

A Regional Framework for Saltwater Monitoring in the Kimberley

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Traditional Owners.



Kimberley
Land Council



western australian
marine science institution

Why a regional framework?

- So groups can share experiences and knowledge of monitoring techniques
- Regional information can assist groups to interpret local monitoring results (i.e. migratory species)
- Empowers TO groups when negotiating joint management arrangements

Opportunity to

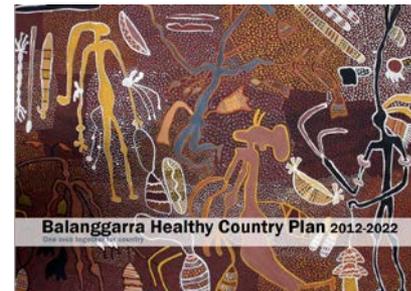
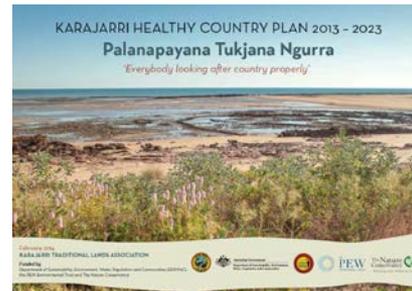
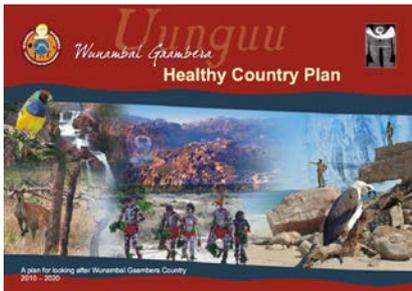
- demonstrate Land and Sea Management outcomes at a broader scale (KLC , Major funding bodies)
- highlight where investment/ research capacity building needed



