



TUNA BLUE PTY LTD
Long Haul Facilitation

**Most Significant Change Evaluation
of the I-Tracker Initiative**

Report to the
**North Australian Indigenous Land and Sea
Management Alliance Ltd**

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EXECUTIVE SUMMARY

Overview

This report provides the results of a Most Significant Change (MSC) evaluation of the North Australian Indigenous Land and Sea Management Alliance Ltd (NAILSMA) I-Tracker Initiative. The MSC evaluation examined the effectiveness and impact of I-Tracker in supporting Indigenous land and sea management activities in northern Australia.

The MSC project has captured the views of 66 storytellers in 59 on-country interviews. From these interviews, a total of 190 stories were extracted that give a first-hand account of the changes that the I-Tracker initiative has made on-country.

This report identifies the thirty stories that tell the most significant changes that have occurred as a result of the I-Tracker initiative. An expert Selection Panel agreed on the final thirty stories in a workshop setting, with reasons documented for their decisions.

Conclusions

The I-Tracker initiative has been successful in moving from an innovative idea to a mainstream aspect of Ranger best practice. As a result, the initiative has garnered respect on-country, nationally and internationally.

This success can be attributed to NAILSMA's bottom up approach in developing a tool that is being created by Ranger groups to suit their needs and aspirations. This has fostered a high level of on-country ownership of I-Tracker and consequently, Ranger groups are confidently sharing and communicating their I-Tracker activities, thereby connecting their land management efforts with the wider community.

The shift to easily capturing and communicating their self-determined land management practices has resulted in number of on-ground changes for Ranger groups including:

- overcoming literacy and numeracy limitations to capture rigorous, specific data;
- facilitating the transfer of Indigenous Ecological and Cultural knowledge between generations;
- more effectively monitoring a huge area of land and sea country;
- providing a centralised program dedicated to standardised and systematic data collection;
- engaging in simple and efficient reporting for internal and external stakeholders;
- providing opportunities for fee for service work for agencies;
- stimulating the adoption of further IT technology by Rangers;
- fostering an active network of land and sea managers across northern Australia.

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1. Scope

1.1 Introduction

The North Australian Indigenous Land and Sea Management Alliance Ltd (NAILSMA) requested that Tuna Blue Pty Ltd undertake a Most Significant Change (MSC) study to evaluate the effectiveness and impact of NAILSMA's I-Tracker initiative in supporting Indigenous land and sea management activities in northern Australia.

MSC methodology is a qualitative approach to monitoring and evaluation. It involves the collection and systematic participatory interpretation of stories of significant change¹. Given that MSC methodology does not focus on quantitative indicators, it provides an opportunity to incorporate and value the on ground experiences of those involved with an initiative.

These experiences are collected through semi-structured interviews with community members and reported as 'change stories' that measure the initiative's impact and influence on the lives of individuals and communities. The qualitative and participatory approach encourages contribution from all members of the community and places an emphasis on the intangible outcomes of the initiative.

(For more details on the MSC methodology please visit <http://groups.yahoo.com/group/mostsignificantchanges>)

The MSC reporting process was chosen in the I-Tracker situation because the qualitative approach of interviews and storytelling allows for more a holistic evaluation of project impacts and has been used successfully with similar evaluation projects involving Indigenous communities in northern Australia².

1.2 Selection Panel

An expert Selection Panel decided on the most significant change stories at a workshop held on Tuesday, 12 February 2013 at Charles Darwin University, Darwin.

The Selection Panel members were:

- Jennifer Creek Senior Ranger, Kalan Rangers
- Nadine Lee Larrakia Community Member
- Peter Bayliss Deputy Program Leader, CSIRO Marine Division
- Jarrad Holmes Assistant Director, Indigenous Programs North West, SEWPaC

1.3 I-Tracker Background

I-Tracker - short for 'Indigenous Tracker' - supports Indigenous land and sea managers across north Australia to undertake natural and cultural resource monitoring, research and management activities using digital technology and equipment. Key components are standardised I-Tracker data collection and management applications using 'CyberTracker' software that meet the requirements of Indigenous rangers and data 'end users' such as government management or enforcement agencies and research partners.

¹ Dart, Jessica and Davies, Rick, 2003. *Quick Start Guide: A self-help guide for implementing the Most Significant Change technique (MSC)*.

² Bessen Consulting Services, 2008. *Performance Story Report: Evaluation of Investment in the Dugong and Marine Turtle Project*, NAILSMA Knowledge Series.

