North Australian Indigenous Land and Sea Management Alliance

# Knowledge Series

**003/2009**
Project Evaluation

# Performance Story Report

## Evaluation of Investment in the Dugong and Marine Turtle Project

Bessen Consulting Services

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North Australian Indigenous Land & Sea Management Alliance

Australian Government
Department of the Environment, Water, Heritage and the Arts
Department of Agriculture, Fisheries and Forestry

# Evaluation of Investment in the Dugong and Marine Turtle Project

Towards Community Capacity and Biodiversity Outcomes


*Photo acknowledgments, Joshua Kitchens, NAILSMA, Bardi Jawi Rangers and li-Anthawirriyarra Rangers*

# Performance Story Report

**utilising multiple lines of evidence**
**for the contribution of investment in the Dugong and Marine Turtle Project towards community capacity, biodiversity and other outcomes**

for

**The Australian Government**
**Land and Coasts Team**

December 2008

**Prepared by:** **Bessen Consulting Services**

This Performance Story Report has been published by NAILSMA as part of the NAILSMA Knowledge Series with the permission of the Australian Government. Performance Story Reporting is a tool for evaluating investment in natural resource management projects. This publication is an example of a report generated using this evaluation technique.

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# Index



## Glossary of Terms

| | | |
|---|---|---|
| ANU | – | Australian National University |
| Balkanu | – | Balkanu Cape York Development Corporation |
| CDEP | – | Community Development Employment Projects |
| CLCAC | – | Carpentaria Land Council Aboriginal Corporation |
| CRC | – | Cooperative Research Centre (CRC for Tropical Savannas Management) |
| DEWHA | – | Department of Environment, Water, Heritage and The Arts (Australian Government) |
| DMT / DMTP | – | Dugong and marine turtle / Dugong and Marine Turtle Project |
| DPIF | – | Department of Primary Industries and Fisheries (Queensland Government) |
| DVD | – | Digital video disc |
| GBR | – | Great Barrier Reef |
| GIS/GPS | – | Geographic information systems / Global positioning systems |
| IPA | – | Indigenous Protected Areas |
| *I-Tracker* | – | The North Australian Indigenous Cybertracker Network |
| JCU | – | James Cook University |
| KLC | – | Kimberley Land Council |
| MERI | – | Monitoring, Evaluation, Reporting and Improvement process |
| MPA | – | Marine Protected Areas |
| MSC | – | Most Significant Change process |
| MTSRF | – | Marine Tropical Science Research Facility – James Cook University |
| NAILSMA | – | Northern Australian Indigenous Land and Sea Management Alliance |
| NLC | – | Northern Land Council |
| NRETAS | – | Natural Resources, Environment, The Arts and Sport |
| NRM | – | Natural resource management |
| NT | – | Northern Territory |
| PNG | – | Papua New Guinea |
| PSR | – | Performance Story Report process |
| PZJA | – | Protected Zone Joint Agreement (Torres Strait) |
| RAPs | – | Regional Activity Plans |
| TO | – | Traditional Owner |
| TRG | – | Technical Reference Group |
| TSRA | – | Torres Strait Regional Authority |
| WWF | – | World Wide Fund for Nature |

- ***Indigenous readers are warned that the names or photographs of deceased people may appear in this report.***
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# Executive Summary

The Dugong and Marine Turtle Project is a stand-out success.

As a major project attracting significant Australian Government funding, the outcomes achieved in the project have outstripped the original expectations. In terms of the key evaluation questions, a network of skilled Indigenous and non-Indigenous land and sea managers has been established across northern Australia. Where the project is operating, community based management planning is leading to more effective management of threats to species and habitats. Multiple lines of evidence from science and on-country interviews confirm changes in attitude, capacity and practice, including greater protection of habitat and self imposed spatial closures and limits on harvest.

Arising in an adversarial context between the drive to conserve dugong and marine turtle (with a particular focus on limiting perceived impacts of Indigenous harvest) and Indigenous interest in managing the diversity of threats and maintaining rights to the traditional use of these iconic species, the project has had to address challenges of remoteness and limited capacity over a vast area stretching from Torres Strait to the Kimberley. Against this background, the project demonstrates the success of a two tool box approach to integrate Indigenous knowledge and Western science and the power of increasing the capacity of Indigenous land and sea managers to carry out management activities.

Breakthroughs have been achieved through the creation of innovative and interactive communication to build awareness and foster an effective network; and the development and implementation of state-of-the-art technology such as *I-Tracker* to collect and manage information about dugongs and marine turtles.

From this project, the Australian Government has learnt that Traditional Owners can manage a very large project and achieve the outcomes specified as well as achieving a large number of additional social, cultural, environmental and economic outcomes. Traditional Owners have learnt the value of broad networks where Indigenous people are linked by their interests and use their diverse cultural knowledge as a common foundation for the sustainable management of culturally and economically important species.

The project is poised to step up a level in sophistication. The initial capacity building has provided a foundation that can be used to take advantage of opportunities such as *Working on Country* for wages and operating costs for Ranger groups; the *Indigenous Protected Areas* program to strengthen cultural authority and enforcement; and the *I–Tracker Network* to deliver robust data on populations and changes to sea country managers and Australian Government funders.

These opportunities will not be without challenges, including the need for an agreed and accepted framework for data collection; State and Territory support for greater enforcement powers for land and sea managers; and the necessity to work collaboratively and synergistically with the many agencies and institutions working with dugongs and marine turtles.

The progress made on dugong and marine turtle management through the project has been a catalyst for raising Indigenous aspirations for broader sea country management. It is a clear confirmation that conservation in northern Australia cannot be achieved without Indigenous involvement at the core.

# SECTION ONE - CONTEXT

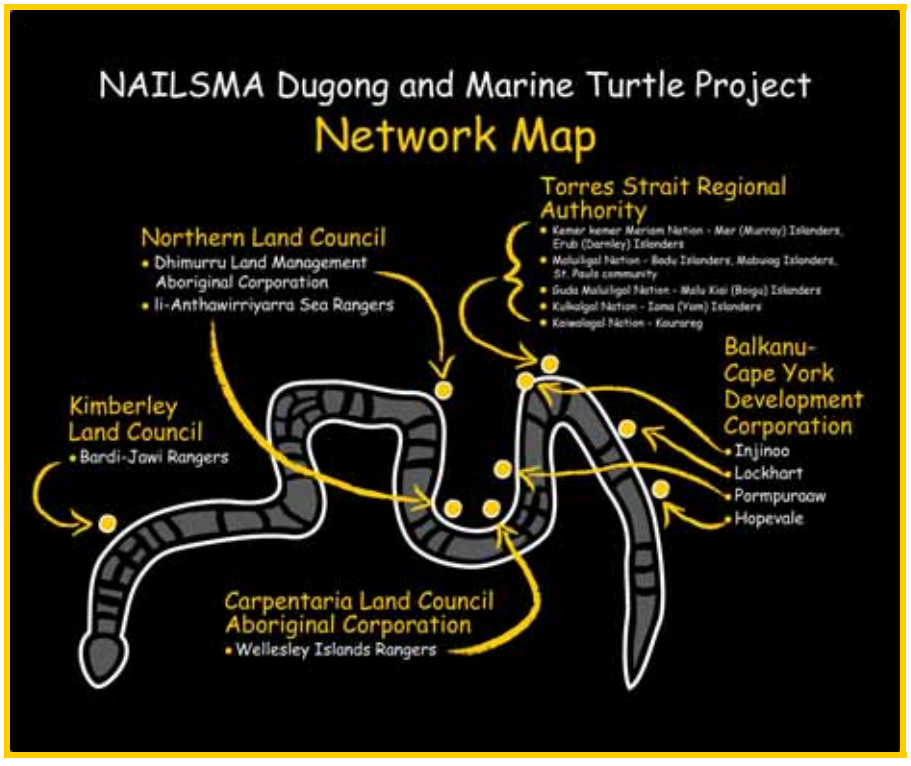
## The Project

The Dugong and Marine Turtle Project is about Indigenous communities across northern Australia working together to protect threatened sea turtles and dugongs and their coastal habitats. As migratory species whose home ranges cross borders and seas, effective management requires partnerships, networks and collaborations that span northern Australia and neighbouring nations.

The partners of the Dugong and Marine Turtle Project are:

- Kimberley Land Council;
- Northern Land Council;
- Carpentaria Land Council Aboriginal Corporation;
- Balkanu Cape York Development Corporation; and
- Torres Strait Regional Authority.

Coordinated by the North Australian Indigenous Land and Sea Management Alliance (NAILSMA) and the CRC for Tropical Savannas, the project takes a fresh approach by ensuring that Traditional Owners and Indigenous communities are driving research and management activities.




The project commenced in January 2005. Year One was focussed on the start-up phase and extensive community consultations by the partner organisations to develop Regional Activity Plans in selected pilot communities. The Regional Activity Plans identify Traditional Owners' needs and aspirations, the issues and threats facing dugong and marine turtle management, and the management and research activities that communities wish to undertake. Two intensive planning meetings involving project partners, participants from trial communities and a Technical Reference Group (TRG) comprising representatives from research organisations,

industry, NGOs, regional NRM bodies and Australian, State and Territory governments guided the development and cross-regional alignment of the RAPs and the identification of other cross-regional priorities and activities. Project go-ahead was approved by the Australian Government NRM Joint Team at the "Key Decision Point" in August 2005.

Year Two involved the recruitment of regional coordinators and community based officers, the development of contractual and support arrangements, the establishment of Ranger groups and the implementation of the Regional Activity Plans.

In Year Three, the focus was firmly on delivering on-ground activities, through significantly increased local management capacities in the pilot communities.

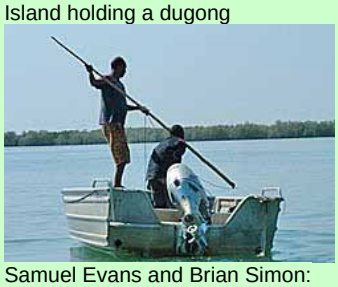
Year Four has involved further implementation of the Regional Activity Plans and the refinement of new initiatives such as Message Disk for communication and *I-Tracker* for improved monitoring activities.

Initial funding of $3.8 million was provided from the Regional Competitive Component of the Natural Heritage Trust in 2004. The Trust committed an additional $700,000 to the project to enable expansion into the Torres Strait region, and $100,000 was made available to the CRC for Tropical Savannas Management to ensure that essential support for this extended activity continued.

In December 2007, an additional $250,000 of Trust funding allowed the project to be extended until June 2008 giving a total project funding of $4.85 million. A further $600,000 has been committed as transitional funding to June 2009. Cash and in-kind contributions from project partners and participating communities are estimated at more than $3 million.

Nalkuma Burrawanga and Banula Marika releasing a turtle

Aaron Kelly from Mornington Island holding a dugong



Samuel Evans and Brian Simon: traditional hunting

Photo credits from top are:
Dhimurru Land Management Aboriginal Corporation
Carpentaria Land Council Aboriginal Corporation
Mabunji Aboriginal Resource Association

## The Performance Story Report

### Aim

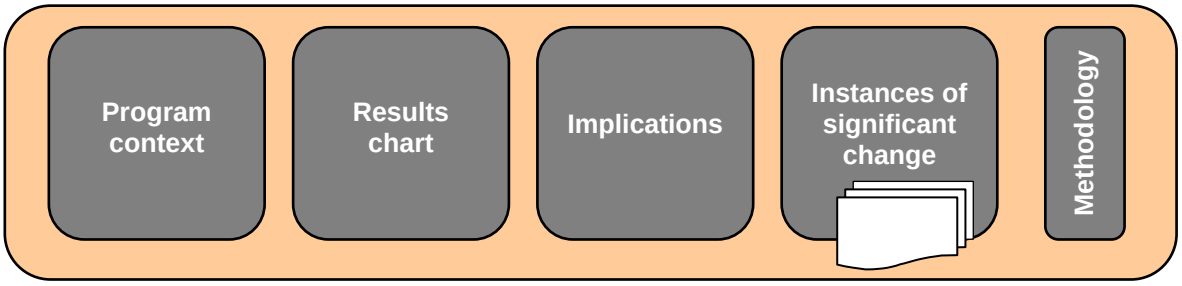
A Performance Story Report is an evaluation approach to determine the progress that has been achieved in maintaining or improving NRM assets*. It is a participative process that matches quantitative evidence from a data trawl and Science Panels with qualitative evidence of most significant change from a Traditional Owners Panel, community members and key stakeholders.

In this case, the Key Evaluation Questions assess evidence for biodiversity and community capacity outcomes in northern Australia, from Cape York and Torres Strait in the east to the Kimberley in the West.

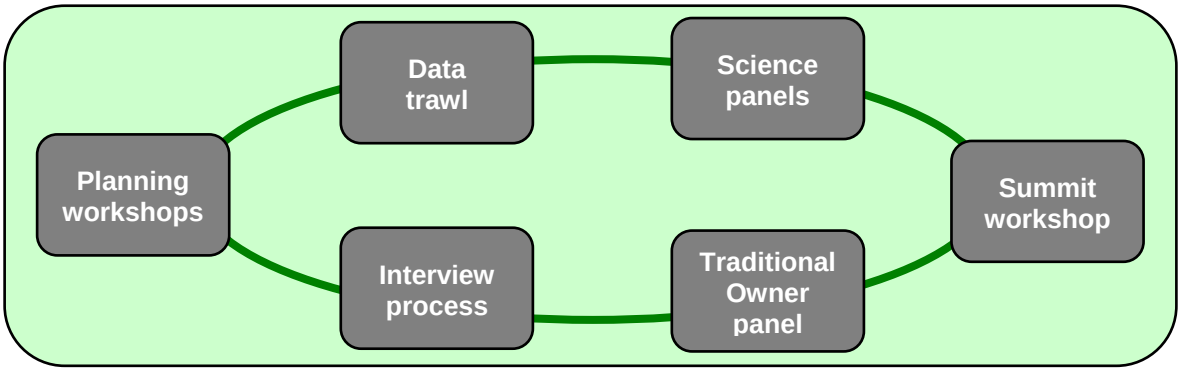
* In the Dugong and Marine Turtle Project, the biophysical assets are dugong, marine turtles and sea country; the social and economic assets are people and capacity.

### Structure and Process

The structure of this Performance Story Report is:




The process used was:




Details of each process step are contained in Section 5 – Methodology.

# Program Logic

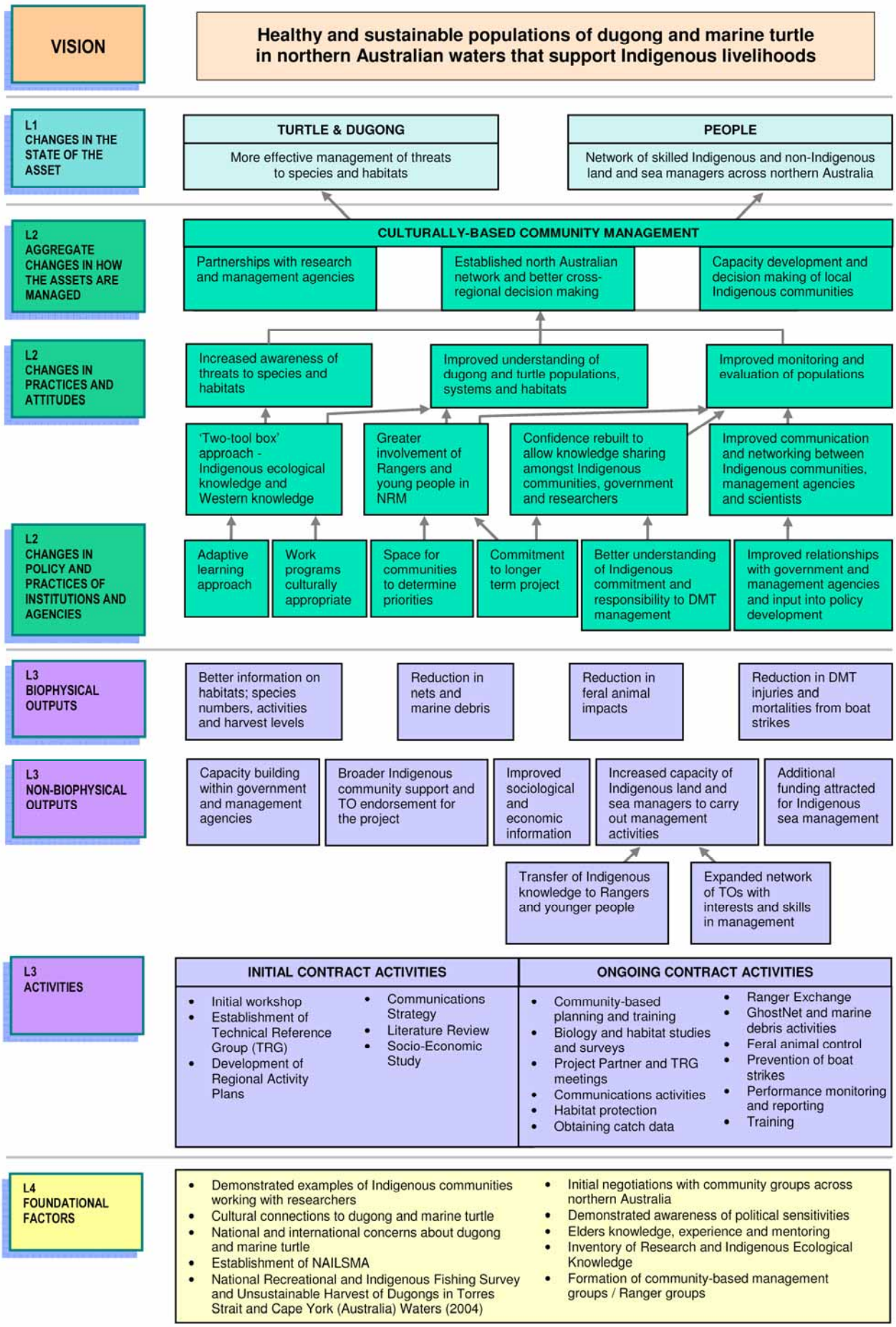
The following program logic over page illustrates the cause-and-effect relationship between project activities, outputs, intermediate outcomes and ultimate outcomes.

## Evaluation Questions

This performance story report is focussed on the partners within the project and examines the outcomes for biodiversity and community capacity from a range of land and sea management practices and initiatives, funded by the Australian Government over the past four years.

The evaluation questions used to guide this study are:

- How is culturally-based community management leading to more effective management of threats to dugong and marine turtle and their habitats?
- How is capacity building leading to a network of skilled Indigenous and non-Indigenous land and sea managers across northern Australia?
- How are awareness and understanding translating into better decision making at the local and regional levels?
- What is the current status of monitoring for dugong and marine turtle populations and habitats?
- How are relationships between government, management agencies and community members affecting the outcomes of the project?


