 cm; on others, less than a centimetre an hour. The heavy wrought iron materials were pre-fabricated in England and offered little resistance to the rough seas. A 21x11 metre platform was built of wrought iron lined with heavy wood on which were built the two levels of keepers' accommodation. A second building on the platform housed heavy stores. Above this level, the tower rose on seven piles for 21 metres. Stairs to the lantern room were fitted inside a 1.2 metre diameter iron tube. The light guided vessels into Robe, the only sheltered port on this exposed coast. This lighthouse was replaced with the Guichen Bay/Robe tower in 1973. After gold was discovered in Victoria in 1851, the Victorian Government introduced a 'gold tax' on Chinese landing in Victoria. Ships bringing prospective miners came to Robe instead, and long lines of Chinese trotted off towards the distant goldfields across the border. This is a non-operational lighthouse and the custodians are the National Trust of South Australia. Guided tours depend on volunteer availability. Tours generally operate during the summer and on school and public holidays.





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Phone:	(08) 8202 9200
Web:	www.nationaltrust.org.au/sa
Address:	631 Glynburn Rd Beaumont SA
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BACK TO THE START

SOUTH AUSTRALIA

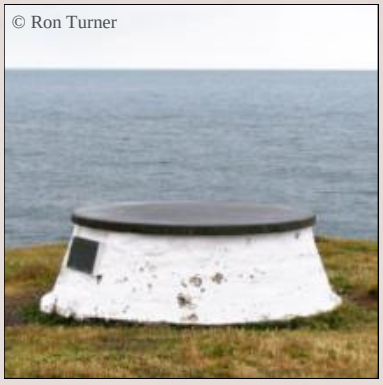
CAPE JERVIS

BACK TO THE START

CAPE JERVIS

Height:	18 m tower / 23 m focal plane
Location:	Flinders Drive, Cape Jervis, Fleurieu Peninsula
First lit:	1972
Construction:	Concrete
Flash:	4 flashes every 20 sec.
GPS:	S35.603692, E138.094482
Facilities:	None, rest rooms in the Ferry Terminal for passengers

This white, three-sided lighthouse tapering from 5 metres at the top to 3.5 metres at the bottom, was built in 1972. It has an electric light of 41,000 cd. The original seven metre high lighthouse was built here in 1871; its base can be seen adjacent to the new tower. The original lighthouse used a kerosene wick burner showing a fixed white light visible for 12 km. This was converted to an incandescent oil vapour light in 1910, and then to acetylene gas in 1927. At this time the two keepers, who lived in nearby cottages, were withdrawn and both cottages removed. Lights at Cape Jervis marked the eastern entrance into the Backstairs Passage, a major shipping passage for vessels moving between the eastern States and Adelaide. It is currently also used as a harbour light for ferries commuting between Penneshaw on the eastern end of Kangaroo Island, and the mainland. An historic plaque is attached to the base of the old tower nearby.



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BACK TO THE START

SOUTH AUSTRALIA

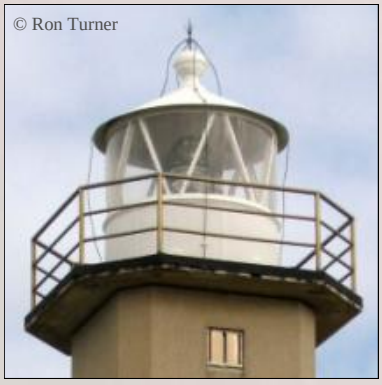
CAPE MARTIN

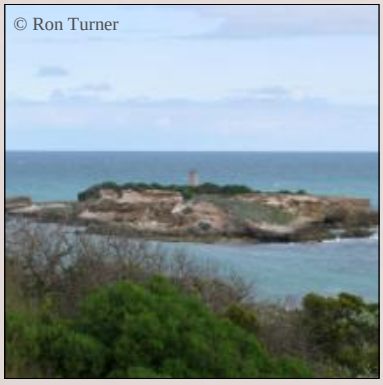
BACK TO THE START

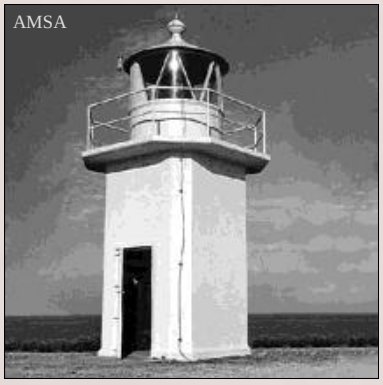
CAPE MARTIN

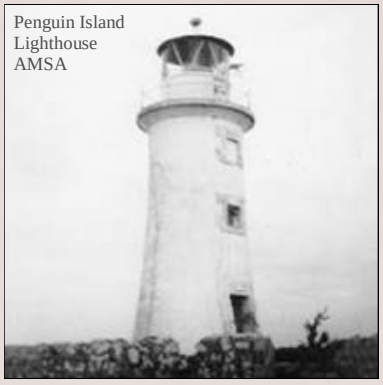
Height:	12 m tower / 38 m focal plane
Location:	Beachport
First lit:	1960
Construction:	Brick and pre-cast concrete slabs
Flash:	1 flash every 20 sec.
GPS:	S37.489666, E140.012711
Facilities:	None. Beachport township adjacent

Lighthouses in the Beachport area range across three eras. Extremely rough waters made for hazardous boat crossings to Penguin Island, where the first 11 metre high tower was built, in 1878. Two keepers lived on the island, initially making use of flags to attract attention when needed. The light was originally lit by mineral oil; this changed in 1909 to an incandescent oil vapour kerosene light. In 1918, the apparatus was again changed and it was fuelled by acetylene gas, and the station demanned. In 1960, a new 4.5 metre tower incorporating the original third order lens from Penguin Island was built on the mainland, at Cape Martin. This was converted to electricity in 1974. In turn, this tower became inadequate and in 1980, it was raised to the current 12 metre height using pre-cast concrete slabs. The light currently operates on mains electricity using a 120 V, 1000 W tungsten halogen lamp emitting 40,000 cd. It reaches out to sea for 33 km. No tours of the lighthouse are available. Penguin Island is now a declared bird sanctuary; a permit to visit is required. Remnants of the original stone tower can be seen from the mainland.









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BACK TO THE START

SOUTH AUSTRALIA

CAPE NORTHUMBERLAND

BACK TO THE START

CAPE NORTHUMBERLAND

Height:	17 m tower / 46 m focal plane
Location:	3 km west of Port MacDonnell
First lit:	1882
Construction:	Local stone
Flash:	1 flash every 5 sec.
GPS:	S38.056329, E140.667481
Facilities:	Roadside parking

An original Macdonnel lighthouse was built in 1858 and commenced operation in 1859. This and the original cottages were built too close to the top of a crumbling cliff edge which was constantly undermined by the wind and waves. As a result, the lighthouse only lasted 23 years. In 1882 a new Cape Northumberland lighthouse was built 400 metres to the east of the former lighthouse. It was painted white with a red band, and this is an important daymark differentiating it from nearby lighthouses to the east and west. In 1906, multiple wick oil burners were replaced with incandescent vapourised kerosene burners using incandescent mantles. In 1936 the light was converted to electricity and in 1972, mains electricity was connected to the lighthouse with a standby diesel motor nearby. In 1977 the light was automated and demanning followed in 1990. Today it uses a 120 V, 1000 W tungsten halogen lamp which emits 310,000 cd, reaching 43 km out to sea. As the station was close to the Port MacDonnell township, Cape Northumberland was one of two lighthouses popular with keepers' children who could attend normal school, and was therefore popular with keepers with children, all of whom could socialize within the township. At one stage the buildings were said to be haunted by a woman wearing out-of-date clothing. The original keeper's cottages are now privately owned, so no tours of the station are available and we ask that you please respect their privacy. Access to the lighthouse is via Port MacDonnell. Ruins of the original station can still to be seen, and an historic cemetery is located near the ruins.

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BACK TO THE START

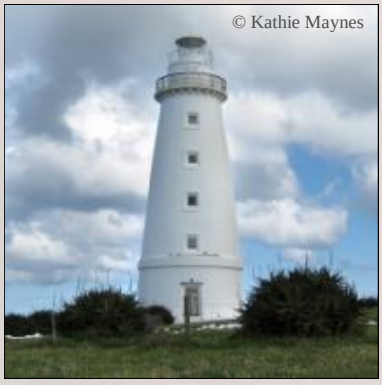
CAPE WILLOUGHBY

BACK TO THE START

CAPE WILLOUGHBY

Height:	26 m tower / 75 m focal plane
Location:	Eastern extremity of Kangaroo Island
First lit:	1852
Construction:	Local granite & limestone. Wall at base = 1.4 m thick
Flash:	3 flashes every 30 sec.
GPS:	S35.842826, E138.132806
Facilities:	Visitor centre; toilets; accommodation; tours available

This lighthouse was the first built in South Australia. It was erected to assist shipping through the treacherous, 11 km wide Backstairs Passage between the mainland and Kangaroo Island, the main shipping route between eastern States and Adelaide. The tower continually leaked and rising damp caused the light to burn poorly. The original multiple wick oil burner used various oils including seal, whale, coconut, vegetable, pea seed and black oil. In 1912 an incandescent oil vapourised kerosene light using mantles was used. Keepers re-wound 66 kg weights every two hours to keep the light turning. In 1959, the station was electrified using two diesel powered 110 V DC generators and revolving banks of 200 W sealed beam lights. During 1974–75 a major refit occurred. A temporary tower was erected nearby for three months; the original lantern room was replaced with one made of aluminium and fibreglass. Steel stairs were installed to replace the original rotting timbers. Mains power was connected and the light automated. In 1992 the station was demanned and in 2003 a new lens was installed using a 12 V, 35 W lamp with a 20 km range. This is powered by two 12 V batteries charged from mains electricity. Holes drilled in a granite rock outside the museum demonstrates the technique used to split rock used for construction. Wooden pegs were inserted and soaked. As the wood expanded the rock broke apart. The original Chance Brothers lantern and machinery from Cape Willoughby was donated to the National Trust and re-erected on a stub tower in the grounds of the Kingscote Hope Cottage Museum. The lightstation is 40 km from Kingscote and 17 km from Penneshaw. The area is managed by South Australia National Parks as a Conservation park.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BACK TO THE START

SOUTH AUSTRALIA

POINT LOWLY

BACK TO THE START

POINT LOWLY

Height:	23 m tower
Location:	Point Lowly, Upper Spencer Gulf
First lit:	1883
Construction:	Local sandstone with a concrete extension
Flash:	1 flash each 5 sec.
GPS:	S32.999754, E137.785654
Facilities:	Carpark, interpretive signage

Due to its low profile, as seen from the sea, Matthew Flinders bestowed the name of Point Lowly on this area, in 1802. Local sandstone was used in the original 1883 construction. Its height was increased in 1909 by addition of another 8 m concrete section, making it 23 m high. All supplies came by sea, each three months. The original light was powered by mineral oil; this system was replaced by an incandescent oil vapour apparatus in 1909. A battery operated Stone Chance Power Beam using electromagnetic propulsion was installed onto the balcony in 1973, and the lighthouse was demanned after 90 years. Mains electricity was connected in 1979, with a standby generator. AMSA deactivated the light in 1993. Two years later the City of Whyalla assumed control and reactivated the light. The third order lens operates with a 120 V, 1000 W tungsten halogen globe and the beam reaches 48 km out to sea. The lighthouse, generator shed, oil store and two adjacent keeper's cottages were placed on the National Heritage Register in 1983; they are the oldest buildings in the area and predate the city of Whyalla. There is sealed road access to the site which is 20 minutes from Whyalla. Follow Port Bonython Road onto Lighthouse Drive. The original keeper's cottages are available for rent. Aggregations of giant Australian cuttlefish are found in adjacent waters during winter.




Managed:	City of Whyalla
Phone:	(08) 8640 3444
Web:	www.whyalla.sa.gov.au
Address:	Civic Building, Daring Terrace, Whyalla, SA, 5600
Postal:	PO Box 126, Whyalla, SA, 5600

BACK TO THE START

SOUTH AUSTRALIA

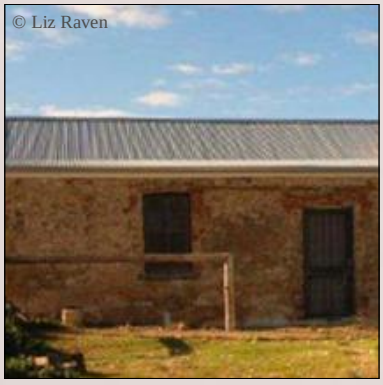
POINT MALCOLM

BACK TO THE START

POINT MALCOLM

Height:	7 m tower **(DECOMMISSIONED)**
Location:	Narrung Narrows, between Lakes Alexandra & Albert
First lit:	1878
Construction:	Concrete
Flash:	N/A
GPS:	S35.508986, E139.190894
Facilities:	None - no public access

Many inland lighthouses are to be found in the Northern Hemisphere, but Point Malcolm (also known as Mundoo light) in South Australia is unique, being the only Southern Hemisphere example. The lighthouse was built to mark the Narrung Narrows passage between Lakes Alexandrina and Albert, along the lower Murray River. Early road travellers and Royal Mail moving between Adelaide and Melbourne would use the stage coach to Milang, and a ferry to cross the lakes via the Narrows under the lighthouse, and disembark at Meningie. They then joined another stage coach to Narracoorte and Mt Gambier. After 1853, a thriving trade along the Murray, Darling and Murrumbidgee rivers enabled much of inland south-eastern Australia to be opened for settlement. Pastoralists found it quicker to transport loads of up to 2000 bales of wool and other produce to market on steamboats, which often towed barges. Originally fuelled by kerosene, the lighthouse assisted paddle steamers and other craft plying the important river trade between Goolwa, and the many settlements and outback stations for hundreds of kilometres upstream. A single keeper's cottage was built; it is now privately owned and is being re-built. As roads were improved and railways spread across our continent, the boating traffic fell away. In 1931, Point Malcolm was decommissioned and the light extinguished. Due to recent increased demand from commercial and recreational traffic using the lakes and river, an automatic light was installed beside the original tower. The area may be reached from the Princes Highway between Tailem Bend and Meningie. Two kilometres north of Ashville, turn down the gravel Narrung-Poltaloch Road for 18 km. As the lighthouse is located on private land, seek permission from the owners of the nearby Poltaloch Station.



Managed:	Coorong District Council
Phone:	1300 785 277
Web:	www.coorong.sa.gov.au
Address:	95-101 Railway Terrace, Tailem Bend, SA, 5260
Postal:	95-101 Railway Terrace, Tailem Bend, SA, 5260

BACK TO THE START

SOUTH AUSTRALIA

PORT ADELAIDE

BACK TO THE START

SOUTH AUSTRALIA

PORT ADELAIDE

Height:	25 m tower **(DECOMMISSIONED)**
Location:	South Australian Museum, Port Adelaide
First lit:	1869
Construction:	Cast iron; pre-fabricated in England, shipped in pieces
Flash:	N/A
GPS:	S34.842471, E138.504197
Facilities:	Toilets, Museum, near railway station and bus stop

This beautifully restored lighthouse initially commenced operation in 1869 at the entrance to the Port River, where it replaced the lightship Fitzjames. A wrought iron central cylinder was inserted into the sea bed and partially filled with concrete to assist with stability. The tube with its spiral staircase rose through the keeper's quarters to the lantern room. It was originally lit using a four wick lantern using oil derived from flowers of the Linden tree (*Tilia* sp). In 1896, the station was hit by a severe storm. The rough seas swept across the living quarter platform 6 metres above high water washing away a stove, coal and other stores, and smashing a 1/4” (.6 mm) thick glass window. The whole structure was violently shaken throughout the day. Three years later it was deemed unstable; the supporting piles were deteriorating and the seabed loosened due to currents perhaps caused by the enlargement and movement of the navigational channel. The structure was dismantled in 1900; its lantern was transferred to Wonga Shoals while the tower was moved to a barren and desolate South Neptune Island in 1901. It was rebuilt there on a hilltop 55 metres above sea level, and fitted with a new lantern operated by a six wick kerosene lamp; this rotated in a bath of mercury. The light could be seen for 32 km. In 1985 it was removed and returned to storage at Port Adelaide where it was restored and erected on its present site. The tower is open to fit visitors who can climb the 74 steps to the upper platform (see SA Museum website for times etc). Each Saturday the lamp is re-lit. This is South Australia's oldest extant wrought iron lighthouse and one of the oldest in the State.

Managed:	South Australian Museum
Phone:	(08) 8207 7500
Web:	www.samuseum.sa.gov.au
Address:	North Terrace, Adelaide, SA, 5000
Postal:	GPO Box 234, Adelaide, SA, 5000

BACK TO THE START

SOUTH AUSTRALIA

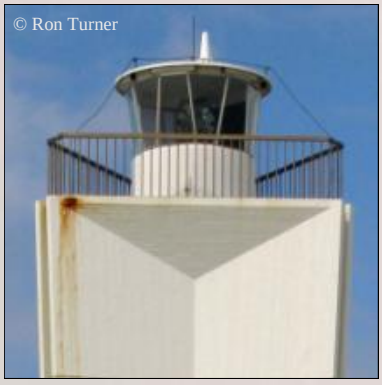
ROBE

BACK TO THE START

ROBE

Height:	19 m tower / 63 m focal plane
Location:	Robe
First lit:	1973
Construction:	Concrete
Flash:	3 flashes every 10 sec.
GPS:	S37.164373, E139.744415
Facilities:	None. Robe township adjacent

This modern tower was built on a headland at Robe to replace an early Cape Jaffa lighthouse (which has now been restored) located on Margaret Brock reef. It is now restored as a museum in Marine Parade, Kingston. The current operational tower is located along Adam Lindsay Gordon Drive and is unusual in that it is a three-sided, star shaped structure 5 m at the top, tapering to 3.5 m at the base. It is an unmanned, automated light. The light source is a 120 V 1000 W tungsten halogen lamp powered by mains electricity, with a standby generator in an adjacent shed. Its beam reaches 37 km out to sea. The Cape Dombrey Obelisk (also known as the Robe Obelisk) can be seen nearby. It was built in 1855 by local builder George Shivas at a cost of 230 pounds as a response to the high number of shipwrecks occurring along the coastline. In 1853 alone, 30 wrecks occurred in Guichen Bay. This 13 m high tower was constructed of local limestone carted to the site by a 32 bullock wagon team. Originally painted white, it was still hard to distinguish from sea, so it was repainted in 1862 in alternating red and white horizontal stripes. The obelisk was also used to store rockets, which could be fired to distressed ships in order to connect them to the shore so that life-lines with baskets could be secured for safely bringing passengers ashore. It still stands today, but is on a crumbling cliff top. Said to be visible from 20 km out to sea in good weather, it was formerly used as a day mark to guide ships into Guichen Bay. It also became redundant, and is in danger of toppling into the sea.



