

Australian Institute of Marine Science

CLOSING THE CIRCLE

Sharing monitoring
results across
generations of Traditional
Owners in Sea Country



On-country workshop

May 10-14, 2021, One Arm Point, Kimberley, WA

The Australian Institute of Marine Science together with the Bardi Jawi and Oorany Rangers, ran a workshop to evaluate methods of effectively delivering marine monitoring results across multiple generations of Traditional Owners. AIMS and the Bardi Jawi Rangers have a sea country monitoring partnership since 2018, following trends in fish, benthos and temperature.

Participants included AIMS (Katherine Cure, Jim Underwood, Martial Depczynski), Bardi Jawi and Oorany Rangers, One Arm Point Remote Community School, Bardi Jawi Ranger Steering Committee, the University of Western Australia (Jane Prince, Matilda Murley), Angela Rossen (artist and biodiversity educator), and Sam Frederick (film maker).



WESTERN AUSTRALIAN
MARINE SCIENCE
INSTITUTION





“If our country is healthy, then our people are healthy too, and we want it to stay that way. AIMS and the Bardi Rangers are working together checking and monitoring the health of our reef, sea weeds, corals, sponges and other marine life. The week AIMS spent in Bardi One Arm Point, was to update the community on the project that has been going on for three years and getting the school children involved; this is a great project.”

- Kevin George, Senior Cultural Manager, Bardi Jawi Rangers

One Arm Point Remote Community School

- Exploration of marine life (cameras, bathyscopes)
- ArcGIS Field Maps App
- Counting marine life inside quadrats
- Drawing marine/coastal life
- Invertebrate collections and display in trays
- iSCOPE magnification of small marine life

Whole School Field trip

- Video making as a report
- Sea Country art (drawing and painting mural)
- Data collection, annotation and basic plotting (transects, quadrats, BRUVS, barplots)
- Guess Who? Sticky notes on forehead game
- Large map and post-its activity to share fishing/camping spots, tides, traditional names, etc.

Small Group Activities



Bardi Jawi Ranger Base

Sharing monitoring data with rangers and Elders

1

Meetings after school hours for AIMS scientists to present results

2

Discussion of communication materials, meaning, and suitability

3

Co-creation of presentation to Ranger Steering Committee and Elders

4

Ranger led presentation to Steering committee and Elders- evaluation of use of communication materials



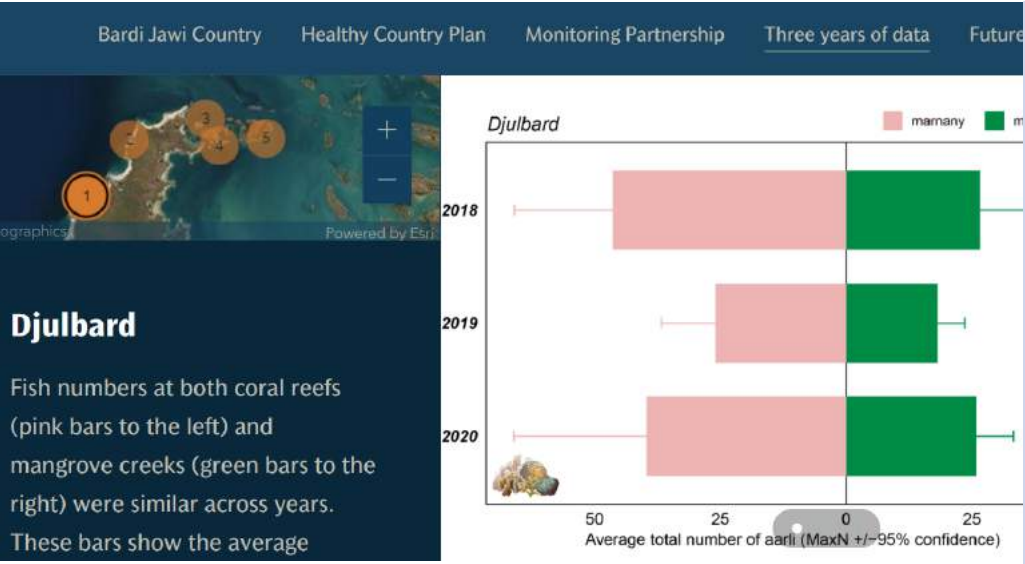


Products Trialled

The following tables show six different communication products trialled during the week's workshop in various settings and with several audiences. Pros and cons for each are discussed.

