Under the *Australian Maritime Safety Act 1990*, we have a statutory duty to provide for a national search and rescue (SAR) service. In 2014-15 we coordinated a total of 447 searches, which resulted in the rescue of 262 people across 7664 incidents, representing 98.1 per cent of lives saved.

**Notable 2014-15 incidents**

The majority of SAR incidents involve multiple organisations working together to develop an effective response plan to rescue people in distress. The following two incidents are examples of the types of incidents that we routinely coordinate in conjunction with the police and other agencies, ensuring that a consistent SAR service is delivered to those in need of assistance anywhere in Australia.

A detailed look at a sample of our 2014-15 search and rescue incidents can be found on our website (amsa.gov.au).

**Cooktown helicopter search and rescue**

We were advised by a helicopter company that one of their helicopters crashed around 1pm on Tuesday 7 October 2014 at Mt Cook near Cooktown, Queensland. Six people were involved in the incident on board the Bell 206 helicopter and had sustained various degrees of injuries. The crew managed to notify the company using a mobile phone.

We tasked a Hevilift B212 helicopter that was about to land at Cooktown and diverted it to confirm the crash position. Our Cairns-based dedicated search and rescue Dornier aircraft and Rescue 521 helicopter from Townsville were also tasked to assist.

A ground response team comprising of Queensland Police, the Queensland Ambulance Service, Rural Fire Brigade and National Park personnel made their way overland through dense vegetation and steep terrain to locate the helicopter and reach the six people in distress. Five people were led out and the one severely injured person was winched by the rescue helicopter and taken to Townsville Hospital.

![The helicopter crash site](image)
Yacht *Enya II* rescue

We received a 406 MHz distress beacon detection and a SPOT tracking device alert from the yacht *Enya II* approximately 110 kilometres north of Lord Howe Island around 10am on 3 September 2014. The solo sailor was travelling between Queensland and New Zealand when his 10-metre yacht hit heavy seas and his yacht suffered rigging damage.

A broadcast to shipping was issued and a Customs and Border Protection Dash 8 surveillance aircraft diverted. Upon arriving on scene the Customs aircraft sighted the *Enya II* disabled in heavy seas but could not establish communications with the skipper who was visible on deck. We also tasked our Essendon-based dedicated search and rescue Dornier aircraft, a civil aircraft and a Royal Australian Air Force (RAAF) C-130J *Hercules* to assist. The Dornier aircraft was able to drop water and communications equipment to the yachtsman.

The Danish-flagged container ship *Lars Maersk* was in the area and responded to the broadcast offering to provide assistance to the stricken yacht. The weather on scene was extreme with 6-9 metre waves and 70 kilometre per hour winds. As the *Lars Maersk* was attempting to manoeuvre alongside, the yachtsman decided that he would attempt to swim the remaining distance to the ship and jumped into the ocean just before night fall. Due to the conditions, he was unable to close the distance and instead found himself adrift in the ocean. The crew of the RAAF aircraft used night vision goggles to assist *Lars Maersk* in locating the yachtsman in the extreme weather conditions. The yachtsman, who was wearing an immersion suit, was recovered from the water by the *Lars Maersk* four hours later.

A debrief with the skipper of the *Enya II* revealed that the sailing vessel had sustained damage to the main sail and boom resulting in the vessel becoming non-manoeuvrable in extremely dangerous sea conditions. In addition, the yachtsman was unable to stem the flow of diesel fuel that was leaking heavily inside the yacht, making the deck extremely slippery and unstable. The yachtsman cited the bravery of the *Lars Maersk* in their efforts to rescue him and also reflected on the need for those that venture to sea to have proper communications and emergency equipment to best ensure their survival if a mishap occurs.
National Search and Rescue Council

We maintained a strong national leadership position as the Chair and Secretariat of the National Search and Rescue (NATSAR) Council. In October 2014 New South Wales Police Force hosted the 38th annual NATSAR Council meeting in Sydney. During the meeting, the members reviewed the strategic direction for the next five years and focused on initiatives that further enhance national search and rescue capability. The 2014 Australian Search and Rescue Award was presented to the crew of the Tasmanian Police vessel Van Diemen. The crew was responsible for saving the lives of 3 fishermen off Tasmania’s south-west coast in extreme weather conditions in January 2014. A commendation award was also presented to the crew of a Navy Seahawk helicopter from Nowra’s 816 Squadron for their role in rescuing a French couple after their yacht sank off the New South Wales coast in September 2013.