Managed:	Australian Maritime Safety Authority (AMSA)
Phone:	02 6279 5000
Web:	www.amsa.gov.au
Address:	82 Northbourne Avenue, Braddon, ACT, 2612
Postal:	GPO Box 2181, Canberra, ACT, 2601

BACK TO THE START

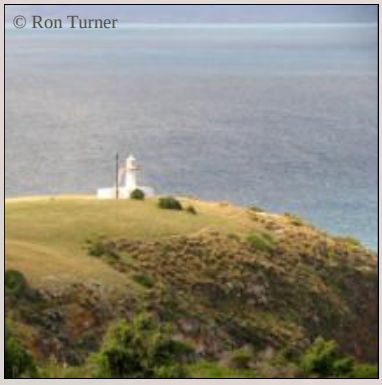
ST ALBANS

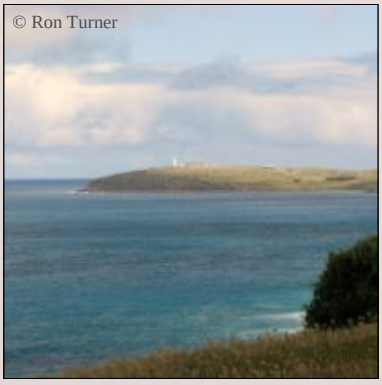
BACK TO THE START

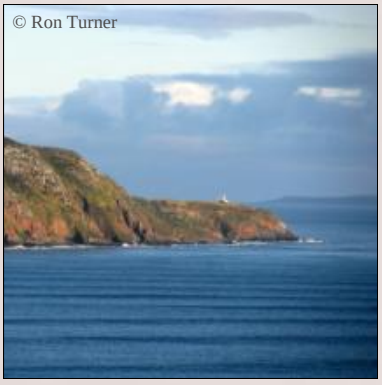
ST ALBANS

Height:	9 m tower / 48 m focal plane
Location:	Eastern Kangaroo Island
First lit:	1908
Construction:	Circular limestone tower
Flash:	3 flashes every 30 sec.
GPS:	S35.803817, E138.125294
Facilities:	No access without permission as on private property and remote from roads

Cape St Albans is one of a group of nine unattended, automatic lights built in South Australia early in the twentieth century, prior to the Commonwealth taking control of coastal lighthouses in 1915. It was never manned, although a keeper from nearby Cape Willoughby checked it regularly. Originally powered by kerosene, this was a fixed white light, with a red sector warning of the dangerously shallow Scraper and Yatala Shoals, in the Backstairs Passage. It was changed in 1914 to a flashing light using acetylene and a Dalen sun valve. Mains electricity was connected in 1976; it now uses a tungsten halogen lamp with the light visible for 27 km. Prior to this lighthouse being built, a ship's captain described the Backstairs Passage as one of the most dangerous passages in the world, particularly to ships at night seeking to utilize the calmer waters in the lee of Kangaroo Island. More than 50 shipwrecks have occurred around Kangaroo Island since first settlement in 1836. In 1917, the four masted schooner *Kona* hit the Scraper and broke up swiftly. Other near misses occurred here with a steamer nearly running aground, and another steamer striking it in 1880. The *Kona's* sister ship *Mindoro* required a tow after striking it in 1920. The *Rippingham Grange* also ran aground here in 1905. This lighthouse is located on private property.







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Web:	www.amsa.gov.au
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BACK TO THE START

SOUTH AUSTRALIA

TROUBRIDGE POINT

BACK TO THE START

TROUBRIDGE POINT

Height:	25 m tower **(DECOMMISSIONED)**
Location:	Troubridge Island, Yorke Peninsula, Innes NP
First lit:	1856
Construction:	Cast iron panels bolted together in site
Flash:	N/A
GPS:	S35.166111, E137.640640
Facilities:	No facilities

The Troubridge Shoals had an unenviable reputation as a ship's graveyard; at least 33 craft have come to grief here, with seven wrecked in one eight month period. A keeper and his wife, and another keeper were drowned in 1867, trying to reach nearby Edithburg. This was the second lighthouse erected in South Australia; it was built of cast iron panels brought from England and was the first of this type of construction in Australia. Within 20 years of operation, massive erosion had threatened the tower's existence and a breakwater built in 1858 proved ineffective. Ocean currents have periodically caused severe erosion threatening the existence of the tower and nearby cottages. In 1882, an improved lantern and reflector apparatus was installed and a telephone cable to Edithburg was connected. Seven years later a fixed red light was installed. An earthquake damaged the foundations of the tower and cottages in 1902, resulting in a fire. Between 1925 and 1931 a DeVille lamp and Chance Bros lantern were used; the operation was electrified using petrol engines. In 1956, the light was upgraded to use a 120 V, 1000 W tungsten halogen lamp increasing the effective range to 40 km; power was connected to the cottages. A radio link was installed in 1976. In 1980, a new tower was built on nearby Troubridge Hill. The Troubridge Point tower was automated in 1981, then decommissioned in 2001. The Troubridge Hill tower and a new light on nearby Marion Reef now serve to guide shipping to and from Adelaide. Note that a permit is required to visit the island. Accommodation is also available in the privately run cottages.

Managed:	National Parks South Australia
Phone:	(08) 8204 1910
Web:	www.parks.sa.gov.au
Address:	81–95 Waymouth Street, Adelaide, SA, 5000
Postal:	81–95 Waymouth Street, Adelaide, SA, 5000

BACK TO THE START

SOUTH AUSTRALIA

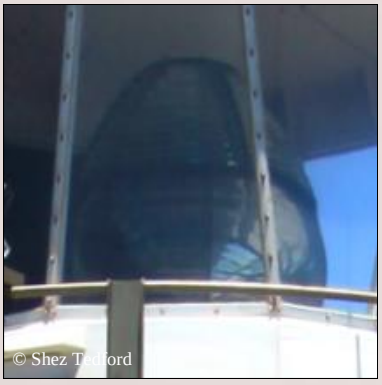
WEST CAPE

BACK TO THE START

WEST CAPE

Height:	9 m tower / 67 m Focal Plane
Location:	14 km west of Marion Bay
First lit:	1980
Construction:	Stainless steel
Flash:	2 flashes every 6 sec.
GPS:	S35.244485, E136.824029
Facilities:	Carpark, toilet, picnic tables, interpretative signage

This modern lighthouse is situated on a new site on the most westerly point of Yorke Peninsula. The tower is unusual in that it is built of stainless steel, and that it was fully automated when commissioned. It was converted to solar power in 1986. The lighthouse uses a 400 mm Chance Bros lens with a 12 V, 35 W, C8 halogen lamp emitting a beam for 40 km. West Cape headland is located on the west coast of the Yorke Peninsula in South Australia and in the locality of Inneston, 14 km west of the township of Marion Bay. It is within the Innes National Park and the most westerly point of Yorke Peninsula. To access this site from Marion Bay, follow the Yorke Highway B86 towards the Innes National Park headquarters and Visitor Centre, then continue along Pondalowie Road and turn left into West Cape Road. There is a 1.2 km circuit walk to the lighthouse. The site is managed by National Parks South Australia and an entry fee applies.



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Phone:	02 6279 5000
Web:	www.amsa.gov.au
Address:	82 Northbourne Avenue, Braddon, ACT, 2612
Postal:	GPO Box 2181, Canberra, ACT, 2601

BACK TO THE START

TASMANIA

- Bonnet Island
- Cape Bruny
- Cape Sorell
- Cape Tourville
- Cape Wickham
- Currie
- Eddystone Point
- Entrance Island
- Iron Pot
- Low Head
- Mersey Bluff
- Rocky Cape
- Table Cape

BACK TO THE START

TASMANIA

BONNET ISLAND

BACK TO THE START

BONNET ISLAND

Height:	8 m tower / 13 m focal plane
Location:	Near Strahan, Macquarie Harbour (Hells Gates)
First lit:	1891
Construction:	Wood on a concrete base
Flash:	3 flashes every 3 sec.
GPS:	S42.223240, E145.222163
Facilities:	None

The 120 metre wide entrance into the 260 square kilometre Macquarie harbour, is shallow and dangerous, with strong tides. It was discovered in 1815, and within a year, timber was being exported to Hobart. In 1822, a signal station was built on nearby Cape Sorrel. This was manned by convicts from Sarah Island Penal Colony and used to advise of conditions in the area named by them as *Hells Gates.* Following discovery of silver and lead at nearby Zeehan, two six sided wooden lighthouses were built, one on the 2.21 ha Bonnet Island, the other on Entrance Island. These were never manned, but initially managed by a keeper from Strahan. Originally operated by oil lamps, Bonnet Island was automated in 1910 using acetylene gas. Conversion to solar power and batteries occurred in 1977. Powered by a Wallace and Tiernan FA 250 marine lantern, the white light is visible at 16 km, red and green can be seen at 4 km, in good weather. The weatherboard cladding was renewed in 1989. Waterborne tours of the harbour are available from the nearby port of Strahan. There are no tours of the lighthouse.

Managed:	Marine Board of Hobart
Phone:	1300 135 513
Web:	www.mast.tas.gov.au
Address:	18 Hunter Street, Tasmania, 7000
Postal:	GPO Box 607, Hobart, 7001

BACK TO THE START

TASMANIA

CAPE BRUNY

BACK TO THE START

CAPE BRUNY

Height:	13 m tower **(DECOMMISSIONED)**
Location:	South west coast of Bruny Island, Tasmania
First lit:	1838
Construction:	Locally quarried dolerite
Flash:	N/A
GPS:	S43.491104, E147.142246
Facilities:	Ferry access, car parking, toilets, tours

In 1792, French explorer Bruni D'Entrecasteaux discovered the island and the passage that bears his name today. Three shipwrecks occurred in 1835, with over 150 lives lost. The following year, twelve convicts were used to build the third oldest lighthouse in Australia, together with cottages and other buildings. A Wilkins apparatus consisting of 15 fixed oil lights was installed. Initial fuel usage was 60 ml of sperm whale oil in each light per hour; different oils were used before colza oil was introduced in 1892. Cape Bruny and two other lighthouses needed to replace a large amount of the fragile glass chimneys on these lamps annually. This system was replaced in 1903 by a revolving Chance Bros second order glass lens driven by a clockwork mechanism. A pressurised kerosene system using mantles was installed and the original staircase replaced by a spiral cast iron stairway made in England. The tower was electrified in 1959 by diesel motors and used a 240 V, 1000 W tungsten halogen lamp emitting 1,400,000 cd, with a range of 48 km. The lighthouse was fitted with a telephone link in 1902, a wireless telephone apparatus in 1930, and a pedal wireless in 1938. In 1996, this historic tower was decommissioned and its role assumed by a 4 m high fibreglass tower nearby. The current optic is a Vega VRB-25 lens using a 12 V, 35 W solar powered lamp. Control was transferred to NPWS Tasmania in 1998. Captain William Hawkins served as Superintendent for 37½ years between 1877 and 1914. Access is via ferry from the mainland, then a one hour journey on sealed and gravel roads. Lighthouse tours are available.

Managed:	Australian Maritime Safety Authority (AMSA)
Phone:	02 6279 5000
Web:	www.amsa.gov.au
Address:	82 Northbourne Avenue, Braddon, ACT, 2612
Postal:	GPO Box 2181, Canberra, ACT, 2601

BACK TO THE START

TASMANIA

CAPE SORELL

BACK TO THE START

CAPE SORELL

Height:	40 m tower / 51 m focal plane
Location:	24 km south west of Strahan
First lit:	1899
Construction:	White painted brick tower
Flash:	2 flashes every 15 sec.
GPS:	S42.197944, E145.169279
Facilities:	None

The lighthouse is situated on the outermost boundary of Macquarie Harbour, warning of several dangerous rocks just offshore. At Latitude 42°, this strikingly beautiful tower suffers the full effects of *The Roaring Forties*. In 1822, a signal station was built here and manned by convicts from nearby Sarah Island Penal Colony, who advised of conditions in the area named by them as *Hells Gates*. Materials weighing 1400 tons were conveyed along a 3 km wooden railway from Pilot Bay, using a horse drawn wagon, to a site where the tower and three keeper's residences were built, all in brick. The tramway was discontinued in 1946. This tower, the second tallest in Tasmania, was said to be built on a brick in concrete foundation, and contains a cast iron spiral stairway. It was initially operated by a clockwork mechanism using a pressurised kerosene apparatus and 55 mm mantle inside a Chance Bros second order lens. The fuel was colza oil used in a Trinity four-wick lamp. Expected annual fuel usage was 3200 litres. In 1962, the station changed to electric power operation and one keeper was withdrawn. Then in 1970, a Wallace & Tiernan rotating beacon was installed. The final two keepers were withdrawn in 1971 when the lighthouse was automated and the three keeper's cottages demolished. In 1984, a wind generator was installed but this proved unreliable and solar power was introduced in 1988. The lighthouse now uses a Vega VRB 25 lens in the lantern room with a light source consisting of a 12 V, 35 W, C8 halogen lamp. Access is by boat, or walking from the car park.

Managed:	Australian Maritime Safety Authority (AMSA)
Phone:	02 6279 5000
Web:	www.amsa.gov.au
Address:	82 Northbourne Avenue, Braddon, ACT, 2612
Postal:	GPO Box 2181, Canberra, ACT, 2601

BACK TO THE START

TASMANIA

CAPE TOURVILLE

BACK TO THE START

CAPE TOURVILLE

Height:	11 m tower / 126 focal plane
Location:	Freycinet National Park
First lit:	1971
Construction:	Round white tower
Flash:	3 flashes every 10 sec.
GPS:	S42.122801, E148.342653
Facilities:	Car park

A 4 m lighthouse built in 1917 on the 80 m high Lemon Rock nearby was cut off from Cape Forrestier at high tides, and could only be accessed with favourable seas. Ladders had to be used to scale the near vertical boulders; a flying fox was used to lift a cache of 28 acetylene cylinders to the building which housed a lantern. Better navigational aids were required when bulk carriers started to access the wood chip mill at Triabunna. Cape Tourville lighthouse was built in the Freycinet National Park in 1971 to be both unmanned and automatic; it is powered by mains electricity. In the same year, a second, virtually identical but slightly taller lighthouse was built on private land on Point Home, to the south of Triabunna; it is not publicly accessible. These two lighthouses provided a vital link for giant bulk wood chip carriers, prior to closure of the wood chip mill. Attached to each tower is a one storey, round brick service building. With these two new lighthouses in operation, Cape Forestier light was dismantled, in 1971. The lighthouse is located in the Freycinet National Park, managed by the National Parks and Wildlife Service Tasmania. Toilets and picnic facilities are available in the national park at Coles Bay, 9 km before the Cape Tourville lighthouse and access is via a 2WD unsealed road. There is a good 600 m loop walking track to and around the lighthouse allowing excellent views of the rugged coastline. The tower is not open for tours. Cape Tourville was named by explorer Nicolas Baudin in 1802 after French Admiral Anne Hillarion de Tourville (1642–1701). Born in Paris, Tourville served under King Louis XIV and was a national hero.




Managed:	Australian Maritime Safety Authority (AMSA)
Phone:	02 6279 5000
Web:	www.amsa.gov.au
Address:	82 Northbourne Avenue, Braddon, ACT, 2612
Postal:	GPO Box 2181, Canberra, ACT, 2601

BACK TO THE START

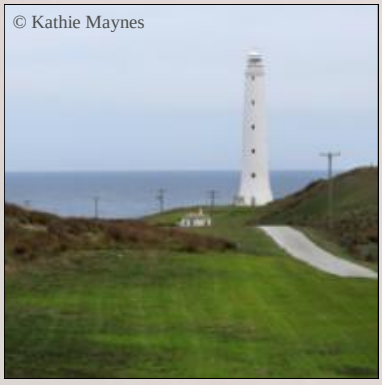
CAPE WICKHAM

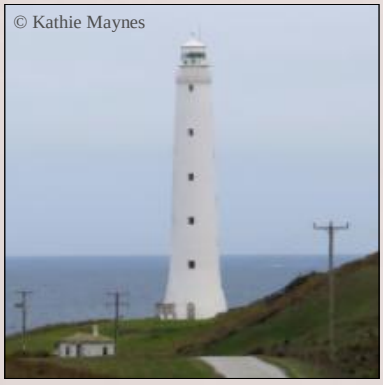
BACK TO THE START

CAPE WICKHAM

Height:	48 m tower / 85 focal plane
Location:	North coast, King Island
First lit:	1861
Construction:	Round stone tower
Flash:	2 flashes every 10 sec.
GPS:	S39.588673, E143.942930
Facilities:	Parking

This is Australia's tallest lighthouse. While there was little public reaction following the 1835 loss of the *Neva* with 225 convict women and children on board, the loss of the *Cataraqui* in 1845 with 402 free settlers and crew drowned initiated the construction of this tower with adjacent cottages for a Superintendent and three keepers. Local stone was quarried on the island and the walls, at the base, are 3.4 m thick. Wooden stairs inside this stone tower are unusual; there are 11 flights each of 20 steps. The original light used a first order Chance Bros lens with a single wick oil lamp initially burning sperm whale oil. Colza oil, then kerosene were introduced later. The operation was automated following installation of an acetylene burner in 1918. The cottages were removed in 1921 and the tower was subsequently looked after by a keeper from the Currie lightstation. Any failure of a radio signal from Cape Wickham alerted the Currie keeper of a breakdown. A fourth order lens (250 mm focal radius) was installed in 1946 using a 120 V, 1000 W tungsten halogen lamp; its light reaches 44 km into the often violent and treacherous Bass Strait. Together with Cape Otway and Cape Schanck, Cape Wickham forms the southernmost point of the 84 kilometre gap in Bass Strait known as *The eye of the needle* through which early sailing ships had to pass without previously seeing land for many weeks. AMSA has recently allocated $2.4 m for restoration of this tower, including removal of lead paint and asbestos, upgrading stairs and repainting.





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Phone:	02 6279 5000
Web:	www.amsa.gov.au
Address:	82 Northbourne Avenue, Braddon, ACT, 2612
Postal:	GPO Box 2181, Canberra, ACT, 2601

BACK TO THE START

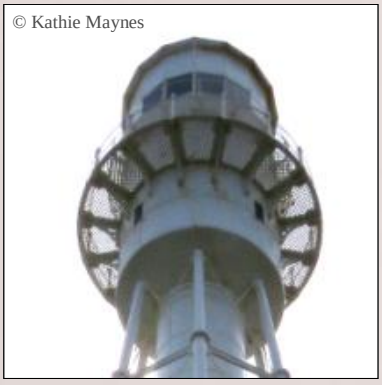
CURRIE

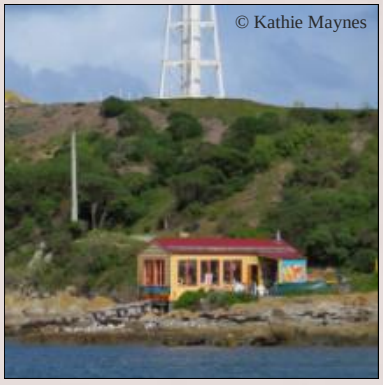
BACK TO THE START

CURRIE

Height:	28 m tower / 46 focal plane
Location:	Currie Harbour, King Island
First lit:	1880
Construction:	Screw pile foundation, cast iron base, wrought iron tower
Flash:	1 flash every 6 sec.
GPS:	S39.929473, E143.842335
Facilities:	Carpark, toilet and interpretive signage

Situated at the western entrance of Bass Strait, King Island has an unenviable reputation as the most dangerous stretch of Australia's coastline. For early settlers, it was often the first sighting of land after travelling thousands of kilometres from England, and months at sea. At least 60 vessels have been lost here within the past 180 years resulting in the loss of 800 lives. The worst of these was the *Cataraqui* in 1845, when 402 people were lost. Some ship's captains mistook this lighthouse for Cape Otway on the Victorian coast, and veered south into greater danger. The Currie tower was planned and fabricated by Chance Bros in England prior to being shipped to Tasmania where the 312 wrought and cast iron sections were assembled. Keepers had to climb 90 spiral steps inside the iron cylinder to access the light which used a circular four-wick Trinity oil lamp. The operation was upgraded in 1923 when incandescent oil vapour apparatus and a 55 mm mantle were used. In 1940, a fourth order lens was installed using an automatic acetylene burner. Mains electricity was connected in 1956 using a 120 V, 1000 W tungsten halogen lamp emitting 1,000,000 cd. It was decommissioned and turned off in 1989 with a substitute light erected on a pole nearby. Following many public requests the main light again became active in 1995. A former keeper's cottage has been converted into a museum operated by the King Island Historical Society. Displays include the original fourth order lens and the original first order lens used in the Cape Wickham lighthouse. The tower is open for inspection by appointment (kingislandrambles.wordpress.com).





Managed:	King Island Council
Phone:	03 6462 1883
Web:	kingisland.tas.gov.au
Address:	10 George Street Currie King Island Tasmania 7256
Postal:	PO Box 147 Currie King Island Tasmania 7256

BACK TO THE START

EDDYSTONE POINT

EDDYSTONE POINT

Height:	32 m tower / 42 m focal plane
Location:	Mt William National Park
First lit:	1889
Construction:	Unpainted locally sourced rough hewn block tower
Flash:	2 flashes every 15 sec.
GPS:	S40.992996, E148.347866
Facilities:	Picnic areas, toilets, camping

The need for a lighthouse near the entrance to Banks Strait had long been established. Masters of northbound ships tried to avoid southerly currents by staying too close inshore. Discovery of gold in New Zealand in 1861 led to increased shipping passing through the strait, and further wrecks. More than 70 men were employed in construction with granite quarried on the foreshore and drawn along rails to the site by horse. Wall thickness at the base is 2.1 m and 0.9 m at the top. Flights of cast iron stairs were made at Derwent foundry with each tread and riser cast in one piece. A Chance Bros first order lens using an English six wick Trinity oil burner lamp was installed and in 1921, pressurised kerosene apparatus was introduced. By the late 1950s, the lens mechanism was showing signs of wear. A similar unit from Cape deCouedic on Kangaroo Island was installed in 1961. Mains electricity was connected in 1979 and the station was demanned in 1994. The main lens was decommissioned in 2011 (said to be due to its creating a critical hazard to migrating muttonbirds) and replaced by a Vega VRB-25 lens mounted on a bracket attached to the balcony railing. Until the 1920s, land access was difficult due to the terrain and drifting sands. The lightstation, built on a point jutting into the sea, was serviced from the ocean. Due to the exposed nature of the coast and stormy weather, jetties had to be restored frequently. Heavy storms in the early 1920s flooded the tower, damaged the flaghouse, tramway, jetties and boats. The area is managed by the Tasmanian National Parks & Wildlife Service.