VISION
Healthy and sustainable populations of dugong and marine turtle in northern Australian waters that support Indigenous livelihoods
L1 CHANGES IN THE STATE OF THE ASSET
TURTLE & DUGONG
More effective management of threats to species and habitats
PEOPLE
Network of skilled Indigenous and non-Indigenous land and sea managers across northern Australia
L2 AGGREGATE CHANGES IN HOW THE ASSETS ARE MANAGED
CULTURALLY-BASED COMMUNITY MANAGEMENT
Partnerships with research and management agencies
Established north Australian network and better cross-regional decision making
Capacity development and decision making of local Indigenous communities
L2 CHANGES IN PRACTICES AND ATTITUDES
Increased awareness of threats to species and habitats
Improved understanding of dugong and turtle populations, systems and habitats
Improved monitoring and evaluation of populations
'Two-tool box' approach - Indigenous ecological knowledge and Western knowledge
Greater involvement of Rangers and young people in NRM
Confidence rebuilt to allow knowledge sharing amongst Indigenous communities, government and researchers
Improved communication and networking between Indigenous communities, management agencies and scientists
L2 CHANGES IN POLICY AND PRACTICES OF INSTITUTIONS AND AGENCIES
Adaptive learning approach
Work programs culturally appropriate
Space for communities to determine priorities
Commitment to longer term project
Better understanding of Indigenous commitment and responsibility to DMT management
Improved relationships with government and management agencies and input into policy development
L3 BIOPHYSICAL OUTPUTS
Better information on habitats; species numbers, activities and harvest levels
Reduction in nets and marine debris
Reduction in feral animal impacts
Reduction in DMT injuries and mortalities from boat strikes
L3 NON-BIOPHYSICAL OUTPUTS
Capacity building within government and management agencies
Broader Indigenous community support and TO endorsement for the project
Improved sociological and economic information
Increased capacity of Indigenous land and sea managers to carry out management activities
Additional funding attracted for Indigenous sea management
Transfer of Indigenous knowledge to Rangers and younger people
Expanded network of TOs with interests and skills in management
L3 ACTIVITIES
INITIAL CONTRACT ACTIVITIES
Initial workshop
Establishment of Technical Reference Group (TRG)
Development of Regional Activity Plans
Communications Strategy
Literature Review
Socio-Economic Study
ONGOING CONTRACT ACTIVITIES
Community-based planning and training
Biology and habitat studies and surveys
Project Partner and TRG meetings
Communications activities
Habitat protection
Obtaining catch data
Ranger Exchange
GhostNet and marine debris activities
Feral animal control
Prevention of boat strikes
Performance monitoring and reporting
Training
L4 FOUNDATIONAL FACTORS
Demonstrated examples of Indigenous communities working with researchers
Cultural connections to dugong and marine turtle
National and international concerns about dugong and marine turtle
Establishment of NAILSMA
National Recreational and Indigenous Fishing Survey and Unsustainable Harvest of Dugongs in Torres Strait and Cape York (Australia) Waters (2004)
Initial negotiations with community groups across northern Australia
Demonstrated awareness of political sensitivities
Elders knowledge, experience and mentoring
Inventory of Research and Indigenous Ecological Knowledge
Formation of community-based management groups / Ranger groups

# SECTION TWO - ABBREVIATED RESULTS CHART

This results chart is an abbreviated version of the main results chart (see Appendix I) that highlights how investment in critical program logic steps of the Dugong and Marine Turtle Project has contributed to higher order outcomes.

### *How to read the results chart*

Actual results (second column) are reported against expected results (first column) and informed by available qualitative and quantitative evidence (third column). Evidence within the results chart is referenced to the accompanying data trawl.

| Program Logic Step | Results Statement * Science Panel Statement / Traditional Owner Panel Statement | Examples to Illustrate Results |
|---|---|---|
| ***LEVEL 3*** ***Non-Biophysical Outputs*** • **Increased capacity of Indigenous land and sea managers to carry out management activities** | • There is strong evidence of increased capacity of Indigenous land and sea managers to carry out management activities, where the project has been operating. (Science Panel) | • The MSC process provides strong evidence.<br>• Project reports detail the growth and impact of the Ranger movement, the development of dugong and marine turtle management plans at the local level and the implementation of management activities in each of the partner regions; [2, 3, 10]<br>• 667 people from 61 stakeholder groups have had involvement in the project, across the 5 partner regions; [SSI]<br>• The project has employed 47 people in remote Australia; [26]<br>• 136 community members trained in GIS, GPS for improved management in Torres Strait; [28]<br>• Coxswain training for Rangers (20 trained, 12 fully qualified through NLC); [3]<br>• Training delivered on: necropsy and tissue sampling for toxicity studies; biopsy sampling for genetic studies; turtle tagging and handling; nest measurements, nest predation and egg handling; turtle health assessment including blood sampling; dugong and turtle rodeo (live) capture and handling procedures; satellite tracking and transmitter attachment; laparoscopy; collecting and managing data eg: catch management and monitoring; seagrass monitoring using methods of the established *Seagrass Watch Program*; aerial survey methods; spatial closures analysis; *I-Tracker* and *Cybertracker* software; and through Certificates in Land Management (eg: Kimberley TAFE and Batchelor Institute); biosecurity training by AQIS; training in surveillance by Australian Customs; feral animal aerial survey; Introductory Fisheries Management Training; participatory planning training; developing work plans and standard operating procedures; writing articles and funding applications; First Aid; media and communication skills; leadership and team building. [5]<br>• Stories on Message Disk indicate significant levels of growth in community management capacity. [13] |
| ***LEVEL 2*** ***Changes in Practices and Attitudes*** • **Increased awareness of threats to species and habitats** | • There has been a marked increase in awareness of threats to dugong and turtle amongst scientists and management agencies. (Science Panel)<br>• There is increased awareness of associated NRM management gaps. (Traditional Owners) | • Marked increase in awareness of threats in the Great Barrier Reef Marine Park region and in the Torres Strait Region arising from the mapping and prioritisation of hazards and threats, including gill netting and trawling impacts on marine turtles; [28, 29]<br>• Initiatives such as Sea Grass Watch and the Ghost Nets Project have been extremely effective in raising awareness in the Gulf region; [19, MSC]<br>• 8 turtle and dugong management plans developed in Torres Strait were the result of nearly 50 Island and Nation (group of islands) community meetings over 4 years. [5] |

*(Science Panel) refers to statements from the Darwin or Townsville Science Panel Workshops; (Traditional Owners) refers to statements from the Traditional Owners Panel at Nhulunbuy.

| Program Logic Step | Results Statement | Examples to Illustrate Results |
|---|---|---|
| | • The DMT Project has been very significant in raising awareness at the community level, through Land and Sea Management Units and Ranger programs. (Science Panel)<br>• Traditional Owners and Rangers are learning new skills and gaining increased knowledge of how they can reduce threats to dugong and marine turtle; awareness of migration patterns is now more apparent. (Traditional Owners) | • Where NAILSMA involvement has strengthened capacity such as Rangers, Coordinators and Project staff, community awareness has increased significantly; [26]<br>• Where community based planning has been encouraged by the DMT Project, community awareness has increased dramatically; [26, 28]<br>• There is an increase in awareness around climate change; [17, 19]<br>• Awareness is increasing perceived effectiveness of the project of 80% in awareness through work done in schools; [PPFS]<br>• Communication Products from this project such as the Knowledge Handbook, Message Disk, newsletters and exchange visits have significantly increased Indigenous understanding of threats; [19, MSC]<br>• Outside of the project area, awareness has mostly increased through long term contacts with key leaders who act as champions and bring awareness into communities. [SP] |
| ***LEVEL 2***<br>***Changes in Practices and Attitudes***<br>• **Improved understanding of dugong and turtle populations, systems and habitats** | • There has been improved understanding through research partnerships and communication but there is still a widespread lack of region specific, site specific and stock specific information for better management.(SP) | • There are significant gaps in knowledge on the size and distribution of turtle and dugong populations as identified in national and international policy documents such as the National Marine Turtle and Dugong Plan and the Memorandum of Understanding on the Conservation and Management of Marine Turtles and Their Habitats of the Indian Ocean and South East Asia; [DT]<br>• The Dugong and Marine Turtle Web Portal has become an important source of in-depth information and on-ground updates for wider Australia and visitation to DMTP specific content has increased dramatically from 2008. [5] |
| | • Improved understanding is evident in addressing larger scale management questions and setting priorities for attention. (Science Panel) | • Advances are occurring in tackling big picture management questions through approaches that require relatively shorter timeframes and funding levels, eg:<br>– spatial analysis work on hazards and threats;<br>– aerial surveys for dugong for 2004 – 2007;<br>– telemetry that demonstrates migratory pathways and dramatically increases community understanding when presented graphically;<br>– genetic work that identifies differences in stocks and builds understanding about the differing management required for stocks;<br>– modelling that illustrates trends and informs management; [SP]<br>• RAPs continue to guide management actions and have been incorporated into other long term planning instruments such as: the *Thuwathu / Bujimulla Sea Country Plan - Aboriginal management of the Wellesley Islands region of the Gulf of Carpentaria*; the *Yolnguwu Monuk Gapu Wanga Sea Country Plan - A Yolngu vision and plan for sea country management in North-East Arnhem Land, Northern Territory*; and the *Barni-Wardimantha Awara (Don't Spoil the Country) Yanyuwa Sea Country Plan*; significant effort has gone into the implementation of sea country plans—both in on-country work schedules and in securing resources and support; [5]<br>• Wellesley Island sea grass survey completed by Wellesley Island Rangers and Queensland DPIF is being used by Australian Government DEWHA Marine Division to inform marine bioregional planning. [SSI] |

| Program Logic Step | Results Statement | Examples to Illustrate Results |
|---|---|---|
| | • Where threats are removed, populations have the capacity to recover. (Science Panel) | • Key research papers demonstrate that where threats have been addressed in six global sea turtle data sets, population declines have been arrested and are now trending upwards (Chaloupka et al 2008); [30]<br>• The authors assert that relatively simple conservation strategies can have a profound effect on the recovery of once depleted stocks; [30]<br>• Two green turtle stocks in Queensland show an increase according to recent analyses of 30 years of data but the rate of increase is now slowing in Northern GBR stock. [30] |
| ***LEVEL 2***<br>***Changes in Practices and Attitudes***<br>• **Improved monitoring and evaluation of populations** | • Current data is not sufficiently robust to detect population changes from a management intervention, over a short timeframe. (Science Panel) | • Degree of error in current data is too large; animals are long lived, have slow growth rates and long time lags are involved; [3]<br>• Enough information to develop general guidelines, based on rule of thumb and cultural management; [SP]<br>• Not enough information on all forms of mortality or on stock levels (rather than site level information); [SP]<br>• Potential to use index sites and other indicators but no reliable measurements of system- wide impacts; [SP]<br>• Established long term schedule for reporting of turtle and dugong mortality, counts of nesting turtles numbers at index beaches and annual turtle tagging census by Ii-Anthawirriyarra Rangers in the Sir Edward Pellew Islands; [5, 13]<br>• Probably won't have enough information to detect system-wide changes for a number of decades, due to the complexity involved, the lack of long term monitoring sites and the confounding influences of climate change in the next few decades; [SP]<br>• Standard method of monitoring population change by monitoring nesting effort (eg: counting/tagging nesting turtles or counting nesting tracks) is unreliable except for very long term (2-3 decades) datasets, as nesting numbers fluctuate widely from year to year; [SSI]<br>• These methods often pose huge logistic challenges in maintaining field crews in remote locations for long periods in difficult circumstances; [SSI]<br>• New methods for measuring population change such as population indices based on in-water counts of turtle and dugong are urgently needed. [29] |
| | • *Cybertracker* has emerged as a significant tool for robust, repeatable and consistent monitoring within the project. (Science Panel)<br>• There are more turtle monitoring patrols and the use of new technology like *Cybertracker* and *I-Tracker* by Rangers that allows Traditional Owners to collect accurate information. (TO) | • Ranger groups are enthusiastic about the practicality and use of *Cybertracker* systems and the *I-Tracker* network; [3, 5, 10, 11]<br>• Systems and protocols for widespread use are being implemented through the project. [4, 11] |
| ***LEVEL 2***<br>***Aggregate Changes in How the Assets are Managed***<br>• **Partnerships with research and management agencies** | • There has been a significant increase in research partnerships, with more groups asking for research partnerships and evidence of improvements in the quality of the research partnerships, in terms of more equitable involvement of Indigenous people and more structured agreements on processes and protocols. (Science Panel)<br>Partnerships with scientists and government agencies are building. (Traditional Owners) | • An obvious and significant increase in research partnerships and quality, in the sector, eg groups such as Dhimurru Aboriginal Corporation can list 22 substantial partnerships in place; [SSI, MSC]<br>• Examples from the project include a research agreement developed with the Bardi-Jawi Rangers, Edith Cowan University and the WA Department of Conservation for the Green Turtle Tracking Project; the Dhimurru Rangers, Charles Darwin University and NT Management agencies for satellite tracking agreements; the Carpentaria Land Council Aboriginal Corporation – Queensland Department of Primary Industries and Fisheries seagrass survey agreement; NRETAS seagrass surveys; Seagrass Watch; satellite tracking of marine turtles from the Wellesley Islands by the Wellesley Islands Rangers in collaboration with James Cook University; nine individual research projects in the Torres Strait in conjunction with James Cook University and the Marine Tropical Science Research Facility (MTSRF) involving: turtle foraging population surveys; turtle nesting population surveys; turtle nest predation survey; and involvement of Traditional |

| Program Logic Step | Results Statement | Examples to Illustrate Results |
|---|---|---|
| | | Owners in Torres Strait dugong aerial surveys conducted in 2006; [14, 18]<br>• Joint patrols between li-Anthawirriyarra Rangers and NT Police and Fisheries Officers [26]<br>• In support, there has been a change of attitude by researchers, increasing attendance at forums and increasing feedback to communities. [SP] |
| ***LEVEL 2***<br>***Changes in Practices and Attitudes***<br>• **Established north Australian network and better cross-regional decision making** | • Consistent progress has been achieved in establishing a north Australian network through this project, including improved cross regional decision making. (Science Panel) | • The project demonstrates regular meetings, exchanges and communication between regional partners; [8, 19]<br>• Discussions with Papua New Guinean villagers during community consultation on Torres Strait management plans and formal meetings with PNG representatives through meetings such as the Australian / PNG Torres Strait Bilateral Meetings and associated trip to Daru and Port Moresby; [5]<br>• The Traditional Owner Panel provides evidence of common approaches and initiatives across the partners; [MSC]<br>• Prior to the DMT Project, the projects have been one-off activities, not sustained over time and not sustained across communities. [SP, MSC] |
| ***LEVEL 2***<br>***Changes in Practices and Attitudes***<br>• **Capacity development and decision making of local Indigenous communities** | • There has been an enormous increase in capacity to negotiate and agree on dugong and marine turtle management, at the community level. (Science Panel)<br>• Traditional Owners have developed their own dugong and marine turtle management plans, and are implementing them. (Traditional Owners) | • Assisted partners to build and strengthen TSRA Land and Sea Management Unit, CLCAC Land and Sea Unit and KLC Land and Sea Unit; [5, 10]<br>• Information transferred to Rangers is being expressed in community based management planning and self imposed limits are increasing; [4, 13, 16, 25, 28]<br>• Cultural concerns are being seen as the pathway to addressing biological concerns; [8]<br>• The project has provided the underlying sustainability to translate awareness raising into actions in local communities, in partner areas; [SP]<br>• Significant examples include the Community Management Plans developed by Torres Strait communities and the transfer of these learnings to other communities. [25] |
| ***LEVEL 1***<br>***Changes in the State of the Asset***<br>• **More effective management of threats to species and habitats** | • In certain areas, there have been significant gains in the effective management of threats. For the majority of the area, incremental gains are being achieved, in the face of increasing pressures. (Science Panel)<br>• Active Traditional Owner dugong and marine turtle management is being decided by Traditional Owners (eg: closure of turtle nesting beaches). (Traditional Owners) | • The rezoning of the Great Barrier Reef Marine Park has made a huge difference in reducing threats to populations; [29]<br>• The Ghost Nets Programme has made a significant impact on the threats from marine debris and floating nets; [13, 19]<br>• Indigenous Protected Areas established to cover land and marine assets, eg: Dhimurru IPA established; Bardi Jawi Rangers, Wellesley Islands Rangers, li-Anthawirriyarra Rangers and the Mabuiag Rangers are pursuing Indigenous Protected Areas; [16]<br>• Zoning discussions are offering potential in areas such as the Torres Strait, through community based management planning:<br>– the process is strongly endorsed by the communities;<br>– the infrastructure is in place to support implementation;<br>– 8 community-based management plans are in place; [28]<br>• On-ground management is producing outcomes in areas including Western Cape York, the Gulf of Carpentaria, the Arnhem Land Coast and the Bardi Jawi area in Western Australia in terms of control of predators, reduction in hunting and removal of floating nets; [5, 25]<br>• Pressures on species are increasing from significant increases in port development, commercial marine traffic, increasing workforce and recreational pressures in remote areas; [SP]<br>• Although species are expected to adapt to climate change in the longer term, pressures are increasing in the shorter term through changes to nesting beaches and feeding grounds. [SP] |

| Program Logic Step | Results Statement | Examples to Illustrate Results |
|---|---|---|
| | • Through the project, a process for the recognition of threats has been started in local communities and management steps have been introduced but there is still a long way to go for full implementation. (Science Panel) | • In pilot areas, culturally-based management is reducing some of the controllable threats; [5, 25]<br>• The loss of traditional knowledge is being reduced in areas where the project has operated; [6, 25]<br>• Good models for working together have been developed; [3, 4, 5, 10, 13, 18, 21, 25, 28]<br>• Partnership agreements are in place; [10, 13, 18]<br>• Some significant increases in local capacity, eg: project with the li-Anthawirriyarra Rangers (funded by the Australian Marine Mammals Centre) to work with the NAILSMA *I-Tracker* program to develop new methods for Indigenous Rangers to monitor turtle and dugong populations in the water; [4, 5, 10, 28]<br>• Increases in understanding the larger scale, in some areas; [16, 20, 29]<br>• Improved communication tools and approaches. [12, 19] |
| ***LEVEL 1***<br>***Changes in the State of the Asset***<br>• **Network of skilled Indigenous and non-Indigenous land and sea managers across northern Australia** | • Strong progress has been achieved in the growth of a skilled network across north Australia. (Science Panel)<br>• A network has been created across the north of Australia, for dugong and marine turtle. (Traditional Owners) | • The project has linked up existing community-based Ranger groups and been the catalyst for new groups forming across north Australia; [19, MSC]<br>• 6 Ranger exchange programs encouraged project participants to share ideas and experiences on country, to learn new methods and techniques and to reinforce shared responsibilities for the management of migratory species; [5]<br>• International exchanges including the Native Oceans Exchange program, the Hawaiian Sea Turtle Research program and the Arafura Timor Sea Experts Forum; [5, 10, 13]<br>• There are now 17 groups trialling *I-Tracker;* [26]<br>• External partners such as AQIS and Customs are providing contract work through the network; [26]<br>• A recent statement by the Federal Minister for the Environment referred to the network as “the front line managers of northern Australia”. [SSI] |
| | • The work done through the DMT project has been a catalyst for a significant rise in Indigenous aspirations for broader sea country management. (Science Panel) | • The legacy of the DMT Project is the significant rise in Indigenous aspirations, accompanied by some shifts in Government policy including active engagement with local communities and the development of better capacity for sea country management; [SP]<br>• Administrative and managerial capacity of the NAILSMA project needs to be supported and enhanced, to match the growth of the network and the increasing demands on communities. [SSI, MSC] |

# SECTION THREE – IMPLICATIONS

## Overview of the Results Chart

A significant investment has been directed towards the Dugong and Marine Turtle Project as a flagship initiative for the sustainable management of dugongs and marine turtles in northern Australian waters.