I-Tracker applications are downloaded onto a hand held computer with GPS, camera and voice recording functions (called a PDA). The rangers take this PDA on land or sea patrols and use it to record data electronically. This data is then downloaded to their office computers, where the information can be viewed on a map and used to create reports for future planning and management practices.

NAILSMA also provides training, technical support, communication and networking opportunities including annual forums and exchange visits to over 30 groups participating in I-Tracker. For further information visit <http://nailsma.org.au/hub/programs/i-tracker>

2. Methods

2.1 Summary

Interviews were conducted with I-Tracker users and stakeholders from across North Australia, as well as international partners. A total of 59 on-country interviews were conducted with 66 storytellers over a period of three months from October 2012 - December 2012. The 66 storytellers consisted of:

Storyteller	# Storytellers
➤ Rangers	41
➤ Ranger Coordinators / Facilitators	9
➤ NAILSMA Staff	5
➤ NGO representatives	5
➤ Researchers	3
➤ International Ranger Coordinators	2
➤ Government Representatives	1
Total	66

From these interviews, a total of 190 stories were extracted that give a first hand account of the changes the I-Tracker program has made on-country.

This report identifies the thirty stories that tell the most significant changes that have occurred as a result of the I-Tracker initiative. An expert Selection Panel agreed on the final thirty stories, with documented reasons for their decisions.

2.2 Domains

In the MSC evaluation process, stories are categorised into domains for easier consideration at the Selection Panel workshop. They do not act as indicators, rather they allow people to have different interpretations of what constitutes a change in that area³.

For this study, six domains were identified through discussions with NAILSMA staff and the Selection Panel. The domains were:

#	Domain
1	Increased use and transfer of Indigenous Ecological Knowledge

³ Dart, Jessica and Davies, Rick, 2003. *Quick Start Guide: A self-help guide for implementing the Most Significant Change technique (MSC)*.

- 2 | Using the power and language of Western science and management to demonstrate the work of Rangers
- 3 | Increased capacity, skills and opportunities for shared learning of Rangers
- 4 | More able to effectively manage country
- 5 | Improved communication networks and resources available to Rangers
- 6 | Increased participation of Indigenous people in the development of land management projects

2.3 Detailed Methods

The MSC methodology undertaken was:

- A total of 59 interviews were conducted with 66 storytellers to produce the raw data for the MSC stories;
- All interviews were face to face, except for one phone interview with a remote based storyteller;
 - interviews were conducted at the I-Tracker Forum in Mary Park, during two on-country field trips to WA, NT and QLD and in Darwin opportunistically;
- Interviews took place over a period of three months from October 2012 to December 2012.
- Each interview was audio recorded with a handheld device and permission forms were signed;
- The interviews were semi structured to include:
 - name and your organisation / role;
 - the work you and your group does;
 - the work you use I-Tracker for or have seen I-Tracker used for;
 - why each example was important or significant;
 - what is the most important or significant aspect of I-Tracker;
- Interview audio files were transcribed verbatim;
- From the verbatim transcriptions, a total of 190 'stories' were selected;
 - at this stage, a story was selected for narrative value and deemed to have a beginning, middle and end;
- The stories chosen were minimally altered to maintain their authenticity;
 - minor changes were made to increase readability and the symbol [...] was added where any text was omitted to reduce length;
- Names and place names were replaced to ensure the anonymity of the storyteller;
- The stories were then categorised into the six domains by the consultant;
- To make the Selection Panel workshop realistic, 190 stories were reduced to 60 (ten per domain) by the consultant on the basis of the 'change' the story told;
 - those stories that told the strongest changes for Indigenous Rangers and biodiversity and land management as a result of I-Tracker were added to the final 60 Selection Panel document;
 - in choosing the 60 stories, an effort was made by the consultant to also consider the storyteller and subject matter and ensure diversity;

- The sixty stories were then considered by the four Selection Panel members in a workshop on Tuesday, 12 February 2013 at Charles Darwin University, Darwin;
- The workshop decision process involved:
 - the consultant reading all ten stories from the domain aloud to Panel members;
 - discussion in pairs on which stories they considered told the most significant change;
 - individual voting on their top five stories using the scale:
 - 5 = most significant change / favourite;
 - 4;
 - 3;
 - 2;
 - 1 = fifth most significant change / fifth favourite;
 - votes added together to identify the five stories, with the most votes as the Panel's selection;
 - the Panel reflected on their reasons for each story and why it told a significant change.
- A separate 'Rangers Favourite' voting process was undertaken using online surveys to encourage further participation with the 12 remote Ranger groups who provided interviews and gain an on-ground view of the most significant stories.

3. Most Significant Change Stories

The stories chosen as most significant by the Selection Panel.