Managed:	Australian Maritime Safety Authority (AMSA)
Phone:	02 6279 5000
Web:	www.amsa.gov.au
Address:	82 Northbourne Avenue, Braddon, ACT, 2612
Postal:	GPO Box 2181, Canberra, ACT, 2601

BACK TO THE START

TASMANIA

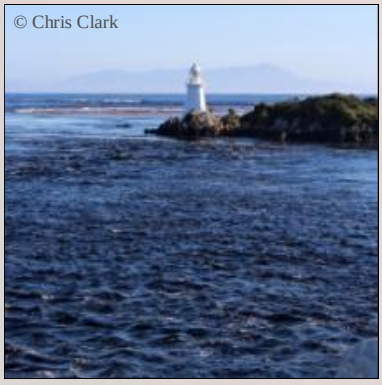
ENTRANCE ISLAND

BACK TO THE START

ENTRANCE ISLAND

Height:	8 m tower / 10 m focal plane
Location:	Entrance to Macquarie Harbour (Hells Gates)
First lit:	1891
Construction:	Wood on a concrete foundation
Flash:	1 flash every 10 sec.
GPS:	S42.210896, E145.215488
Facilities:	None

The lighthouse is located on a 6 ha, storm swept island situated off the entrance to Macquarie Harbour and is a vital navigational aid. It guides mariners to the 120 metre wide entrance formerly known as *Hells Gates*, providing entry into the harbour, and access to valuable timber resources. The light is group flashing with its white light showing for 18 km, and a red light for 15 km. The light was originally powered by oil lamps, then by acetylene gas until 1977; it is now operated by solar power and batteries. The tower was never manned, but managed by a keeper from Strahan. Waterborne tours of the harbour are available from the nearby port of Strahan. There are no tours of the lighthouse.



Managed:	Marine Board of Hobart
Phone:	1300 135 513
Web:	www.mast.tas.gov.au
Address:	18 Hunter Street, Tasmania, 7000
Postal:	GPO Box 607, Hobart, 7001

BACK TO THE START

IRON POT

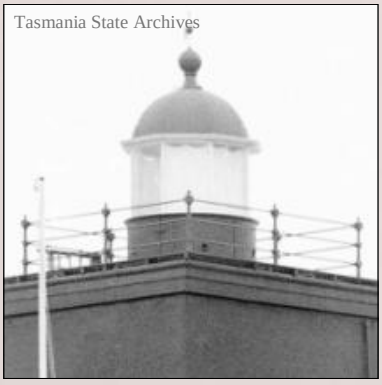
BACK TO THE START

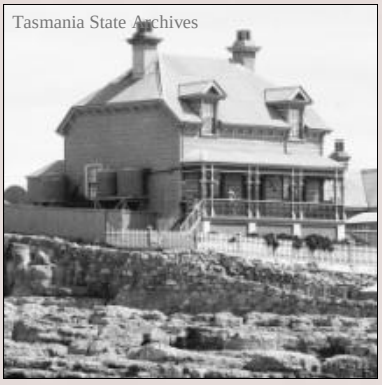
IRON POT

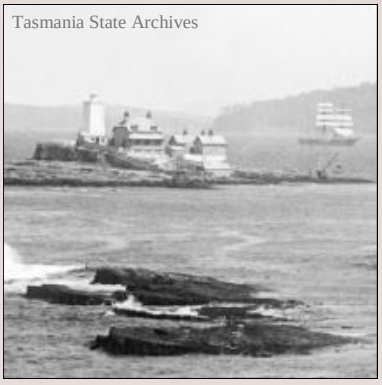
Height:	11 m tower / 21 m focal plane
Location:	Iron Pot Island, 17 km south east of Hobart
First lit:	1833
Construction:	Rubble masonry
Flash:	3 flashes each 10 sec.
GPS:	S43.058838, E147.417248
Facilities:	None and tower not open

Also known as the Derwent Lighthouse, it is located in Storm Bay, beside the main shipping channel to Hobart. The name of the 0.4 ha Iron Pot Island is of uncertain origin, but may refer to pots left by early whalers, or to natural rock formations. In 1832, two 15 m high poles were erected and a temporary light using oil was hauled to the top spar each night providing the first warning signal here, with the light keeper and two convict assistants living in tents. The 1833 tower became the second lighthouse in Australia, the first in Tasmania and is said to be the oldest lighthouse in Australia still using its original masonry tower. Its original apparatus was manufactured in Hobart and showed a fixed white light. Colza oil was used as a fuel in 1884, while in 1904 a kerosene based incandescent oil vapour system was installed, claimed to be the first such use in Australia. A revolving white light lit by acetylene gas was installed in 1920, and the keepers withdrawn the following year. In 1977 it was converted to solar power. In 1884 a gothic style house was built for keeper James Parkinson and his large family and staff, only 6 m above water level. Storms were frequent in this estuary and stores sometimes needed to be manually thrown ashore from resupply boats. One unusually violent storm battered the coastline in 1895 with waves 30 m high breaking over the island leaving sea weed in the top railing of the lighthouse (over 20 metres above normal sea level). Residents moved into the tower for safety and the light kept burning all night. A stone retaining wall and full water tanks were washed away. The Hobart Mercury reported that 'they had a rough time at the lighthouse'.


Tasmania State Archives


Tasmania State Archives


Tasmania State Archives


Tasmania State Archives

Managed:	Tasmanian Port Authority
Phone:	1300 366 742
Web:	www.transport.tas.gov.au
Address:	90–110 Willis Street, Launceston, Tasmania, 7250
Postal:	PO Box 1060, Launceston, Tasmania 7250

BACK TO THE START

LOW HEAD

LOW HEAD

Height:	19 m tower / 43 m focal plane
Location:	7 km from George Town, east side mouth Tamar River
First lit:	1888 (current tower)
Construction:	Double brick tower on concrete base coated in stucco
Flash:	3 flashes every 10 sec.
GPS:	S41.055544, E146.789448
Facilities:	Museum, toilets

The first use of this site as a navigational aid occurred in 1804, with the erection of a flag pole and convicts detailed to maintain a beacon fire. Lee Archer, designer of the Iron Pot lighthouse, is believed to have employing the same rough rubble construction method for Low Head, using convicts for the task. A Launceston company offered 72 lamps including reflectors at 3/6 (35 cents) each. In 1835, a revolving shutter driven by a clockwork mechanism was installed. Three years later, the original Argand lamps and tin mirrors were taken from the tower and lit on the ground, while a revolving Wilkins & Co lens floating in a bath of mercury was installed. In 1898, an auxiliary red light using a double-wick lamp was fitted about 6 m below the main light; this was to warn of the dangerous Hebe Reef. Due to deterioration, a new 20 m high brick tower was built in 1888; this included a cast iron spiral stairway fitted into the tower walls. To make the lighthouse more distinctive in poor light, red bands were added in 1926. In 1916, a third order 375 mm Fresnel lens was installed using pressurised kerosene and a 55 mm mantle. Hydro electricity from a nearby station was connected in 1937 and the clockwork mechanism was replaced by a small electric motor and a 110 V, 500 W lamp. The operation was converted to mains electricity in 1941 using a 120 V, 1000 W tungsten halogen lamp. Automation occurred in 1995 and a 240 V lamp giving a range of 43 km is currently used. The only fog horn in Tasmania, a Type G diaphone, was installed here in 1929; its use was discontinued in 1973. Accommodation is available.

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Phone:	02 6279 5000
Web:	www.amsa.gov.au
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BACK TO THE START

TASMANIA

MERSEY BLUFF

BACK TO THE START

MERSEY BLUFF

Height:	37 m tower / 16 m focal plane
Location:	Mouth of Mersey River, near Devonport
First lit:	1889
Construction:	Locally made bricks on a concrete Foundations
Flash:	4 flashes every 20 sec.
GPS:	S41.158730, E146.355456
Facilities:	Carpark, picnic area, Interpretative signage

This lighthouse has long been important for the Mersey district, and as a river port for Devonport where the inter-island ferry *Spirit of Tasmania* docks. The tower is also known as Bluff Lighthouse. The tower, keeper's house and signal shed were all constructed on the bluff, on the western side of the mouth of the Mersey River. Some Aboriginal carvings may be seen on the dolerite volcanic rock. Replacing earlier beacons and obelisks, the lighthouse helped end the many wrecks that plagued this area. The balcony plinth was made of basalt while the balcony is white sandstone quarried in Hobart. The spiral stairway is made of cast iron. Originally, a fourth order Chance Bros dioptric lens using a kerosene lamp was installed. In 1910, an acetylene apparatus was installed reportedly using a Colt 7 day acetylene gas generator. The site was converted to DC operation in 1920, and demanned. Town water was connected to the station in 1901 and in 1929, distinctive red vertical stripes were added. This is unusual in Australian lighthouses. In 1952, the original lens was removed, and a second order fixed lens installed with an AGA KKDB-160 apparatus. The tower was converted to use hydro electricity with acetylene gas as a standby fuel source. In 1966, the keeper's cottage and other structures were demolished. The site was converted to mains electricity operation in 1978. The light source is currently a 12 V, 100 W, C8 halogen lamp. Range of the light is white 17 km; Red 14 km. The light is located in a public park on headland and is a popular tourist attraction only a few minutes from the centre of Devonport. There is no on site accommodation.




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BACK TO THE START

TASMANIA

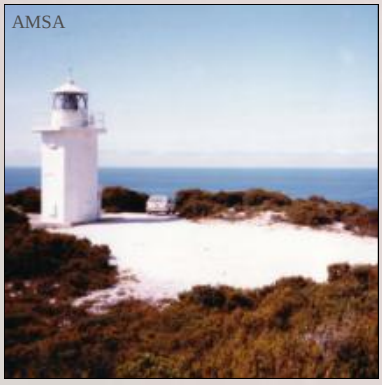
ROCKY CAPE

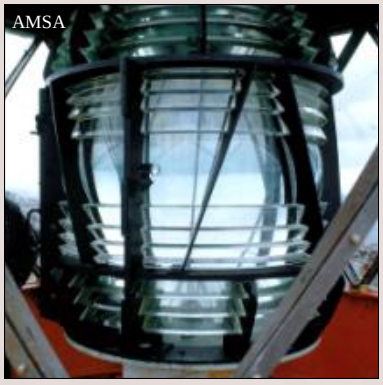
BACK TO THE START

ROCKY CAPE

Height:	9 m tower / 64 m focal plane
Location:	Rocky Cape National Park, north-west Tasmania
First lit:	1968
Construction:	Square concrete tower
Flash:	1 flash every 10 sec.
GPS:	S40.854610, E145.508219
Facilities:	Carpark

This relatively recent lighthouse was built as an aid to navigation for nearby Port Latta. One million tonnes of iron ore slurry was moved 85 kilometres from the Savage River mine to the coast, dewatered and pelletised before export. A Chance Bros lantern with 400 mm lens is used in the tower; the light source is a 120 V 1000 W tungsten halogen lamp powered by 240 V mains supply with a 120 DC battery bank as reserve. Range of the light is 39 km. The site was considered for a lighthouse as early as 1879. Masters of 15 ships responded to a circular seeking advice about the suitability of Rocky Cape. The site is accessible to 2WD vehicles. About 2 hours drive west of Launceston, turn off Bass Highway A2 onto Rocky Cape Road C227 for 6 km. Toilet facilities are available at Burgess Cove and Mary Ann Cove in park; there is no drinking water at the lightstation. The lightstation is within the Rocky Cape National Park, managed by the National Parks and Wildlife Service Tasmania.





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BACK TO THE START

TASMANIA

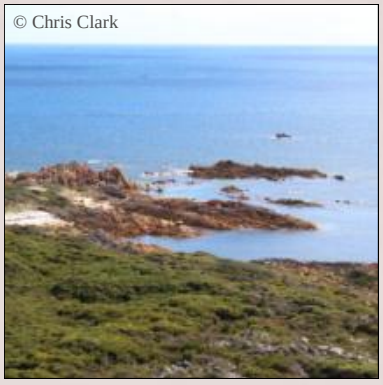
TABLE CAPE

BACK TO THE START

TABLE CAPE

Height:	25 m tower / 180 m focal plane
Location:	Near Wynyard
First lit:	1888
Construction:	Concrete rendered brick
Flash:	2 flashes every 10 sec.
GPS:	S40.946563, E145.729047
Facilities:	Carpark, picnic area, Interpretative signage

Named by explorer Matthew Flinders in 1798, this prominent Cape is a flat topped volcanic plug falling steeply to Bass Strait. Weathering of the base rock left rich soils much sought after for farming purposes. Remnants of original vegetation are now mainly found on the hillsides falling steeply to the ocean. These are currently reserved as Table Cape Conservation Area. Lack of suitable roads, then provision of inferior bricks brought to the site by bullock team delayed construction of the tower. Bricks used as ballast by vessels returning from Victoria were then used. A protective brick wall has been built in front of the 8.5 m diameter tower; access into the lighthouse above a lower level storeroom is provided by a steel fly-over footbridge. Four flights of steel stairs in a circular staircase provide access to the balcony level. Three keeper's cottages were also built from ballast bricks. The original light used was a second order Chance Bros lens with a focal length of 700 mm, using colza oil as a fuel source. In 1913, a pressurised kerosene apparatus using a mantle was introduced, and the three keepers reduced to two. The light source was converted to use acetylene in 1920 and three years later, the remaining keepers were withdrawn; the cottages were removed in 1926. In 1979, the lantern room was rebuilt and mains electricity connected with a battery back up power supply. The current light source is a 12 V, 100 W, C8 halogen LP PR30s lamp. The lighthouse is within the Table Cape Conservation Area and is managed by the Parks and Wildlife Service Tasmania. Lighthouse tours are available.



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BACK TO THE START

VICTORIA

- Cape Liptrap
- Cape Nelson
- Cape Otway
- Cape Schanck
- Citadel Island
- Gabo Island
- Griffiths Island
- Lady Bay Upper
- Lady Bay Lower
- McRae
- Point Lonsdale
- Point Gellibrand
- Point Hicks
- Port Melbourne Front
- Port Melbourne Rear
- Queenscliff Black (high)
- Queenscliff White (low)
- South Channel Pile
- Split Point
- West Channel Pile
- Whalers Bluff
- Wilsons Promontory

BACK TO THE START

CAPE LIPTRAP

BACK TO THE START

CAPE LIPTRAP

Height:	10 m tower / 93 m focal plane
Location:	Cape Liptrap via Walkerville
First lit:	1913
Construction:	White concrete tower and lantern
Flash:	1 flash every 12 sec.
GPS:	S38.907265, E145.922729
Facilities:	Parking nearby

Initially built as a 2.1 m steel tower, and using acetylene gas as fuel, this may be considered as Australia's first automatic lighthouse—as a keeper was never appointed here. It currently uses mains electricity and a Vega VRB-25 lens with a 12V, 35W, C8 halogen lamp. To access the site from Walkerville, turn off South Walkerville Road into Cape Liptrap Road and follow it until you reach the carpark.

Managed:	Parks Victoria
Phone:	131 963
Web:	parkweb.vic.gov.au
Address:	Level 10, 535 Bourke Street, Melbourne 3000
Postal:	Level 10, 535 Bourke Street, Melbourne 3000

BACK TO THE START

VICTORIA

CAPE NELSON

BACK TO THE START

CAPE NELSON

Height:	32 m tower / 75 m focal plane
Location:	12 km south of Portland
First lit:	1884
Construction:	Bluestone; quarried nearby
Flash:	4 flashes every 20 sec.
GPS:	S38.430876, E141.542888
Facilities:	Cark park, kiosk, cafe, toilets

This critically important lighthouse was erected to enable ship's masters to enter Bass Strait with a degree of certainty, both by day as well as by night. It replaced a smaller, wooden beacon built here in the 1870s. Reflecting the widespread fears of a Russian invasion in the 1880s, a telephone was connected with Portland in 1884. In 1907, the four wick kerosene burner in the initial first order Chance Bros lens in the new tower was upgraded to pressurised kerosene, using a 55 mm mantle. Availability of a more advanced autoform mantle in 1923 again increased the light output. Cape Nelson became the first semi-automatic light in Australia in 1934 by use of duplicated diesel generators and a modern clockwork mechanism. Keepers were still needed to start and stop the motor, and otherwise maintain the lightstation. In this year, the lens size was decreased to a fourth order Chance Bros light with a focal distance of 250 mm, using a 110 V, 500 W globe. Mains electricity was connected in 1971 and a 120 V, 1000 W globe was used. In 2000, solar power was introduced using a 12 V, 100 W halogen globe. The station is very exposed, so a 1.75 m high, 0.4 m wide and 435 m long rubble wall was built to protect the station from the fierce winds. Today the site is managed by Parks Victoria and tours of the lighthouse occur twice daily; fees apply. Accommodation is also available in the original keeper's quarters. For more about the tours, cafe and accommodation, visit www.capenelsonlighthouse.com.au.

Managed:	Parks Victoria
Phone:	131 963
Web:	parkweb.vic.gov.au
Address:	Level 10, 535 Bourke Street, Melbourne 3000
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BACK TO THE START

VICTORIA

CAPE OTWAY

BACK TO THE START

CAPE OTWAY

Height:	20 m tower / 91 m focal plane
Location:	Cape Otway
First lit:	1848
Construction:	Sandstone from nearby Parker River
Flash:	3 flashes every 18 sec.
GPS:	S38.856869, E143.511976
Facilities:	Fees apply. Car park, toilets, cafe, museum

Having endured several weeks at sea without any landfall, ship's masters had to 'thread the eye of the needle'. Cape Otway, on the mainland, was one of two critically important lighthouses defining the passage through the very dangerous Bass Strait. The other lighthouse, Cape Wickham on King Island, was a mere 84 km distant. Cape Otway was initially lit by an array of 21 oil lamps burning sperm whale oil. The polished reflectors were arranged in three groups of seven, rotated by a clockwork mechanism. In 1891 a first order lens weighing 4.3 t was installed utilizing colza oil and a single lamp, probably an Argand multi-wick model. In 1905, the power of the light was increased by use of pressurised kerosene and incandescent mantle apparatus. A mercury float pedestal and diesel powered electricity was introduced in 1939; light intensity increased to 1,000,000 cd with a range of 48 km. Also in 1939, a radio beacon was established. In conjunction with Cape Wickham and Cape Schanck, each lightstation emitted its own specific Morse code signal for two seconds, repeated every six seconds. A telegraph station was built in 1859 with a short lived undersea link to Launceston. Mains electricity was connected in 1962. While Cape Otway is not the oldest lighthouse in Australia, it is the oldest mainland lighthouse in continuous operation. It was automated in 1994 and is now operated by a solar powered Vega VRB-25 acrylic lens in front of the original tower, using a 12 V, 35 W, C8 halogen globe. The grounds are open 9 to 5 daily (except Christmas day) and lighthouse tours are available. Accommodation is available in the old keeper's quarters.