What is clear at the outset, is that the project has achieved the objectives specified in the tender requirements, ie:

- improve the *knowledge base*, incorporating Indigenous Knowledge, to support informed management of dugongs and marine turtles;
- improve *communication and networking* relationships between Indigenous and non-Indigenous managers and scientists involved in marine and coastal resource management, especially dugong and turtle management;
- enhance the capacity of Indigenous people to *implement management actions* regarding dugongs and marine turtles and their habitats in collaboration with other stakeholders;
- empower Indigenous people to more *effectively engage* in decision making regarding the management of dugongs and marine turtles and their habitats;
- *improve the understanding* of wider Australia of the rights, roles, responsibilities and achievements of Indigenous people in managing dugongs and marine turtles and their habitats.

In doing so, the project has met all contractual and reporting requirements, according to agreed milestones and schedules. Activities such as initial workshops, establishment of a Technical Reference Group, development of Regional Activity Plans, development of a Communications Strategy, generation of a Literature Review published as the Knowledge Handbook and contracting of a Socio Economic Study have been completed, reported and acted upon. Ongoing contract activities such as community based planning, training, data collection, forums and Ranger exchanges, communication products and on-ground management actions are evident throughout the project. Recognition of success has come through a Northern Territory Coastcare Award 2007, a national Banksia Foundation Environmental Award 2008 and Runner-up in the National Landcare Award – People's Choice 2008 and the Banksia Foundation Environment Award – People's Choice 2008.

It is important to acknowledge the cautionary tale of the Hope Vale Turtle and Dugong Hunting Management Plan, which won the 2000 Prime Minister's Award for Community Leadership and Sustainability. Despite significant efforts by community members, researchers and other stakeholders, the Hope Vale plan was not funded for implementation and became an example of conflict between Indigenous and non-Indigenous interests in marine turtles and dugongs, highlighting the clash between different discourse and practices.

The Dugong and Marine Turtle Project has recognised and acted on the principle that conservation in northern Australia must be grounded in relevant, broader socio-economic outcomes and that the development and ongoing support of capacity for land and sea management within Indigenous communities is essential to achieving conservation outcomes.

The critical part then is to evaluate the impact that the project has had on biodiversity and community capacity outcomes.

## Outputs and Activities

At the outputs level, transfer of Indigenous knowledge to Rangers and younger people; an expanded network of Traditional Owners with interests and skills in management; and broader Indigenous community support and Traditional Owner endorsement for the project, are clearly evident from the most significant change interviews conducted on-country and in the Regional Activity Plans for each participating community. As a result, there is strong evidence of an increased capacity of Indigenous land and sea managers to carry out management activities where the project has been operating.

In terms of biophysical outputs, the project has been effective in disseminating basic information on dugongs and marine turtles to project partners through initiatives such as the Knowledge Handbook and participation in community based monitoring. This achievement is occurring against an overall background of steady, incremental increase in information on marine turtles and improving but uncoordinated information increase about dugongs across northern Australia.

## Intermediate Outcomes

In terms of changes in policy and practices of institutions and agencies, progress is uncertain.

The project has been able to demonstrate an adaptive learning approach, work programs that are culturally appropriate and space for communities to determine priorities. These achievements have provided confidence to Government that participative planning and management actions are an effective approach that recognises the diversity of each community. As a result, the Australian Government has committed to three extensions to the project, project partners are committed to their Regional Activity Plans beyond the current project and there is a strong push for further funding under *Caring for our Country*.

However, the relationships with government and management agencies are variable:

- strong at higher levels, with NAILSMA input into policy for sea country management;
- variable at the State and Territory level with good partnerships with some agencies but a lack of engagement in terms of input to State Plans and Recovery Plans;
- variable at the project with government and agency relationships often based on operational contact,

  difficult to determine if there is a better understanding by agency personnel across agencies and across jurisdictions of Indigenous commitment and responsibility to dugong and marine turtle management.

There is strong evidence of changes in practices and attitudes as a result of project activities. The ‘two tool box’ approach that utilises Indigenous ecological knowledge and Western science is embedded as a *modus operandi* in partnerships, values and operations and the project is providing a model of equity in the application of this approach. There is definitely greater involvement of Rangers and young people in NRM as a result of the project.

An implicit outcome from the project has been the rebuilding of confidence to allow knowledge sharing among Indigenous communities, government and researchers. Tensions were created by public misinterpretations of previous research including the National Recreational and Indigenous Fishing Survey. This project has created a platform for Indigenous communities, government and researchers to discuss sensitive issues such as sustainable harvest levels. However, this remains a sensitive area and high quality agreements and research protocols are required to navigate the relationships and responsibilities between partners. Project outcomes such as the Bardi Jawi participation in a socio-economic study of turtle and dugong hunting and the community based dugong and marine turtle management plans developed by Torres Strait communities (that address catch management amongst a range of other issues) are good examples of progress by the project in this area.

Improved communications are a feature of the project, with a strong emphasis on regular and effective Ranger exchanges and meetings and effective print and electronic communication between meetings. Innovative products have been developed including the DVD Message Disk series, the interactive Talking Reports, e-newsletters and segments in the *Kantri Laif* newsletter. An example of the innovative reporting of the PSR Summit Workshop is contained in Appendix IV.

There is strong evidence of an increased awareness of threats to species and habitats, arising from the mapping and prioritisation of hazards and threats on the science side and participation in initiatives such as Sea Grass Watch and the Ghost Nets Programme on the community side. Where project involvement has strengthened capacity such as Rangers and Coordinators and community based planning has been encouraged, community awareness has increased dramatically. Understanding of dugong and marine turtle populations, systems and habitats is improving although there is still a widespread lack of region specific, site specific and stock specific information for better management. Advances are being achieved through approaches that require relatively shorter timeframes and funding levels, such as spatial analysis of hazards and threats, aerial surveys for dugongs, telemetry to demonstrate migratory pathways, modelling for trends and genetic investigations.

Existing monitoring has not been able to provide data that is sufficiently robust to detect population changes from management interventions over a short timeframe. The degree of error in the current data is too large, the animals are long lived, have slow growth rates and long time lags are involved. In the opinion of the Science Panel, there probably won't be enough information to detect system-wide changes for a number of decades using current methods, due to the complexity involved, the lack of long term monitoring sites and the confounding influences of climate change in the next few decades.

The project has been catalytic in addressing the improvements required in monitoring and data collection through the introduction and customisation of the *Cybertracker* technology which combines robust, icon based recording units with global positioning capabilities that can be easily downloaded to an electronic database, able to be interrogated for management and operational reports. The technology has been enthusiastically adopted by Ranger groups as it increases both the quantity and quality of data collected from regular monitoring patrols.

In terms of the aggregate changes in how assets are managed, there has been a significant increase in the number of research partnerships and in the quality of those partnerships, with regard to more equitable involvement of Indigenous people and more structured agreements on processes and protocols. Consistent progress has been achieved in establishing a north Australian network through this project and as

a consequence, cross regional collaboration and decision making have improved. As evidenced by the community management plans developed by Torres Strait communities and Sea Country Plans developed in other pilot areas, there has been an enormous increase in capacity of local Indigenous communities involved in the project to negotiate, formulate plans and implement dugong and marine turtle management.

### State of the Asset

In terms of protecting and managing dugongs, marine turtles and their habitats, there have been significant gains in the effective management of threats in certain areas, such as the Great Barrier Reef Marine Park, the Gulf region in terms of marine debris and floating nets, and project areas in terms of control of predators, reduction in hunting pressures and removal of floating nets. Zoning discussions arising from strongly endorsed community management plans and planning processes offer potential for a further reduction in threats to the species, as evidenced in areas such as the Torres Strait.

Strong progress has been achieved in the growth of a network of skilled Indigenous and non-Indigenous land and sea managers across northern Australia. The project has linked existing community-based Ranger groups and stimulated the formation of new groups across northern Australia. This network provides the foundation and opportunity for implementing similar Indigenous partnered NRM projects.

## Project Partner Feedback Survey

The project has demonstrated a commitment to improvement through the development of a Performance Assessment and Monitoring Plan, involvement in the MERI process and the completion of a Project Partner Feedback Survey, using an external consultant to interview 4 NAILSMA and CRC staff, 16 Regional Project Officers and Rangers and 8 TRG members.

Results were rated high in terms of engagement, good to very good in terms of project coordination and management and high to very high in terms of distribution of knowledge.

The major positives were: capable, well qualified, committed staff; Indigenous and Western science credibility brought together; community based planning, leading to empowerment; flexibility appreciated (12 month review of RAPs and changes); communication improvements over the project, especially when a dedicated communications person came on board; useful reporting templates; and good project promotion.

The major issues were: administrative complexity; short time frames (eg: RAPs in 6 months, quarterly reports); shortages and high turnover of staff; limited local capacity; and not enough meetings in regions;

## Key Success Factors

By consensus at a PSR summit workshop held at Mudnunn in October 2008, the key success factors are:

- **The participatory approach and consultation with the community:**

  In areas like the Torres Strait, the participatory approach took 2.5 years of community consultation to get community elders and people to come on board. However, for the first time there is strong support and endorsement for plans which include mechanisms to increase sustainability, such as penalties for take, closures and zonings.

  Across the region, the assertion of cultural authority (cultural protocols and practices) on the direction and management of the project at the community level has been a critical factor in its success.

- **The big picture approach across the North:**

  The development of a network that works together across northern Australia for species that live and migrate across the region is an initiative that resonates deeply with the coastal communities of northern Australia.

  Communities are learning from each other during Ranger exchanges and forums. Cross regional projects are delivering learnings and benefits to all partners. Cross jurisdictional approaches enable the project to rise above State or Territory issues.

- **Facilitator and Land and Sea Manager positions to drive the project:**

  The project was structured such that Regional Activity Plans had to be developed by each partner before Regional Facilitators or Project Officers could be employed. The Project Partner Feedback Survey showed that the partners struggled with this step due to not having a dedicated Project Officer to develop the activity plan and then drive its implementation. As soon as dedicated staff were employed to drive the plans, the project gathered significant momentum.

- **Strengthening of the Ranger movement:**

  The project enhanced the Ranger movement in some communities and acted as a catalyst for the development of new Ranger groups in other communities. Through the development of new skills and increased capacity, the Ranger groups have become far more than an outcome of the project. They are now the frontline for land and sea management, bringing new structures, new economies and new hope to Indigenous communities. Ranger positions provide real jobs and pride, moving community members away from CDEP and welfare structures.

- **Linkages and collaboration with other funding, management and research programs and initiatives:**

  The project has worked collaboratively with other major initiatives such as Carpentaria Ghost Nets Programme; Sea Grass Watch, Indigenous Protected Areas Program, Working on Country Program and Envirofund. The project has fostered numerous research partnerships and productive collaborations between Indigenous rangers, Government and University based researchers that provide opportunities for training and skills development and access to

current monitoring and research tools. Examples of organisations involved include James Cook University; Edith Cowan University; Department of Natural Resources, Environment and Arts – Northern Territory; Department of Environment and Conservation – Western Australia; Queensland Department of Primary Industries and Fisheries; Charles Darwin University; Centre for Aboriginal Economic Policy and Research - Australian National University.

- **Central coordination and communication from NAILSMA:**

  Coordination, communication and administrative support from NAILSMA have maintained project focus, rigour and profile.

- **The introduction of appropriate technologies such as *I-Tracker*:**

  The initial *Cybertracker* project trials have evolved into the *I-Tracker* Network (the North Australian Indigenous Cybertracker Network), involving 17 participating Ranger Groups and three major NRM programs (Dugong and Marine Turtle Project, Carpentaria Ghost Nets Programme and the Wild Rivers Program – Queensland).

  The *Cybertracker* technology, acting as a common touchstone between community members and researcher may explain its enthusiastic acceptance.

  The *I-Tracker* Network offers the promise of a single interactive representation of multiple collections of field data, that has enormous value to a wide range of potential users.

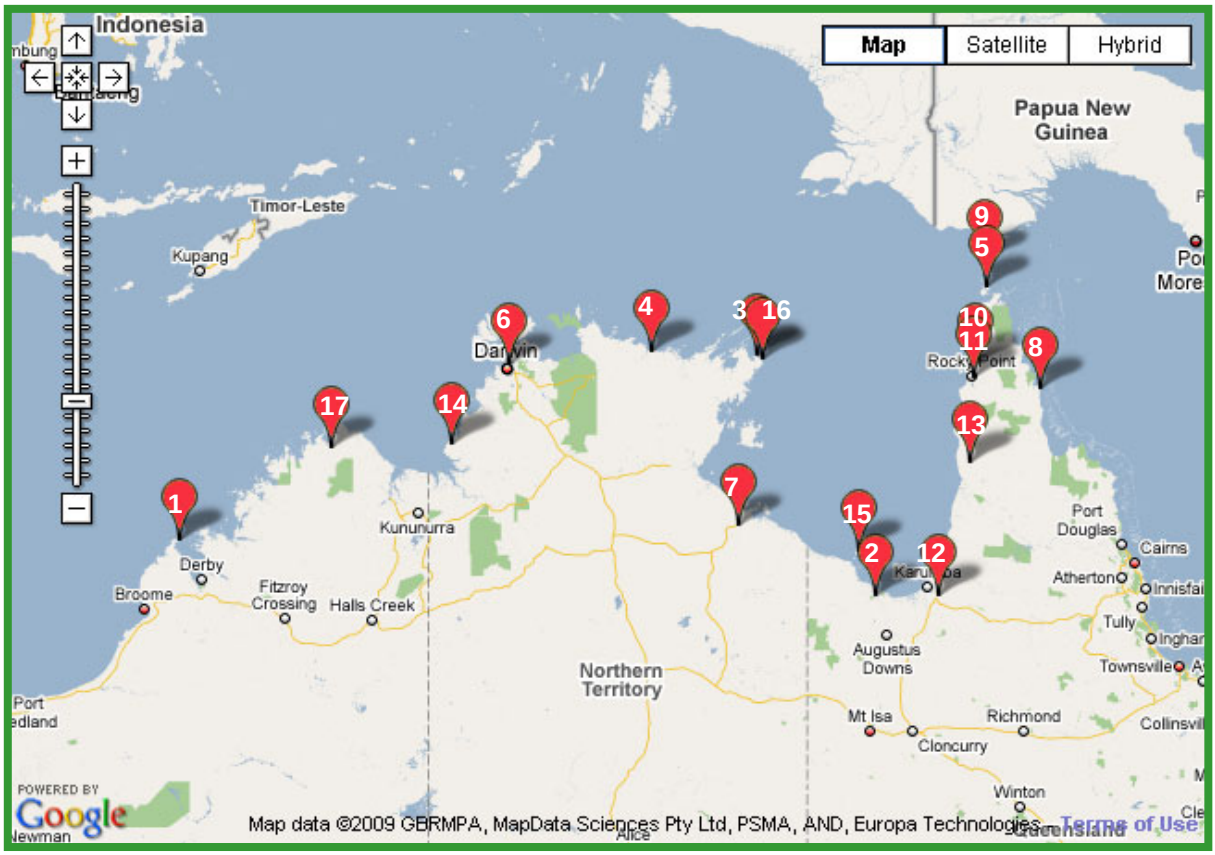
*The NAILSMA Dugong and Marine Turtle Project won the Banksia Award - Indigenous Category at the National Banksia Environmental Foundation Awards*

*The award was presented to NAILSMA Executive Officer Joe Morrison at the Awards ceremony on Friday night in Melbourne by Environment Minister Peter Garrett.*

*Accompanying Joe at the ceremony was the NAILSMA delegation—Senior Bardi-Jawi Ranger Kevin George, Dhimurru Ranger Patrick White, li-Anthawirriyarra Sea Ranger Damien Pracey, Torres Strait Council Deputy Lord Mayor Kenny Bedford and Project Coordinator, Rod Kennett.*

*Photo acknowledgement: Joshua Kitchens NAILSMA*

## *I-Tracker* Network Map




1. Bardi-Jawi Rangers (One Arm Point. Kimberley, WA)
2. Burketown Region Rangers (Gulf of Carpentaria, QLD)
3. Dhimurru Rangers (Nhulunbuy, NE Arnhem Land, NT)
4. Djelk Rangers (Maningrida, NT)
5. Hammond Island Rangers (Torres Strait)
6. Larrakia Rangers (Darwin, NT)
7. li-Anthawirriyarra Rangers (Boroloola, NT)
8. Lockhart River Rangers (Lochhart, Cape York, QLD)
9. Mabuiag Island Rangers (Torres Strait)
10. Mapoon Rangers (Western Cape York)
11. Napranum Rangers (Western Cape York, Qld)
12. Normanton Rangers (Gulf of Carpentaria, QLD)
13. Pormpurraw Rangers (Western Cape York, QLD)
14. Thamarrur Rangers (Wadeye, NT)
15. Wellesley Islands Region Rangers (Gulf of Carpentaria, QLD)
16. Yirralka Rangers (Laynhapuy Homelands, NE Arnhem Land, NT)
17. Uunguu Rangers (Kalumburu, Kimberley, WA)

## Key Areas Requiring Improvement:

- **Better involvement of State and Territory Governments in developing consistent policy:**

  As a network that operates across northern Australia, the project needs to interact with different State and Territory agencies and policies. In Queensland, the relationship appears to be supportive with the agencies but there is disengagement and some dysfunction on land and sea management by peak Indigenous bodies as a result of historical issues, which is limiting progress at the ground level. In the Northern Territory, the relationship and policies were initially supportive but in recent times the relationship between the marine wildlife agencies and the project appears to have deteriorated and policy is opaque. In Western Australia, the project began in relative isolation but good on-ground success has lead to a better level of support from the State agencies.

  The States and Territory have much to contribute in terms of providing scientific expertise and providing enforcement capacity for land and sea management actions taken by Traditional Owners.

  The challenge for the project is to forge stronger partnerships at the highest levels that will flow through to more coordinated and collaborative actions at the operational level.

- **More effective use of the Technical Reference Group:**

  The project convened a Technical Reference Group (TRG) to provide technical and scientific advice on the development of the project. At the outset, there were high expectations on Traditional Owners and Indigenous communities to undertake detailed biological survey work suggested by the TRG. The TRG also cautioned that it would be hard to see changes in populations over the life of the project and that it was not possible to quantify the extent of human impact on dugong and marine turtle populations along the coast.

  Through negotiation, it was agreed that the project had to be community-owned and led and that TRG input should be focussed on the refinement of the Regional Activity Plans prepared by each partner.

  For any extension of the project, there needs to be greater involvement and clarity of the TRG role. Rather than a wide ranging stakeholder representative group, the TRG needs to be a small advisory group, selected by NAILSMA and focusing on operational expertise.

- **A framework for the collection, analysis, management and reporting of field collected data:**

  The development of the *I-Tracker* Network offers the opportunity to provide a regional picture generated from field collected data. Numerous researchers, NGO's and government agencies are joining with NAILSMA to develop data sequences that provide data to meet their requirements or paying for patrols and data reporting by Indigenous Rangers.

  The challenge is to negotiate and agree on the standards and protocols required such that *I-Tracker* Network data meets the requirements of the NRM Monitoring, Evaluation and Reporting Framework for coastal, estuarine and marine ecosystems. This needs to be agreed for State and Territorial jurisdictions and for Australian Government requirements.

- **The development of hunting protocols that involve cultural authority:**

  Work must be continued at the community level to develop appropriate hunting protocols and agreements that are solidly based on cultural authority, protocols and practices. Already, a number of communities have built awareness of the pressures on their dugong and turtle stocks and are planning or implementing management actions such as take penalties, spatial closures to hunting and enhanced protection under MPA, IPA or zoning schemes.