STORY MAP

online scroll through presentation, ArcGIS



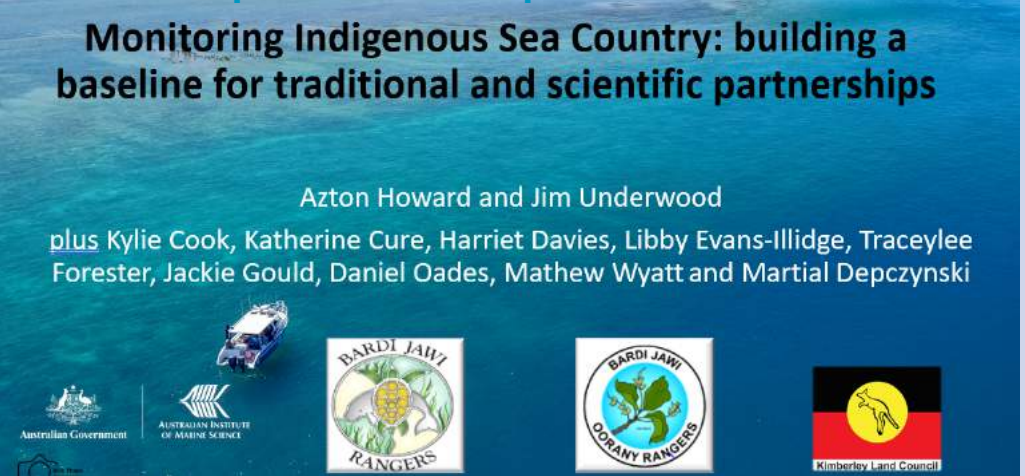
REPORT CARD

Printed A3 flip book brochure



POWERPOINT

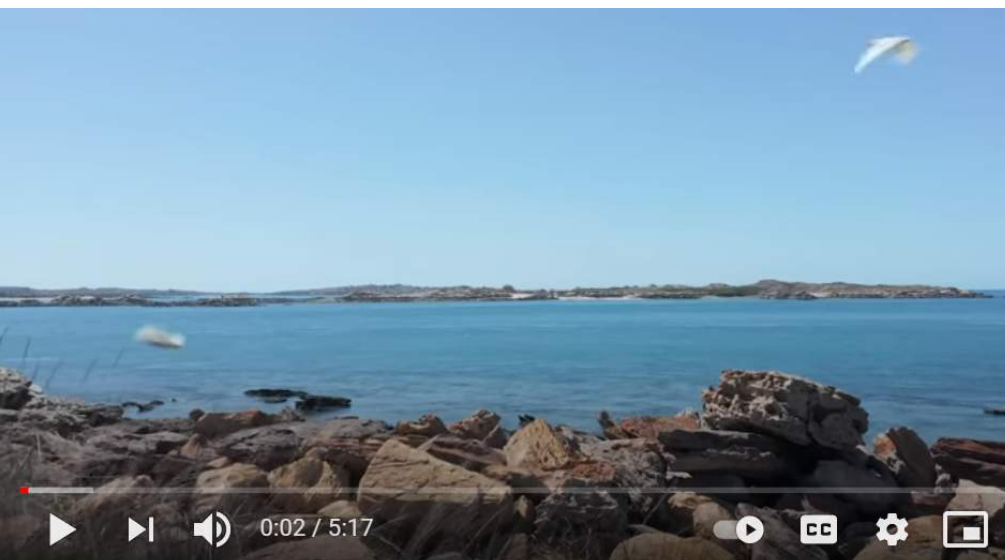
Microsoft presentation product



Target Audience	PROS	CONS	Feedback
Rangers	Appealing graphics	Requires high speed internet to view and make	•Used as a reporting tool
General Public	Scrolls like a presentation; can be self-guided or directed at audience	Customizable to an extent; lack of control of visuals	•Better self explanation of graphs needed for users not familiar with axes, labels, colour, etc
	Can include diverse media types (e.g. audio, video, graphs)	Private sharing requires GIS license	•Needs to load faster
	Simple style for summary and reporting	GIS license required to make and expensive	•Looks great when it works
	Can use as backbone and update graphs annually with new results		•Can be used as a powerpoint and preferred to latter as presentation style (more dynamic and visually attractive)
Rangers	Printed; can sit and yarn	Physical distribution needed	•A format useful for informal yarns with a cup of tea
General Public	Simple and short- to the point	Time consuming to produce well as not automated	•Graphs need to be simple enough for all to understand without many words. This is tricky, unless just a very simple traffic light system with coloured dots
	Great for distribution in several sizes	Requires graphic design skills	•Best for aid in personal explanations to clients/ audience
	Effective summary	Doesn't include details about project, statistics, etc.	
Rangers	Familiar	Can be boring, long and static	•The most widespread use and most familiarity for all users
Schools	Easy to create, use and share	Typically delivered by a presenter in front of an audience, causing disconnect	•Used by rangers and scientists alike
Elders			•Versatile and can be used in a more discussion type format if the audience is involved and more of a conversation
Steering Committee	No internet required	Requires good presenter	
General Public	Customizable for any audience		

VIDEO

Professional, amateur, BRUVS reels



Target Audience	PROS	CONS	Feedback
<i>General Public</i> <i>Community all ages</i>	Shared and viewed many times; loved by all	Expensive to produce if professional	<ul style="list-style-type: none">•Preferred product to share•Great aid for shy presenters•Quickly available when needed•Can be embedded into other presentations•Continued use•Used by school kids to report on activities; a big highlight•BRUVS reels are a favourite across age groups; good way to connect and share language names
	Great for story telling, and for feeling a connection to people and country	Hard to show data with; more of a story	
	Can be used across generations and literacy levels		
	Can be shared via internet, but also saved and viewed offline		
	Personal and beautiful		

POSTER

Large printed rollout, sturdy board



<i>General Public</i>	Large and interactive	Can be time consuming to design and create	<ul style="list-style-type: none">•Stiff aluminium format worked best for activities and pointing to•Good to find space for constant exposure in community so not forgotten; cultural centre, school•Design based on map•Use minimal information; if graphs, they need to be simple and self-explanatory for posting in community