Managed:	Australian Maritime Safety Authority (AMSA)
Phone:	02 6279 5000
Web:	www.amsa.gov.au
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BACK TO THE START

CAPE SCHANCK

CAPE SCHANCK

Height:	21 m tower / 100 m focal plane
Location:	Cape Schanck; southern tip of Mornington Peninsula
First lit:	1859
Construction:	Local limestone
Flash:	2 flashes every 22.5 sec.
GPS:	S38.492808, E144.886420
Facilities:	Car parking and toilets available at edge of lightstation

Together with Cape Otway and Cape Wickham on King Island, Cape Schanck forms the eastern point of a triangle of lighthouses guiding shipping within Bass Strait. It was the first tower in Australia built with stone stairs, which were coated with lead due to the poor quality of the stone. The lantern room interior is panelled with well preserved South American mahogany. The earliest eight panelled fixed and flashing first order Chance Bros lens used in Australia was installed here. A white light shows in the south to west sector; while a red, eastern sector indicates inshore hazards. In 1917, a new mercury float, optic pedestal and replacement clockwork mechanism were installed. The 55 mm pressurised kerosene incandescent mantle was replaced with an 85 mm unit. The light was converted to electricity in 1940, with a diesel electric generator back up. This enabled installation of an electric drive for the optic and lamp (500 W) changer. The lens sits on a pedestal containing a mercury bath, and is now turned by small electric motor. In 1974 a 120 V, 1000 W tungsten halogen lamp emitting 1,000,000 cd was installed. Following successful testing of a non-directional radio beacon at Cape Otway, radios were installed at Cape Schanck and Cape Wickham. Each of these three stations emitted its own signature call for two seconds, every six seconds, as a further aid to navigation. The station was automated in 1987. Tours of the lighthouse are available. There is also a museum and cafe. Entry fees apply.

Managed:	Parks Victoria
Phone:	131 963
Web:	parkweb.vic.gov.au
Address:	Level 10, 535 Bourke Street, Melbourne 3000
Postal:	Level 10, 535 Bourke Street, Melbourne 3000

BACK TO THE START

CITADEL ISLAND

CITADEL ISLAND

Height:	8 m tower / 117 m focal plane
Location:	8 km west of the coast of Wilsons Promontory
First lit:	1913
Construction:	Steel tower (original)
Flash:	1 flash every 6 sec.
GPS:	S39.114849, E146.236669
Facilities:	Access to this island is restricted

This is the first lighthouse to be built by the new Commonwealth Lighthouse Service after its formation. While it is not the first acetylene gas powered lighthouse in Australia, it was actually the first automatic, acetylene powered lighthouse built. A keeper was stationed on the island for the first six months because of its isolated location and difficulties of access (see Cape Liptrap for the first automatic lighthouse). The first light installed here operated with an AGA 400 mm Fresnel drum lens and is shown below. This was replaced in 1992 by a solar powered light in a fibreglass tower. The original light was restored by volunteers using some of the original equipment, and is now on display at the Gippsland Regional Maritime Museum at Port Albert. The island is part of the Glennie Group of islands within Wilsons Promontory National Park and the site is managed by Parks Victoria. The Gippsland Regional Maritime Museum is located on the corner of Tarraville Road and Bay Street, Port Albert, Gippsland. Visit their website or phone them for more details (Web: yarrampa.customer.netspace.net.au, Phone: 03 5183 2520).




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BACK TO THE START

GABO ISLAND

State Library Victoria

GABO ISLAND

Height:	47 m tower / 55 m focal plane
Location:	Gabo Island, far east Victoria
First lit:	1862
Construction:	Granite sourced from the island
Flash:	3 flashes every 20 sec.
GPS:	S37.568719, E149.916980
Facilities:	None

Replacing an earlier 1853 wooden lighthouse, this slender tower was constructed on the south-eastern part of the island from local granite. It is the second tallest lighthouse in Australia and has a white lantern and dome. It was originally fitted with a first order Chance Bros lens. In 1913, this was converted to a revolving light to give it a more distinctive character. The use of a close range red light was discontinued in 1913 after 19 years, due to a false sense of security engendered during poor visibility. The early oil wick lamps were converted to pressurised kerosene in 1909, using incandescent mantles; an 85 mm unit was introduced in 1917, and the light changed to group flashing. The station was again upgraded in 1935 by use of diesel generators and installation of a Chance Bros 250mm 4th Order lens with a 120 V, 1000 W tungsten halogen lamp producing 900,000 cd. Conversion to solar and automation occurred in 1993 and the current Vega VRB-25 acrylic lens optic uses a 12 V, 35 W halogen lamp with a range is 30 km. Operations on Gabo Island have been superseded somewhat by installation of a light on Little Rame Head, 35 km away. Gabo Island exemplifies the isolation and risks associated with living at lightstations. In 1895, huge seas 16 m above normal crashed onto the shore, tearing away 70 m of seawall, almost reaching the living area. One keeper was fatally injured after falling 12 m from the flagstaff. Calls to passing ships for medical assistance were made on other occasions. Visiting the island is weather dependent. Air access is available from Mallacoota or Merimbula; only authorised aircraft are permitted to land. Accommodation is available via reservation and the site and tower are open by arrangement.

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BACK TO THE START

GRIFFITHS ISLAND

GRIFFITHS ISLAND

Height:	11 m tower / 12.5 m focal plane
Location:	Port Fairy
First lit:	1859
Construction:	Bluestone
Flash:	2 flashes every 10 sec.
GPS:	S38.390973, E142.254575
Facilities:	Carpark, easy grade walk path to tower

Port Fairy has a long history of whaling and sealing and became an important port of entry by overseas immigrants into Victoria's Western District, and for general trade around Bass Strait. Built in 1859 by Scottish stonemasons beside the Moyne River, the bluestone tower is unusual in that each stone step of the spiral stairway is incorporated into the next course of the outer wall. It is also unusual in being built so close to the ocean, and at sea level. The lighthouse was manned by two keepers until 1954, when it was automated. Converted to use solar power in 2005, the original Fresnel lens was replaced by a ML-300 beacon mounted on the outside of the lantern room. The tower was located on Rabbit Island. In time, this became incorporated with Griffiths Island, named after an early settler. The island is comprised of an isolated basalt outcrop overlain with calcareous sand, and partly bounded by collapsed lava tunnels. The lighthouse grounds are open all year. It is a 400 m walk from carpark to the tower. Infrequent tours are held on special occasions. Accommodation in nearby Port Fairy.




Managed:	Victorian Channels Authority
Phone:	03 5225 3500
Web:	www.regionalchannels.vic.gov.au
Address:	Level 2, 235 Ryrie Street, Geelong, Victoria, 3220
Postal:	GPO Box 1135, Geelong, Victoria, 3220

BACK TO THE START

VICTORIA

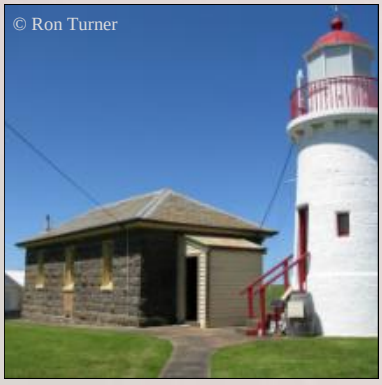
LADY BAY UPPER

BACK TO THE START

LADY BAY UPPER

Height:	8 m tower / 44 m focal plane
Location:	Flagstaff Hill Maritime Museum, Warrnambool
First lit:	1872
Construction:	Bluestone imported from Maribyrnong, Melbourne
Flash:	1 flash every 5 sec.
GPS:	S38.389665, E142.485800
Facilities:	Entrance fee to museum applies, carpark, toilets

Lady Bay was an important port at Warnambool during the colonial expansion era, but it had very dangerous approaches, especially during periods of poor visibility or rough weather. There were many disastrous shipwrecks in the area, helping earn the less-than-desireable title of 'Shipwreck Coast'. In 1859, a basalt lighthouse was built on Middle Island. The lighthouse proved ineffective and it, as well as an adjacent tower, were moved to a nearby hill where an obelisk had been placed in 1854, and an early flagstaff had been erected for signalling to ships. The Middle Island lighthouse was dismantled stone by stone and placed onto a new foundation within the hilltop reserve to form the Lady Bay Upper Light. This, and the former Beach Tower, are still operational today and form an in-line safe approach into the harbour. The Upper Light used colza oil for fuel (sperm whale oil had risen in price, despite there being a whaling industry in the area), then acetylene gas. In 1910, escaping actylene caused an explosion leading to the death of the Assistant Keeper. The station was de-manned in 1916 and acetylene continued in use until 1988, when the light was converted to solar power. This proved unsuccessful and mains electricity was connected in 1993. An automatic globe changing system continues in use should a globe fail. The Lighthouse Reserve is now part of Flagstaff Hill Maritime Heritage Centre and an entrance fee is charged. It is possible to climb the Upper Light tower, but not the lower lighthouse. The 1887 defensive gun battery is still in-situ; this includes two 80 pounder, rifled, muzzle loaded guns and battery revetments. The Lady Bay Lower Light, along with the Lady Bay Upper Light, are both situated within the Flagstaff Hill Maritime Heritage Centre (www.flagstaffhill.com). Phone: 5559 4600 or 1800 556 111.



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Phone:	03 5225 3500
Web:	www.regionalchannels.vic.gov.au
Address:	13--35 Mackie Street, Nth Geelong, Victoria, 3215
Postal:	GPO Box 1135, Geelong, Victoria, 3220

BACK TO THE START

VICTORIA

LADY BAY LOWER

BACK TO THE START

LADY BAY LOWER

Height:	8 m tower / 27 m focal plane
Location:	Flagstaff Hill Maritime Museum, Warrnambool
First lit:	1871
Construction:	Partial stone obelisk and wood tower
Flash:	Fixed light with red and green sectors
GPS:	S38.390787, E142.485564
Facilities:	Entrance fee to museum applies, carpark, toilets

In 1859, a wooden tower with external prop legs was built on the foreshore at Lady Bay. The Editor of the *Warnambool Examiner* rather presciently thundered 'That piece of Government blundering, the Beach lighthouse, is now open…' Both the keeper's cottage and tower then suffered from ever encroaching sand. Within months, the soil around the light tower was 'drifting away', despite remedial action. Ship's captains complained the tower was often obscured by sea spray. In 1869, the Beach Lighthouse was officially discontinued. The *Warnambool Examiner's* Editor again weighed in saying 'Something ought to have been done before now to remedy existing arrangements which are acknowledged to be defective…' He described the bluestone tower and other buildings on nearby Middle Island: ' Part of the island, from its sandy nature is crumbling away, and the foundations of the buildings there are exposed...' The Beach Tower was dismantled in 1871 and, together with the bluestone tower on Middle Island, were both removed to their current sites on Flagstaff Hill. The lower of two obelisks on this hill was shortened and a projecting bluestone gallery placed on it with an iron railing and a ladder. The lantern from the Beach Lighthouse was to be placed on top of this lower structure. Both new towers were lit for the first time on 1 May 1871, and are still in operation today. When in line, they represent the navigable channel into Lady Bay. The re-made beach lighthouse, now officially called the Lady Bay Lower Light, and the old Middle Island bluestone tower, now known as the Lady Bay Upper Light, are both situated within the Flagstaff Hill Maritime Heritage Centre (www.flagstaffhill.com). Phone: 5559 4600 or 1800 556 111.

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BACK TO THE START

VICTORIA

MCRAE

BACK TO THE START

MCRAE

Height:	34 m tower / 45 m focal plane **(DECOMMISSIONED)**
Location:	McCrae, 90 km from Melbourne CBD
First lit:	1883
Construction:	Steel
Flash:	N/A
GPS:	S38.348379, E144.927876
Facilities:	Car park adjacent

A wooden lighthouse was built on this site in 1854, being originally known as the South Channel Lighthouse. When operational, it worked in conjunction with the South Channel Pile Light and formed a 'lights in line' marking the channel centre for shipping travelling towards Melbourne. The 1.5 m in diameter central column of today's tower is made of riveted steel plate, and houses 120 steps in a spiral staircase, to ascend to the lantern. It was built in Birmingham by Chance Bros. Following modernisation of navigational aids in the area, this light was decommissioned in 1994. The original keeper's dwellings have been demolished. Formerly, a 500 W lamp was used to shine a high intensity beam for 25 km along the South Channel. A red arc warned of dangerous shallow sand banks to the north. An acetylene gas system automatically switched over in the event of an electrical failure.

Managed:	**Mornington Peninsula Shire**
Phone:	1300 555 727
Web:	www.mornpen.vic.gov.au
Address:	990 Besgrove Street, Rosebud, Voc, 3939
Postal:	Private Bag 1000, Rosebud, Vic, 3939

BACK TO THE START

VICTORIA

POINT LONSDALE

BACK TO THE START

POINT LONSDALE

Height:	21 m tower / 37 m focal plane
Location:	Point Lonsdale
First lit:	1902 (1863 temporary light on low structure)
Construction:	Reinforced mass concrete; 2 m thick base, 1 m thick top
Flash:	2 flashes every 15 sec.
GPS:	S38.291982, E144.613845
Facilities:	Car parking nearby

'The Rip', or entrance to Port Phillip Bay, is just 840 m wide so the largest ships are restricted to 204 m width of deep water. In 1852 a signal station and flagstaff were erected at Point Lonsdale. Four years later an unlit red obelisk was constructed near the flagstaff, warning shipping of the dangerous Lonsdale Rock. A telegraph station was established here in 1861. After the ship *Lightning* hit an uncharted rock in 1862, the prefabricated 13 m high wooden lighthouse at Shortlands Bluff (Queenscliff) was transferred here and lit in 1867. It became a major landfall light and possibly used the six-wick oil lamp with reflectors system previously in use at Shortlands Bluff. Pressurised kerosene using an incandescent mantle was installed in a new concrete tower built in 1902. An electric generating plant was installed in 1934 and a 500 W lamp used, with acetylene gas as back up. From 1974 until 2016 the system used a 250 W quartz halogen lamp, mounted on a rotating 4-globe base; should one lamp fail, another would automatically take its place. A high output LED light source was installed in 2016 with 40-162 W LED's permitting solar operation. Half way up the 121 steps there is a doorway and landing from where keepers signalled passing ships, using semaphore flags or a lantern and Morse code at night. In 1950, the bottom of the tower was enlarged with construction of an octagonal shipping control/observation room 8 m high. The lighthouse can be viewed from the adjacent carpark and beach. The Queenscliffe Maritime Museum holds occasional tours (03 5258 3440, info@maritimequeenscliffe.org.au).

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Phone:	03 5225 3500
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BACK TO THE START

VICTORIA

POINT GELLIBRAND

BACK TO THE START

POINT GELLIBRAND

Height:	17 m tower
Location:	Battery Road, Williamstown
First lit:	1852
Construction:	Square bluestone
Flash:	N/A
GPS:	N/A
Facilities:	Parking adjacent; toilets and playground nearby

Point Gellibrand can rightfully claim to be the site of Victoria's first lighthouse. The site was first used for an unlit beacon in 1835, however the site has altered dramatically during the past 180 years. In 1840 a skeletal timber and iron lighthouse tower was erected showing a fixed white light with 'visibility of five leagues' (about 28 km). Governor LaTrobe referred to it as 'this Skeleton Light House'. Four oil lamps were in use up to 1849 when a larger lamp was installed. Convict labour was then used to build the bluestone tower in 1852 and a floating lightship was moored off the point in 1859. In 1861, the structure was converted to become a Timeball Tower. This 'ball' was a large, black, copper sphere, encircling a vertical wooden mast. Ship's masters would re-set their chronometers 'at the fall of the ball' (into a cast iron receptor bowl), which occurred at precisely 1 pm every day. Observations over a few days could determine how many seconds were lost or gained by the ships' chronometer every day, and necessary adjustments could be made to navigation when at sea. This timeball operation ceased in 1926. The tower resumed operational duty as a lighthouse again in 1934, after its height was extended 30 ft by a circular brick tower. The third phase as a lighthouse continued until 1987 when the circular tower was removed. In 1990, a new replica time ball mechanism was installed by a service club; it now operates by computer which raises the ball, and drops it at 1 pm daily. When threatened with development, the foreshore was declared an historic site as the Gellibrand Coastal Heritage Park.




Managed:	Parks Victoria
Phone:	131 963
Web:	parkweb.vic.gov.au
Address:	Level 10, 535 Bourke Street, Melbourne 3000
Postal:	Level 10, 535 Bourke Street, Melbourne 3000

BACK TO THE START

VICTORIA

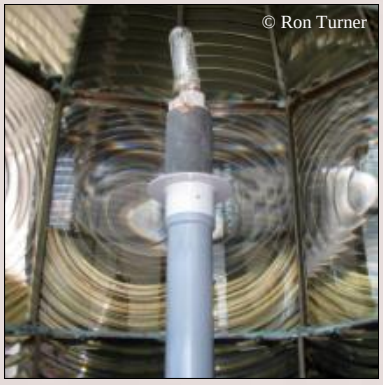
POINT HICKS

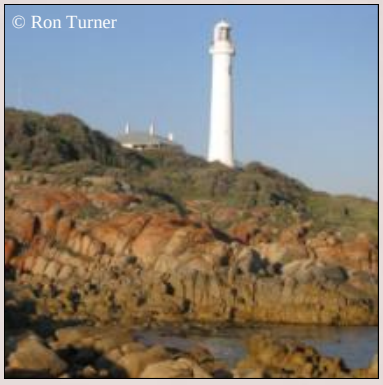
BACK TO THE START

POINT HICKS

Height:	38 m tower / 56 m focal plane
Location:	Point Hicks, about one hour from Cann River
First lit:	1890
Construction:	Mass concrete
Flash:	2 flashes every 10 sec.
GPS:	S37.801952, E149.275605
Facilities:	None on site. Tours available.

Australia's tallest mainland mass concrete lighthouse, it was built on a 4.6 m deep foundation. Cement was brought ashore in barrels and rock was sourced from the foreshore. Signs of drill holes are still visible near the memorial cairn. There are 162 steps inside the tower, all cantilevered from the wall. There is no central weight tube and, when in use, weights and chain beneath the clockwork mechanism hung free. The original six sided Fresnel lens floated in a bath of mercury. The initial light source was pressurized kerosene using incandescent mantles. A red light warned of dangerous inshore shoals; its use was discontinued prior to 1913. In 1965, the light was electrified by diesel generator permitting use of a 240 V, 1000 W tungsten halogen lamp emitting 1,000,000 cd. Following discovery of oil in Bass Strait, shipping was required to take a more southerly route, making the lighthouse almost redundant. The local fishing industry still required a visual aid and in 1991, a new ML-300 solar powered light was fitted to the exterior of the tower (range of 22 km). Residences were built from cast ashore timber and the stumps and floor joists were made from Jarrah. The interior is Baltic pine and exterior cladding is oregon. Some high, dry stone (without mortar) granite walls surround the residences providing protection from the winds. In 1954, a road was opened to the Station from Cann River. Prior to 1965, supplies came ashore near West Beach every 3–4 months and were brought to the station by horse and sledge. To rent the keepers cottages visit www.parkstay.vic.gov.au. The lighthouse walls taper from 1.8 m thick (base) to 1.2 m (top).





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BACK TO THE START

VICTORIA

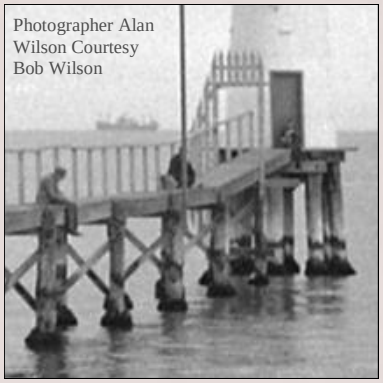
PORT MELBOURNE FRONT

BACK TO THE START

PORT MELBOURNE FRONT

Height:	16 m tower / 14 m focal plane
Location:	Port Melbourne
First lit:	1924
Construction:	Wood framed light built on piles
Flash:	N/A
GPS:	S37.841758, E144.929408
Facilities:	N/A

The Port Melbourne Front Channel Light located between Melbourne's Princess Pier and Station Pier is situated 117 m offshore. It was formerly connected to the shore by a narrow wooden footbridge which was not restored when it fell into disrepair. Together with the Port Melbourne Rear Light, these two beacons marked the centre line of a channel into the port from the southern Port Phillip Bay. This pairing of a tower both in the water and on land performing a navigational function is unusual. This offshore tower can be viewed from along the Port Melbourne foreshore at the end of Beacon Vista. The area includes car parking, historic interpretive signs, cafes and restaurants. Located within Garden City Reserve, the Rear Light is a 26 m high concrete tower, 500 m north of the Front Light. Its main light is red, occulting every six seconds, three metres below this is a directional light showing green, white and red sectors in a narrow arc of 1.5 degrees, marking the precise centre of the navigational channel.



