



AUSTRALASIAN
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EVERY STAR COUNTS, EVERY LIGHT MATTERS

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Protecting Marine Environments from Light Pollution

*Guidance for marinas, coastal councils, developers
and waterfront communities*

Why Marine Darkness Matters

Many marine and coastal species rely on natural cycles of light and dark for survival. Coastal lighting, especially when unshielded, overly bright, or misdirected, can interfere with breeding, feeding, navigation and migration of marine species.

Artificial light at night (ALAN) is now recognised as a key threat to marine life in urbanised coastal zones. Poorly managed lighting doesn't just impact the beach, it affects the entire marine ecosystem.

How Light Pollution Affects Marine Life

TURTLES

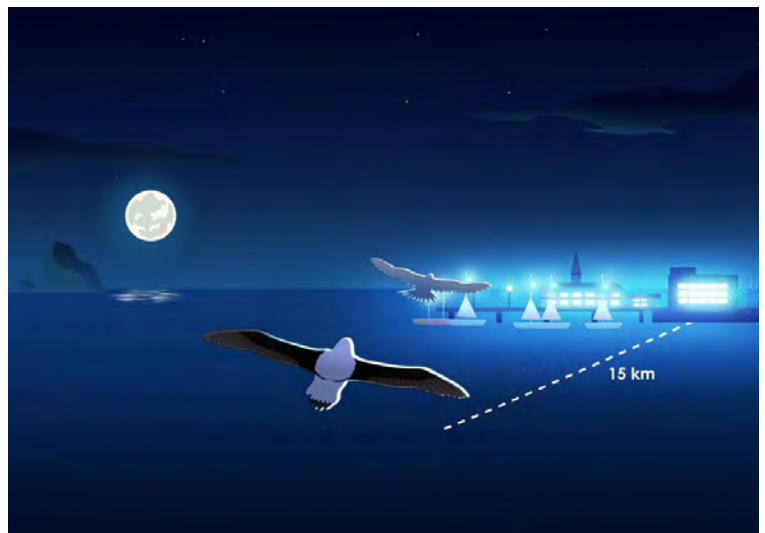
Hatchlings use many cues, including moonlight and stars illuminating the horizon over the ocean which, guides them to the safety of the ocean after emerging from the sand. Artificial lights from beachfront properties, roads and walkways can lure them inland, where many die from dehydration, exhaustion or predation.

SEABIRDS

Fledglings of shearwaters and petrels may be drawn to bright lights, often circling until they collapse or collide with lit structures.

FISH AND CORAL

Reef-dwelling species rely on darkness for rest, safety and reproduction. Studies show artificial light can impact coral spawning events and prevent fish such as clownfish from breeding at all.



Sea birds attracted to a light.

What the National Light Pollution Guidelines Say

The Australian Government's National Light Pollution Guidelines for Wildlife (2023) call for lighting controls in sensitive coastal environments, especially around:

- Turtle nesting beaches
- Seabird breeding sites
- Coral reefs and intertidal zones
- Dune, mangrove and seagrass systems

These guidelines offer six core principles for managing artificial light in ways that reduce ecological harm.

Best Practice for Coastal Lighting

1. Start with natural darkness and only add light for specific purposes.
2. Use adaptive light controls to manage light timing, intensity and colour.
3. Light only the object or area intended – keep lights close to the ground, directed, and shielded to avoid light spill.
4. Use the lowest intensity lighting appropriate for the task.
5. Use non-reflective, dark-coloured surfaces.
6. Use lights with reduced or filtered blue, violet and ultraviolet wavelengths.

Case Study: Phillip Island's Shearwaters

Every year, thousands of short-tailed shearwaters return to Phillip Island to nest. But fledglings making their first flights often become disoriented by road lighting and crash-land in urban areas. Many are struck by vehicles or fall prey to predators.

In response, Phillip Island Nature Parks and Bass Coast Shire Council implemented a multi-pronged strategy:

- Timed lighting curfews during fledging season
- Shielded and redirected road lighting
- Community patrols to assist grounded birds
- Public education campaigns encouraging locals to reduce home lighting

These efforts have shown reduced shearwater mortality and demonstrate how a coordinated, evidence-based approach can make a measurable difference.

Every star counts. Every light matters.

Be part of a global effort to restore the night.



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www.australasiandarkskyalliance.org/

What Councils, Marinas, and Developers Can Do

- Conduct a coastal lighting audit
- Require wildlife-sensitive lighting in Development Approval conditions
- Review existing infrastructure for compliance with AS/NZS 4282 and the National Light Pollution Guidelines
- Support public education and visitor awareness
- Collaborate with conservation groups and local experts

Community Action Makes a Difference

Coastal residents, tourism operators, and schools are already part of the change:

- Replacing bright security lights with motion-controlled warm LEDs
- Running beach clean-up, citizen science and stargazing events
- Spreading awareness about light pollution's impact on marine life

Small actions—done locally—can help restore the natural night along our coasts.