- **Enforcement mechanisms, powers or partnerships to support local plans:**

  The looming challenge for natural and cultural resource management in northern Australian sea country is to develop appropriate enforcement mechanisms, powers and partnerships between existing enforcement agencies and Indigenous Rangers. State and Territory agencies need to be engaged to provide compliance training for Rangers and provide avenues for the transition of *Working on Country* Rangers into State Ranger programs, possibly on a shared time basis, to support local management plans and management actions.

  Organisations such as NAILSMA are in a position to lead the negotiation and formation of an Indigenous position regarding improved enforcement mechanisms from a northern Australian perspective.

## Methodology

In a process sense, this evaluation has confirmed that performance story reporting is an appropriate and effective method of evaluation in Indigenous led projects. The enthusiastic involvement in the collection and analysis of most significant change stories highlights the willingness of Indigenous community members to be involved in evaluation, reporting and improvement initiatives.

There is a significant opportunity for performance story reporting to become an ongoing evaluation through the electronic recording of significant change stories on appropriate websites, especially where the recordings offer the option to listen to icon identified stories. Innovation in evaluation and communication approaches is an effective way to overcome the remoteness, vastness and limited literacy often associated with Indigenous projects.

*Ii Anthiwirriyara Sea Rangers at the junction of Rocky Creek and McArthur River, Borroloola*
*Photo acknowledgement: Paul Josif, Savvy Community Development Consultants*

# SECTION FOUR – INSTANCES OF SIGNIFICANT CHANGE

The following vignettes were chosen by the participants of the summit workshop as representing the most significant changes occurring as a result of the project.

## Dhimurru Aboriginal Corporation

DVD Extract

**"The Future", featuring Djawa Yunupingu**

"Hmm, yeah, the future, well it's like, we want to help to keep these animals for our grandchildren and their children.

It's no good my grandkids coming up to me and saying "hey Grandpa, there used to be many turtles here once, we see them in papers, books, computers, videos, in a library.

No good paying dollars to go to the zoo to look at these animals.

I want my grandchildren to go out and be around the sea turtles for themselves."

*Reasons for Choice:*

- *shows one of the biggest concerns for Traditional Owners, which is preserving marine turtles and dugong for the future, for the grandchildren and their children;*
- *exemplifies why we do it;*
- *keeps us in mind to look towards the future.*

## Ii-Anthawirriyarra Sea Rangers- Borroloola

Story 11 was chosen:

**"Role models for kids"**

"The project has been working well because it's been getting the Traditional Owners and the kids involved … that has been a big thing.

Role models for kids because this started with the role model and now we got a lot of interest in the Rangers. Really good for all this thing we doing and for next generation … and train them and tell young people what we been doing and how to look after turtle and dugong… gotta pass on to next generation same as old people tell us about it.

WWF (*World Wildlife Fund*) gave us funding for school kids as Junior Rangers, we take them out once a month and we take them with us … so having the Ranger group has given us the capacity to grow.

Given us a good chance to do training but we like to see more training for new Rangers, and this new mob to catch up with us."

*Reasons for Choice:*

- *looking to the future for our people and kids;*
- *Rangers seen as role models, something for kids to look up to;*
- *transfer of knowledge from one generation to the next;*
- *doing things with kids on-country, outside the classroom;*
- *old people won't be around forever.*

## Carpentaria Land Council Aboriginal Corporation

Carpentaria chose Story 20:

**"Not an endless resource"**

"The (*Dugong & Marine Turtle*) Project has certainly changed the attitude of Traditional Owners to turtle and dugong in that they (*turtle & dugong*) are now not seen as an endless resource and have to be managed carefully.

My major interaction is at meetings and they (*the Traditional Owners*) seem to be more passionate and the language has changed. They now talk about closing areas for hunting and nesting areas and Traditional Owners are on steering committees. Through the steering committees in 2003 (*with NRM as a contact point for all of the CLCAC groups*) … individuals have become more vocal.

Old people are telling Rangers to go out and take care of certain problems such as burial sites, or some people find marine turtles washed up in nets and report them.

They want Rangers to do something about hunting out of season, it's good that the committees have a group they can go to about the NRM problems."

*Reasons for Choice:*

- *it says that we understand that there are industries endangering populations that need to be managed;*
- *it reflects that Traditional Owners want to assist with preserving populations by closing off some important nesting and hunting areas;*
- *it shows that old people are involved and giving Rangers direction and guidance.*

## Zenadh Kes (Torres Strait Nations)

Zenadh Kes chose Story 33:

**"We had some doubts"**

"One of the issues with my people back at home is that you've always had the questioning Western science way of getting information compared to our own Traditional Ecological Knowledge.

NAILSMA have got a whole community based management planning, which has given Traditional Property Owners back at home a good avenue and way in exploring how Western science is actually done, because a lot of the questioning has come from a sort of unknown way of collecting data and what the data is used for. But on the flip side of that, it was a way for us to express other ways, like our knowledge is being used as well, Traditional Ecological Knowledge, for turtle and dugong.

So coming from our nations back in the Zenadh Kes, that sense of unknown-ness between the two knowledge systems kind of gave us some doubts on how we could work together and especially when the government was using a lot of Western science knowledge in trying to make management plans for our region, and from somebody in Canberra trying to make decisions for our region, thousands of kilometres away from them.

But through this project, it was also good to see our people coming back, working with us and getting all this information from a grass roots level in a formal way, but also in an informal way, just talking face-to-face with people out in the communities, compared to sitting in an office surrounded by government bureaucrats and stuff like that. The planning came up from the ground.

So I think that there's a lot of support within my region for the NAILSMA Turtle and Dugong Project in general and plus for the bigger project that NAILSMA is assisting right across from the north coast to the Kimberleys. That's all."

*Reasons for Choice:*

- *highlights that Traditional Ecological Knowledge has been married with Western science;*
- *marrying everybody together and everything is in the management;*
- *the project has allowed this to happen.*

## Bardi-Jawi Rangers

Bardi-Jawi chose two stories, Story 6 and Story 7:

**"Everyone wants to be a Ranger"**

"We came from CDEP and the dole to this project … it's a big turn around, old people and children, and the whole community are happy and feeling more worthy, doing something they are passionate about, caring for country, involving people in country.

People were on their last legs. Then this project came along and got them going … .

Worked through barriers, now everyone wants to be a Ranger."

*Reasons for Choice:*

- *it documents the feelings of the community before the Ranger program came along;*
- *from CDEP to real, enjoyable, worthwhile work;*
- *revitalising positive energy in the community and mentioning barriers or hard work required to get to a positive position with a Ranger group.*

**"Traditional way"**

The whole program's been a turn around for all of us. The people … the elders, they've got something to contribute. I mean, they thought "For the last few years of our lives, I don't know what we're going to do, sit back and just pass away", but all of us have just seen them come up, like they are in their 20s and 30s, these are people that are 60s and 50s and 70s and maybe older, but the important part is I think, to revitalise everything in the culture before we lose our elders as well.

Younger people generation, started to realise that, "Who's there if the elders are gone", but it's getting our story across to be sustainable I suppose. We look after the country, we look after species so that they in turn look after us.

What we see as important and the context of it all, is to maintain culture, and looking after the country I guess at the end of the day, we will be rewarded as people, because we at the end of it are starting to see the importance I guess. By doing cultural or traditional work of looking after the country.

Elders been telling us all the year round, look, that's why we've still got turtle, that's why we've still got dugong, because if you listen to us and do what we say, or you do the traditional way of looking after country, all your resources will be sustainable in the country".

*Reasons for Choice:*

- *putting life into Elders;*
- *recognising Elders and their roles;*
- *getting back to old ways of looking after country to keep important species alive;*
- *whole project has been a turn around for all of us.*

## Balkanu Cape York Development Corporation

Balkanu Cape York chose a DVD:

**"First you have to have respect", featuring Robbie Salee**

"First of all you need to do a workshop on 'respect'.

People always say that if you don't know your culture or you don't have your identity, then you don't know where you come from.

So that one first, so that everybody knows who belongs to where, and then you talk about managing it now."

*Reasons for Choice:*

- *Elders taking charge of their sea country;*
- *There needs to be a plan.*

## Cross regional

The selected story was Story 38:

**"There's no boundaries"**

"I think one of the really most significant things out of this is the network that we've created across the north and I think that's a really important point to bring out and we've all sort of referred to it, but when you think back to the turtle and dugong, they know that their life is travelling from one bit of Australia to another. They know that there's no boundaries, and slowly as we've learned more about turtle and dugong, we've realised that "Hey, that turtle and dugong's not just living in our country but it's going to other people's country for fair bits of its life".

And we've gone "Oh, OK, well we need to do that". Researchers for a long time, they started to learn about turtle movements, but there's never been in Australia, a really solid network that spans the whole area that the turtle and dugong swim across. It's always been divided by those State boundaries, so I think one of the most significant changes here is we've now got a group of people who are equipped and learning skills and getting resources who not only are equipped to do that and focus on our own area, but are developing that and at the same time focussing on the need to talk to other areas and work with other areas. So they're not just saying 'I'm just going to look after them in my patch here', they're saying 'I need to know about them elsewhere'.

I'm thinking about the trip for the Bardi Jawi hunting workshop where those two fellas came over (from Zenadh Kes) and talked about that management plan and it was just the most fantastic experience for me to see, because I've kind of been kicking around this thing for a long time and everyone's saying "Oh, we need to do more cross-regional stuff".

Well, it's happening. It's happening and I think that's one of the most significant changes that I've seen, and I think it's one of the really big stories we tell people. We've actually now got the capacity, with this network, to manage species that require a network that spans the whole of North Australia."

*Reasons for Choice:*

- *turtles and dugong both discussed;*
- *speaks directly to politicians and Government people;*
- *strongly cross-regional;*
- *good story about relationships between groups across north Australia;*
- *alluding to migratory nature of animals;*
- *covers all elements that makes a successful project (managing the species, sharing resources, developing a well skilled network of people to do the work that needs to be done).*

***Further stories (Runners-up) are attached in Appendix III***

# SECTION FIVE - METHODOLOGY

## Introduction

This study is one of thirteen pilots of the participatory performance story report process being conducted across Australia for the Australian Government Land and Coasts Team. Bessen Consulting Services conducted the pilot between March and October 2008, with the final reporting in December 2008.

Performance story reports provide a statement of achievements against NRM goals and targets, supported by evidence at each level of outcomes of the program logic that underpins all endeavours. The approach has been developed overseas (Dart & Mayne 2005[1]) and refined for trialling in Australia.

The performance story report process consists of five steps:

- Process step 1 Planning workshops
- Process step 2 Data trawl
- Process step 3 Social inquiry process
- Process step 4 Science Panel and Traditional Owner judgements
- Process step 5 Summit workshop

### Process Step 1 Planning Workshop

An initial **project inception and planning meeting** was held in Darwin on 05 March 2008, with fifteen key stakeholders attending. After a context for the initiative, participants agreed on the focus and purposes of the study, identified the audiences and agreed on badging, protocols, communication, timelines and intellectual property considerations for the study. Possible sources were identified for the data trawl process, for the most significant change process and for the semi-structured interviews required. It was clearly identified that several expert panels should be involved, representing both Western science and Traditional Owner judgements[2]. These outcomes were further refined into a project plan that included a work plan for the on-country investigations and a risk management component[3].

A **program logic workshop** was held in conjunction with the project inception and planning meeting in Darwin, in order to access the combined input of the key stakeholders. Assumptions were surfaced and key evaluation questions formulated. The assumptions were:

- that accurate data on dugong and marine turtle numbers, harvest and predation can be generated;
- that better understanding of Indigenous commitment and responsibility to dugong and marine turtle management will result in better connectivity between Indigenous and Western knowledge, greater trust by Elders and improved understanding of wider Australia;
- that enhanced community capacity is a key to better dugong and marine turtle management;

[1] Dart J.J. & Mayne J. (2005) Performance Story. In the "Encyclopaedia of Evaluation" Mathison S. (Ed); Sage Publications: Thousand Oaks; pp 307-308
[2] See separate Project Inception and Planning Meeting Report; 05 March 2008
[3] See separate Project Plan Report; April 2008

- that increased awareness of threats to the species and habitats will lead to a reduction in controllable threats;
- that action in north Australian waters can influence the sustainability of the migratory dugong and marine turtle population;
- that there is a mutually agreed level of sustainable harvest of dugong and marine turtle.

From the initial logic laid out, a refined logic diagram was developed that simplified clusters of similar items. Further refinement to the program logic occurred after each of the major meetings attended by the consultants, to realise a fine synergy and correlation between the science and the on-ground capacity focus. The outcomes were documented in a Program Logic Report[4] which also included an examination of a Performance Assessment and Monitoring Plan developed during the project and an outline of the Program Logic developed for the Torres Strait Dugong and Turtle Fisheries.

## Process Step 2 Data Trawl

The data trawl focussed on obtaining and collecting the existing relevant scientific data on the outcomes identified through the program logic exercise.

The data trawl was conducted by a specialist sub contractor who examined all project reports and documentation then reviewed wider sources that might provide evidence for the achievement of outcomes. The results are contained in a significant document that was further enhanced after each of the Science Panel workshops.

Information was synthesised into individual data summaries that provided a succinct outline of the title, background, key findings and fit with the program logic[5] .

A list of all articles reviewed is contained in Appendix II.

## Process Step 3 Social Inquiry Process

Based on the key evaluation questions developed in the planning workshop, a participatory interview process was carried out by a specialist consultant to identify and collect stories of most significant change.

Stories were collected with each of the partner organisations, over a period of four months prior to the Summit Workshop. The process varied with each partner:

- some partners met with the consultant, told stories of change and the consultant typed up the stories as told;
- some partners met and recorded their stories, which were transcribed for the selection process;
- some partners received training and mentoring in story collection then used video cameras to record stories from Traditional Owners;
- some partners were able to use existing recorded material to highlight a story of change.

[4] See separate Program Logic Workshop Report; May 2008
[5] See separate Data Trawl document, October 2008

The cross regional stories were gathered from partner's stories and from the transcript of the Traditional Owner Panel at the Garma Festival.

The first round of stories was reviewed at the Traditional Owners Panel at the Garma Festival and permission was given to prepare groups of stories for final selection at the Mudnunn Summit.

The following stories were prepared in written form:

### Bardi Jawi

1 *"Proper cultural way"*
2 *"They growing them up"*
3 *"The whole community is happy"*
4 *"Hunters listen to old people"*
5 *"Before … and now"*
6 *"Now everyone wants to be a Ranger"*
7 *"Traditional way"*

### Borroloola

*8* *"All the hunters are reporting to us"*
*9* *"Then we got proof"*
*10* *"Now we have capacity"*
*11* *"Role models for kids"*
*12* *"We kept it going"*

### Dhimurru

*13* *"Things are changing"*
*14* *"We needed the money"*
*15* *"Back from Mexico"*
*16* *"Would they survive?"*
*17* *"A reason to stay at school"*

### Carpentaria

*18* *"Everyone else has jumped on board"*
*19* *"We've been branching off"*
*20* *"Not an endless resource*
*21* *"There's a face for them to go to"*
*22* *"Clamouring to get on board"*
*23* *"A lot of drive"*

### Zenadh Kes

*24* *"Point of view expanding"*
*25* *"Now, it's right on the table"*
*26* *"First time"*
*27* *"No-one wanted to talk"*
*28* *"More leverage"*
*29* *"There are concerns"*
*30* *"Two years later"*
*31* *"There are only one or two hunting dinghies out there"*
*32* *"We have come from nothing and frustration"*
*33* *"We had some doubts"*

**Cross Regional**

*34 "How far we've come in such a short time"*
*35 "Indigenous people across the north can actually take a lead"*
*36 "Now we can actually put it on paper"*
*37 "I'm going to stop the goannas and the pigs"*
*38 "There's no boundaries"*
*39 "They go everywhere"*
*40 "We'll all be winners"*

Video material was also used from Balkanu Cape York, Dhimurru and Bardi-Jawi.

Semi-structured interviews were also conducted with key informants, by the consultants.

## Process Step 4 Expert Panels

A Science Panel workshop was convened in Darwin on 18 August 2008, with the following scientists:

| | |
|---|---|
| Ms Jann Crase | Environmental sector, Private |
| Dr Kirstin Dobbs | Great Barrier Reef Marine Park Authority |
| Dr Rod Kennett | Coordinator - Dugong and Marine Turtle Project |
| Dr Ilse Kiessling | Department of the Environment, Water, Heritage and the Arts; Marine & Biodiversity Division |
| Dr Natasha Stacey | Charles Darwin University |
| Dr Peter Whitehead | NT Government; NRETAS |
| Dr Nancy Williams | University of Queensland; School of Social Science |
| Ms Jo Roberts | Natural Resource Management; Australian Government Land and Coasts Team (observer) |

A follow-up Science Panel workshop was held in Townsville on 16 September 2008, with seven scientists:

| | |
|---|---|
| Dr Ian Bell | Environmental Protection Agency, Queensland |
| Ms Mariana Fuentes | James Cook University |
| Ms Jillian Grayson | James Cook University |
| Ms Alana Grech | James Cook University |
| Dr Rod Kennett | Co-ordinator, Dugong & Marine Turtle Project |
| Dr Donna Kwan | Department of Environment, Water, Heritage and the Arts; Australian Government |
| Prof Helene Marsh | James Cook University |

Panel members examined the data summaries presented and crafted statements on the extent to which each of the outcomes identified has been achieved through the project. Each statement of progress was accompanied by comments on the evidence to support the statement[6].

[6] See separate Science Panel Meeting Short Report; 18 August and 16 September 2008

The 29 statements generated were incorporated into the results chart for this performance story report, after a cross comparison of the judgements and the qualitative evidence gathered from the social inquiry process.

A Traditional Owners Panel was conducted at the Garma Festival, Nhulunbuy in order to enhance the participation and input of Traditional Owners from different partner regions. The Traditional Owners considered all of the material gathered from the on-country interviews and crafted a series of statements to identify key changes and achievements.

These statements were incorporated into the results chart for this performance story report.

## Process Step 5 Summit Workshop

A summit workshop was hosted by the Bardi-Jawi at Mudnunn, near One Arm Point, Kimberley, Western Australia from Monday, 06 to Friday, 10 October 2008. The summit brought together participants in the Dugong and Marine Turtle Project from across northern Australia, along with collaborators, technical advisers and invited guests, to share learnings and experiences. The summit aimed to meet the reporting and forward planning requirements of the DMT Project as well as the DMT Project Performance Story Report evaluation summit workshop.

Project partners attending the Summit were from Zenadh Kes (Torres Strait nations), Balkanu Cape York Development Corporation, Carpentaria Land Council Aboriginal Corporation (Wellesley Islands and Burketown), Northern Land Council (li-Anthawirriyarra and Dhimurru) and the Kimberley Land Council (Bardi-Jawi). Representatives from Government, agencies, non Government organisations and educational institutions also attended.

Participants were provided with an outline of the performance story process and the results chart, and in the course of the summit, identified key success factors for the project, key areas for improvement and opportunities for the way forward[7].

The final selection process for the most significant change process was completed, with each partner organisation choosing the most significant story and providing reasons for their choice, in a participative process[8].