Photographer Alan Wilson Courtesy Bob Wilson

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Phone:	03 5225 3500
Web:	www.regionalchannels.vic.gov.au
Address:	Level 2, 235 Ryrie Street, Geelong, Vic 3220
Postal:	GPO Box 1135, Geelong, Vic 3220

BACK TO THE START

PORT MELBOURNE REAR

PORT MELBOURNE REAR

Height:	26 m tower / 24 m focal plane
Location:	Garden City Reserve, Port Melbourne
First lit:	1924
Construction:	Concrete
Flash:	Red light flashing once every 6 sec.
GPS:	S37.837147, E144.929507
Facilities:	Roadside parking around the reserve

The Port Melbourne Rear Channel Light is located within Garden City Reserve, 400 m inland from Port Melbourne. The tower, when used in conjunction with the Port Melbourne Front Light, defined the centre line of a channel giving safe passage into the port from Port Phillip Bay. The two Port Melbourne Channel Lights have been restored and incorporated into the Beacon Cove Housing Development. The rear light still functions as a channel light visible for over 35 km. The main light is red occulting each six seconds. Three metres below this is a directional light with green, white and red sectors each showing over only 1.5 degrees to mark the precise centre of the channel.

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Address:	13--35 Mackie Street, Nth Geelong, Victoria, 3215
Postal:	GPO Box 1135, Geelong, Victoria, 3220

BACK TO THE START

QUEENSCLIFF BLACK (high)

BACK TO THE START

QUEENSCLIFF BLACK (high)

Height:	25 m tower / 40 m focal plane
Location:	Queenscliff, inside Fort Queenscliff
First lit:	1862 (original tower 1843)
Construction:	Bluestone
Flash:	1 long flash every 15 sec.
GPS:	S38.271434, E144.661715
Facilities:	Parking is available adjacent to the fort

Queenscliff was first called Shortlands Bluff. In Georgiana McCrae's Journal she describes seeing the first lighthouse built, in 1841. The rock for this was sourced from the base of the bluff. A second, prefabricated structure was built on piles driven into the sand; this became known as the Low, or Leading light, (showing a red light) while the sandstone tower became the High or Upper Light showing a white light. At this time a signal mast was erected on the site. Planning for a gun battery on the bluff proceeded due to concerns that a privateer could halt the export of Victoria's new found gold wealth. Individual contracts were let for construction of two new lighthouses; these were positioned to show the centre of the natural channel. Bluestone was sourced from Footscray (west Melbourne) and construction proceeded. When the two new towers were completed, the old sandstone tower was removed. New keepers quarters were needed and a terrace of five, two story brick and stone houses were built for the upper light keepers, while timber houses were built for the lower light keepers. In 1885, the presence of these keepers was considered unacceptable after construction of enclosed walls around the new fort. The keepers then moved into new quarters located nearby and the old terrace unit became part of the military establishment. The black tower was never painted and is one of only a few such lighthouses worldwide. Its light was converted to town gas in 1890, then mains electricity in 1924. Contact Fort Queenscliff: King Street, Queenscliff. Tele (03) 5258 1488 for entry times and fees. No tours of either lighthouse are available and there are no public toilets within the fort.


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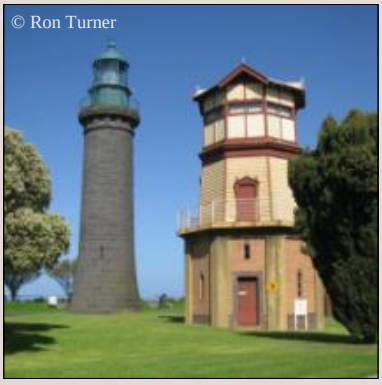
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BACK TO THE START

QUEENSCLIFF WHITE (low)

BACK TO THE START

QUEENSCLIFF WHITE (low)

Height:	22 m tower / 29 m focal plane
Location:	Shortland Bluff, Hesse Street, Queenscliff
First lit:	1863 (first light 1854)
Construction:	Bluestone sourced from Footscray (West Melbourne)
Flash:	1 flash every 15 sec.
GPS:	S38.273426, E144.659618
Facilities:	Parking nearby

Both Upper and Lower lighthouses reflected the design of wave-washed, off-shore English lights. Their entrance doors were originally located 3.5 m above ground level and entry was by means of a rope ladder. The entrance area of each lighthouse has subsequently been modified and the doorway of each is now at ground level. The lamp and housings were manufactured in Birmingham by Chance Bros. The White (low) Light is painted white with a vertical red stripe, together with a green cupola and balcony. This 'daymark' also distinguishes it from the upper Black Lighthouse tower. The White Lighthouse has a white and red sector light to assist mariners determine their position. Approaching the entrance to Port Phillip Bay, the two lighthouses are kept in line. A white light on the White (low) Lighthouse shows below the white light showing on the Black (upper) Lighthouse. As the ship advances, it moves into the red sector of the lower light indicating a change of direction to starboard. The light was converted to gas in 1890, electricity in 1924, and the operation was automated in 1999. It now operates with a 120 V, 250 W lamp, powered by mains electricity, with a battery backup. When the natural channel through the rip was widened and deepened by blasting in 1924, skeletal steel structures were erected either side of this lighthouse. The red faceted Hume tower—on the western side—shows a red light indicating the western extremity of the new channel, when viewed in line with the Black (high) Lighthouse. A green faceted Murray Tower was erected to replace an old obelisk; it shows a green light. The focal plane of both these lights is 25m; they operate in unison with the White (low) light.


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BACK TO THE START

SOUTH CHANNEL PILE LIGHT

BACK TO THE START

SOUTH CHANNEL PILE LIGHT

Height:	9 m tower **(DECOMMISSIONED)**
Location:	Southern Port Phillip Bay, off Sorrento and Portsea
First lit:	1874
Construction:	Wooden tower on wood screw driven piles
Flash:	N/A
GPS:	
Facilities:	No facilities

This is now a restored historical remnant of a formerly vital component of early navigation within Port Phillip Bay. Together with the Eastern Lighthouse at McCrae, they formed a leading navigational line for shipping. The light was actually turned off during fears of an invasion, in 1885. Octagonal in shape and about nine metre across, it stands on timber piles driven into the substrate beneath the water. The living area is surrounded by a balcony. Within a 6 m space, there was a bedroom with bunks for four, an office/storeroom, and a fireplace and chimney. The toilet was a hole in the floor. Two tanks collected rainwater from the roof. The light was accessed by an internal spiral staircase and was initially fuelled by kerosene. Acetylene was introduced in 1925 and the light was decommissioned in 1985. The light structure was then lifted from the original piles and restored in Melbourne. New piles were driven adjacent to the Rye Channel in southern Port Phillip Bay, 3 km from its original position, and 3.7 km offshore from the popular Bayside suburb of Rye. The refurbished living area and tower was restored to this new site. The South Channel and West Channel lights are now the only remaining examples of this type of navigational aid in Australia. Today there is no operating light found within the structure and it is simply used as a day mark for small craft. Access to the restored tower is by water and there is no public access.

View from Rye foreshore

Managed:	Parks Victoria
Phone:	131 963
Web:	parkweb.vic.gov.au
Address:	Level 10, 535 Bourke Street, Melbourne 3000
Postal:	Level 10, 535 Bourke Street, Melbourne 3000

BACK TO THE START

VICTORIA

SPLIT POINT

BACK TO THE START

SPLIT POINT

Height:	34 m tower / 66 m focal plane
Location:	Aireys Inlet
First lit:	1891
Construction:	Mass concrete sourced nearby at Lookout Hill
Flash:	4 flashes every 20 sec.
GPS:	S38.467970, E144.104465
Facilities:	Car park, lighthouse tours (check for times)

Originally operated by pressurised kerosene and an incandescent mantle, this was the last lighthouse in Australia to be fitted with a first order Chance Bros lens. In 1919, operation was converted to acetylene gas. At this time—after only 28 years—the keepers were withdrawn and the residences progressively sold. In 1972, mains electricity was connected with a diesel generator as backup. A 120 V 1000 W tungsten halogen lamp was used with an automatic lamp changer in place. The tower was initially called Eagles Nest Lighthouse; other terms such as White Queen, White Lady or White Knight are also used. Records indicate an intention to construct a block tower, but after the ship bringing necessary materials to the site was wrecked, local materials were sourced. The foundation is four metres deep and the walls at the base are two metres thick. The tapered wall design was said to encourage the upward movement of air through the structure enhancing the brightness of the kerosene flame. The internal walls are unpainted to allow the concrete to breathe. Spiral cast iron stairs are original, as are the exterior balustrades. There are 10 shipwrecks recorded in this vicinity. A local anecdote tells of one of the keepers, fond of a tipple, scratching a tiny hole in the black curtain designed to prevent light offence to inland residents. Instead of being on duty in the tower—as per standing instructions, he was able to enjoy his drink at the local hotel watching for the tiny wink of light indicating all was well inside the lighthouse. No accommodation or toilets on site. A fee applies for lighthouse tours. The site is managed by Surf Coast Shire (info@surfcoast.vic.gov.au, Phone (03) 5261 0600 or 1300 610 600).




Managed:	Australian Maritime Safety Authority (AMSA)
Phone:	02 6279 5000
Web:	www.amsa.gov.au
Address:	82 Northbourne Avenue, Braddon, ACT, 2612
Postal:	GPO Box 2181, Canberra, ACT, 2601

BACK TO THE START

WEST CHANNEL PILE LIGHT

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WEST CHANNEL PILE LIGHT

Height:	12 m tower / 11 m focal plane
Location:	Four km off St Leonards Beach
First lit:	1881
Construction:	Wood
Flash:	1 flash every 6 sec.
GPS:	S38.192833, E144.757111
Facilities:	N/A

Replacing an early lightship moored here in 1854, this structure marks the northern end of the West Channel, and the north eastern end of the adjacent shallow West Sands. The West Channel is the second of two major shipping channels for vessels on their way to Melbourne or Geelong. The lantern assembly used was transferred from the lightship. This was the second of four pile lights built in Port Phillip Bay, and the only surviving one of this design still operating in Australia. Red gum piles were driven into the mud; these supported a concrete platform. The octagonal structure included a living area with fireplace and chimney, a single bedroom with four bunks, an office-storeroom, and external balcony. A hole in the floor served as a toilet. In 1925 the light was converted to use acetylene gas supplied in cylinders, and automated. Today the light is solar powered. The West Pile Light is listed on the Victorian Heritage Register (number H1518) and continues to have architectural, maritime and technological significance both for its design, and use of the lantern and upper tower from the 1854 lightship.


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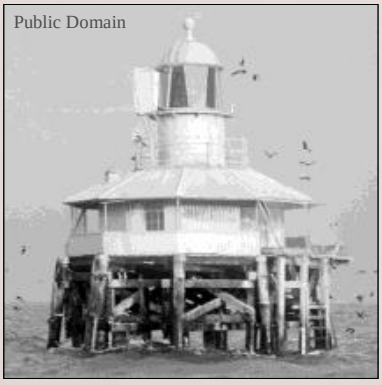
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BACK TO THE START

WHALERS BLUFF

BACK TO THE START

WHALERS BLUFF

Height:	12 m tower / 41 m focal plane
Location:	Lighthouse Street, Whalers Bluff, Portland
First lit:	Original site 1859; present site 1889
Construction:	Round bluestone
Flash:	3 flashes every 30 sec.
GPS:	S38.337264, E141.609129
Facilities:	Roadside cark park

Authorities were concerned that this tower was vulnerable to attack from the sea, and fears of a Russian invasion caused this bluestone lighthouse to be dismantled and re-erected at its present site. The original site, formerly known as Lighthouse Bluff but now known as Battery Point, was subsequently used for defensive gun emplacements. The tower is still an active lighthouse warning shipping of the treacherous Whalers Reef when entering Portland Harbour. Ships change course when a change in light colour is seen. The tower is not open for tours. This light is managed by the Victorian Regional Channels Authority (VRCA) which commenced operations on 1 April 2004. They also manage the commercial navigation in the channels in Geelong and Hastings port waters.




Managed:	Victorian Channels Authority
Phone:	03 5225 3500
Web:	www.regionalchannels.vic.gov.au
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BACK TO THE START

WILSONS PROMONTORY

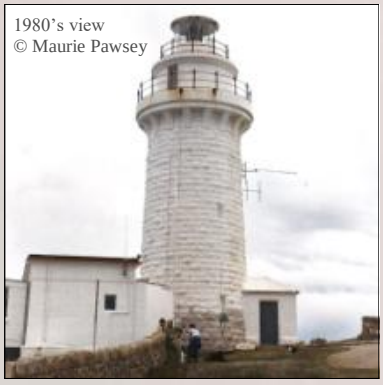
Wilsons Promontory Lighthouse in 1961

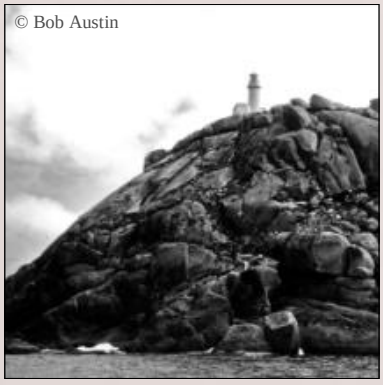
BACK TO THE START

WILSONS PROMONTORY

Height:	19 m tower / 117 m focal plane
Location:	South-east Point, Wilsons Promontory
First lit:	1859
Construction:	Granite sourced on site
Flash:	1 flash every 7.5 sec.
GPS:	S39.129766, E146.424591
Facilities:	Accommodation on site by prior arrangement

This is mainland Australia's most southerly lighthouse. Together with four keeper's cottages and wind-break walls, it was constructed by convict labour using granite quarried nearby. The tower was initially painted white, but since the 1980s remains unpainted. Built on a headland jutting into Bass Strait, it is a navigational aid warning of several off-shore islands in this vicinity. The initial light used 32 oil lamps each with a parabolic reflector; this system was replaced in 1913 by pressurised kerosene and incandescent mantles. Diesel generators were installed in 1975 and used to both illuminate and rotate an array of sealed beam electric lamps. In turn, this was converted to solar operation in 1993 and the station automated. The current optic is a Vega VRB-25 lens using a 12V, 35W, C8 halogen lamp. Tours are available on request. The lighthouse is managed by Parks Victoria and can be visited by hikers using either of two routes; the shortest is 19 km. Refer to the Parks Victoria website for walking times. Accommodation is also available in three keepers cottages and bookings must be made in advance; there is a resident caretaker.


1980's view
© Maurie Pawsey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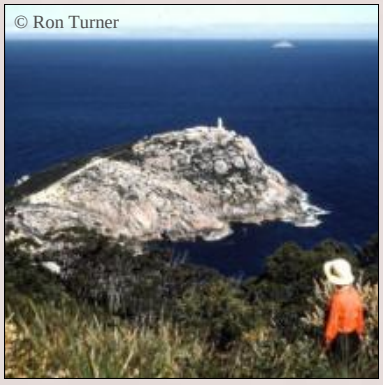
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Managed:	Parks Victoria
Phone:	131 963
Web:	parkweb.vic.gov.au
Address:	Level 10, 535 Bourke Street, Melbourne 3000
Postal:	Level 10, 535 Bourke Street, Melbourne 3000

BACK TO THE START

WESTERN AUSTRALIA

- Breaksea Island
- Cape Leeuwin
- Cape Naturaliste
- Casuarina Point
- Cave Point
- Eclipse Island
- Gantheaume Point
- Hillarys Marina
- North Mole
- South Mole
- Point Moore
- Wadjemup
- Vlamingh Head

BACK TO THE START

WESTERN AUSTRALIA

BREAKSEA ISLAND

Courtesy AMSA

BREAKSEA ISLAND

Height:	9.5 m tower / 119 m focal plane
Location:	King George Sound, of km south east of Albany
First lit:	1858
Construction:	Rough dressed granite
Flash:	2 flashes every 6 sec.
GPS:	S35.064561, E118.057539
Facilities:	None

Materials for the original 13 m high lighthouse were imported from England and assembled on-site by convicts. Pre-formed cast iron sheeting was used to make an octagonal stone keeper's quarters which surrounded the tower. (See photo North Reef, Qld). A telephone line was connected from Albany in 1885, and two new keeper's cottages were built in 1889. A granite block tower was erected in 1902 complete with a 3.7 m diameter first order lens, lit by a six-wick oil burner. Donkeys were kept on the island to ferry the unreliable monthly resupply of often poor quality stores from the jetty to the station. The keepers needed to shoot mutton birds and rabbits and harvest nettles to survive. After conversion to use acetylene gas in 1926, the keepers were withdrawn. The acetylene cylinders were lifted onto a jetty by crane, then pulled up a steep, winding track by several seamen harnessed to a rubber tyred cart. In 1984 the light was converted to solar power using a 12V, 35W C8 halogen globe. The lighthouse on Breaksea Island was etched into national consciousness as the last tangible link that many of our WWI soldiers had with the country of their birth, in November 1914. A convoy of 38 troop ships assembled in King George Sound with 30,000 servicemen and women, and 12,000 horses. The poignant story of the lighthouse keeper's daughter, 15 year old Fay Howe, is told in *Lighthouse Girl* by Diane Wolfer. This teenager became a symbol of home for many troops, by translating their messages sent from the ships by semaphore flag signals. She then relayed the messages to their loved ones by Morse code telegraph. Fay later received letters and postcards from the battlegrounds that were simply addressed to *The Little Girl on Breaksea Island, Albany, Western Australia*.


Courtesy AMSA


Courtesy AMSA


Courtesy AMSA


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BACK TO THE START

WESTERN AUSTRALIA

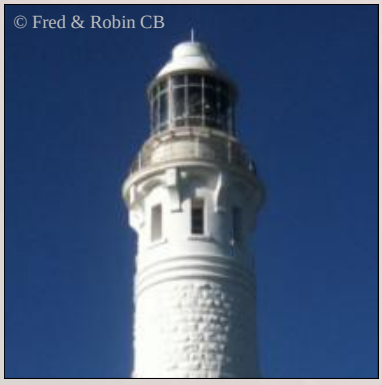
CAPE LEEUWIN

BACK TO THE START

CAPE LEEUWIN

Height:	39 m tower / 57 m focal plane
Location:	Most south-westerly point of Australia, 8 km from Augusta
First lit:	1895
Construction:	Cylindrical tower built of local limestone
Flash:	1 flash every 7.5 sec.
GPS:	S34.374944, E115.136337
Facilities:	Lighthouse tours, Visitor Centre, museum, refreshments

Cape Leeuwin was often the first landfall for shipping travelling to Australia from Europe, being the point where the Indian and Southern Oceans meet. At least 22 ships have been wrecked in this vicinity. Construction of the tower encountered an early problem when expected bedrock at 2.4 m proved misleading. A solid base was not found until a depth of 6.7 m was reached; in all 1000 m^3 was excavated. Walls at the base of the tower are two metres thick. There are seven floors and 186 steps; this became the tallest lighthouse on mainland Australia. It was originally unpainted, natural stone. A second, lower light tower attached to the original tower was also built with the intention to warn of inshore reefs, but a red light was never installed. The original light source was a six wick lamp using heavy mineral oil. The lens used was a second order Chance Bros lantern standing 3.7 m tall and floating in a mercury bath. In 1925 the light was upgraded to use an incandescent oil vapour apparatus with a cluster of three mantles which emitted 780,000 cd. It continued to be operated manually by the clockwork mechanism until 1982, when electricity was connected. The current lamp used is a 120 V 1000 W tungsten halogen lamp emitting 1,000,000 cd visible at 46 km. The light was automated in 1992. Fresh water was supplied to the station by the means of a water wheel powering a hydraulic ram pump. Tower tours are conducted daily (except Christmas Day) and fees apply. Three of four original cottages still remain and one is used as a visitor centre and museum. There is no on-site accommodation.