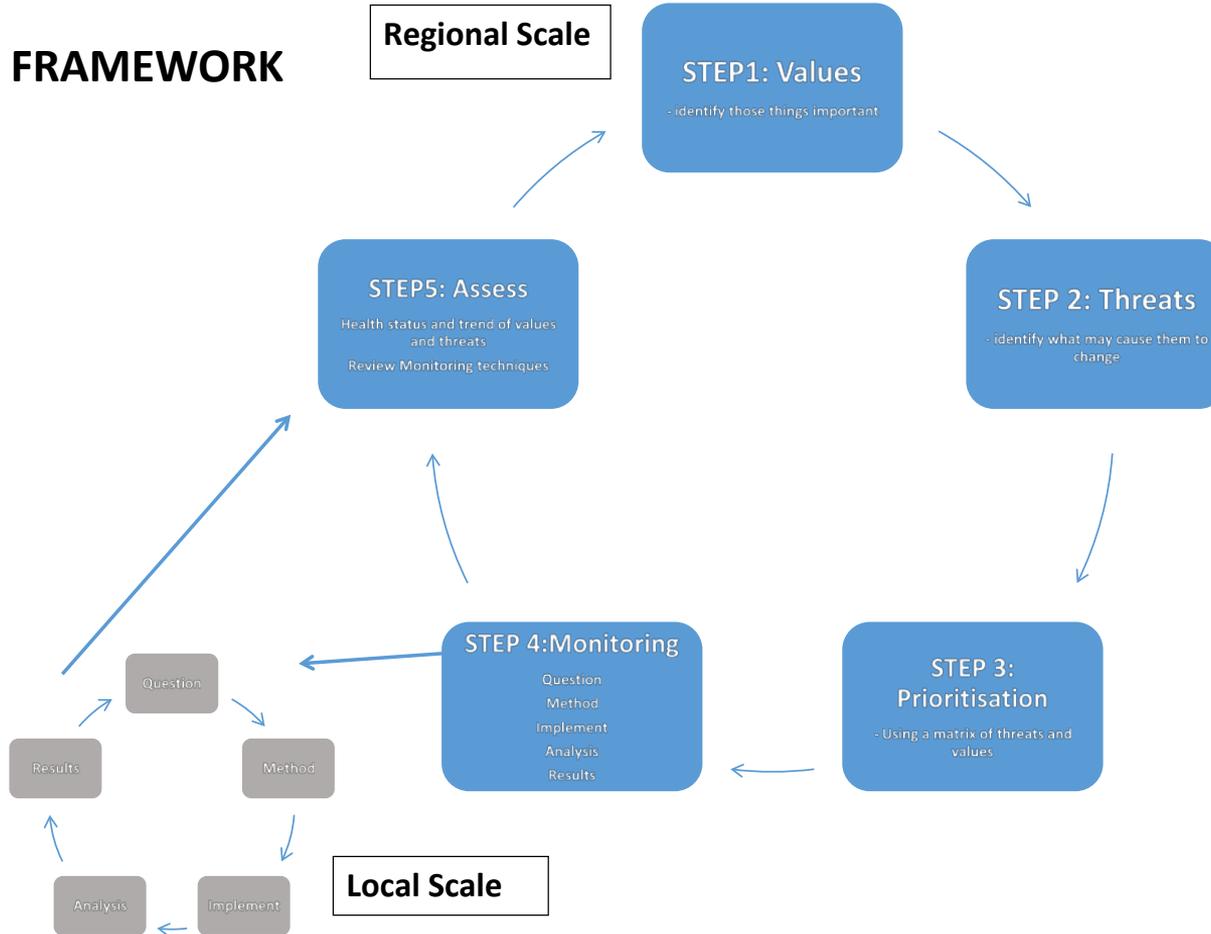
AIMS

Through development of a regional framework the project aimed to:

1. Build on existing work
2. Review current monitoring methods (questionnaires, workshops)
3. KISSP case study – test and identify gaps in the Framework to inform future research and development of monitoring techniques.



THE FRAMEWORK



SALTWATER VALUES

CULTURAL PRACTICES <i>Law, ceremony, living on country, customary fishing/hunting, seasonal knowledge, storytelling, enjoyment of country, making hunting tools, language, intergenerational transfer of knowledge, responsibility for country, medicine, protocols, spiritual and physical connections</i>	SALTWATER FOOD AND RESOURCES	<i>Fish, shellfish, squid and octopus, sharks and rays, turtles, dugongs</i>
	CONSERVATION TARGETS	<i>Shorebirds, dolphins, whales</i>
	SIGNIFICANT AREAS AND PLACES	<i>Burial, camping, fishing, middens, creation story, seascapes, fossils, maritime heritage, fish traps, law grounds, boundaries and location, tracks, cultural areas</i>
	LIVELIHOODS SALTWATER	<i>Land and sea management, nature /cultural based tourism, and commercial, customary, recreational fishing</i>
	SALTWATER COUNTRY	<i>Saltwater (currents tides and quality), beaches, rocky headlands, intertidal mudflats, freshwater, Submerged springs, mangroves, saltmarsh, reefs, seagrass, deep sea, near shore pools, non-resource or conservation species</i>

STEP 1:
Identify Values

List of regional values

SALTWATER THREATS

CULTURAL PRACTICES <i>Laws/ protocols & advice not being respected, lack of resources to access country reduced practicing of law on country and connections, lack of knowledge transfer (lost knowledge), Government policies (culturally inappropriate), lack of cultural programs in mainstream education</i>	SALTWATER FOOD AND RESOURCES	<i>Climate change, weeds, pollution, human pressure (overfishing- commercial recreational and customary fishers, & development), marine pests, unmanaged animals (destroying nests, egg predation)</i>
	CONSERVATION TARGETS	<i>Climate change, pollution (oil spills, debris), commercial, recreational and customary fishers (by-catch, boat strikes)</i>
	SIGNIFICANT AREAS AND PLACES	<i>Unmanaged visitors (damage, lack of respect), insufficient resources for accessing and managing country, lack of knowledge transfer (lost knowledge)</i>
	LIVELIHOODS SALTWATER	<i>Lack of accessibility to country (transport to visit country), lack of cultural knowledge transmission, human pressure (overfishing - commercial recreational and customary fishers, & development)</i>
	SALTWATER COUNTRY	<i>Development (GW abstraction, pollution), climate change, marine pests & debris, erosion, weeds, inappropriate access (locals and tourists), boats (damage, pollution)</i>