The combined search and rescue system of Australia recorded nearly 20,000 incidents and thousands of lives saved across Australia in 2014-15, highlighting the extent to which the cooperative nature of the search and rescue system continues to make a difference to the safety of our community.

Distress beacons

Distress beacons play a critical role in search and rescue. Over 70 per cent of all search and rescue incidents we responded to in 2014-15 involved a distress beacon. Australia continues to manage the second largest 406 MHz distress beacon database in the world with more than 382,000 beacons registered at 30 June 2015. Of these registered beacons, 65 per cent are equipped with Global Positioning Satellite (GPS), which provides precise location information, minimising the search time required. This can be attributed to our ongoing public awareness campaign that specifically targeted the ‘GPS is best’ message in 2013-14.

In March 2015 we launched our new beacon website to make beacon information more accessible for our stakeholders. We also continued to progress work on the enhancement of the online beacon registration system, which aims to support mobile devices, streamline business processes, and improve overall user experience during online beacon registration. This enhanced beacon registration website will be launched in September 2015.

Search and rescue capabilities

Dedicated airborne search and rescue service

We currently have a contract with AeroRescue Pty Ltd providing dedicated search and rescue aircraft based in Cairns, Brisbane, Melbourne and Perth, which is due to expire in the upcoming years. The contract for the dedicated aircraft in Darwin ended on 31 January 2015, with the remaining bases closing from August 2016 to February 2017. AeroRescue has been providing a round-the-clock dedicated search and rescue service to us for the last 10 years.

During 2014-15, the specially equipped Dornier 328 aircraft and highly trained crews provided to AMSA by AeroRescue flew for a total of 2337 hours and participated in a wide range of tasks including searches for people in distress, homing to emergency beacons and deployment of stores. We are working with AeroRescue to continue providing a reliable and effective service until the transition to the new contracted provider is completed.

A new contract was signed in October 2014 with Cobham SAR Services Pty Ltd (Cobham) which will provide the next generation aircraft dedicated to search and rescue from 2016, for a period of 12 years. Under this contract, Cobham will provide a comprehensive service to us which includes owning, modifying, maintaining and operating the aircraft.
The three specifically modified Bombardier Challenger 604 jets will operate out of Perth, Cairns and Melbourne, with an operational reserve aircraft located in Melbourne. The Challenger jets offer a longer search range and endurance, as well as improved deployment speed. Modifications to the aircraft include installation of advanced search and communication equipment, and emergency supply drop capability to people in distress.

In addition to the dedicated aircraft, we maintain a list of qualified aviation operators for the provision of opportunity-based search and rescue services. The list contains around 50 units (helicopters, aircraft and trained personnel) strategically located around Australia.

**Medium-altitude Earth Orbit Search and Rescue system**

In 2014-15 we continued to move forward with the upgrade of the International Cospas-Sarsat satellite system. This upgrade is a current priority of the International Cospas-Sarsat Programme which involves placing Medium-altitude Earth Orbit Search and Rescue (MEOSAR) receivers on new navigational satellites. The MEOSAR system will dramatically improve both the speed and location accuracy of distress beacon detections globally.

We conducted a joint approach with Maritime New Zealand to procure the MEOSAR capability for the region. McMurdo Group’s Techno-Science Inc was awarded the contracts in September 2014 to install and maintain two 6-antenna MEOSAR satellite tracking ground stations in Western Australia and the North Island of New Zealand, and a Mission Control Centre capable of processing MEOSAR data in Canberra.

The installation is expected to take 15 months and the system will be ready for operation in Australia and New Zealand by the start of 2017. It will work cooperatively to achieve overlapping coverage for Australia and New Zealand’s Search and Rescue Regions.

Once fully operational, the MEOSAR system will reduce beacon detection times from hours under the current system, to within 10 minutes, 95 per cent of the time. The existing Low-altitude Earth Orbit Search and Rescue (LEOSAR) satellite system will be phased out in coming years under international arrangements.

**Technology developments**

To ensure we continue to provide an effective and efficient search and rescue service for the Australian community, we regularly review and upgrade our technology. We are currently undertaking and/or planning trials of:

- Maritime Visual Anomaly Detection, which uses ultra-high resolution cameras to automatically detect anomalies on the sea surface. It extends coverage of a visual airborne search and can automatically detect target types (from people in the water to large vessels). The Maritime Anomaly Detection capability is part of our Challenger specification, which will be in service by 2016.

- Guided Stores Delivery System, which allows supplies to be dropped from the aircraft and then ‘flown’ to the target point by an operator on board with a remote control. This capability is currently being trialled for consideration as a future initiative.