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BACK TO THE START

WESTERN AUSTRALIA

CAPE NATURALISTE

BACK TO THE START

WESTERN AUSTRALIA

CAPE NATURALISTE

Height:	20 m tower / 123 m focal plane
Location:	Overlooking Geographe Bay, 27 km from Busselton
First lit:	1904
Construction:	Local limestone from Bunker Bay
Flash:	2 flashes every 10 sec.
GPS:	S33.537372, E115.018704
Facilities:	Museum, café, lighthouse tours

At least 12 ships have come to grief off the Cape Naturaliste peninsula. The lighthouse still uses the original 12.5 tonne Chance Bros first order lens, originally illuminated by whale oil. Its estimated value is $5 m. Floating in a bath of mercury, the clockwork mechanism was rewound each hour. In 1924, an incandescent oil vapour apparatus was installed increasing the output to 1,213,000 cd. Connection to mains electricity was in 1978 with a diesel standby motor enabling automatic operation, with a reduction in keepers from three to one. It currently uses a 12 V, 1000 W tungsten halogen lamp emitting 930,000 cd, reaching 46 km out to sea. Wrapping around a weight tube, the spiral staircase comprises wooden teak blocks dowelled together and placed end up for long wearing. In 1907, a fierce storm raged for five days. The lightkeeper's daughter later related how at 9 am, a large red ball of fire slowly appeared on the horizon. A fireball struck her house breaking windows. The telephone rang violently, then burst from the wall with a loud explosion. The pathway along the underground phone line from our house to the lighthouse was all ripped up, to a depth of approximately 4 ft (1.2 m). A large cupboard, which was strongly bolted to the tower wall, was blown apart. The lightning conductor rod running up the wall from the ground to the top of the lighthouse dome was twisted and torn. Lightkeeper Baird said he put his hand on the phone to put through a weather report and it blew up and out from the wall, leaving him with a severe head wound and knocking him unconscious. He was off duty for eight weeks. The site has a museum and café, and the Cape Naturaliste Tourism Association operate lighthouse tours.

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BACK TO THE START

WESTERN AUSTRALIA

CASUARINA POINT

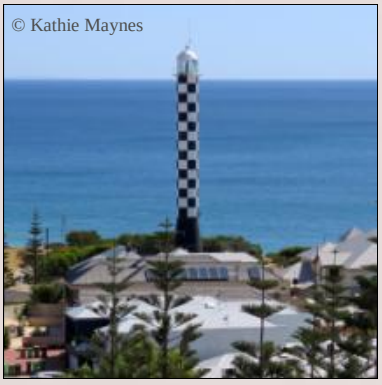
BACK TO THE START

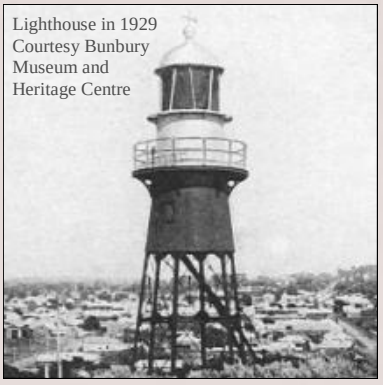
WESTERN AUSTRALIA

CASUARINA POINT

Height:	25 m tower / 43 m focal plane
Location:	Ocean Drive, Casuarina Point, Bunbury
First lit:	1971 (current chequered tower)
Construction:	Tubular steel tower (current chequered tower)
Flash:	3 flashes every 15 sec.
GPS:	S33.319126, E115.633209
Facilities:	No facilities or tours. Street parking nearby

The early navigational aid for shipping entering the often treacherous Koombana Bay consisted of a wooden keg with a storm lantern. There are more than a dozen shipwrecks recorded around the bay. The first lighthouse was built on nearby Marlston Hill in 1870 and consisted of a 3 m high grey wooden tower. This was replaced in 1901 by a temporary skeletal structure and then again in 1904 by a 9 m cast iron tower. Prior to introduction of satellite systems and other modern navigational aids, visibility of the lighthouse during daylight hours was important. When the Harbour Master noticed the day-time visibility of the tower from the ocean was obscured by nearby fuel tank installations, the cast iron tower was initially raised 6 m in 1960 using three cylinders. The present relatively new tower was built in 1970 at the present site incorporating a new tapered lower structure and with the three cylinders from the previous tower. It has a spiral internal staircase. The current day mark colouring of the lighthouse is unique and was proposed by the Harbour Master. who it was said, had a fondness for Black and White Whisky and black and white Scotch Terriers. The presence of the lighthouse allowed other developments at Bunbury to proceed including construction of a 1661 m long breakwater and a pier. This enabled Bunbury to grow from a small country town into a major port catering for mining, manufacturing, agricultural and pastoral industries. In a parallel to events on the east coast at Kiama, there was widespread community outrage when Telstra proposed installing telecommunications equipment onto the top of the lighthouse. This did not proceed.





Managed:	Southern Ports - Port of Bunbury
Phone:	08 9729 6500
Web:	www.southernports.com.au/bunbury
Address:	54 Casuarina Drive, Bunbury, WA, 6230
Postal:	PO Box 4, Bunbury, WA, 6231

BACK TO THE START

WESTERN AUSTRALIA

CAVE POINT

BACK TO THE START

WESTERN AUSTRALIA

CAVE POINT

Height:	13.25 m tower
Location:	16 km south of Albany, in Torndirrup NP, WA
First lit:	1974
Construction:	Round concrete tower, painted white
Flash:	N/A
GPS:	S35.120078, E117.898933
Facilities:	Parking off Gap Rd, short walk track to tower & lookouts

Located on a peninsula protecting the adjacent King George Sound from the stormy southern oceans, a new light at Cave Point was proposed to replace the nearby Eclipse Island lighthouse, which had proved difficult and costly to service. Cave Point lighthouse was built in 1974 to the same design as Cape Tourville (in Tasmania), but it only operated as a lighthouse until 1994. When it was realized the Cave Point light was obscured at a critical point of its arc by the decommissioned Eclipse Island tower, this former lighthouse was relit using a Vega VRB-25 lens. In 1996, a Radome was placed on top of the Cave Point tower which houses a Cospas-Sarsat Local Use Terminal (LUT) satellite ground receiver. This was one of only two on the Australian coastline, its twin located at Burnett Heads lighthouse (Queensland). These two towers form part of an international satellite-aided search and rescue system. Signals emitted from any Emergency Position Indicating Radio Beacon (EPIRB) after being activated by a mariner, pilot, or other persons in distress, are received by a satellite which determines and alerts the nearest ground tower. A rescue co-ordination centre then arranges search operations.

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BACK TO THE START

WESTERN AUSTRALIA

ECLIPSE ISLAND

Courtesy AMSA

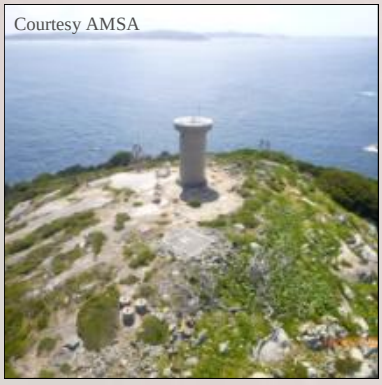
BACK TO THE START

WESTERN AUSTRALIA

ECLIPSE ISLAND

Height:	14 m tower / 117 m focal plane
Location:	Eclipse Island, with the nearest town being Albany
First lit:	1926
Construction:	Reinforced concrete tower
Flash:	3 flashes every 12 sec.
GPS:	S35.180651, E117.888100
Facilities:	No facilities or access

The need for a lighthouse on this island was recognized as critically important when the new Commonwealth Lighthouse Service assumed control of all Australian coastal lights in 1915. In 1924, this became the first lighthouse they established in Western Australia. There were initially three keepers and their families tending the pressurised kerosene lamp in its first order lens. Landing on the island was difficult and this was achieved in a small cove on the north east end of the 99 ha island, where a platform was built 15 m above the ocean. A crane was used to hoist people and supplies ashore in a canvas basket. There was a short tramway between the upper landing and station buildings. The three houses were each made of brick with a fibro cement roof. Large numbers of rabbits made it impossible to grow vegetables successfully and one keeper's wife used to cover fresh vegetables with sand in a box outside the window, in an endeavour to maintain a semblance of freshness, trickling water over this daily. After a fatal accident at the station, the island was abandoned in favour of Cave Point on the mainland in Tordirrup National Park. When it was realised the decommissioned island tower was impeding the beam from Cave Point at one critical point of its arc, a solar powered Vega VRB-25 lens was installed on top of the original tower being activated in 1994 (see Cave Point). The original first order lens from Eclipse Island is on display at the Albany Museum of the Great Southern. A short B&W video showing people and stores being transferred between the ocean and the platform, as well as what life was like for keepers and their families on this island, can be found by searching on the internet for: *Eclipse Island ABC Report 1968.*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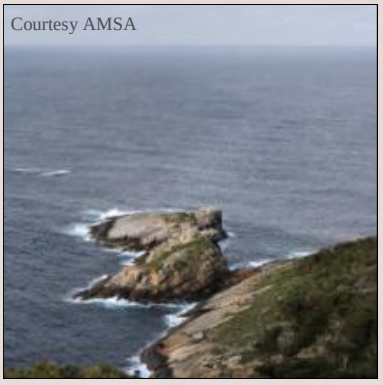
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BACK TO THE START

WESTERN AUSTRALIA

GANTHEAUME POINT

BACK TO THE START

WESTERN AUSTRALIA

GANTHEAUME POINT

Height:	24 m tower / 33 m focal plane
Location:	Southern end of Cable Beach, Broome, WA
First lit:	1905
Construction:	Stainless steel, skeletal metal tower
Flash:	2 flashes every 10 sec.
GPS:	S17.974485, E122.177908
Facilities:	No facilities

In 1801, French explorer Nicolas Baudin incorrectly named this area as an island after French Admiral Ganteaume; it was renamed as a point by Philip King in 1820, but the spelling of Gantheaume has persisted. By 1901, the need for a lighthouse was recognized to assist the expanding pearling and pastoral industries. An early fixed light on a tripod using kerosene as a light source confused mariners who could not distinguish it from a stationary ship. Soon afterwards a new oscillating (flashing) light was installed. Being aware the Commonwealth Government was soon to take over management and maintenance of lighthouses, the State Government built a 14 m high open braced steel tower on this site in 1906. A four roomed lightkeeper's cottage was erected nearby, complete with stone fireplace. A new tower was built in 1917 using acetylene as a light source. In 1922 the station was demanned and the cottage sold. Renovations are currently in progress. The current 24 metre high stainless steel lattice tower was erected in 1984. It has a Vega VRB-25 lens with a 12 V, 35 W halogen bulb using mains power, reaching 33 km out to sea. The site is about 10 minutes from Broome, and open all year. There is no accommodation available, nor tours of the station. During very low tides, fossilized footprints of at least nine different dinosaurs can be found in the vicinity.

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BACK TO THE START

WESTERN AUSTRALIA

HILLARYS LIGHTHOUSE

BACK TO THE START

WESTERN AUSTRALIA

HILLARYS LIGHTHOUSE

Height:	20 m tower / 24 m focal plane
Location:	Northside Breakwater, Hillarys Boat Harbour, WA
First lit:	1986
Construction:	Square skeletal steel tower
Flash:	2 flashes every 6 sec.
GPS:	S31.823611, E115.733643
Facilities:	Carpark, toilets and viewing platform on tower

Hillary's Boat Harbour is a large, modern facility catering for over 450 boats. It is a large recreational tourist destination for the northern suburbs of Perth, some 20 km north of Freemantle. A refurbished lantern house from the superseded Bedout Island Lighthouse was recycled and together with its fourth order lens, installed at the new tower. The lighthouse may be reached via an artificial mole along the northern breakwater. It is possible to climb 5 m to a circular viewing platform, but the tower is closed to the public. In 2017, the tower was completely enclosed by scaffolding specially designed to resist the strong onshore winds during blasting, repainting and fabrication repairs to this lighthouse. The boat harbour is named after respected WWI Gallipoli veteran, Bertram John Hillary, who set up the first shack on what was a lonely beach area in 1930, living there with his family. The beach was eventually named after him by the Army who used the area during WWII.

Managed:	WA Department o Transport
Phone:	08 6241 5500
Web:	www.transport.wa.gov.au/imarine
Address:	86 Southside Drive, Hillarys WA, 6025
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BACK TO THE START

WESTERN AUSTRALIA

NORTH MOLE

BACK TO THE START

WESTERN AUSTRALIA

NORTH MOLE

Height:	9 m tower / 15 m focal plane
Location:	End of North Mole Drive, Freemantle, WA
First lit:	1906
Construction:	Cast iron panels bolted together
Flash:	2 red flashes every sec. (Sealite LED system)
GPS:	S32.053808, E115.724718
Facilities:	Access road with adjacent parking, no facilities

A lighthouse was established at nearby Arthurs Head in 1851 using a third order fixed lens. In 1878, its time ball was removed and a new circular stone tower built. In turn, this tower was withdrawn from service in 1902, being replaced by the Woodman Point lighthouse (9 km south of Fremantle) and the North Mole and South Mole lighthouses. The task of constructing rock walls to protect the entrance to Fremantle harbour was considered by many to be impracticable. Following his successful construction of the 530 km pipeline conveying water from Perth to Kalgoolie, Irish engineer CY O'Connor blasted away a rocky bar and dredged the mouth of the Swan River in 1892, then constructed two rock moles, or breakwaters, with material taken from Arthurs Head. The North Mole was initially built to protect its southern counterpart, the South Mole, with lighthouses planned for each extremity. CY O'Connor ordered two identical prefabricated cast iron towers and cupolas from Chance Bros in England, which arrived in 1902. North Mole and South Mole lighthouses are the only towers of this type in West Australia. A temporary kerosene light was exhibited from a pyramidal wooden structure established at the end of the North Mole, while the rock was settling. This continued to operate from 1898 until the new tower was assembled on site in 1906. The tower was painted French Grey, but this was changed to red. Initially, a fourth order light was installed but this was considered too powerful and conflicted with the nearby Woodman Point light: the lens was transferred to Gantheaume Point lighthouse near Broome.

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BACK TO THE START

WESTERN AUSTRALIA

SOUTH MOLE

BACK TO THE START

WESTERN AUSTRALIA

SOUTH MOLE

Height:	9 m tower / 15 m focal plane
Location:	End of Fleet Street, Freemantle Harbour, WA
First lit:	1903
Construction:	Cast iron panels bolted together
Flash:	2 green flashes every sec. (Sealite LED system)
GPS:	S32.055822, E115.732539
Facilities:	Access road with adjacent parking, no facilities

A lighthouse was established at nearby Arthurs Head in 1851 using a third order fixed lens. Its time ball was removed and a new round stone tower built in 1878. In turn, this tower was withdrawn from service in 1902, being replaced by the Woodman Point lighthouse (9 km to the south), and the North Mole and South Mole lighthouses. The task of constructing rock walls to protect the entrance to Fremantle harbour was considered by many to be impracticable. Following his successful construction of the 530 km pipeline conveying water from Perth to Kalgoolie, Irish engineer CY O'Connor blasted away a rocky bar and dredged the mouth of the Swan River in 1892, then proceeded with construction of two rock moles, or breakwaters, with material taken from Arthurs Head. A temporary light using kerosene was erected at the end of the South Mole until replaced by the current tower. O'Connor ordered two pre-fabricated cast iron towers and cupolas from Chance Bros in England, which arrived in 1902. The panels appear to be of a lighter construction than those used in the 1868 Bustard Head tower in Queensland with each panel having deeper flanges and less bolts tying the units together. The tower was originally painted French Grey, but this was changed to dark green: its current lighter green colour was established in 2003. The light exhibited was initially white, but this conflicted with Woodman Point lighthouse and South Mole was changed to exhibit a green light. The site was used for military defence purposes during WWII, including use of anti-submarine nets. It became the largest submarine base in the southern hemisphere during the war and was utilised by warships of many allied countries.

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BACK TO THE START

WESTERN AUSTRALIA

POINT MOORE

BACK TO THE START

WESTERN AUSTRALIA

POINT MOORE

Height:	30 m tower / 34 m focal plane
Location:	Marine Terrace, Geraldton
First lit:	1878
Construction:	Cast iron panels
Flash:	2 flashes every 10 sec.
GPS:	S28.782652, E114.579389
Facilities:	Carpark & picnic tables opposite, interpretative signage

Geraldton's first lighthouse was built at Bluff Point of local limestone. Fixed lights from this and another tower on the beach were lined up allowing ships to navigate successfully through a gap in the reef. The current tower is made of 15 tiers each consisting of 12 cast iron plates bolted together. These were prefabricated by lighthouse engineers Chance Bros in Birmingham, England. When the parts arrived in West Australia, it was realised foundations had been prepared in the wrong place and a new site chosen 5 km away. (This must be the only Australian lighthouse that has a set of dentures accidentally cemented into the foundations). There are 127 steps inside the tower. Three stone keeper' cottages were also built but these were demolished in 1926 and replaced by a single timber framed cottage now occupied by the Geraldton Historical Society since 1971. The original 3 m high second order lens was initially lit by a kerosene wick light; this was altered in 1911 to become an incandescent oil light using mantles. Further upgrades occurred in 1958 when electricity was connected, and again in 1962 when the output of the light was increased. In 1985 a Vega VRB – 25 lens was installed utilising a 12V 100 W, C8 tungsten halogen lamp and the tower automated. The tower was repainted in 2019 and internal renovations have commenced. The original lens from this tower is on display in the West Australian Maritime Museum. The tower is not open to the public. The carpark includes picnic tables, a bench chair and a miniature lighthouse—the only miniature lighthouse near a full size lighthouse that we are currently aware of in Australia. Another miniature lighthouse can be found in town.


Courtesy Stephen Edmonds WikiCCL3.0


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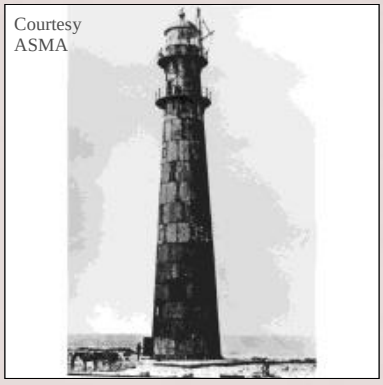
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BACK TO THE START

WESTERN AUSTRALIA

WADJEMUP

BACK TO THE START

WESTERN AUSTRALIA

WADJEMUP

Height:	39 m tower / 81 m focal plane
Location:	Rottnest Island
First lit:	1896
Construction:	Sawn limestone from nearby quarry
Flash:	1 each 7.5 sec.
GPS:	S32.007296, E115.504118
Facilities:	Carpark, interpretative signage, tours (fees apply)

Two lighthouses were built on Rottnest Island to assist vessels navigate into the Port of Freemantle. In 1851, labour was drawn from an Aboriginal penal colony on the island to hew limestone from Nancy Cove, then build a 20 m tower, the first stone lighthouse built in West Australia. In an unusual design, the keeper's quarters were built around the tower's base. Machinery for the lighthouse was designed and built in Freemantle and the lantern room was made on site. A first order Chance Bros lens was operated by a clockwork mechanism. There were two sets of three oil burning lights, each with a silvered parabolic reflector. These consumed 14 litres of coconut oil per week; colza oil was used after 1862, then kerosene. In 1895, a 1.6 km tramway was built to transport sawn limestone from the Nancy Cove quarry and the present Wadjemup lighthouse was built beside the old tower, which was then demolished. The foundation is 1.8 m thick and contains 230 cubic metres of concrete. Walls are 1.4 m thick at the base and 0.9 m wide at the top. The light initially operated with a Trinity House six wick oil burner using 2.3 litres per hour. Conversion to pressurised kerosene apparatus occurred in 1908. A mercury float pedestal was installed in 1929 together with the current clockwork mechanism, which required rewinding every three hours. (Some of the mercury spilled during the 1968 Meckering 6.8 magnitude earthquake). The tower was automated in 1986 to mains electricity with a diesel back up generator using a 120 V, 1000 W tungsten halogen lamp. Island access is by ferry and lighthouse grounds are open all year.

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BACK TO THE START

WESTERN AUSTRALIA

VLAMINGH HEAD

BACK TO THE START

WESTERN AUSTRALIA

VLAMINGH HEAD

Height:	12 m tower / 73 m focal plane
Location:	North West Cape, 17 km north of Exmouth
First lit:	1912
Construction:	Stone and cement, one metre thick at base
Flash:	2 each 7.5 sec. (deactivated in 1967)
GPS:	S21.808312, E114.110358
Facilities:	Car parking near tower, interpretive signage

Originally called North West Cape Lighthouse, the tower became known as Vlaming Head, then Vlamingh Head Lighthouse after Dutch sailor Willem de Vlamingh who first charted the area in 1696. The West Australian Government had previously rejected this site, despite being anxious to have more lighthouses built before the Commonwealth assumed responsibility for their maintenance and operation. However, when the *SS Mildura* was wrecked nearby in 1907, the situation changed. The tower at Vlamingh Head could be considered an accidental lighthouse underscoring great privations caused by bad water during construction, and its later operation by two keepers and their families. Underground tanks were built beneath the living quarters: artesian water was also used with a salt water condenser as a reserve. At times fresh water had to be carted several kilometres from the Yardie Creek Homestead. Mail and other supplies arrived by camel from Onslow. Frequent cyclones have caused damage to the tower and buildings. An incandescent oil vapour system was used in a 2nd order lens floating in a bath of mercury: weights were rewound by hand to keep the lens turning. Stores were towed by horse for 6 km along a light rail system to the fuel shed adjacent to the tower. During WWII, the RAAF evacuated lighthouse staff and established a radar and gunnery station. These were attacked by Japanese aircraft in May 1943. Exmouth Gulf was a major wartime submarine refuelling base: passing submarines used the wrecked *SS Mildura* for target practice giving rise to the claim it was the most heavily shelled ship of the war. The lighthouse became redundant in 1967 when an alternative light was mounted on a tower within the nearby US Naval Communication Station. This light flashes once every three seconds at a focal plane of 129 metres.