STEP 2:
Identify Threats

List of regional threats

STEP 3:
Prioritise Objectives

List of
preliminary
regional
objectives

OBJECTIVES	VALUES					
	Saltwater Food and Resources	Conservation	Significant Areas and Places	Livelihoods Saltwater	Saltwater Habitat	Cultural Practices
Objective 1: Traditional Owners and Rangers have access to western science, cultural and indigenous knowledge about plants animals and culture (producing and using)						
Objective 2: Sustain animal populations (through managing customary harvest, and both human and introduced threats) (priorities turtle, dugong, fish)						
Objective 3: Maintain biodiversity and habitats						
Objective 4: Maintain the health and condition of cultural sites						
Objective 5: Maintain cultural practices and meet obligations to country (rules for governing country)						

***“Turtles? Nothing wrong with turtles.... I’ll tell you what’s dying, law and culture that’s what’s dying”
Kimberley
Traditional Owner***

Local Monitoring

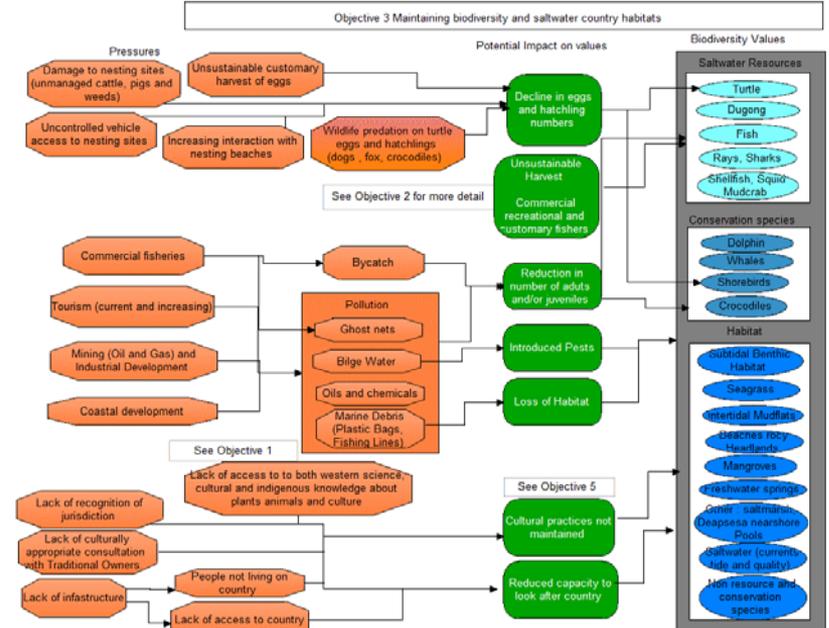
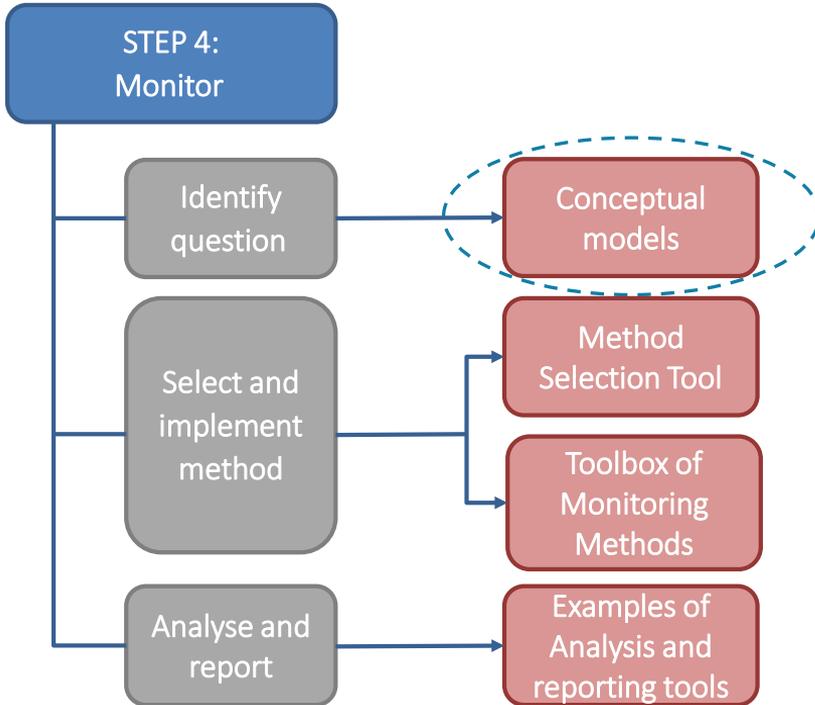
- current focus on monitoring the status of values
- monitoring of management effectiveness limited