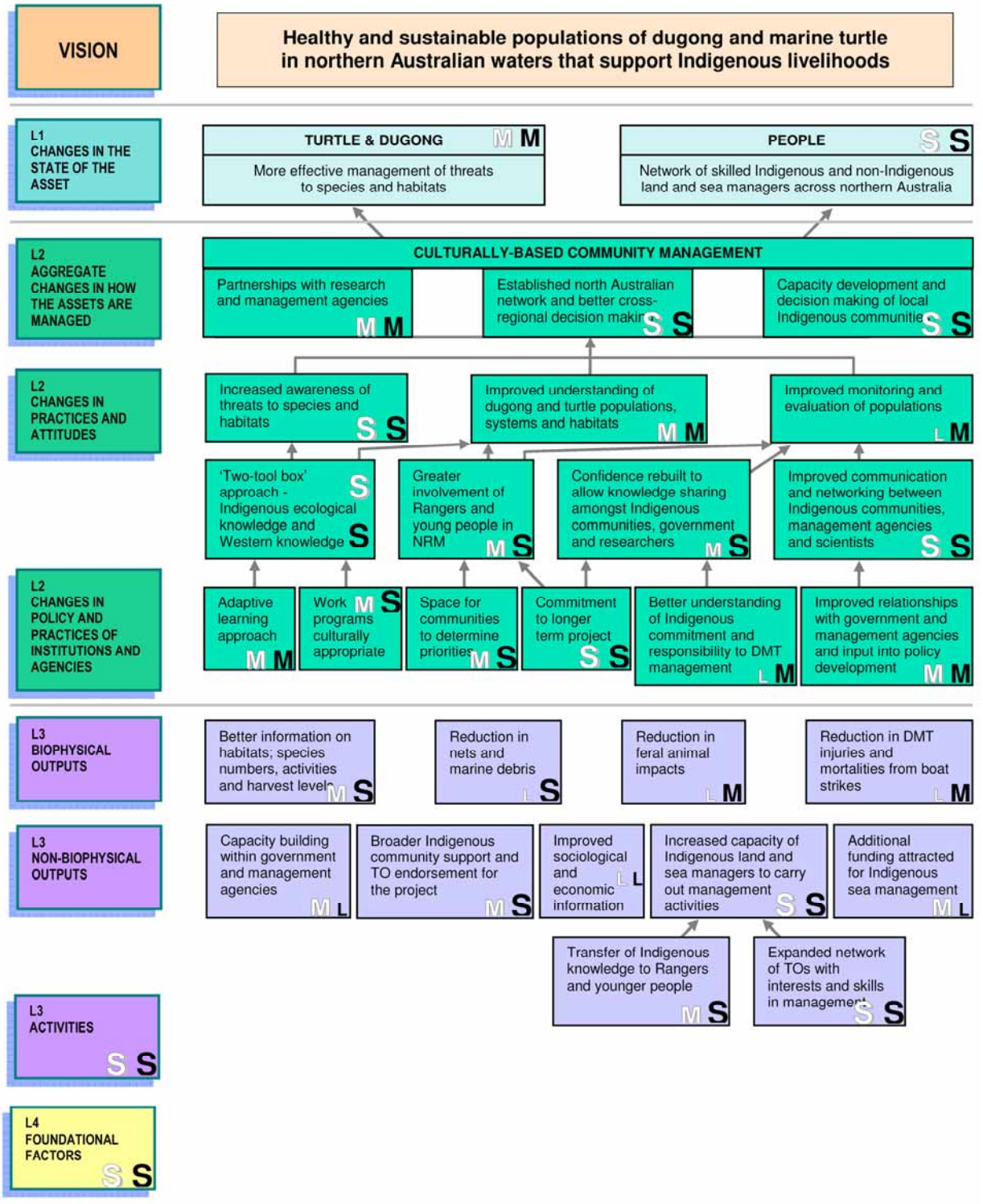
From the outcomes of the summit and all of the previous process steps, a draft performance story report was collated and distributed for comment and feedback, before the final performance story report was completed.

[7] See separate Performance Story Summit Outcomes Report, October 2008
[8] See separate Most Significant Change Selection Report, October 2008

# Appendix I Results Chart

The chart below seeks to code the strength of evidence, using the following legend:

| | *Data Trawl* | *Traditional Owner Panel* |
|---|---|---|
| Strong evidence: | S | **S** |
| Medium evidence: | M | **M** |
| Little evidence: | L | **L** |



# RESULTS CHART

This results chart shows how investment in the Dugong and Marine Turtle Project has contributed to a range of natural resource management outcomes.

## How to read the results chart

Actual results (second column) are reported against expected results (first column) and informed by available qualitative and quantitative evidence (third column). Evidence within the results chart is referenced to the accompanying data trawl.

| Program Logic Step | Results Statement * Science Panel Statement / Traditional Owner Panel Statement | Examples to Illustrate Results |
|---|---|---|
| ***LEVEL 4*** <br> ***Foundational Factors*** | • Perceptions of the project have coalesced over the time of the project and it is important to clearly acknowledge the foundational factors that gave rise to the project. <br> (Science Panel) | • Indigenous cultural connections to dugong and marine turtles; <br> • International and national concerns about dugong and marine turtle conservation; <br> • Existing inventory of knowledge from TO's and researchers; <br> • Community-based Ranger groups on northern Australian coastline; <br> • Establishment of NAILSMA. [2, 3] |
| ***LEVEL 3*** <br> ***Initial Contract Activities*** | • All of these activities have been completed. | • Initial workshop; <br> • Establishment of Technical Reference Group (TRG); <br> • Development of Regional Activity Plans; <br> • Communications Strategy; <br> • Literature Review; <br> • Socio-Economic Study. [2, 3] |
| ***LEVEL 3*** <br> ***Ongoing Contract Activities*** | • All of these activities have been addressed. | • Community-based planning and training; <br> • Biology and habitat studies and surveys; <br> • Project Partner and TRG meetings; <br> • Communications activities; <br> • Habitat protection; <br> • Obtaining catch data; <br> • Ranger Exchange; <br> • Ghost Net and marine debris activities; <br> • Feral animal control; <br> • Prevention of boat strikes; <br> • Performance monitoring and reporting; <br> • Training. [3, 10, 26] |

* (Science Panel) refers to statements from the Darwin or Townsville Science Panel Workshops; (Traditional Owners) refers to statements from the Traditional Owners Panel at Nhulunbuy.

| Program Logic Step | Results Statement | Examples to Illustrate Results |
|---|---|---|
| ***LEVEL 3***<br>***Non-Biophysical Outputs***<br>• **Transfer of Indigenous knowledge to Rangers and younger people** | • Senior Traditional Owners are passing on important cultural knowledge about dugong and marine turtle to younger generations, and this knowledge is being picked up by hunters and younger people.<br>(Traditional Owners) | • On-country visits with young people in most regions; [2, MSC]<br>• Collation and recording of Indigenous knowledge as a particular focus in the Cape York / Balkanu region; [5]<br>• Modification of the Literature Review into a user-friendly Knowledge Handbook. [7] |
| ***LEVEL 3***<br>***Non-Biophysical Outputs***<br>• **Expanded network of Traditional Owners with interests and skills in management** | • Strong two way communications and networks with other Traditional Owners are more evident.<br>(Traditional Owners) | • Torres Strait Traditional Owners attending Bardi Jawi Hunters Workshop; [MSC]<br>• Collaboration between Yolgu people and Bardi Jawi people; [8]<br>• Wellesley Island Rangers visiting Bardi-Jawi; [13]<br>• Cape York inviting Torres Strait representatives to management plan meetings; [MSC]<br>• Regular project and Ranger forums. [4] |
| ***LEVEL 3***<br>***Non-Biophysical Outputs***<br>• **Capacity building within government and management agencies** | • Capacity of Government and management agencies has been an unintended outcome of this project.<br>(Science Panel) | • Greater use of Ranger Groups for collaborative research; [13]<br>• Increased fee for service arrangements between AQIS and Ranger groups; [26, SSI]<br>• Increases in wildlife experts recruited to Government agencies. [SSI] |
| ***LEVEL 3***<br>***Non-Biophysical Outputs***<br>• **Broader Indigenous community support and Traditional Owners endorsement for the project** | • Broad community and TO endorsement is particularly evident, with high levels of TO involvement and use of communication products by community members.<br>(Science Panel)<br>• There are changes in community attitude and behaviours about natural and cultural resource management, driven by the presence of a local Indigenous Ranger group.<br>(Traditional Owners) | • The evidence from the on-country MSC process strongly supports this outcome and includes instances of a “turn-around” in TO support in some regions; [MSC]<br>• Each Regional Activity Plan specifically details the level of TO consultation involved in its development; [5]<br>• High levels of TO involvement in the production of communications materials for the project; [12]<br>• 86% rated project distribution of knowledge and information as respectful to a wide range of people and 76% rated material as easy to understand and digest. [Project Partner Feedback Survey (PPFS)] |
| ***LEVEL 3***<br>***Non-Biophysical Outputs***<br>• **Improved sociological and economic information** | • Evidence on sociological and economic effects is limited in scale but templates for other groups and regions have been established.<br>(Science Panel)<br>• Family and kinship relationships are reported in some cases as being positively affected.<br>(Traditional Owners) | • The Bardi Jawi study (through the Centre for Aboriginal Economic Policy and Research – ANU) is an important template for benchmarks and involvement of the community; it also indicates value of the harvest and economic benefits from involvement in dugong and marine turtle activities; [6]<br>• Additional information is available from the Torres Strait study by Drs Helene Marsh and Jon Altman and from the Healthy Country, Healthy People report by Paul Burgess; [31]<br>• Aspects of the National Recreational and Indigenous Fishing Survey provide evidence of the importance of fishing to Indigenous people;[22]<br>• The Hope Vale project demonstrates the importance of socially just conservation methodology; [27]<br>• There is little evidence available to compare the non Indigenous / recreational take to the Indigenous take. [NOO Key Species Report] |

| Program Logic Step | Results Statement | Examples to Illustrate Results |
|---|---|---|
| ***LEVEL 3***<br>***Non-Biophysical Outputs***<br>• **Increased capacity of Indigenous land and sea managers to carry out management activities** | • There is strong evidence of increased capacity of Indigenous land and sea managers to carry out management activities, where the project has been operating.<br>(Science Panel) | • The MSC process provides strong evidence.<br>• Project reports detail the growth and impact of the Ranger movement, the development of dugong and marine turtle management plans at the local level and the implementation of management activities in each of the partner regions; [2, 3, 10]<br>• 667 people from 61 stakeholder groups have had involvement in the project, across the 5 partner regions; [SSI]<br>• The project has employed 47 people in remote Australia; [26]<br>• 136 community members trained in GIS, GPS for improved management in Torres Strait; [28]<br>• Coxswain training for Rangers (20 trained, 12 fully qualified through NLC); [3]<br>• Training delivered on: necropsy and tissue sampling for toxicity studies; biopsy sampling for genetic studies; turtle tagging and handling; nest measurements, nest predation and egg handling; turtle health assessment including blood sampling; dugong and turtle rodeo (live) capture and handling procedures; satellite tracking and transmitter attachment; laparoscopy; collecting and managing data eg: catch management and monitoring; seagrass monitoring using methods of the established *Seagrass Watch Program*; aerial survey methods; spatial closures analysis; *I-Tracker* and *Cybertracker* software; and through Certificates in Land Management (eg: Kimberley TAFE and Batchelor Institute); biosecurity training by AQIS; training in surveillance by Australian Customs; feral animal aerial survey; Introductory Fisheries Management Training; participatory planning training; developing work plans and standard operating procedures; writing articles and funding applications; First Aid; media and communication skills; leadership and team building. [5]<br>• Stories on Message Disk indicate significant levels of growth in community management capacity. [13] |
| ***LEVEL 3***<br>***Non-Biophysical Outputs***<br>• **Additional funding attracted for Indigenous sea management** | • There is evidence that the project has contributed to additional funds being committed for dugong and turtle management and Indigenous land and sea management more generally.<br>(Science Panel) | • Significant funding increases overall through partners having greater access to funding from *Working on Country* and *Caring for our Country*; [SSI]<br>• At the project level, all partners have been able to attract extra resources through other sources such as Envirofund, Australian Marine Mammals Centre and the Marine Species Protection and Biodiversity Program; [5]<br>• Funding from the Christensen Fund through the Native Oceans Exchange program for project participants to visit Indigenous Comcaac people in Mexico; [10]<br>• Significant in-kind contribution and funding has been provided by partner organisations, institutions and agencies. [4] |

| Program Logic Step | Results Statement | Examples to Illustrate Results |
|---|---|---|
| ***LEVEL 3***<br>***Biophysical Outputs***<br><br>• **Better information on habitats; species numbers, activities and harvest levels** | • In an overall sense, the generation of basic information on dugongs is uneven and uncoordinated across northern Australia.<br>(Science Panel) | • Information on dugong distribution, abundance and movements for Queensland, Torres Strait, the Gulf of Carpentaria and Ningaloo in Western Australia has improved:<br>– there has been considerable investment by the Australian Government, the West Australian State Government and the Northern Territory Government;<br>– presentation of the information has improved markedly;<br>– spatial distribution and mapping of hazards and species has increased dramatically in the Torres Strait and Great Barrier Reef Marine Park regions;<br>– information on dugong genetics is improving; [SP]<br>• Information on dugong from Ningaloo to Cape York has become dated as little new information has been added in the past four years; [SP]<br>• In some areas, there is no information at all. [SP]<br>• Information from Traditional Owners is predominantly at the local scale, eg: aerial counts of dugong numbers by Dhimurru; [16]<br>• In some communities, there is a lack of basic understanding about the life history of the species (marine turtle or dugong). [9] |
| | • In an overall sense, there is a steady, incremental increase in information on marine turtles.<br>(Science Panel) | • Long term studies in Queensland are providing incremental information; [SP]<br>• The majority of the information generated is dependent on which species work and in which jurisdiction funding has been provided; [SP]<br>• There has been a big increase in certain aspects:<br>– data on turtle migrations and habitat use (Kimberley, Torres Strait and Gulf of Carpentaria); [16]<br>– on turtle genetics which is starting to provide new insights on different stocks; [SP]<br>– on nesting sites in Queensland, the Torres Strait and north east Arnhem Land in the past four years, including aerial surveys of remote nesting each locations; [21]<br>– on physical parameters for nesting (geomorphologic and hydrological); [SP]<br>– on harvest levels from several communities involved in the project. [28] |
| | • In this project, basic information on dugong and marine turtle has been effectively disseminated to project partners.<br>(Science Panel) | • The Knowledge Handbook was used by 78% of project partner staff, e-mail newsletter by 85%, website and Milestone Reports by 87%, Meeting Reports by 93% and Message Disk by 100%; [PPFS]<br>• Message Disk was rated at 94% effectiveness, on-country visits at 88% and partner meetings at 82% in terms of communication; [PPFS]<br>• Community based monitoring (eg: nesting beaches by the li-Anthawirriyarra Sea Rangers, seagrass monitoring by the Wellesley Island Rangers) is providing current scientific knowledge whilst adding significantly to baseline data; [14]<br>• Indications of reduced harvest levels in some communities. [6, 25, MSC] |

| Program Logic Step | Results Statement | Examples to Illustrate Results |
|---|---|---|
| ***LEVEL 3***<br>***Biophysical Outputs***<br>• **Reduction in nets and marine debris**<br>• **Reduction in feral animal impacts**<br>• **Reduction in DMT injuries and mortalities from boat strikes** | • Management arrangements are in place to reduce these impacts but resources are not available to cover the scale required.<br>(Science Panel) | • Projects are underway, partnerships are in place, eg: Carpentaria Ghost Nets Programme, feral pig programs on Cape York and Torres Strait, boat strikes at King Ash Bay fishing area, Dhimurru plastic bag project, Bardi-Jawi cleaning beaches; [10, 21]<br>• Evidence of reductions at a local scale eg North East Arnhem Land area; [8, 21]<br>• Evidence that where these threats are removed, local populations recover; [SP]<br>• Steps that have been taken to reduce mortalities, such as the introduction of Turtle Exclusion Devices on trawler nets and the rezoning of the Great Barrier Reef Marine Park are either not known or not appreciated in many Indigenous communities. [SP] |
| ***LEVEL 2***<br>***Changes in Policy and Practices of Institutions and Agencies***<br>• **Adaptive learning approach** | • The project has demonstrated an adaptive learning approach.<br>(Science Panel) | • The project and partners have adapted to the government context, however there has not always been an adaptive response or approach from institutions or agencies; [15]<br>• Demonstrated at the project level through:<br>– the Performance Assessment and Monitoring Plan produced within the project;<br>– taking on the MERI approach;<br>– undertaking a Partner Feedback Study;<br>– evolving communication methods and mediums throughout the project;<br>– on-ground management decisions such as the closure of turtle nesting beaches to traffic and harvest;<br>– research partnerships exploring new management tools such as spatial closures. [DT] |
| ***LEVEL 2***<br>***Changes in Policy and Practices of Institutions and Agencies***<br>• **Work programs culturally appropriate** | • The project has increased resources to employ and support Rangers so they can take management actions that are culturally right for their country.<br>(Traditional Owners) | • Community driven planning has resulted in work programs that are grounded in cultural values and community processes; [19, 25]<br>• AQIS spent 173 days training and 57 visits to communities in 2007-08; [SSI]<br>• 280 Rangers trained for insect collections,<br>130 for debris,<br>110 for weeds,<br>70 for bloods,<br>175 for refresher training. [SSI] |
| ***LEVEL 2***<br>***Changes in Policy and Practices of Institutions and Agencies***<br>• **Space for communities to determine priorities** | • The project builds confidence that participative planning that provides communities with the opportunity to set their own directions is effective.<br>(Science Panel) | • Regional Activity Plans have been developed and implemented by each partner; each Regional Activity Plan is unique to the context of the partner region; [4]<br>• Within the Torres Strait region, eight community-based management plans have been developed and ratified by Queensland and Australian Government agencies; [25]<br>• Provides a strong lesson and confidence to Government that participative planning is now a clear option and recognises the diversity of each community. [4] |

| Program Logic Step | Results Statement | Examples to Illustrate Results |
|---|---|---|
| ***LEVEL 2***<br>***Changes in Policy and Practices of Institutions and Agencies***<br>• **Commitment to longer term project** | • There is very strong evidence of the commitment to this project by all partners.<br>(Science Panel) | • The Australian Government has committed to three extensions to the project; [5]<br>• The project partners are committed to their Regional Activity Plans, beyond the current project; [25]<br>• Strong encouragement from the Australian Government for a submission by NAILSMA for a DMTP Mark II under *Caring for our Country*. [Summit] |
| ***LEVEL 2***<br>***Changes in Policy and Practices of Institutions and Agencies***<br>• **Better understanding of Indigenous commitment and responsibility to DMT management** | • Active Traditional Owner dugong and marine turtle management decided by Traditional Owners<br>(Traditional Owners) | • Traditional Owners in project areas have demonstrated through:<br>– development of key documents such as sea country plans;<br>– participation in Government and research forums;<br>– closure of turtle nesting beaches. [DT] |
| ***LEVEL 2***<br>***Changes in Policy and Practices of Institutions and Agencies***<br>• **Improved relationships with government and management agencies and input into policy development** | • The relationships with government and management agencies are patchy and often based on operational relationships between officers and Indigenous communities.<br>(Science Panel) | • Evidence from institutions and agencies is less clear and certainly more disparate<br>• There is great variability in the relationships:<br>– strong at Australian Government level, with NAILSMA input to policy for sea country management;<br>– variable at the State and Territory Government level, with little input to State Plans or Recovery Plans;<br>– variable at the project level with government and agency relationships often based on operational relationships; [SP]<br>• Completion of study on Indigenous Management of Dugong and Marine Turtle: Legal Opportunities and Impediments, 2008; [24]<br>• Involvement in more than 20 government initiatives and programs including membership of committees and panels such as the National Partnership Approach to the Sustainable Indigenous Harvest of Dugong and Marine Turtle, WA Sea Turtle Management Plan, Torres Strait Strategic Assessment; National Marine Turtle Recovery Group, Indigenous Advisory Council, Arafura-Timor Seas Expert Forum. [10] |
| ***LEVEL 2***<br>***Changes in Practices and Attitudes***<br>• **'Two-tool box' approach - Indigenous ecological knowledge and Western knowledge** | • The project provides a model of equity for the application of the two tool box approach.<br>(Science Panel)<br>• Broader revival of interest and demand by younger people for Indigenous knowledge in other areas of NRM.<br>(Traditional Owners) | • Two tool box approach is occurring as an ongoing way of doing business in each region; [SP]<br>• Articulated in planning documents and embedded in partnerships, values and operations; [DT]<br>• Demonstrates equity in relationships; [SP, MSC]<br>• Joint teams of NAILSMA project partners and James Cook University representatives attended the International Sea Turtle Symposium in 2008; [20]<br>• GIS and GPS training to collate and integrate Traditional ecological knowledge and Western scientific information for improved management of dugong in 8 Torres Strait communities. [28] |