Managed:	Shire of Exmouth
Phone:	08 9949 3000
Web:	www.exmouth.wa.gov.au
Address:	2 Truscott Crescent, Exmouth, WA 6707
Postal:	GPO Box 21, Exmouth, WA 6707

BACK TO THE START

REMOVED OR LOST

- Breaksea Spit
- Cape Forestier
- Moreton Island
- Gellibrand Pile Light

BACK TO THE START

QUEENSLAND

BREAKSEA SPIT LIGHTHIP

Australian Maritime Safety Authority

BACK TO THE START

BREAKSEA SPIT LIGHTHIP

Height:	9 m tower
Location:	35 km north of Sandy Cape, Fraser Island
First lit:	1918
Construction:	Steel
Flash:	N/A
GPS:	N/A
Status:	Decommissioned in 2000 and scuttled

The rivers flowing east from Australia's Great Dividing Range carry enormous amounts of detritus to the sea. Long-shore currents are currently estimated to move 500,000 tonnes of sand north along the coast annually. Large sand islands have formed along Queensland's south-eastern coast; the largest of these (and in the world) is Fraser Island (K'gari). At the northern end of this island, a dangerous underwater sand spit reaches out to sea for 30 km, a hazard for shipping approaching the ports of Bundaberg or Maryborough. The shallow waters across the Spit are often described as ferocious; more than 20 ships have been lost here. Three purpose-built lightships were constructed in Sydney in 1918. After the loss of an early lightship with all hands, these new craft were unmanned. They were 22 metres long and six metres wide with a light nine metres above the water. Powered by acetylene, they could be seen for 18 km. The Breaksea Lightship was anchored 5 km north of the sand spit, in 1918. This lightship was often in the news for truancy. During its operational career, it was frequently blown off position. One early newspaper report said it had been missing on six occasions between 1918 and 1936. Once, after being lost and abandoned, it was found, after four months, near the outer edge of the Great Barrier Reef off Mackay, and almost 500 km off-station. While it was mainly swept northwards after storms, in 1951 it was found south-east of Double Island Point, 240 km off station. It was sunk in 1962 after being rammed by another vessel. It was quickly replaced. In 2000, this and an identical lightship were scuttled onto the Cochrane Artificial Reef off Burnett Heads, acting as underwater beacons guiding a variety of marine life to a new home.

Courtesy Australian Maritime Safety Authority


Courtesy Australian Maritime Safety Authority

© Ron Turner

Scuttled

The Carpentaria Lightship is identical to the scuttled Breaksea Spit and is on permanent display at the Sydney Maritime Museum.
Visit www.sea.museum for more.

BACK TO THE START

TASMANIA

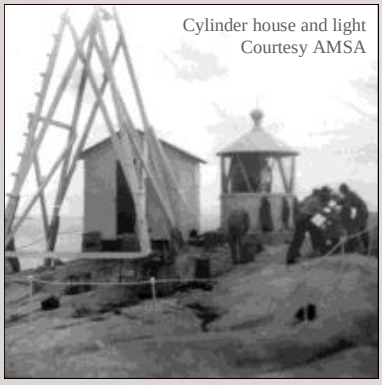
CAPE FORESTIER

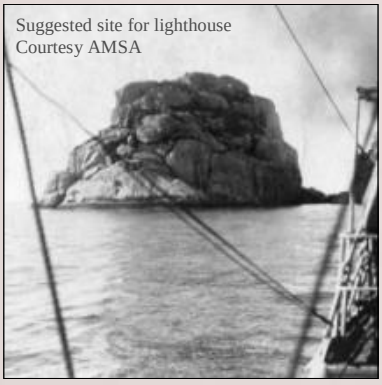
BACK TO THE START

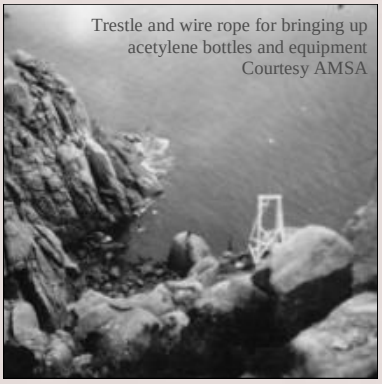
CAPE FORESTIER

Height:	Initially 4 m tower / 81 m focal plane
Location:	Lemon Rock, Cape Forestier
First lit:	5 October 1917
Construction:	Concrete
Flash:	N/A
GPS:	S42.179225, E148.356034
Facilities:	None

This was one of the first lighthouses constructed after formation of the new Commonwealth Lighthouse Service in 1915. The light is unusual in that it is basically just a lens housed in a 1.83 m diameter lantern dome, without any tower. Locally known as Lemon Rock, this feature at Cape Forestier is a 0.4 ha granite island at high tide. Access onto the rock was entirely weather dependent. The light was designed to be unmanned and operated by acetylene gas supplied in 70 kg cylinders. Two towers were built to support a haulage way and cylinders were hauled to the top by means of a hand winch, two at a time. Twenty three cylinders were connected to operate the light for 12 months; 26 were kept as spare. Gas flow was controlled by an AGA sunvalve. Because of difficulties maintaining the light, it was decommissioned and an alternative lighthouse built at nearby Cape Tourville in 1971, complete with road access. Lemon Rock was sold to the Tasmanian Government for $50 and was added to the Freycinet National Park. In 1918, workmen left Hobart to service the Cape Forestier light. Bad weather delayed their arrival but three men camped on the rock for two nights. The weather again forced to them to shelter and delayed their departure. They returned to Hobart 14 days after leaving, becoming stranded for 10 hours in shallow water on the return trip. The time recorded as worked by five men was only 130 hours. In 1950, three maintenance men were tossed into the water beside Lemon Rock when their boat became tangled in kelp and was wrecked. They struggled to a rock and were rescued by means of a ladder suspended under the flying fox.


Cylinder house and light
Courtesy AMSA


Suggested site for lighthouse
Courtesy AMSA


Trestle and wire rope for bringing up acetylene bottles and equipment
Courtesy AMSA


Man, ladder and his boat
Courtesy AMSA

Removed

Because of the difficulty of access and the opening of a new port for the export of wood chips at Triabunna, a new lighthouse was built at nearby Cape Tourville.

BACK TO THE START

QUEENSLAND

MORETON ISLAND

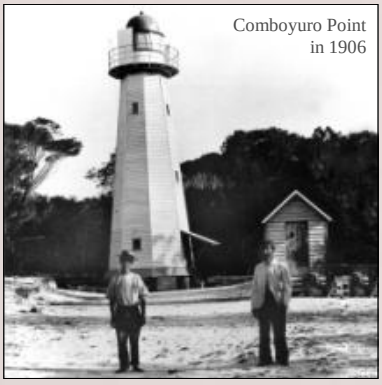
BACK TO THE START

MORETON ISLAND

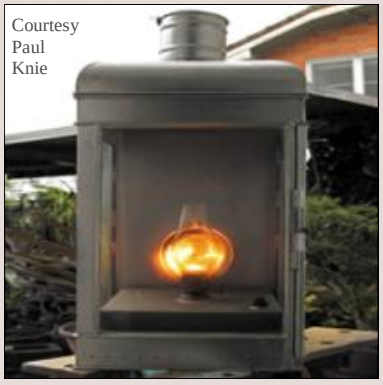
Height:	See text below
Location:	See text below
First lit:	See text below
Construction:	See text below
Flash:	N/A
GPS:	N/A
Facilities:	N/A

About 1825, a pilot station was established at Amity Point, on North Stradbroke Island to assist early sailing ships heading for the Moreton Bay penal colony. When a safer and more northerly route was discovered, the pilot station was moved to Cowan Cowan on Moreton Island. In the 1860s a 5.5 m tower was erected there which used a kerosene burner and reflector emitting a fixed white light (photo below). The tower height was increased to 10 m in 1867. Coastal erosion caused the tower and keepers cottage to be moved 194 m inland in 1901. In 1909, the light was a 4th order dioptric apparatus showing a white light which was visible for 22 km. The light was converted to acetylene operation in 1950 and demanned. In 1867, a lightroom at Comboyuro Point was replaced with a wooden tower. In 1909 it operated with a 4th order dioptric lens emitting a white light visible for 17 km, and a red sector light. Due to coastal erosion, the tower was moved 61 m in 1890, then a further 112 m in 1905. The following year, the keeper's four bedroom cottage also had to be moved. Conversion to acetylene operation took place in 1954 and the station demanned. The operation was discontinued in 1960 and the tower collapsed into the sea. Yellow Patch was described in 1877 as a 13 m high wooden tower with a fixed white light. By 1891, it had been moved four times due to coastal erosion. In 1909, it was described as a square wooden lightroom with a fixed 4th order dioptric lens showing a white light 20 km.


Cowan Cowan light in 1899


Comboyuro Point in 1906


Yellow Patch in 1917


Courtesy Paul Knie

Removed

These lighthouses was removed due to increasing coastal erosion. New technology also helped make them redundant.

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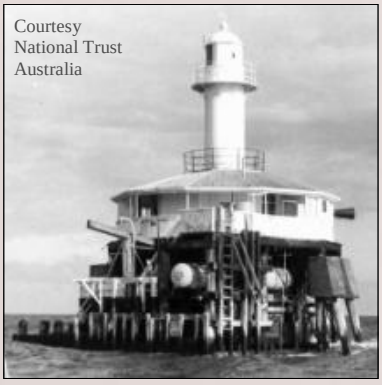
GELLIBRAND PILE LIGHT

GELLIBRAND PILE LIGHT

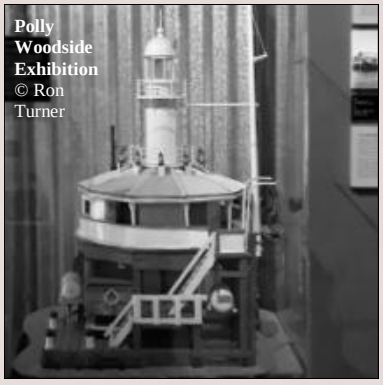
Height:	18 m tower / 11 m focal plane
Location:	Williamstown, Melbourne
First lit:	1906
Construction:	Steel structure on wooden piles
Flash:	N/A
GPS:	N/A
Facilities:	Destroyed as a result of maritime collision

This pile light marked the dangerous Gellibrand Shoal off Williamstown. In 1859, the barque *New Constitution* was anchored at the site to provide a temporary light to warn shipping. A replacement lightship showed two white lights of equal height, 8 m apart. This was replaced in 1891 by an 8 m round circular red vessel, on which a white tower was mounted showing a white light, 12 m above the ocean. In 1906, Ports and Harbours took this vessel into dock and cut the hull off just below floor level. Simultaneously, 33 piles were driven into the sea bed, striking solid rock at 3 m. When this was done, a barge returned the former light which was placed on top of the piles, 7 m above the ocean. Now manned, the light commenced operation in 1906. As the structure swayed in heavy weather, 3000 tons of bluestone rock were dumped around the tower to help stabilize it. In 1937, electricity and telephone were connected via undersea cables. The flashing light then changed in 1938 to electrical operation. A fog horn was fitted and residents in nearby Williamstown referred to it as the 'wailing cow'. Regrettably, the fog horn was not sounding its warning on a June 1976 morning, and the 7,000 tonne coal carrying *Melbourne Trader* collided with the structure. Most of the building was sheared off its piles at water level. Pushed 7 m out of line, it was left hanging precariously on several piles. It was considered too dangerous to salvage and the order was given to set it alight. The lantern and dome were salvaged and have been restored. Models of the pile light are displayed at the Williamstown Maritime Museum and the Polly Woodside Museums.


Courtesy State Library Victoria


Courtesy National Trust Australia


© Laurie Dilks


Polly Woodside Exhibition © Ron Turner

Burnt
A decision was made to burn the lighthouse
after it was destroyed following a maritime collision.

BACK TO THE START

GLOSSARY

BASIC GLOSSARY OF TERMS
WITH SOME ILLUSTRATED PAGES

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GLOSSARY

AMSA	Australian Maritime Safety Authority. After Federation of Australian States, the Commonwealth Government established the Commonwealth Lighthouse Service in 1911, assuming control of coastal and landfall lights, in 1915. Individual States retained control of harbour lights. AMSA was established in 1991, continuing management of aids-to-navigation and national maritime matters, including coastal lighthouses.
Astragals	The brass or bronze rails that hold the lantern room glass panes in place.
Automated	A previously manned lighthouse now operating automatically without the need for on-site staff.
Balcony	The external walkway around the lantern room.
Caisson tower	A caisson is essentially a hollow tube on which a structure is built, e.g. North Reef lighthouse.
Candlepower	The illuminating capacity or luminous intensity of a light is measured in units known as candelas (cd). The candela unit is roughly equal to candlepower.
Cast Iron tower	Manufactured in England, they were cheaper and quicker to erect, and comparatively lighter and stronger than stone, eg Bustard Head lighthouse.
cd	The symbol for the base unit of luminous intensity (candela).
Character	Each lighthouse has its own singular characteristic which is the sequence of intervals of light and dark (or eclipse). This may include a sequence of colours. Knowledge of the 'character', as obtained from charts of coastal areas, enables a mariner to determine precisely which lighthouse can be seen from out to sea. For example, Bustard Head Lighthouse has a character described as *two flashes in ten seconds.*
CLS	Commonwealth Lighthouse Service, established in 1911.
Daymark	The arrangement of the distinctive colouring on the exterior of a lighthouse.
Eclipse	The period of darkness between flashes when no light beam is seen.
First lit	The date or year when a light source was first lit (when flammable liquids

BACK TO THE START

GLOSSARY

	were used to produce light) or first switched on (in more modern times).
Focal length	The distance of a lens or mirror to its focal point, where light converges.
Focal plane	The height of the light source above sea level, measured in metres.
Fresnel lens	Augustin Fresnel was a French physicist credited with developing glass optics used in lighthouses as early as 1822. The Fresnel lens is an array of glass prisms in a gunmetal or brass framework, encircling the light source.
Group flashing	The number of flashes emitted are in groups and regularly repeated. The eclipses separating the flashes within each group are shorter than the eclipse between two groups. A group flashing (3) character would have three quick flashes followed by a longer eclipse and be noted as Fl. (3).
Height of Tower	Height of the tower in metres.
Illuminant	The fuel which generates light. Across the years, these have included wood, coal, candles, a variety of animal and plant oils, kerosene, acetylene, and electricity from a variety of sources, including solar.
Incandescent Oil Vapour (IOV)	Kerosene under pressure was fed into a vapourising chamber and then into mantle, where it was lit.
Keeper	The person operating the light inside the lighthouse. A Head Keeper was responsible for the operation of the whole light station.
Lantern Room	This is the chamber surrounding and protecting the optical apparatus from the elements.
LARC	Lighter Amphibious Resupply Craft. (See separate sheet).
Leading lights	Two or more lights providing a course for a vessel to follow along a navigable channel.
Lens	A piece of transparent material such as glass, with curved sides for concentrating or dispersing light rays.
Light	The source of illumination such as a wick, mantle or electric light globes.
Lighthouse	A structure used to support a light used in marine navigation. See

GLOSSARY

Daymark.

Lightstation The infrastruture associated with a lighthouse including cottages, sheds, jetties, weather recording equipment, etc.

Lightvessel Also known as a Lightship. A crew-less vessel anchored at a specific location displaying a light to assist mariners.

Mercury float pedestal A circular trough containing mercury used to float some heavy lenses. Use of this extremely dense liquid avoided the friction caused when rollers were used.

Nautical Mile This is one sixtieth of a degree of latitude. The standard distance used is known as an Admiralty Measured Mile = 6,080 feet. This is equal to 1.853 kilometres, or 1.151 statute miles. A kilometre = 1000 metres, or one ten thousandth of the distance between equator and North Pole. It equals 0.5397 nautical miles, or 0.6210 statute miles.

Nominal range of light The approximate number of kilometres a light is visible out to sea. This is determined by an observer standing five metres above sea level. Also expressed as Nautical Miles; one NM = 1.8531 km.

Order The distance between the light source (of whatever type) and the lens:

1st Order = 920 mm, followed by
2nd Order = 700 mm
3rd Order = 500 mm
4th Order = 250 mm
5th Order = 187.5 mm
6th Order = 150 mm

Even larger lenses have been used overseas.

Pharology The original Greek word for a lighthouse was 'pharos'. A pharologist is a person who is interested in or studies lighthouses.

Pile light Construction involves driving or screwing wooden or iron piles into the sea bed on which a platform and light are mounted. Keepers' quarters may be provided within the structure.

Racon A modern transponder positioned in a lighthouse or buoy. When radar on

GLOSSARY

	board a ship emits a pulse, it receives a site-specific pulse in return, enabling the observer to know precisely which tower or buoy is nearby and its distance.
Sector lights	A light of different colour or characteristic; a red light, also known as a Red Sector light, warns of imminent danger.
Sunvalve	A device controlling the flow of acetylene gas to a main burner. Consists of a central black rod surrounded by silver rods. The effect of sunlight on the black rod causes it to automatically close the gas supply during daylight hours thereby achieving considerable savings of gas. The inventor, Gustav Dalen, was awarded the Noble prize in 1912 for his invention. (See separate sheet).
Tower	That portion of a lighthouse supporting the lantern and lantern room.
Tupperware light	A modern denigratory term denoting the much cheaper, modern acrylic light of various makes, as compared with the earlier glass lens. Injection moulded in precision dies, they are lit by tiny lamps or light emitting diodes (LED). The range of powerful models is up to 40 kilometres. Bustard Head light = Vega VRB-25. It uses a 12 V, 100 W, C8 halogen lamp. (This lens was invented and is made in New Zealand).
Vega VRB-25 lens	A modern, acrylic, six or eight panel rotating lens.
Vapouriser	A small pan beneath a main burner containing methylated spirits. Used for pre-heating the kerosene-air mixture before it enters the light's mantle under pressure.
Ventilation ball	A partially ventilated ball and wind vane on top of a lighthouse dome providing ventilation, in conjunction with wall or floor vents. These were needed during the oil burning era.
Wind-up mechanism	Fixed in place on the lantern room floor, this device incorporated a hand-operated winch used to wind a weight to the top of a weight tube. An escapement, or governor, enabled fine tuning of the speed of the descending weight. The power of the descending weight via a geared connection rotated the lens. (*See appendix*).

Acetylene, Dalen Sun Valve & Flasher

Acetylene gas, as an illuminant, began to be introduced into Australian lighthouses in the early 1900s. Acetylene is a gaseous hydrocarbon, particularly suitable for marine lighting, burning with a high intensity and illuminosity when used within an incandescent mantle. It is a highly explosive compound stored in maroon coloured cylinders. These are very heavy being filled with a porous mass of asbestos and diatomaceous earth, and a solvent such as acetone. One unit of liquid-gas volume is equivalent to several hundred units of gas. Lighthouse service records indicate such lights are very reliable, failing on average only once in 20 years.

Sunvalve

Gustav Dalen received a Nobel Prize in 1912 for this ingenious invention.

The sunvalve is sensitive to daylight. When operating normally, it is closed during the day and open at night. It is used to automatically control the supply of acetylene gas to the main burner of the light apparatus, while permitting a small pilot flame to burn continuously. A central blackened rod is surrounded by polished rods. As sunlight falls onto the device, absorbed heat allows the unequally expanding dark rod to cut off the gas supply. At sunset, the central rod cools down, becoming the same length as the polished rods, re-opening the gas supply. This is then ignited by the pilot flame.

Dalen Flasher

The 'Character' of an acetylene light is achieved by means of the Dalen Flasher. This is a device to feed the gas to the burner in short 'puffs' following each other, at defined intervals. Instead of having the flame burning constantly, it flashes on and off as each puff of gas emerges from the jets and is lit from the pilot flame.