<i>Rangers</i>	Perfect for activities with audience; ex: sticking post-its to highlight location based attributes	Requires some graphic skills and access to good quality printing	
	Map based and easy for Aboriginal Australians to relate to	Can be stashed away and forgotten in the office	
	Can be arranged on table/floor getting rid of front of audience figure		

MURAL

Large canvas; 3 MDF boards 90*120 cm



<i>General Public</i>	Permanent exhibit	Time consuming on-site	<ul style="list-style-type: none">•All children loved participating; a highlight even for 12+ year olds and rangers•Fantastic sharing experience; a glue to the week's workshop•Limitations in interaction with children about monitoring and science while drawing/ painting, unless artist can relay/share the message
<i>Children</i>	Good across all age groups, even when children targeted	Limited to showcasing biodiversity; not good for data	
	Large and visually appealing; emotive as a compilation		
	Information without words		
	Self explanatory for community		



Children ~12 years old understand the concept and how to generate simple bar graphs of means

Break it up with games, activities

Partner with classroom teachers in advance if working at school

Students loved making videos to present findings

Remote communities are filled with uncertainty. It is difficult to plan from off-site. Partner with known local champion and be flexible!

Know your audience and discuss report outputs/types/formats in advance with partners

Art (painting) is a powerful and connecting medium across generations for science transfer

Diverse communication materials are needed including print, graphs, videos

Multi-gender teams that can speak/reach out to boys/men and girls/women separately are ideal

Small groups for focused interactions work best

Line graphs connecting means through time were the most easily understood

Elders requested printed small brochures with information to take with them when visiting on-country

Elders get western science; most can understand simple graphs and figures showing trends through time.

Flexibility is key; make plans on the go; prepare list of options and activities; feel and adapt; work with the team

Make graphs as simple as possible so they are self-explanatory; infographic style is best

Rangers need to merge and interpret science within a cultural framework including community expectations and traditional law and lore



Rangers took on comms materials provided and used them effectively to share results of monitoring with Elders/Steering

Rangers can deal with more complex science outputs than Elders or children

Anything to do with fish is a winner across age groups and genders



ALL



AIMS researchers thank the Traditional Owners of Bardi Jawi country for their ongoing commitment to keeping a healthy sea country, learning two way with western scientists, welcoming us and keeping us safe in their land and sea. This project was funded by an AIMS Capability Development Fund, the Western Australian Marine Science Institution and Inspiring Australia. Symbols courtesy of the NESP Northern Australia Hub, nespnorthern.edu.au.

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