| Program Logic Step | Results Statement | Examples to Illustrate Results |
|---|---|---|
| ***LEVEL 2***<br>***Changes in Practices and Attitudes***<br>• **Greater involvement of Rangers and young people in NRM** | • Increased ability of Traditional Owners through their Ranger groups to carry out effective community awareness in their communities and with younger people, including hunters and school children; role models and leadership are becoming evident.<br>(Traditional Owners) | • Established Bardi-Jawi Ranger group and Wellesley Islands Ranger group; [5]<br>• Established DMT Community Project Officer Network in the Torres Strait; [5]<br>• Communication products such as Message Disk feature Rangers prominently; [19]<br>• School visits conducted in all regions; Rangers involve students in turtle camps and beach clean-ups; Junior Ranger programs established; Dugong and Marine Turtle Information Package developed and distributed in Torres Strait and Cape York schools; [3]<br>• Management plans clearly articulate involvement; [25]<br>• On-country interviews refer repeatedly to involving young people, Rangers and schools in NRM; [MSC]<br>• AQIS fee for services with Indigenous communities in 2007-08:<br>– 30 Ranger groups contracted,<br>221 mosquito collections,<br>317 ant,<br>83 foreign fishing vessel debris,<br>5 blood and autopsy,<br>23 weed, and<br>22 fruit fly collections. [SSI] |
| ***LEVEL 2***<br>***Changes in Practices and Attitudes***<br>• **Confidence rebuilt to allow knowledge sharing amongst Indigenous communities, government and researchers** | • Where it has operated, the project has built confidence in communities to engage and negotiate on dugong and marine turtle management.<br>(Science Panel)<br>• Senior Traditional Owners are being supported by their Rangers and NAILSMA with resources and good information, and this has in turn increased community awareness about all of the threats to dugong and marine turtle.<br>(Traditional Owners) | • Confidence based on pragmatism and on agreements, protocols and processes rather than trust; [SSI, MSC]<br>• There is still some mistrust around delicate issues such as harvest data, interventions, etc; [6]<br>• Recognition through winning NT Coastcare Award and national Banksia Foundation Environmental Award is building confidence; [SSI, MSC]<br>• A Regional Facilitators staff fellowship staff through the Hawaiian Sea Turtle Research program under a training scholarship from the United States National Marine Fisheries Service; [5]<br>• International exchange programs with SERI Indian nation; [3, 5]<br>• Development of pride in communities, through Ranger jobs. [26] |
| ***LEVEL 2***<br>***Changes in Practices and Attitudes***<br>• **Improved communication and networking between Indigenous communities, management agencies and scientists** | • Communication and networking across northern Australia is good within this project but patchy overall.<br>(Science Panel)<br>• Ability to attract partnerships in areas such as illegal fisheries surveillance and pest monitoring because of new or increased Ranger capacity (skills and equipment).<br>(Traditional Owners) | • There is strong evidence of regular and effective Ranger exchanges and meetings within this project and a levelling up of communication as a consequence; [5, 19]<br>• 3 editions of Message Disk DVD produced; web based "Talking Newsletter" established; web portal established to allow downloads and provide interactive maps; regular project newsletters, eg: 6 quarterly newsletters distributed to over 100 people throughout the Torres Strait; [5]<br>• Perceived effectiveness of the project of 86% in awareness raising in Indigenous communities; [PPFS]<br>• There appears to be improvements at the horizontal level (ie: communities to communities and agencies to agencies) but the situation is patchier at vertical levels; [SSI, MSC] |

| Program Logic Step | Results Statement | Examples to Illustrate Results |
|---|---|---|
| | | • E-mail newsletter to project coordinators expanded from 40 subscribers to 420 subscribers (August 2008) and now includes scientists, agencies and government organisations; Message Disk 2 circulation over 400. [5, 22] |
| ***LEVEL 2*** <br> ***Changes in Practices and Attitudes*** <br> • **Increased awareness of threats to species and habitats** | • There has been a marked increase in awareness of threats to dugong and turtle amongst scientists and management agencies. (Science Panel) <br> • There is increased awareness of associated NRM management gaps (Traditional Owners) | • Marked increase in awareness of threats in the Great Barrier Reef Marine Park region and in the Torres Strait Region arising from the mapping and prioritisation of hazards and threats, including gill netting and trawling impacts on marine turtles; [28, 29] <br> • Initiatives such as Sea Grass Watch and the Ghost Nets Project have been extremely effective in raising awareness in the Gulf region; [19, MSC] <br> • 8 turtle and dugong management plans developed in Torres Strait were the result of nearly 50 Island and Nation (group of islands) community meetings over 4 years. [5] |
| | • The DMT Project has been very significant in raising awareness at the community level, through Land and Sea Management Units and Ranger programs. (Science Panel) <br> • Traditional Owners and Rangers are learning new skills and gaining increased knowledge of how they can reduce threats to dugong and marine turtle; awareness of migration patterns is now more apparent. (Traditional Owners) | • Where NAILSMA involvement has strengthened capacity such as Rangers, Coordinators and Project staff, community awareness has increased significantly; [26] <br> • Where community based planning has been encouraged by the DMT Project, community awareness has increased dramatically; [26, 28] <br> • There is an increase in awareness around climate change; [17, 19] <br> • Awareness is increasing perceived effectiveness of the project of 80% in awareness through work done in schools; [PPFS] <br> • Communication Products from this project such as the Knowledge Handbook, Message Disk, newsletters and exchange visits have significantly increased Indigenous understanding of threats;[19, <br> • Outside of the project area, awareness has mostly increased through long term contacts with key leaders who act as champions and bring awareness into communities. [SP] |
| ***LEVEL 2*** <br> ***Changes in Practices and Attitudes*** <br> • **Improved understanding of dugong and turtle populations, systems and habitats** | • There has been improved understanding through research partnerships and communication but there is still a widespread lack of region specific, site specific and stock specific information for better management. (Science Panel) | • There are significant gaps in knowledge on the size and distribution of turtle and dugong populations as identified in national and international policy documents such as the National Marine Turtle and Dugong Plan and the Memorandum of Understanding on the Conservation and Management of Marine Turtles and Their Habitats of the Indian Ocean and South East Asia; [DT] <br> • The Dugong and Marine Turtle Web Portal has become an important source of in-depth information and on-ground updates for wider Australia and visitation to DMTP specific content has increased dramatically from 2008. [5] |
| | • Improved understanding is evident in addressing larger scale management questions and setting priorities for attention. (Science Panel) | • Advances are occurring in tackling big picture management questions through approaches that require relatively shorter timeframes and funding levels, eg: <br> – spatial analysis work on hazards and threats; <br> – aerial surveys for dugong for 2004 – 2007; <br> – telemetry that demonstrates migratory pathways and dramatically increases community understanding when presented |

| Program Logic Step | Results Statement | Examples to Illustrate Results |
|---|---|---|
| | | graphically;<br>– genetic work that identifies differences in stocks and builds understanding about the differing management required for stocks;<br>– modelling that illustrates trends and informs management; [SP]<br>• RAPs continue to guide management actions and have been incorporated into other long term planning instruments such as: the *Thuwathu / Bujimulla Sea Country Plan - Aboriginal management of the Wellesley Islands region of the Gulf of Carpentaria*; the *Yolnguwu Monuk Gapu Wanga Sea Country Plan - A Yolngu vision and plan for sea country management in North-East Arnhem Land, Northern Territory*; and the *Barni-Wardimantha Awara (Don't Spoil the Country) Yanyuwa Sea Country Plan*; significant effort has gone into the implementation of sea country plans—both in on-country work schedules and in securing resources and support; [5]<br>• Wellesley Island sea grass survey completed by Wellesley Island Rangers and Queensland DPIF is being used by Australian Government DEWHA Marine Division to inform marine bioregional planning. [SSI] |
| | • Where threats are removed, populations have the capacity to recover.<br>(Science Panel) | • Key research papers demonstrate that where threats have been addressed in six global sea turtle data sets, population declines have been arrested and are now trending upwards (Chaloupka et al 2008); [30]<br>• The authors assert that relatively simple conservation strategies can have a profound effect on the recovery of once depleted stocks; [30]<br>• Two green turtle stocks in Queensland show an increase according to recent analyses of 30 years of data but the rate of increase is now slowing in Northern GBR stock. [30] |
| ***LEVEL 2***<br>***Changes in Practices and Attitudes***<br>• **Improved monitoring and evaluation of populations** | • Current data is not sufficiently robust to detect population changes from a management intervention, over a short timeframe.<br>(Science Panel) | • Degree of error in current data is too large; animals are long lived, have slow growth rates and long time lags are involved; [3]<br>• Enough information to develop general guidelines, based on rule of thumb and cultural management; [SP]<br>• Not enough information on all forms of mortality or on stock levels (rather than site level information);[S<br>• Potential to use index sites and other indicators but no reliable measurements of system- wide impacts; [SP]<br>• Established long term schedule for reporting of turtle and dugong mortality, counts of nesting turtles numbers at index beaches and annual turtle tagging census by li-Anthawirriyarra Rangers in the Sir Edward Pellew Islands; [5, 13]<br>• Probably won't have enough information to detect system-wide changes for a number of decades, due to the complexity involved, the lack of long term monitoring sites and the confounding influences of climate change in the next few decades; [SP]<br>• Standard method of monitoring population change by monitoring nesting effort (eg: counting/tagging nesting turtles or counting nesting tracks) is |

| Program Logic Step | Results Statement | Examples to Illustrate Results |
|---|---|---|
| | | unreliable except for very long term (2-3 decades) datasets, as nesting numbers fluctuate widely from year to year;<br>• These methods often pose huge logistic challenges in maintaining field crews in remote locations for long periods in difficult circumstances; [SSI]<br>• New methods for measuring population change such as population indices based on in-water counts of turtle and dugong are urgently needed. [29] |
| | • *Cybertracker* has emerged as a significant tool for robust, repeatable and consistent monitoring within the project. (Science Panel)<br>• There are more turtle monitoring patrols and the use of new technology like *Cybertracker* and *I-Tracker* by Rangers that allows Traditional Owners to collect accurate information. (Traditional Owners) | • Ranger groups are enthusiastic about the practicality and use of *Cybertracker* systems and the *I-Tracker* network; [3, 5, 10, 11]<br>• Systems and protocols for widespread use are being implemented through the project. [4, 11] |
| ***LEVEL 2***<br>***Aggregate Changes in How the Assets are Managed***<br>• **Partnerships with research and management agencies** | • There has been a significant increase in research partnerships, with more groups asking for research partnerships and evidence of improvements in the quality of the research partnerships, in terms of more equitable involvement of Indigenous people and more structured agreements on processes and protocols. (Science Panel)<br>• Partnerships with scientists and government agencies are building. (Traditional Owners) | • An obvious and significant increase in research partnerships and quality, in the sector, eg groups such as Dhimurru Aboriginal Corporation can list 22 substantial partnerships in place; [SSI, MSC]<br>• Examples from the project include a research agreement developed with the Bardi-Jawi Rangers, Edith Cowan University and the WA Department of Conservation for the Green Turtle Tracking Project; the Dhimurru Rangers, Charles Darwin University and NT Management agencies for satellite tracking agreements; the Carpentaria Land Council Aboriginal Corporation – Queensland Department of Primary Industries and Fisheries seagrass survey agreement; NRETAS seagrass surveys; Seagrass Watch; satellite tracking of marine turtles from the Wellesley Islands by the Wellesley Islands Rangers in collaboration with James Cook University; nine individual research projects in the Torres Strait in conjunction with James Cook University and the Marine Tropical Science Research Facility (MTSRF) involving: turtle foraging population surveys; turtle nesting population surveys; turtle nest predation survey; and involvement of Traditional Owners in Torres Strait dugong aerial surveys conducted in 2006; [14, 18]<br>Joint patrols between Ii-Anthawirriyarra Rangers and NT Police and Fisheries Officers [26]<br>• In support, there has been a change of attitude by researchers, increasing attendance at forums and increasing feedback to communities. [SP] |

| Program Logic Step | Results Statement | Examples to Illustrate Results |
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| ***LEVEL 2***<br>***Aggregate Changes in How the Assets are Managed***<br>• **Established north Australian network and better cross-regional decision making** | • Consistent progress has been achieved in establishing a north Australian network through this project, including improved cross regional decision making.<br>(Science Panel) | • The project demonstrates regular meetings, exchanges and communication between regional partners; [8, 19]<br>• Discussions with Papua New Guinean villagers during community consultation on Torres Strait management plans and formal meetings with PNG representatives through meetings such as the Australian / PNG Torres Strait Bilateral Meetings and associated trip to Daru and Port Moresby; [5]<br>• The Traditional Owner Panel provides evidence of common approaches and initiatives across the partners; [MSC]<br>• Prior to the DMT Project, the projects have been one-off activities, not sustained over time and not sustained across communities. [SP, MSC] |
| ***LEVEL 2***<br>***Aggregate Changes in How the Assets are Managed***<br>• **Capacity development and decision making of local Indigenous communities** | • There has been an enormous increase in capacity to negotiate and agree on dugong and marine turtle management, at the community level.<br>(Science Panel)<br>• Traditional Owners have developed their own dugong and marine turtle management plans, and are implementing them.<br>(Traditional Owners) | • Assisted partners to build and strengthen TSRA Land and Sea Management Unit, CLCAC Land and Sea Unit and KLC Land and Sea Unit; [5, 10]<br>• Information transferred to Rangers is being expressed in community based management planning and self imposed limits are increasing; [4, 13, 16, 25, 28]<br>• Cultural concerns are being seen as the pathway to addressing biological concerns; [8]<br>• The project has provided the underlying sustainability to translate awareness raising into actions in local communities, in partner areas; [SP]<br>• Significant examples include the Community Management Plans developed by Torres Strait communities and the transfer of these learnings to other communities. [25] |
| ***LEVEL 1***<br>***Changes in the State of the Asset***<br>• **More effective management of threats to species and habitats** | • In certain areas, there have been significant gains in the effective management of threats. For the majority of the area, incremental gains are being achieved, in the face of increasing pressures.<br>(Science Panel)<br>• Active Traditional Owner dugong and marine turtle management is being decided by Traditional Owners (eg: closure of turtle nesting beaches).<br>(Traditional Owners) | • The rezoning of the Great Barrier Reef Marine Park has made a huge difference in reducing threats to populations; [29]<br>• The Ghost Nets Programme has made a significant impact on the threats from marine debris and floating nets; [13, 19]<br>• Indigenous Protected Areas established to cover land and marine assets, eg: Dhimurru IPA established; Bardi Jawi Rangers, Wellesley Islands Rangers, li-Anthawirriyarra Rangers and the Mabuiag Rangers are pursuing Indigenous Protected Areas; [16]<br>• Zoning discussions are offering potential in areas such as the Torres Strait, through community based management planning:<br>– the process is strongly endorsed by the communities;<br>– the infrastructure is in place to support implementation;<br>– 8 community-based management plans are in place; [28]<br>• On-ground management is producing outcomes in areas including Western Cape York, the Gulf of Carpentaria, the Arnhem Land Coast and the Bardi Jawi area in Western Australia in terms of control of predators, reduction in hunting and removal of floating nets; [5, 25]<br>• Pressures on species are increasing from significant increases in port development, |

| Program Logic Step | Results Statement | Examples to Illustrate Results |
|---|---|---|
| | | commercial marine traffic, increasing workforce and recreational pressures in remote areas; [SP]<br>• Although species are expected to adapt to climate change in the longer term, pressures are increasing in the shorter term through changes to nesting beaches and feeding grounds. [SP] |
| | • Through the project, a process for the recognition of threats has been started in local communities and management steps have been introduced but there is still a long way to go for full implementation. (Science Panel) | • In pilot areas, culturally-based management is reducing some of the controllable threats; [5, 25]<br>• The loss of traditional knowledge is being reduced in areas where the project has operated; [6, 25]<br>• Good models for working together have been developed; [3, 4, 5, 10, 13, 18, 21, 25, 28]<br>• Partnership agreements are in place; [10, 13, 18]<br>• Some significant increases in local capacity, eg: project with the li-Anthawirriyarra Rangers (funded by the Australian Marine Mammals Centre) to work with the NAILSMA *I-Tracker* program to develop new methods for Indigenous Rangers to monitor turtle and dugong populations in the water; [4, 5, 10, 28]<br>• Increases in understanding the larger scale, in some areas; [16, 20, 29]<br>• Improved communication tools and approaches. [12, 19] |
| ***LEVEL 1***<br>***Changes in the State of the Asset***<br>• **Network of skilled Indigenous and non-Indigenous land and sea managers across northern Australia** | • Strong progress has been achieved in the growth of a skilled network across north Australia. (Science Panel)<br>• A network has been created across the north of Australia, for dugong and marine turtle. (Traditional Owners) | • The project has linked up existing community-based Ranger groups and been the catalyst for new groups forming across north Australia; [19, MSC]<br>• 6 Ranger exchange programs encouraged project participants to share ideas and experiences on country, to learn new methods and techniques and to reinforce shared responsibilities for the management of migratory species; [5]<br>• International exchanges including the Native Oceans Exchange program, the Hawaiian Sea Turtle Research program and the Arafura Timor Sea Experts Forum; [5, 10, 13]<br>• There are now 17 groups trialling *I-Tracker;* [26]<br>• External partners such as AQIS and Customs are providing contract work through the network; [26]<br>• A recent statement by the Federal Minister for the Environment referred to the network as “the front line managers of northern Australia”. [SSI] |
| | • The work done through the DMT project has been a catalyst for a significant rise in Indigenous aspirations for broader sea country management. (Science Panel) | • The legacy of the DMT Project is the significant rise in Indigenous aspirations, accompanied by some shifts in Government policy including active engagement with local communities and the development of better capacity for sea country management; [SP]<br>• Administrative and managerial capacity of the NAILSMA project needs to be supported and enhanced, to match the growth of the network and the increasing demands on communities. [SSI, MSC] |