Compared with a continuous flame, this achieved a saving of 80% to 90% of gas. Banks of interconnected cylinders enabled lights to perform satisfactorily for extended periods, with high reliability.

BACK TO THE START

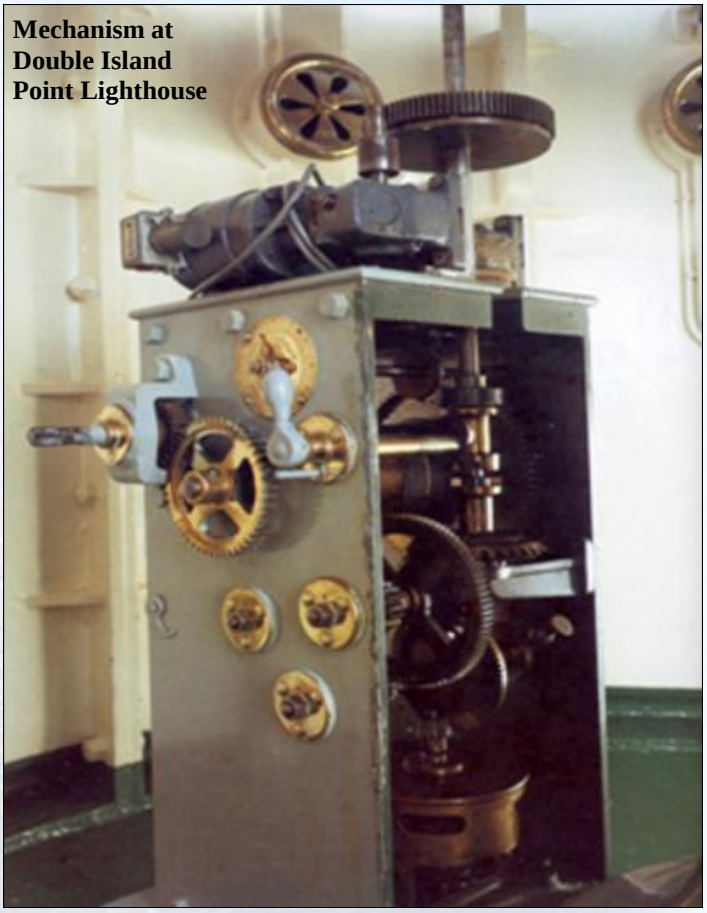
Clockwork Mechanism

A basic design of early Australian lighthouses included the use of a mechanism akin to a giant grandfather clock to rotate the lens at a constant speed.

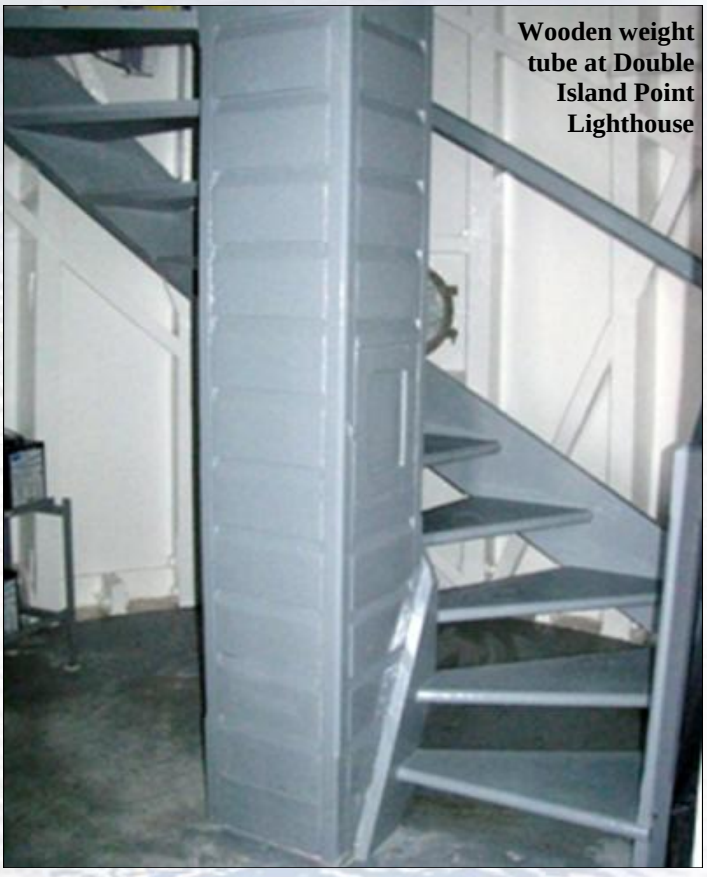
The mechanism maintained a precise series of flashes, without variation, each and every night. Minor adjustments could be made by means of a governor. To differentiate between lighthouses along our coast, each light was assigned it's own specific 'Character' of flashing.

Heavy weights were connected by either a chain or cable beneath the mechanism, through a reduction gear system. The slowly descending weight provided the energy to keep the lens turning. The lightkeepers used a handle to re-wind the mechanism every one to two hours, to retrieve the weights. For example, pine islet keepers rewound the weights 28 turns every two hours.

Most lighthouses had a round, hollow, cast iron weight tube with inspection hatches for maintenance, or to vary the weights should the lens size be changed. These tubes varied in size, depending on the weight of the lens and height of the tower. Many Queensland lighthouses were wood framed, with a wooden weight tube.



Mechanism at Double Island Point Lighthouse



Wooden weight tube at Double Island Point Lighthouse

Bustard Head Lighthouse cast iron weight tube

BACK TO THE START

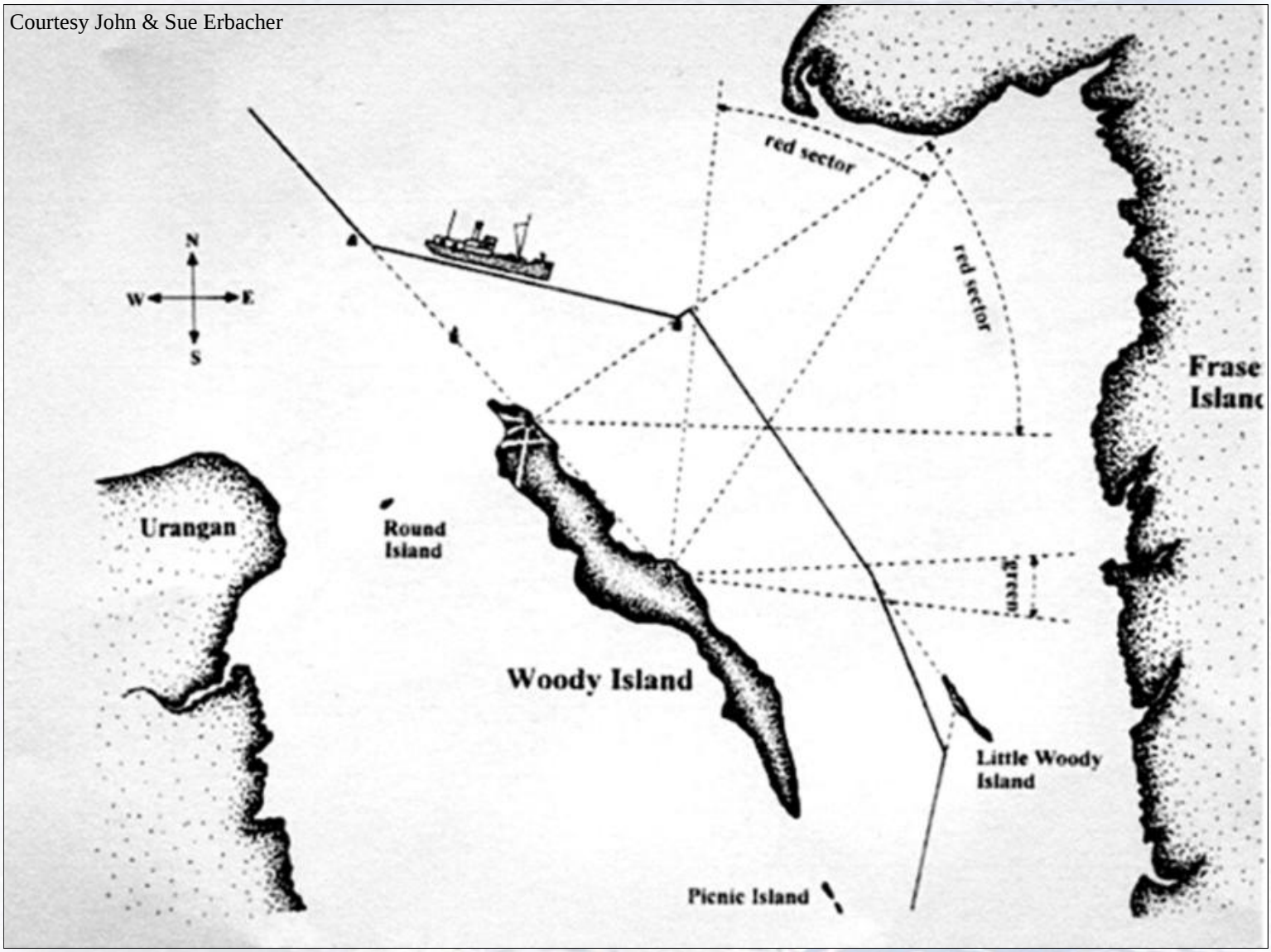
Coloured Sector Lights

A coloured sector light provides directional information to a mariner, often warning of imminent danger.

Gold was discovered in Gympie, Queensland in 1867. Nearby Maryborough became an international port bringing immigrants and equipment from England and Europe. In the example above, ships travelled around the southern shores of Australia, then north, past Fraser Island (K'gari), around the dangerous underwater Breaksea Spit, (see Breaksea lightship in the Removed of Lost section) before turning south into the treacherous shallows of Sandy Strait and the Mary River.

Mariners used a deep channel by keeping two lighthouses on Woody Island in line. Approaching the island, these two leading lights merged. At this point, the Master changed course to Port. Observing a red sector light, he turned the ship further to Port. Noting a second red light, he turned abruptly to Starboard. Sighting a green sector light he changed course further to Starboard. (See decommissioned Woody Island lighthouse in the Queensland section).

Courtesy John & Sue Erbacher



BACK TO THE START

Illumination

Evolution of lighting within Australian lighthouses

While Australia adopted new lighthouse technologies developed overseas, these were not automatically installed in every Australian lightstation.

A variety of makes and models of oil lamps and reflectors were used in our early lighthouses; many different animal or vegetable oils were used. Acetylene gas was introduced in the late 1800's using mainly (but not always) bottled gas; this improved the brightness of the light and sometimes allowed a degree of automation. Town gas was used in isolated circumstances. Incandescent oil vapour mantle (kerosene) apparatus using mantles from 35–85 mm diameter was introduced in the early 1900s.

The photo (right top) shows an unburnt mantle (bottom left) ready for installation and pre-burning. During this process, the mantle will expand, assume a globular shape, and become brittle. It also shows 500 W and 1000 W globes.

The photo (right bottom) shows a Chance Bros first order lens (the largest used in Australia) in use at Althorpe Island, South Australia. These lens stand about 3.5 m high and have a focal length (the distance from the mantle—seen at centre—to the lens) of 920 mm.

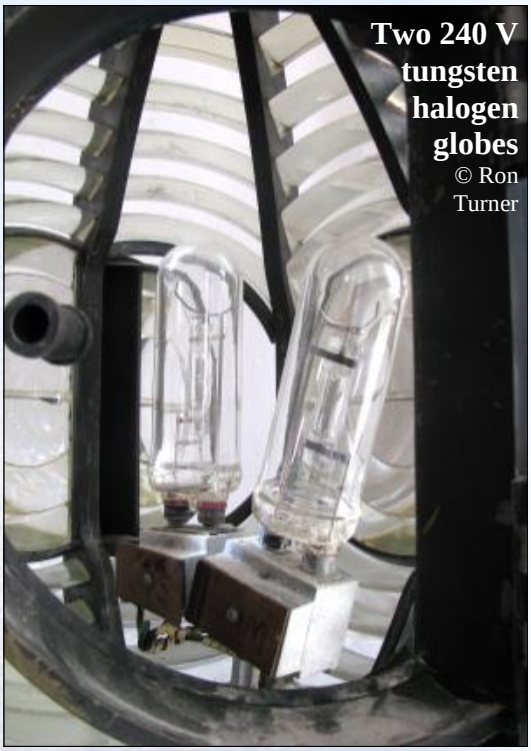
Small petrol motors were introduced in the post WWI period generating 110 V DC electricity using a 500 W globe (see the upper left globe in the photograph at the top of page).

Following the introduction of amphibious craft in the 1960s, diesel generators were installed at many lightstations. These produced 240 V AC and commonly used a 1000 W globe (see the upper right globe in the photograph top of page).

Continued...

Illumination

Two 240 V tungsten halogen globes can be seen inside a 4th order lens. Should one globe fail the second automatically swings into position.



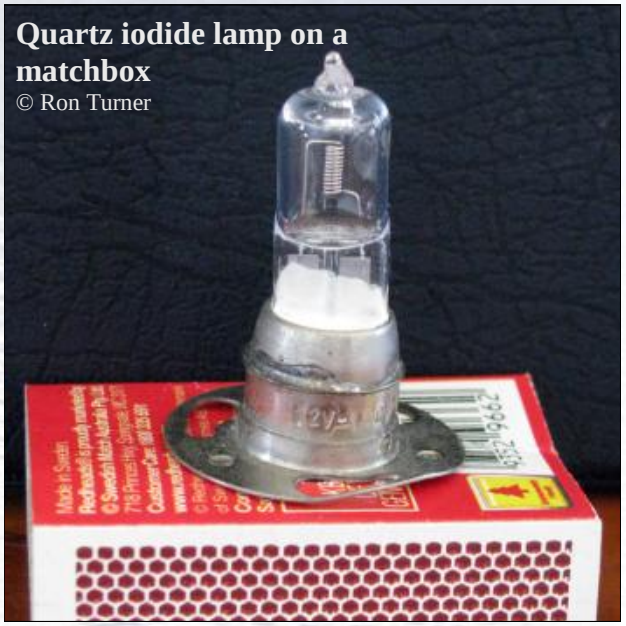
Two 240 V tungsten halogen globes
© Ron Turner

The globes were often installed in pairs which allowed automatic change over should one fail. Banks of sealed beam units were used in some lighthouses. If practical, mains power was connected.

VRB lens at Bustard Heads
© Ron Turner

In the 1980s solar power was introduced with an alternative back-up power source. The glass lens in many lighthouses were removed and acrylic lens such as the Vega VRB-25 rotating beacon (left) was installed. These used a 25 mm high 12 V quartz iodide globe (right) providing a beam reaching about 30 km out to sea.

Photographs on this and the previous page were taken in the Bustard Heads Museum at the Bustard Heads Lightstation. They are reproduced here courtesy of the Bustard Heads Lighthouse Association.



Quartz iodide lamp on a matchbox
© Ron Turner

BACK TO THE START

Incandescent Oil Vapour

Experimentation with pressurising kerosene occurred in France, in the late 1800s. Basically, in Australian lighthouses, two cylinders were used; one contained kerosene; the other air.

Pressure was introduced and maintained within pre-determined limits by repeated use of a hand pump, every 1½ to 2 hours. In the lantern room, above, the mixture was pre-heated using a methylated spirit burner. For example, at Pine Islet 90 pump strokes were needed every two hours.

With sufficient heat, the kerosene-air mixture was converted into a vapour under pressure. When this was released gently, the gaseous mixture mixed with air inside a pre-burnt, spherical white mantle. Lit by a taper, or match, a brilliant light was emitted. The light intensity was increased to 1,000,000 cd in larger lighthouses. Three sizes of mantle were used in Australia; 35 mm, 55 mm and 85 mm. A triple 55mm mantle burner apparatus was introduced into the Cape Leuwin and Cape Bryon lighthouses.

The incandescent oil vapour (IOV) became the standard technology used in most Australian lighthouses between the two world wars, continuing until the introduction of electricity. Despite the great increase in the intensity of the kerosene light, there were disadvantages. The repetitive hand pumping was labour-intensive. The mantles had to be pre-burnt before use, and this could take two or three minutes. Once pre-burnt, they were very brittle and easily damaged by insects. Because of their fragility a spare unburnt mantle was kept on hand.

The last IOV apparatus in Australian lighthouses to be replaced was at Pine Inlet lighthouse, Queensland, in 1985.

BACK TO THE START

LARC (Lighter Amphibious Re-supply Cargo)

A nine tonne, aluminium hulled, four wheeled amphibious cargo vessel capable of carrying loads of up to 5 tonnes with a land speed of 48 km/h, and water speed of 15 km/h; it has a 4WD capability. It is 11 metres long; 3 metres wide and 3 metres high.

Almost 1000 were made in the USA and used principally during the Vietnam war for over-the-beach supply of munitions from ships, particularly for the US Air Force. Many are now used by military of different nations. Also used privately for tourist purposes across the world.

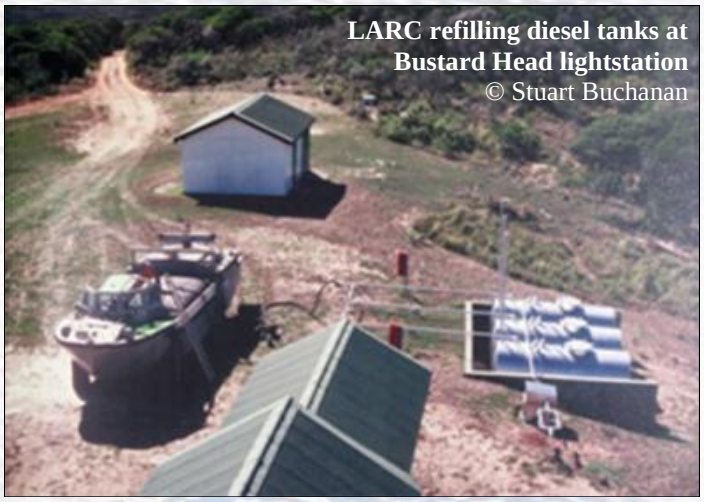
A LARC carried as deck cargo on lighthouse supply ship *MV Cape Moreton*

The use of LARCs by the Australian Commonwealth Lighthouse Service enabled a major advancement in technology used in lighthouses. It also revolutionised life for lighthouse staff and their families. Stores and general supplies could now be delivered to the station.

By means of a 4500 L rubber bladder, bulk distillate could be supplied to a tank farm of three large tanks. This allowed diesel powered generators to run 24 hours per day and enabled 240 V lighting and power to be connected into living quarters. Washing machines, refrigerators and freezers and television could now be used.

The DUKW, known colloquially as a Duck, is a six wheel drive amphibious vessel produced in the USA during the Second World War. Some were equipped with a heavy machine gun. They were brought back into service during the Korean war.

D = 1942
U = Utility (amphibious)
K = All wheel drive
W = Dual tandem rear axles.



LARC refilling diesel tanks at Bustard Head lightstation
© Stuart Buchanan

The Australian Commonwealth Lighthouse Service used these vessels to supply some lighthouses between 1945 and 1965.

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Oil Burner

Lighthouse authorities around the world experimented with a variety of oils, trying to obtain a brighter light with a clean, smokeless flame. Oil from many sources were tried, such as fish, whale, mutton bird, seal, coconut, and tea seed were just a few. However, oil was often smoky when burnt and could blacken lantern chimney glass and window panes, obscuring the light. Keepers on duty in the lantern room suffered from the fumes emitted.

In 1782, Aime Argand invented a smokeless oil lamp using circular wicks. Even brighter lights were possible when using multiple concentric wicks. His lamps, complete with glass chimneys, were used for over 100 years. The British developed models with up to ten wicks, however in Australia, four and six wick burners were generally used.

The flat-top wicks needed careful trimming to maintain an even flame of maximum brightness. Specially designed scissors retained burnt wick and ash, keeping this away from the flame.

In 1832, the French began to experiment with colza oil – derived from wild or rape cabbage. Also known as rapeseed oil, it was less viscous than other oils then in use. The English adapted colza oil into their lighthouses in 1859.

After 1875, kerosene became available as the petroleum industry developed, but at this stage it was not burnt under pressure. With the advent of the incandescent oil vapour apparatus giving a vastly superior light in the 1880s, oil burners were steadily replaced.

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By Ron Turner 2019