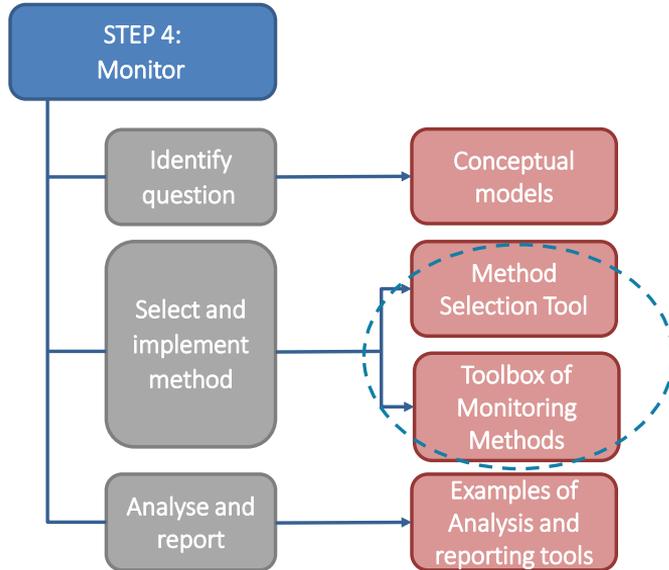


Stage of CAP process, complexity of CAP implementation

Significant focus on developing WS techniques

Funding driven by external sources (with focus on research)





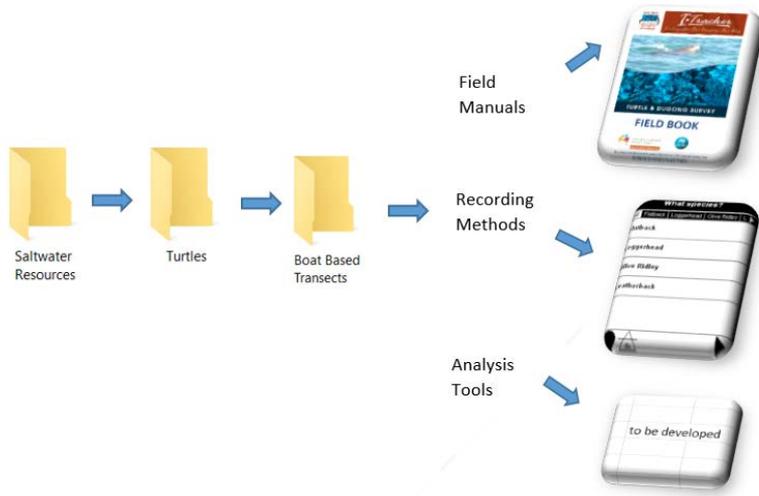
Regional Value - Saltwater Resources
Specific Value - Turtles
SALTWATER TOOLBOX TABLE 1: CHOSE A MONITORING TOOL (BASED ON YOUR QUESTION)

VALUE	QUESTION	MONITORING TOOL	GROUPS USING TOOL
SALTWATER RESOURCES			
TURTLES	What is the status of turtle population numbers?	BOAT BASED SURVEYS (transects) CUSTOMARY HARVESTS PARTICIPATORY RANKING PARTICIPATORY MAPPING	WG, Dambi, Bardi NN, Dambi, Bardi - -
	Are populations genetically different?	GENETICS	Bardi, NN
	Is Indigenous knowledge for turtles being used?	PARTICIPATORY RANKING	-

Information about what tool can help you to answer your question and who is using the tool