# Appendix II Data Items

| Data item number | Report title | Source |
|---|---|---|
| Item 1 | Tender for Services for the Dugong and Marine Turtle Management Project 7/2004. | This is the initial tender documentation for the Dugong and Marine Turtle Management Project. It outlines the key project partners, aims, themes and deliverables. |
| Item 2 | Contract and Extension of Funding Documentation, 2004-07. | This documentation outlines a series of extensions of timing and funding for the NAILSMA Dugong and Marine Turtle Project. |
| Item 3 | Series of outcome reports from meetings:<br>a) Initial Workshop, 9-10 February 2005;<br>b) Partner Meeting, 19-20 July 2005;<br>c) Technical Reference Group Meeting, 21-22 July 2005;<br>d) Dugong and Marine Turtle Workshop, 20 September 2006;<br>e) Partner Meeting, 22-23 May 2007; and<br>f) Partner Meeting: 4 March 2008. | These reports outline the outcomes from Project Partner and Technical Reference Group meetings throughout the project, including reporting on progress with on-ground work. |
| Item 4 | Regional Activity Plans, 2005:<br>a) Kimberley Land Council<br>b) Northern Land Council<br>c) Torres Strait Regional Authority<br>d) Balkanu/ Cape York Development Corporation<br>e) Carpentaria Land Council | The Regional Activity Plans identify the needs and aspirations of TOs and communities regarding dugong and marine turtle management and describe the on-ground activities that will be progressed with budget and milestone information.<br><br>This item also reviews regional summaries that have been collated to allow for cross-regional analysis of activities and issues across the broad project area. |
| Item 5 | Dugong and Marine Turtle Project – Quarterly Reports, prepared by NAILSMA on behalf of project partners, 2005-2008. | Thirteen quarterly reports have been submitted to date for the project, stretching from January 2005 to March 2008. These reports outline the outcomes that have been achieved under agreed milestones for the project. |
| Item 6 | A Socio-Economic Study of Bardi Jawi Customary Use and Management of Dugong and Marine Turtles: Draft Report by the Centre for Aboriginal Economic Policy Research, The Australian National University, 2008. | The tender for the Dugong and Marine Turtle Management Project required NAILSMA to undertake sociological and economic research to respond to key drivers in human-induced mortality of dugong and turtle. At this stage, the report is in draft format and awaiting comments. It is important to note that the research findings may be revised at a later stage. |
| Item 7 | Dugong and Marine Turtle Knowledge Handbook: Indigenous and Scientific Knowledge of Dugong and Marine Turtles in Northern Australia, prepared by NAILSMA, 2006. | This is a literature review summarising Indigenous ecological and western scientific knowledge about dugong and marine turtle in Northern Australia. |
| Item 8 | Nhaltjan Nguli Miwatj Yolngu Djaka Miyapunuwu: Sea Turtle Conservation and the Yolngu People of North East Arnhem Land, Australia, 2003. | This article provides information on the North East Arnhem Land Miyapunu (Sea Turtle) Project that commenced in 1995. This project was a precursor to Yolngu participation in the NAILSMA Dugong and Marine Turtle Project. |
| Item 9 | 'Traditional Use in Contemporary *Ailan* (Island) Ways: The Management Challenge of a Sustainable Dugong Fishery in Torres Strait' in *Senri Ethnological Studies,* v 67, 2005. | This article provides information on the key issues to be addressed in developing a management regime for a sustainable dugong fishery in the Torres Strait. This research is a precursor to the development of the Torres Strait Regional Activity Plan under the NAILSMA Dugong and Marine Turtle Project. |

| Data item number | Report title | Source |
|---|---|---|
| Item 10 | Nomination for the Australian Government Coastcare Award for NAILSMA Dugong and Marine Turtle Project, 2007. | This nomination summarises the key achievements over the first two and a half years of the project. The nomination was successful and NAILSMA went on to receive the Coastcare Award. |
| Item 11 | *I-Tracker* Information Sheet and Instruction Manual, 2008. | These documents provide information on the roll-out of the *I-Tracker* technology to improve the monitoring and recording of data relevant to sea management, including of dugong and turtles, in the NAILSMA project areas. |
| Item 12 | Dugong and Marine Turtle Management Project: Communication Strategy, 2005. | The tender for the Dugong and Marine Turtle Management Project required the development of a Communications Strategy to guide the use of media and information tools. |
| Item 13 | Message Disk 2: Dugong and Marine Turtle Project, NAILSMA with presentations from the Bardi Jawi, Dhimurru, Anindilyakwa, li-Anthawirriyarra, Wellesley Island, Torres Strait and Pormpurraaw, Injinoo and Hopevale Rangers, 2007. | This is the second Message Disk DVD that showcases the work of Indigenous sea rangers looking after dugong and marine turtle. It contains nine short stories profiling the work of Indigenous groups along the north Australian coastline. |
| Item 14 | Sea Grass Communities of the Wellesley Island Group, 2007. | This document reports on a joint research project involving the Carpentaria Land Council Aboriginal Corporation, NAILSMA and the Qld Department of Primary Industries and Fisheries. It was commissioned by Traditional Owners of the Wellesley Island region who raised concerns over unhealthy dugong and turtle reported from hunters. |
| Item 15 | Performance Assessment and Monitoring Plan for the Dugong and Marine Turtle Management Project, 2007. | The Performance Assessment and Monitoring Plan was originally commissioned as a tool to improve on Natural Heritage Trust (NHT) procedures for reporting on the outcomes of the project. It was required by the original tender for the project. |
| Item 16 | '*Barni-Wardimantha Awara Yanyuwa* Sea Country Plan, 2007. | It is an example of how Regional Activity Plans developed under the NAILSMA Dugong and Marine Turtle Project have been incorporated into broader long-term planning for the management of sea country. This has also occurred in the *Thuwanthu / Bujimulla Sea Country Plan* (south-east Gulf of Carpentaria) and the *Dhimurru Yolnuwu Monuk Gapu Wana Sea Country Plan* (North East Arnhem Land). |
| Item 17 | 'Combining Science and Traditional Ecological Knowledge: Monitoring Populations for Co-Management,' *Ecology and Society*, 9(3), 2004. | This article reports on case studies conducted in Canada and New Zealand to inform research on combining western science and Traditional Ecological Knowledge in monitoring populations for co-management. Learning from this, and other, research contributed to the development of the NAILSMA Dugong and Marine Turtle Project. |
| Item 18 | 'Green Turtle Tracking Project in Northwest Australia – Project Partnership Agreement, 2007. | This Agreement establishes the foundation for a collaborative research project, 'Green Turtle Tracking Project in Northwest Australia' developed between NAILSMA, the Kimberley Land Council, Edith Cowan University and researchers in the WA Department of the Environment and Conservation. |
| Item 19 | Summary of key communication products (newsletters, magazines and information sheets) and media articles for the Dugong and Marine Turtle Project, 2004-2008. | A large number of communication products have been developed under the NAILSMA Dugong and Marine Turtle Project. This item reports on a handful of the key products. |

| Data item number | Report title | Source |
|---|---|---|
| Item 20 | Series of items including the *Oceans Apart* Newsletter, Memorandum of Understanding Between the Ocean Foundation and NAILSMA and other material reporting on NAILSMA Dugong and Marine Turtle representation at the International Sea Turtle Symposium in Mexico and the Cultural Exchange with the Seri Indians, 2008. | These data items report on the attendance of NAILSMA representatives and rangers from the Torres Strait and North East Arnhem Land at the 28th International Sea Turtle Symposium in January 2008. The items also report on a cultural exchange conducted with the Comcaac or Seri Indians. |
| Item 21 | Entanglement of Miyapunu (Marine Turtles) in Ghost Netting: Northeast Land, NT.<br>Report One: 30 September 2004 – 30 September 2005;<br>Report Two 30 September 2005 – 30 September 2006; and<br>Report to Alcan Gove, World Wide Fund for Nature, Northern Land Council – Aboriginal Benefits Trust Account and NT EnviroNT Fund. | These reports provide details of incidents of marine turtle stranding in the vicinity of Cape Arnhem and Port Bradshaw, North East Arnhem Land. They incorporate data collected each year by Dhimurru starting in 1996 and continuing through to 2006. While this project was not funded under the NAILSMA Dugong and Marine Turtle Project, in later years Dhimurru has collaborated with this Project and other partners. |
| Item 22 | 'Unsustainable Harvest of Dugongs in Torres Strait and Cape York (Australia) Waters: Two Case Studies Using Population Viability Analysis,' in *Animal Conservation* v 7, 2004. | This is a key science article that prompted concerns over Indigenous harvest of dugong and turtle in the Torres Strait. It was a precursor to the establishment of the NAILSMA Dugong and Marine Turtle Project. |
| Item 23 | Dugong Distribution and Abundance in Torres Strait, Report for Australian Fisheries Management Authority, 2004. | This report was commissioned by the Australian Fisheries Management Authority who funded the Torres Strait Survey in 2001. |
| Item 24 | Indigenous Management of Dugong and Marine Turtle: Legal Opportunities and Impediments, 2008. | This report was commissioned to provide information and advice to NAILSMA Dugong and Marine Turtle Project Partners in relation to the legal opportunities and impediments to increased Indigenous management of dugong and marine turtle. |
| Item 25 | Torres Strait Community-Based Management Plans for Badu, Boigu, Erub, Mabuiag, Murray and Yam Islands, Draft 2008. | These plans reflect community priorities for the management of dugong and turtle including sustainable harvest levels, monitoring and research and education and community awareness activities. |
| Item 26 | Banksia Award Nomination 2008 – NAILSMA Dugong and Marine Turtle Project. | This nomination contains a summary of the key outcomes of the project (with supporting documentation). The NAILSMA project subsequently won the Indigenous Category and was placed second in the People's Choice Award. This demonstrates a positive external evaluation of the project in a nationally competitive process. |
| Item 27 | Conflict to Co-Management: Eating our Words: Towards Socially Just Conservation of Green Turtles and Dugongs in the Great Barrier Reef, Australia, PHD Thesis submitted to James Cook University, 2006. | This thesis examines Indigenous community engagement in natural resource management using the development and implementation of the Hope Vale Turtle and Dugong Hunting Management Plan throughout 1999-2002. While this research was conducted prior to the development of the NAILSMA Dugong and Marine Turtle Project it contains highly relevant lessons and serves as a cautionary tale of the challenges of implementing sustainable collaborative approaches in this area. |
| Item 28 | Torres Strait Community GIS: Building the Capacity of Torres Strait Islander Communities in Natural Resource Management Through Integration of Traditional Ecological Knowledge and Western Scientific Knowledge, 2008. | This report outlines results of a project undertaken to build the capacity of a number of Torres Strait Islander communities to use GIS and GPS technology to collate and integrate Traditional Ecological Knowledge and western scientific knowledge for the improved management of dugong in the Torres Strait. |

| Data item number | Report title | Source |
|---|---|---|
| Item 29 | 'Rapid Assessment of Risks to a Mobile Marine Mammal in an Ecosystem-Scale Marine Protected Area' to be published in *Conservation Biology*, 2008. | This article reports on research that developed a rapid approach to assess risk to dugong in the Great Barrier Reef World Heritage Area and evaluates options to ameliorate that risk including the recommendation of measures in relation to Indigenous hunting, commercial netting and terrestrial run-off. |
| Item 30 | 'Encouraging Outlook for Recovery of a Once Severely Exploited Marine Megaherbivore': *Global Ecology and Biogeography*, 2008. | The research shows that six of the major green turtle hunting populations in the world have been increasing over the past two to three decades following protection from human hazards such as exploitation of eggs and turtles. This demonstrates that relatively simple strategies can have a profound effect on recovery of once depleted turtle stocks. The Great Barrier Reef World Heritage Area was one of the study sites for the research. |
| Item 31 | Healthy Country: Healthy People. Indigenous Natural and Cultural Resource Management and Health, Stakeholder Debriefing Paper. *Menzies School of Health* Research, 2007. | This is a stakeholder debriefing paper reporting preliminary results from the Healthy Country: Healthy People Project conducted by the Menzies School of Health Research. The project compares the health of participants in natural and cultural resource management (NCRM) with non-participants in a cross-sectional study. |

## Other Articles Reviewed (not summarised)

| No | Title | Subject |
|---|---|---|
| 1 | National Recreational and Indigenous Fishing Survey | This survey was a national survey of recreational and Indigenous fishing activity. It includes data on dugong and turtle take. The survey methods, results and interpretation were widely criticised by experts. |
| 2 | Marine Turtle Recovery Plan | This is the national recovery plan for marine turtles. It was prepared by DEH Marine and Migratory Species Section along with the National Recovery Team (experts). It sets out the many actions, activities (research and management) that are to be undertaken to 'promote the recovery of marine turtle populations'. This version was finalised in 2003 and a revision process is underway. |
| 3 | DRAFT - NT Dugong Management Plan 2003-2008 | This is the draft Dugong management plan for the NT. |
| 4 | National Protocols for Monitoring Nesting Marine Turtles (Discussion Paper 2005) | This a discussion paper prepared by a sub-group of the Marine Turtle Recovery Group. It sets out protocols/options for monitoring population numbers of turtles on nesting beaches. |
| 5 | NOO Key Species Report (Dugong and Marine Turtle sections) | This is report produced by the National Oceans Office that summarises data on key species (based on cultural, economic and conservation issues) for the NOO Northern Region Planning Area. It provides useful data on the biology of dugong and marine turtle. It illustrates the lack of any reliable data on Indigenous harvest or indeed most mortality impacts. |
| 6 | Marine and Migratory Species Section – Regional Summaries of Dugong and Marine Turtle Information | These summaries were produced by the Marine and Migratory Species Section (DEH, Australian Government) from responses to template questionnaires sent to government agencies around Australia. |

| No | Title | Subject |
|---|---|---|
| 7 | Protecting Dugongs and Protecting Rights: An Analysis of Anthropological and Biological Studies on Dugongs Within Australian Waters - Jacob Berson | This Honours thesis provides a summary of dugong biology, cultural values of dugong and threats to dugong. It has 4 case studies - Bardi-Jawi (WA), Yanyuwa (NT), Mabuiag Islanders (Torres Strait) and Sandbeach People (Cape York). It uses population models to explore relative impacts of habitat loss, entanglement in nets and hunting on dugong populations and discusses Indigenous Protected Areas as a potential management tool. |
| 8 | Marine Turtle Conservation and Management in Northern Australia - R. Kennett *et al.* (1997) | This is a book of the proceedings of a workshop on marine turtle conservation and management held at Northern Territory University in 1997. It includes papers by Indigenous and non-Indigenous authors and is a good reference guide. |
| 9 | Monitoring the Catch of Turtles in the Northern Prawn Fishery (1998). Department of Agriculture, Fisheries and Forestry Australia. | This paper reports on the species composition, catch and mortality rates of sea turtles captured incidentally by the Northern Prawn Fishery and reports on the effectiveness of Turtle Excluder Devices (TEDs). |
| 10 | Working Together for Sustainable Traditional Use of Marine Resources in the Great Barrier Reef Marine Park – Information Kit (2006) | This provides fact sheets suitable for Indigenous managers, tourists, school groups and the general public on dugong and turtle management. |
| 11 | Memorandum of Understanding Between the Angumathimaree Paynerenhnama (Two Rivers People) and the Environmental Protection Agency (2004) | This is a foundation document that recognised the rights of the Angumathimaree Paynerenhnama in Queensland to manage dugong and turtle for future harvesting in a culturally appropriate and sustainable way on their traditional estate, the Pine River Management Area. |
| 12 | A Guugu – Yimmithiee Bama Wii: Ngawiya and Gibbith – Dugong and Turtle Management Plan, Hopevale (1999) | This is a community-owned document about dugong and turtle hunting management. It was foundation document for work in this area. |
| 13 | Sustainable Harvest of Marine Turtles and Dugong in Australia – A National Partnership Approach (2005), Operational Model (2006) and Meeting Outcome Record (May 2007) | NAILSMA has participated in the development of this National Partnership Approach and attended policy development and implementation meetings in relation to this initiative. |
| 14 | Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South East Asia (2001) | The objective of this Memorandum of Understanding is to protect, conserve, replenish and recover marine turtles and their habitats. It sets out a series of conservation and management actions for signatory states such as Australia. |
| 15 | Living on Saltwater Country: Review of Literature About Aboriginal Rights, Use, Management and Interests in Northern Australian Marine Environments. National Oceans Office (2004) | This document was commissioned by the National Oceans Office and carried out by consultants with collaboration and advice from the Northern Land Council, Balkanu Cape York Development Corporation and Carpentaria Land Council under the auspices of NAILSMA. It is a major literature review summarising marine environment and natural resource management issues and charts the way for new approaches to the engagement of Aboriginal people in the planning and management of saltwater country in the Northern regional marine region. |
| 16 | Saltwater People Network Proposal | This paper outlines a proposal for the development of this network to allow for ongoing coordination of networking and communication of Indigenous Sea Managers across north Australia. It would build on the considerable success of network development under the NAILSMA Dugong and Marine Turtle Project. |
| 17 | Dugong and Marine Turtle Management in Yanyuwa Sea Country (2005/2006) | This is a 2005/2006 progress report to the NAILSMA Dugong and Marine Turtle Project. |

| No | Title | Subject |
|---|---|---|
| 18 | Demographic and Health Parameters of Green Turtles Chelonia Mydas Foraging in the Gulf of Carpentaria, Australia. Hamann M, Schauble CS, Simon T & Evans S (2006) Endangered Species Research. V.2. | This research calls for the collection of biological data at all life stages to assess health and conditions of sea turtle populations. |
| 19 | Sea Turtles Nesting in the Sir Edward Pellew Islands, Gulf of Carpentaria, NT: Hamann M, Schauble CS, Simon T, Evans S, Dorr T, & Kennett R (2006); Memoirs of the Queensland Museum. | This study combined local Aboriginal knowledge with orthodox quantitative sea turtle survey methods to collect baseline information on sea turtle populations in the Sir Edward Pellew Islands. |
| 20 | Factors Influencing the Sustainability of Customary Dugong Hunting by a Remote Indigenous Community; Kwan DM, Marsh HD & Delean S (2006); Environmental Conservation. V.33 (2), 164 - 171. | This research outlines the importance of understanding the economic, socio-cultural and environmental factors that influence Indigenous harvesting activity. It is based on research in the Torres Strait. |
| 21 | Outcome Report – Dugong and Turtle Workshop Badu Island December 2006. Girringun TUMRA Steering Committee | This Report outlines outcomes from the workshop. It also contains information on a presentation given on the development of a Traditional Use of Marine Resources Agreement (TUMRA) for traditional harvest of dugong and turtle. |
| 22 | Towards Community-Based Management Plans for Dugong and Marine Turtles in Northern Australia (Draft Article 2008) | This paper outlines the lessons learnt in the Torres Strait under the NAILSMA Dugong and Marine Turtle Project in developing community based management plans for dugong and turtle. |
| 23 | Raising Indigenous Community Awareness and Promoting On-Ground Recovery Activities for Marine Turtles in the Torres Strait. Final Project Report Prepared for the Department of Environment and Heritage (2005). | This project aimed to increase Indigenous community awareness and promote on-ground recovery activities for dugong and marine turtles in the Torres Strait. |
| 24 | Indigenous Initiatives for Co-Management of Miyapunu/ Sea Turtle. Ecological Management and Restoration V.5 (2004) | This article reports on work that has been underway since 1992 in North East Arnhem Land to manage sea turtle. |
| 25 | Technical Report – Dugong and turtle Monitoring and Management around the Sir Edward Pellew Islands. Prepared for the Natural Heritage Trust. (2005) | This reports on a project conducted in 2004-2005 to: increase dialogue among community members about sea turtle conservation issues; begin monitoring and research projects; incorporate these activities into school and community educational initiatives and develop a sea turtle research plan for the area. This was a precursor to involvement of Traditional Owners and Rangers in this area in the NAILSMA Dugong and Marine Turtle Project. |
| 26 | Report on Progress of Bardi and Jawi Communities Dugong and Turtle Management Plan (2004). | This report outlines discussions that took place in Bardi and Jawi country on the possible development of a dugong and turtle plan. This was a precursor to Bardi and Jawi involvement in the NAILSMA Dugong and Turtle Project. |
| 27 | Draft Torres Strait Dugong and Turtle Fisheries Assessment Report. (2006) | The report provides information to assess the dugong and turtle fisheries consistent with the Environment Protection and Biodiversity Conservation Act 1999. |
| 28 | Historical Marine Population Estimates: Triggers or Targets for Conservation: The Dugong Case Study (2005) Ecological Applications. V.15. | This case study finds that it may be more productive to set anthropogenic mortality targets that are designed to enable populations to recover to optimum sustainable levels rather than to set recovery targets. |

