Senate Standing Committee on Environment and Communications
Legislation Committee
Answers to questions on notice
Environment portfolio

Question No: 110

Hearing: Additional Estimates

Outcome: Outcome 3

Programme: Australian Antarctic Division (AAD)

Topic: Australian Mammal Grants

Hansard Page: N/A

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Question Type: Written

Senator Urquhart asked:

What did the Australian Mammal Grants program achieve?

Answer:

The Australian Marine Mammals Grants Scheme began in 2006 and funded projects for research activities that use non-lethal techniques to improve the conservation of marine mammals through improved management of human and marine mammal interactions. This Scheme was initially funded by the Commonwealth Environment Research Fund and later by the International Whale and Marine Mammal Conservation Initiatives (IWMMCI). The Scheme also included the Indo-Pacific Conservation Fund and the Bill Dawbin Postdoctoral Fellowship.

The AMMC Grants Scheme ceased in June 2015. Over the life of the scheme $9,179,196 was allocated to 95 projects including:

- 14 projects ($1,238,124) on dugong
- 15 ($1,128,218) on seals and sea lions
- 44 ($3,542,508) on whales
- 12 ($1,525,731) on dolphins
- other projects on technique development and data analysis

All detailed project reports can be viewed at http://data.marinemammals.gov.au/grants.

Some key project outcomes are outlined by species below:

Dugong:

An aerial survey of all potential dugong habitat in the Torres Strait region was conducted in 2011 and spatial models were used to assess areas of important habitat. Almost one quarter of high-density dugong areas occurred within the existing Dugong Sanctuary, illustrating the value of enforcing this spatial management.

A process was developed for incorporating Indigenous Knowledge and scientific results to inform the management of coastal marine mammals in northern Australia. A series of community mapping and knowledge sharing workshops were funded, providing the range of information required for the Yanyuwa community to develop wildlife management strategies within their Sea Country.

Studies on the utilisation of dugong meat by indigenous communities showed that product was often transported considerable distances to community members that had moved away. This extra demand had impacts on the number of dugong being taken. The studies were designed to assist the affected communities to develop improved management plans.

Seals and sea lions:

Australian sea lions

Satellite transmitters have provided data on the habitat use of Australian sea lions which are threatened by bycatch in gillnet fisheries. This data is being used to model foraging overlap with commercial fisheries.

Pup production was monitored at key Australian sea lion breeding colonies within SA between 2011-2013. This included successful helicopter surveys at offshore islands and the trialling of remote camera systems to monitor breeding chronology. Three previously unrecorded breeding sites were discovered.

Australian fur seals:

Monitoring of pup-production for this species has continued with evidence of colonisation at new sites. Some colonies have suffered a larger decline in pup production than others, coinciding with a high prevalence of an alopecia syndrome that may directly cause high mortality rates, or indicate another stressor in the population.

New Zealand fur seals:

A census of all key breeding colonies of NZ fur seals throughout SA in 2014 provided an updated estimate of population abundance and pup production for this recovering species.

Whales:

Southern right whales:

Data on the trend in population size for the western sub-population of southern right whales were obtained for 2010- 2013. An aerial survey was successfully conducted to begin estimating the size of the smaller south-eastern population, where 78 individuals were identified. The total 'Australian' population is likely to number just over 3000 whales.

Biopsy samples and photo-identification has been used to analyse the differentiation between populations. Results show genetic differences between the small south-eastern population and that in the south-west, highlighting the importance of protecting the SE population from further impacts.

Photo-identification catalogues have been updated, providing information on population trends and life histories including: calving intervals, migration intervals, age of sexual maturity and site fidelity. The Australasian Right Whale Photo-identification Catalogue was successfully developed. This now functions as a centralised repository for data on individually identified southern right whales, providing researchers with tools for processing, managing, and sharing data, and providing information to the public.

Humpback whales:

A systematic aerial survey was undertaken within the Great Barrier Reef Marine Park, allowing the development of distribution models based on relative abundance. Pilot surveys were successful in assessing the viability of future survey locations for monitoring humpback whale migration in WA and assessing population size.

Studies were undertaken to test whale response to commercially available alarms which aim to prevent migrating whales from becoming entangled in fishing gear. There was no discernible alteration in directionality or behavioural responses to the alarms, suggesting that they are unlikely to effectively deter humpback whales from approaching potential hazards.

An expert workshop was held to discuss the development of an Australian humpback whale photo-identification catalogue. There was agreement that the creation of a national database would provide a mechanism for data sharing that has not previously existed for humpback whale researchers in Australia.

Fieldwork with humpback and blue whales was funded as part of a long-term study to develop a safe and reliable method of tracking the movements of large baleen whales with radio satellite tags. This work allowed refinement of tag design.

Controlled acoustic exposure experiments were carried out to study the movements and behaviour of humpback whales in relation to noise. The success of this work led to the start of the major research project: Behavioural Response of Australian Humpback Whales to Seismic Surveys (BRAHSS), funded by the international oil and gas industry's E&P Sound and Marine Life Joint Industry Program (JIP).

Beaked whales:

Habitat maps were developed for an offshore area of the Coral Sea by correlating acoustic detections of beaked whales with environmental variables includin sea floor and oceanographic properties. This was intended as a first step in developing prediction methods for beaked whales around Australia. Beaked whale habitat preference was found to include steep slopes in deep water, cooler sea surface temperature, and areas of higher salinity.

Sperm whales:

The genetic population structure of sperm whales in Australian waters was assessed using a combination of contemporary and historic samples. This work found evidence for matrilineal population structure in at least two regions in Australia (Albany and Tasmania), which suggests these populations should be considered as separate management units.

Blue whales:

Boat surveys for photo-identification and biopsy sampling of blue whales were undertaken in the Bonney Upwelling, Perth Canyon and Geographe Bay in 2009 and 2010. The results indicate that the whales in each region are of the pygmy blue whale subspecies and that they have short to medium term residency patterns.

Dwarf minke whales

This species is a regular visitor to the Great Barrier reef providing a developing opportunity for eco-tourism. The study included satellite tagging to determine migratory pathways and habitat preferences to improve the management of this undescribed species.

<u>Dolphins:</u>

Boat-based surveys were undertaken to estimate abundance, social structure and movement of coastal dolphins within Australia's tropical northwest. Data revealed a significant genetic differentiation and low connectivity between sampling locations and it is recommended that each population is managed independently in the future.

Work in the Papua New Guinea waters adjacent to Torres Strait was undertaken, including pilot surveys of snubfin dolphins to aid in future study design, and discussions with local fishers to gain insight into the historical and current day distribution of dolphins within this region.

Population size, structure and habitat preferences of common dolphins in SA were investigated to aid in the mitigation of fisheries interactions. Although estimates indicated a high density of common dolphins, fine-scale genetic structure was apparent with the identification of six management units. At least two of these dolphin populations are at risk from fisheries bycatch.

<u>Technique development and data analysis:</u>

Successful workshops were held on using GIS techniques in cetacean research. These workshops received very positive feedback from participants who included graduate students, professional academics, environmental consultants and government scientists.

An acoustic energy model was developed for 'pingers' used in bycatch mitigation to assess the detection of fishing nets by marine mammals. Results show that the number of pingers currently deployed per net is adequate for humpback whales, dugong, and dolphins. Further *in situ* studies of animal behaviour and long-term monitoring of bycatch rates is needed to truly assess whether pinger arrangement is adequate for bycatch mitigation.

A reliable euthanasia method for stranded small cetacean species has been established, and the Standard Operating Procedure developed from this work will be of practical use to wildlife management agencies world-wide.