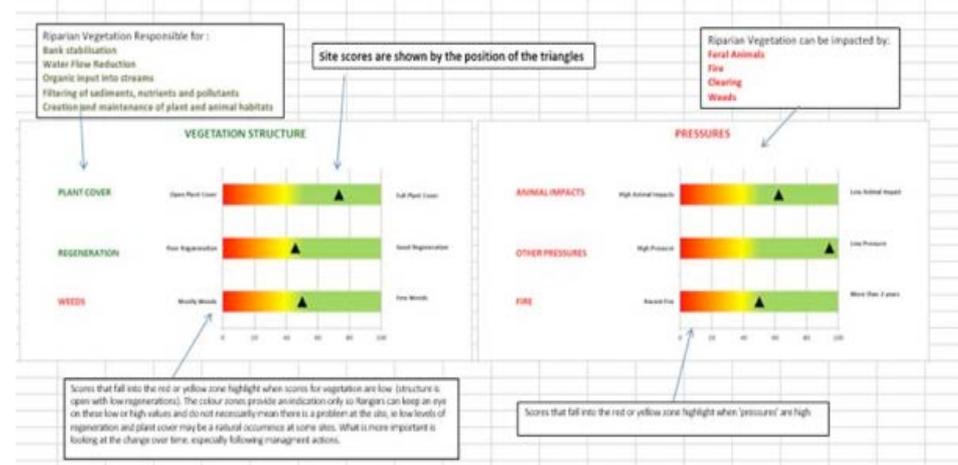
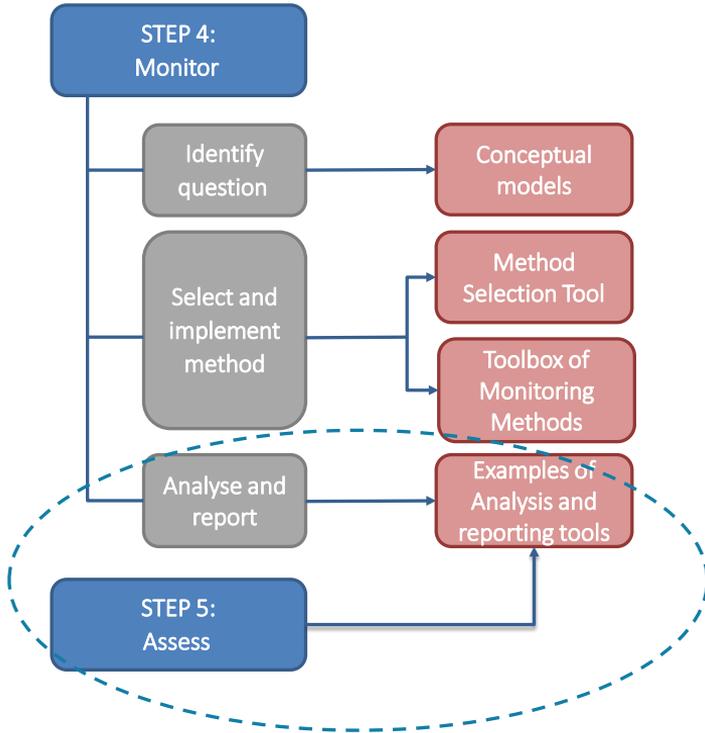
SALTWATER TOOLBOX TABLE 2: WHAT INFORMATION IS CURRENTLY AVAILABLE FOR EACH TOOL

VALUE	MONITORING TOOL	Knowledge systems	What is measured/monitored/recorded	RECORDING METHOD	TRIALS AND DEVELOPMENT	ANALYSIS / COMMENTS
TURTLES	BOAT BASED SURVEYS (transects)	IK/WSK	Changes in adult and juvenile turtle numbers at selected sites	I-tracker - Turtle and Dugong Survey application NAILSMA (2015) - Field Manual	Developed by NAILSMA and CSIRO and trialled with WG Unguu Rangers and Dambi Rangers NAILSMA (2013) - Field Trials Jackson et al (2015) - Field Trip Report	Analysis spreadsheet currently developed for WG (would require adapting for use by other groups) Main Contact - Peter Bayliss CSIRO



Benefits of Toolbox

- Aligns with MEB approach
- Groups can choose from IK or WS based approaches
- Provides distinction between research monitoring and long term monitoring
- Groups aren't reinventing techniques
- Monitoring techniques to measure indicators but also management effectiveness



Monitoring and Evaluation Case Studies

Key outcomes

Best practice framework developed

- accounts for the unique features of the Kimberley
- incorporates a MEB approach,
- considers saltwater country as not only a marine ecosystem but a complex ecological social and economic system

The KISSP case study has provided

- information for the longer term implications of rolling out the framework
- highlights where investment is required
- Implementation of the framework will allow Traditional Owner's to better visualise a regional picture of ecosystem health and facilitate knowledge sharing and robust Traditional Owner and Western Science (WS) management.



Acknowledgments

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Working Group and Research Team



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