

2 ELEMENTS OF A STRANDING NETWORK

The gathering of good information from a live stranding or carcass incident requires an organised systematic response including early detection and reporting followed by rapid effective action (e.g. efficient search, recovery and transport techniques). Ideally a stranding network should include:

- A mechanism or system for allowing quick reporting of live stranded, sick, injured or dead animals, such as a telephone ‘hotline’;
- An emergency response team to respond to reports of stranded live or dead animals;
- Organised and standardised data collection and reporting procedures;
- Logistic support and equipment for retrieval and transport of live animals or carcasses (when appropriate);
- A facility for medical treatment and rehabilitation in the case of live strandings;
- A facility for the effective *necropsy* of dead animals by trained personnel;
- A centralised and institutionalised facility for the permanent storage of data, photographs and specimen material (e.g. state or national museums).

The establishment of an incident control management team to oversee the operation (including searches, salvage, *necropsy*, disposal and debriefs) will assist in the co-ordination of an incident. When a *necropsy* is warranted, it is imperative that follow-up pathology and other testing by trained personnel is arranged for each incident, and that biological and anecdotal information is collected according to a standardised protocol to allow for detection of any trends in mortality patterns (see Section 3).

The overall objectives of a stranding network should be:

- To enable the wider community to report, effectively and rapidly, live strandings and mortalities.
- To ensure that an appropriate response is made to all reported dugong carcasses and live strandings.
- To maximise the number of live stranded and dead dugongs recovered so that the causes of mortality, strandings and injuries are identified.
- To ensure timely reporting of dugong live strandings and mortalities to all relevant parties, including the public.
- To enable long-term scientific studies of dugongs which provide information to improve their conservation, management and biological understanding.
- To increase public awareness of dugongs.

2.1 The Stranding Network in Queensland, Australia

The following is an example of the components of a stranding network in operation along the east coast of Queensland, Australia. This network encompasses a variety of government agencies (Commonwealth, State, regional offices), the public, various boating associations and private organisations.

2.1.1 Agencies and Organisations Involved

The overall coordination of dugong stranding and *necropsy* procedures is provided from the Queensland Parks and Wildlife Service (QPWS - State agency) office in Brisbane. However, the actual planning and operation of the stranding network is a regional responsibility. With few exceptions, such as situations where personal safety may be put at risk, QPWS staff in district offices examine and/or retrieve all reported sick, injured or dead dugongs with the

primary purpose of determining the cause of death and the presence, nature and extent of any disease or injury.

Reports of dugong and other marine wildlife incidents are provided mainly by the general public through a well-advertised statewide marine stranding telephone hotline. Reports are also provided by numerous other organisations and agencies. These include Air Sea Rescue, Coastwatch, Surf Lifesavers Australia, Queensland Commercial Fishermen's Organisation, Sunfish, Queensland Boating and Fisheries Patrol (QBFP), and local government councils. With the appropriate authorisation, staff of these agencies are often able to assist in carcass recovery. The QBFP plays a vital role in carcass reporting due to its responsibility for controlling shark nets and drumlines in Queensland and its expertise and time spent patrolling the inshore waters of the Queensland coast.

The Queensland statewide stranding network currently operates with the assistance of several external bodies that respond to incidents. The Queensland Department of Primary Industries veterinary laboratories in Rockhampton and Oonoonba provide expert technical assistance with necropsies and pathology. Live marine animal strandings from throughout southern and central Queensland are reported to Sea World (Gold Coast), and Underwater World (Sunshine Coast) who, with authorisation from QPWS, often respond to the strandings directly. In addition, Sea World provides staff and logistical support (including a vessel and helicopter) to QPWS for some live stranding incidents. Underwater World also assists QPWS staff in responding to and retrieval of stranded live animals. In the Townsville area, the Water Police often assist in recovering dugong carcasses, and biologists from James Cook University and the Great Barrier Reef Marine Park Authority frequently assist with necropsies. The QBFP, State Emergency Service, Surf Lifesavers Australia, and volunteers from the Australian Whale Conservation Society, local councils and the general public also provide invaluable assistance at strandings.

2.1.2 Reporting Procedures

Reports of dugong carcasses are transmitted to key State and Commonwealth government offices on an internal e-mail listserver to facilitate coordinated responses and rapid sharing of information. A public e-mail listserver is also used to inform interested persons and organisations of confirmed dugong live stranding and carcass incidents, and to provide information on causes of death when available. Joint State and Commonwealth media releases are usually issued as soon as possible after each incident.

2.2 Stranding Database

Data from each incident should be collected and reported according to a standardised protocol, and then incorporated into a statewide (or equivalent) database to allow for analyses and detection of trends. In Queensland, stranding information is incorporated into a stranding database managed and owned by QPWS. The data are entered into a searchable, relational database of stranded marine wildlife incidents. A second database is maintained with additional information relating to pathological analyses.