| No | Title | Subject |
|---|---|---|
| 29 | Dugong Grazing and Turtle Cropping: Grazing Optimisation in Tropical Seagrass Systems, (2006) Oecologia. | This research looks at seagrass grazing behaviours. It suggests that where grazing is the only major source of natural disturbance, it is likely that there are potential ecosystem level effects if and when numbers of dugong and turtles are reduced. |
| 30 | Report to Mornington Shire Council. Response to Community Concerns about Green Turtle and Dugong in Waters Adjacent to the Wellesley Group of Islands. | This article documents concerns about sickness of turtles from traditional hunters and other community members and attempts to determine possible causes. |
| 31 | Record of Discussion with Traditional Owners on Decline in Marine Species | This record documents concerns about sickness of turtles from traditional hunters and other community members and attempts to determine possible causes. |
| *Subsequently reviewed for the data trawl on advice from the Science Panels:* | | |
| 32 | Australian Centre for Applied Marine Mammal Science Final Report: A Spatially Explicit Population Model to Inform Negotiations Between Traditional Owners and Relevant Management Agencies About Options to Manage the Dugong Fishery in Torres Strait. (2008) | This report outlines the key achievements of a project to use several decades of aerial survey results and geostatistical techniques to develop a spatial model of dugong distribution and relative density in the Torres Strait. This information has been shared with Torres Strait Islanders via a series of community mapping workshops. The spatially explicit model will inform negotiations about shared responsibility strategies for ensuring that the Torres Strait dugong fishery is sustainable. |
| 33 | 'Prioritising Areas for Dugong Conservation in a Marine Protected Area Using a Spatially Explicit Population Model': Applied GIS v 3, n 2. (2007) | The article reports findings of research that indicate that in order to manage dugongs effectively in the Great Barrier Reef World Heritage Area it is critical to understand their spatial relationship with their environment and the human activities that threaten them. The research used information collected from dugong aerial surveys in conjunction with geostatistical techniques, to develop a model of dugong distribution and abundance. After completing the model, frequency analyses were conducted to categorise relative dugong density and distribution to identify areas of low, medium or high conservation value. |
| 34 | 'A Spatial Assessment of the Risk to a Mobile Marine Mammal Environment from Bycatch': Aquatic Conservation: Marine and Freshwater Ecosystems. (2008) | This article reports on research using a spatial risk assessment approach to evaluate impact the rezoning of the Great Barrier Reef World Heritage Area has had on bycatch levels. It was found that the new zoning arrangements appreciably reduced the risk of dugong bycatch by reducing the total area where commercial netting is permitted. The article concludes that spatial risk assessment approaches that evaluate the risk of mobile marine mammals from bycatch are applicable to other situations where there is limited information on the location and intensity of bycatch. |
| 35 | 'Rezoning of the Great Barrier Reef World Heritage Area: Does it Afford Greater Protection for Marine Turtles?' in Wildlife Research (2008). | In 2004 the Australian Government implemented a revised zone-based management plan for the Great Barrier Reef World Heritage Area to increase protection of representative areas while minimising the impacts to the economic viability of important industries. In this study we evaluated the current zoning plan for its capacity to protect marine turtles from commercial trawling and netting activities at nesting sites and at inshore and offshore foraging areas to assess whether the Great Barrier Reef Marine Park Authority met their obligations under the Representative Areas Program. |
| 36 | Dhimurru Yolnuwu Monuk Gapu Wana Sea Country Plan (2006). | This plan sets out the aspirations of Traditional Owners for the management of their sea country. It provides detailed background information on the sea country within the Indigenous Protected Area and establishes management priorities. |

| No | Title | Subject |
|---|---|---|
| 37 | Engaging with Indigenous Traditional Owners in the Planning and Management of Dugong and Marine Turtle Tourism in Australia; Dobbs K, Birtles RA, Smyth D, Marsh HD, Limpus CJ, Valentine PS, Hyams W & Curnock MI (2006); International Sea Turtle Society (Book of Abstracts). | This abstract provides details of a presentation prepared by a number of Australian researchers for the International Sea Turtle Society Conference. The presentation reported on best practice guidelines developed to assist tourism operators' and managers' engagement with Indigenous Traditional Owners in the planning and management of dugong and marine turtle tourism in Australia. |
| 38 | Community-based Catch Monitoring of a Traditional Fishery for Marine Turtle in the Kaiwalagal Traditional Sea Country of Torres Strait; Grayson J, Hamann M & Marsh HD (2006); International Sea Turtle Society (Book of Abstracts). | This abstract provides details of a presentation prepared by a number of James Cook University researchers for the International Sea Turtle Society Conference. The presentation reported on a project developing community-based strategies for green turtle catch monitoring on Hammond and Thursday Islands in the Torres Strait. |
| 39 | Green Turtle Hunting in Torres Strait: Complexities of Local Management for an Internationally Roaming Turtle; Hamann M, Grayson J & Marsh (2006); International Sea Turtle Society (Book of Abstracts). | This abstract provides details of a presentation prepared by a number of James Cook University researchers for the International Sea Turtle Society Conference. The presentation reported on research evaluating Indigenous and government perspectives on hunting in the Torres Strait. |

# Appendix III Additional Stories

## ➢ Dhimurru Aboriginal Corporation

The runner-up story was Story 15:

**"Back from Mexico"**

"When Djawa got back from the Mexico trip, he was more vocal and active, I guess he had a more global scale knowledge. An example is we were camping doing a Ghost Net cleanup and some younger Rangers got a turtle after it had nested and kept it until morning, intending to eat it. He told them "It's not the way to hunt turtle" and he made them let it go, the younger men respected that decision.

Now, it doesn't sound like much but if that happens a few hundred times in a few places over the course of a year or two, that makes a significant change, not so much just in the number of turtles and their nesting ability, but also about the attitude of younger people to the way they conduct themselves on their country and about respecting culture."

## ➢ Zenadh Kes (Torres Strait Nations)

The group also asked for a compilation of their stories to be added, to emphasise that they are a group of distinct nations and each nation has a voice.

**"Zenadh Kes Voices"**

### "Point of view expanding"

"There has been a breaking down of barriers as a result of these programs, caring for country and (caring for) animals of the totems (marine turtle and dugong) … Slowly growing and accelerated interest since the NAILSMA Project started and giving people a broader perspective, the Torres Strait is a tiny area, turtle and dugong are widespread … interesting to notice Torres Strait Islander's point of view expanding… ."

### "Now, it's right on the table"

"We are presenting turtle and dugong updates direct to PZJA (*Protected Zone Joint Agreement*) and letting them know what it will take to support turtle and dugong from a community based point of view."

"Last year in October, we had two project officers go to Port Moresby for the Torres Strait Fisheries bilateral meeting and they were able to present on the Turtle and Dugong Project and talk to PNG people about how they want to meet with coastal PNG villages … first time that local Traditional Owners have been able to talk at that level with PNG, gave a community perspective to the issues, everybody knows that it is the only way anything will happen … ."

### "No-one wanted to talk"

"When I went out to the islands, no-one wanted to talk, there was no trust and a view that it was all just talk, they were very cynical … but now eight communities have developed management plans and half have been monitoring turtle and dugong take, newsletters have been put out, Project Officers have been talking on radio so there is a much heightened awareness and the plans and planning process have given people a voice."

"The Traditional Property Owners up here have learnt a lot from others visiting here as well, and particularly when it comes to turtle and dugong and then people see something like Dhimurru and things like that broaden people's ideas about what is possible and now they are demanding that of the Protected Zone Joint Agreement ... ."

### "There are concerns"

"For dugong, Sabai, Badu and around Zenadh Kes, people are reporting that they see less dugong, particularly at Sabai where PNG are netting, this is a change that people are voicing a concern about regarding harvest and people are saying that the best way is to bring hunting back to ceremonial purpose and employing traditional hunting method only. No nets!"

### "Two years later"

"It took a lot of public meetings to create the understanding and trust from Traditional Owners and community members that what we were doing was empowering traditional practices and protocols for the hunting of turtle and dugong and preserving those trades (*traditions and culture*) for future generations … ."

"The hunting of these two creatures is slowing down over the past year because of the awareness. Myself as a hunter, I realise that there are only one or two hunting dinghies out there when I hunt, whereas before, there were many more hunters out there … ."

### "We have come from nothing and frustration"

"We have come from nothing and frustration and being reluctant to be involved in the process from the beginning. There is now a solidarity to working together to achieve common goals and direction and purpose, to improve better management for marine turtle and dugong."

## Cross Regional

The runners-up were Story 40 and Story 37:

### "We'll all be winners"

"I'd just like to add on too that yes, for the dugong and turtle that migrate from Torres Strait maybe right through to our country, if there's management plans in all of the traditional groups to manage the resources, then we'll all be winners, you know what I'm saying. So there's management plans right across so if, for instance, somewhere in between Torres Strait and Bardi country is over hunted or whatever, and they haven't got these plans in place or whatever, well everybody miss out. What it looks like to me.

Everybody's joining in and seeing the importance of it and a forum like this, to get together and put together what we believe is the right thing to do and bring forward to the government and hammer to them that they're investing their funding in the right way and we're doing the right thing ourselves too as traditional country people. I'm sorry I elaborate a little bit too much."

*Reasons for Choice:*

- *emphasises how Government is investing in the right way;*
- *tells a story across the full program area.*

### "I'm going to stop the goannas and the pigs"

"One of the striking things that I've seen is the awareness throughout the north, from Zenadh Kes all the way to Kimberley and what strikes me most is how the Rangers are happy. Like the young Rangers sitting here in front of me now are saying how they're happy with their jobs and it's like from the project that started from a little thing, a big thing grows and like what Terrence has said there before, it's a start of a little thing, it's the start of a big thing.

It will produce education and jobs and things like that and that awareness even came from a little nephew of mine. He was telling me that 'Uncle, how are we going to stop the goannas from eating the nest, the turtle nest?'

Now that is a very young mind that has been educated about this awareness and he's going to grow up and he said that 'when I grow up, I want to be a Ranger and I'm going to stop the goannas and the pigs from eating those things.'

It's fascinating how that awareness is already out there and the upcoming generation will grow with that awareness in place and will absorb the sustainability and the generation will have the sustainability and I'm pretty glad that we have this management plan in place. That's all I can say. Thanks."

*Reasons for Choice:*

- *cross-generational, importance of passing knowledge on;*
- *from the heart;*
- *inter-generational change, "way out for the kids";*
- *local story but tells a big picture.*

**NAILSMA Newsletter, October 2008**

***Please use this link to access this Newsletter online***: http://www.nailsma.org.au/projects/oct08

# NAILSMA Dugong and Marine Turtle Project News

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October 2008

## In This Issue...



## Audio Interviews



## Dugong and Marine Turtle Management Summit: Huge Success!

"Thumbs up!" say the participants of a recent Dugong and Marine Management Summit held by NAILSMA and hosted by the Kimberley Land Council and Bardi Jawi Rangers at Mudnunn on the Dampier Peninsular and brought together Indigenous Rangers and facilitators from as far away as Zenadh Kes (Torres Strait), Cape York, Gulf of Carpentaria and the Top End of the Northern Territory to a location just south of One Arm Point—a small community on the Western Australian coast that is home to the Bardi Jawi Rangers.

The Summit comes at the tail-end of the first phase of the Dugong and Marine Turtle Project and was an opportunity for Rangers and Communities involved in the Project to look back and share their successes over the past three years. It was also an opportunity to discuss issues and brainstorm new activities and aspirations that could be included in a future phase of the project.

Most significantly, all Project participants gave their overwhelming support to continue the Dugong and Marine Turtle Project with a focus on further increasing the capacity of Ranger Programs so that they can take their regional activity plans to the next level.

Also agreed to by the participants was an expansion of the

- Terrence Taylor
- Terry McCarthy
- Tonya Murray
- Vanessa Walsh
- Vernon Yanner

**NAILSMA Dugong and Marine Turtle Project**

- Email: marine@cdu.edu.au
- Web: www.nailsma.org.au


**Project Partners and Participants**

**Kimberley Land Council**

- Bardi-Jawi Rangers

**Northern Land Council**

- Dhumurru Rangers
- Ii-Anthawirriyarra Rangers

**Carpentaria Land Council Aboriginal Corporation**

- Wellesley Islands Rangers

**Balkanu Cape York Development Corporation**

- Injinoo Community
- Lockhart Community
- Pormpuraaw Rangers
- Hopevale Community

**Torres Strait Regional Authority**

- Mer (Murray) Islanders and Erub
- (Darnley) Islanders from Kemer Kemer Meriam Nation
- Badu Islanders, Mabuiag Islanders and St. Pauls community from Maluiligal Nation
- Malu Kiai (Boigu)

project to include more Indigenous Ranger units from across the North into the Project. The participants showed enthusiasm for the network to develop and see the opportunities for collaboration and sharing ideas across the regions as an important aspect of the Project.

A strong show of support for the Dugong and Marine Turtle Project by state and federal government was evident by the big mob of officials who participate in the four-day Summit. Heading the Department of the Environment, Water, Heritage and the Arts representation was Working On Country Assistant Secretary Kathleen Mackie who was accompanied by colleagues Donna Kwan, Ilse Kiessling, Jenifer Rahmoy and Les Russell. Representing the Great Barrier Marine Park Authority was Leon Jackson, the Australian Quarantine Inspection Service (NT) was Brian Reid, and Department of Indigenous Affairs (WA) was Jess Clements.

Listen to what the participants had to say about the Summit by clicking the pictures below.

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Back to top

## Listen to what the participants had to say...

Click the picture to be taken to the NAILSMA website where you can listen to audio from the participants recorded at the Summit.

The Summit ran from October 6 – 10

Islanders from Guda Maluiligal Nation

Iama (Yam) Islanders from Kulkalgal Nation

Kaurareg from Kaiwalagal Nation

**View Project Map**

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**NAILSMA Dugong And Marine Turtle Project**

**Voting Closes Midnight 22 October!**

The NAILSMA Dugong and Marine Turtle Project has been nominated in the Australian National Landcare Awards for the "Life-on-the-edge-



Coastcare Award" and a "People's Choice Award". It is the only Indigenous-run project in the Coastcare Award category.

The project is currently in the top 5 and with only days remaining until voting closes (midnight 22 October), this is your last chance to show your support for the invaluable work of Indigenous Rangers across the north.

**To vote, visit the Landcare Heroes Website.**

(International voters enter "0909" as the postcode. International supporters are eligible to vote but are not eligible to win the advertised prizes.)

When you place your vote, you can also leave a message of support for the Indigenous Rangers and communities involved in the project.

Please pass this message on to your networks and friends.

Back to top

## Call for Local Heroes!

After learning the NAILSMA Dugong and Marine Turtle Project was nominated for a Banksia Award, the ABC contacted NAILSMA to propose a feature on the Dugong and Marine Turtle Project for the 'Local Heroes' section of the ABC Indigenous portal.

This could be a great opportunity for ranger groups to give recognition to people involved in their program that have inspired and excelled. It would also be an opportunity to profile your ranger program in a national forum.

Applying is easy and NAILSMA will support you to complete the application.

For more information or to apply, contact Josh at NAILSMA.




Back to top

## In The News

[$26.76 million boost to Indigenous ranger work]
Environment Minister Peter Garrett today announced $26.76 million to help Indigenous rangers fight the loss of biodiversity in remote Australia. ...

[Fed Govt to lock up 31m hectares in conservation drive - Stock and Land] Fed Govt to lock up 31m hectares in conservation drive Stock and Land, Australia - 9 hours ago It was announced recently as part of a six-point "outcomes" report under the caring for country program, which also included incentives to help up to 30 per ...

[Dugong and turtle management project nominated for national award - Charles Darwin University] Dugong and turtle management project nominated for national award Charles Darwin University, Australia - 14 hours ago The Dugong and Marine Turtle Project, led by the North Australian Indigenous Land and Sea Management Alliance (NAILSMA), will compete for top honours in the ...

[Rangers stand guard over pipeline workers - The Age] The Age Rangers stand guard over pipeline workers The Age, Australia - 14 Oct 2008 "If any of them (crocodiles) come within five metres of the divers, I open fire," says 36-year-old Mr Ninnal, one of 19 indigenous rangers protecting ... Watch out, crocs about Blacktown Sun all 16 news articles



NT stockman rents out his paradise to conservationists to save ... - The Australian NT stockman rents out his paradise to conservationists to save ... The Australian, Australia - 10 Oct 2008 The gulf snapping turtle and the dugong are both found in the waters of the gulf. Threatened species such as the spectacled hare wallaby, rabbit rats and ...

Work for dole changes to come - The Age Work for dole changes to come The Age, Australia - 6 Oct 2008 "They viewed CDEP positions as enabling indigenous people to work whilst caring for country, living off the land and attending to cultural obligations. ...

Water experts tap knowledge Southern Highland News, Australia - 18 Sep 2008 Institute of Advanced Studies Traditional Knowledge Initiative and the North Australian indigenous Land and Sea Management Alliance (NAILSMA).

Back to top




Back to top

# Performance Story Nears Completion

*Late last year, the Australian Government invited the NAILSMA Dugong and Marine Turtle Project to be one of two Indigenous projects funded by the Australian Government to trial a new method of evaluation—Most Significant Change Performance Story Report. In March 2008, partners of the project voted in favour of participating in the trial and seven months on, the evaluation is almost complete.*

*The recent Dugong and Marine Turtle Management Summit at Mudnunn provided the stage for a final step in the process—representatives from each of the Project sites, as well as government and research collaborators, selecting the best and most representative "Most Significant Change Story" from those submitted by people in their community.*

*Paul Josif and Bevan Bessen were at Mudnunn to facilitate the process—as they have been throughout the entire evaluation process. Paul and Bevan report on the progress so far and provide some insight into what the evaluation has revealed about the project.*

The Dugong and Marine Turtle Project Most Significant Change Performance Story Report evaluation is now virtually completed. All the components of the evaluation including the Data Trawl, convening of Scientific and Traditional Owner panels, Performance Stories and interviews with support agency representatives, and the Summit have shown the project itself to have been a substantial success.

Over the four year duration of the project, all participants have learnt many beneficial lessons.

The Government has learnt that Traditional Owners can manage a very large project and achieve the predicted outcomes as well as achieve a large number of positive additional outcomes across the entire quadruple bottom line—social, cultural, environmental and economic.

Traditional Owners have learnt the value of broad networks where Indigenous peoples are linked by their interests in using their diverse cultural knowledge as a common foundation for the sustainable management of culturally and economically important species.

All of these benefits are demonstrated to varying degrees in the evaluation results. The evaluation has also provided a valuable baseline and foundation for future dugong and marine turtle work, but it has also lead the way for implementing similar Indigenous partnered Natural Resource Management projects.

*The Most Significant Change Performance Story Report evaluation is due for completion later this year.*

Back to top

The NAILSMA Dugong and Marine Turtle Project is funded by the Australian Government.

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