Domain One: Increased use and transfer of Indigenous Ecological Knowledge

The top five stories for Domain One were:

Story	Votes
Story 190: It's also a learning tool	12
Story 78: A good thing for the whole community	11
Story 171: There is living history and places to protect	10
Story 44: They've invested the time	7
Story 86: Identifying our land	5

Change Themes

The overall change themes for Domain One were:

- I-Tracker is facilitating the transfer and handover of IEK and cultural knowledge;

- providing a generational link between both Rangers and Elders and Rangers and children;
 - connecting the monitoring data captured with IEK and cultural knowledge by showing the old people and engaging them in programs and planning;
 - taking the I-Tracker and data to schools to each children about where they came from;
- I-Tracker is being used as the medium to identify, capture and record country and language;
 - giving family connection to country and intellectual property a Western documentation;
 - groups are customising the I-Tracker software sequences to include language.

Story 190: It's also a learning tool

Ranger

We're using I-tracker for not only documenting flora and fauna but also cultural significance and that's through the cultural application that we created. We weren't been able to use I-Tracker when it first came out because we're inland and it was only the sea patrol but now we're moving out to sea country, so probably using that application as well.

We had input from the whole team in particular for certain areas. Obviously our team of Rangers are out there but all of them have to work in the office, so they've had a good say on what they'd like to document and that, as well as the cultural heritage. [I-Tracker staff member] came up a few times and also we sent the draft application to her and she had her input on how to connect one page to the next, so that was a huge help.

Been using the cultural one probably a few months. We started developing it mid this year, so its fairly new but quite handy. The Rangers like it. It's also a learning tool because they're also learning language words and the significance of certain sites.

It reports the information, the data we've recorded into the one place. And then when we download it, we can sync it up to one laptop instead of the I-Tracker jumping from this laptop to that laptop, losing data here, losing data there. And then when the reports come out, it's in the one place. And our work is not doubled up.

Panel Comments

- This story ticks boxes on a whole lot of fronts;
- The change to having data all in one place, the biggest problem is data loss for Rangers;
- The big thing for me is the cultural learning and language component, really important as a Ranger;
- Covers all the bases that story;
- Touches on the whole package I-Tracker provides.

Story 78: A good thing for the whole community

Ranger

It's pretty good I reckon, cos when we see something unusual or a new animal or something, we can put down the position of where it was. Also you can take a photo on those things. So you can take a

photo and jot down the spot where it was. Next time when we look for it, go round that area where we seen that thing last.

Yeah it's pretty good to get all that stuff and record everything. At least we can say when we seen that thing and we got it on the I-Tracker that we've got proof that it was there and proof that it was in that area and location. Keep it all, everything recorded in that small little thing, keep a lot of stuff recorded in there. Instead of bringing a big computer around, got that little I-Tracker. So it's easy to carry round as well. [...]

It's pretty good for the old people as well cos if we tell them "aw we seen that animal there" and they say "nah I never seen that animal there", at least we got proof to show them. Probably with GPS we can bring them there and show them the thing where the animal was and stuff. Or at least ask the old people and say "what's that place" and they probably tell us and we get it down and record it.

Like it's pretty good to have it for us, at least we know the country a bit more but good to show to old people too. So they can like clarify and correct us on some of the I-Tracker stuff. Yeah I reckon it's pretty good to help for the old people as well cos at least they can see those things for themselves too, with all our recording and stuff.

Using that technology and checking with the old people, it's a good little thing. Sometimes you get a bit of debate with the old people like "nah nah that's not there, that's not right" you know and "we got it right here, that's where the place is!". But that's a good thing to have.

I've seen the maps. That's a good thing as well, at least you can see the roads and everything. See the boundaries of which area people come from. Good to mark out. And the old people can say "nah that mark is a little bit more longer or a bit shorter". Yeah it's a good thing to show everyone. I reckon it's a good thing for the whole community, we can show people as well. All the things we seen and we done, we can show them on the I-Tracker. Just plug it in the computer and we got it. Good thing to have around.

Panel Comments

- The proof of whether Rangers are out on country and doing what they're told is an important change for us;
 - the I-Tracker doesn't lie and they know that, so they're not out there burning fuel for nothing, not going wild;
 - they're documenting the jobs they do;
- And it encourages more reporting because they have proof they saw something, especially with the photos;
- I like the continuity between generations making sure the work links in;
 - the technology here is acting as the link for checking information with Elders;
- Technology is the medium for a lot of young Rangers and this shows how they're connecting technology with their existing knowledge to engage the old people in programs.

Story 171: There is living history and places to protect

Ranger

I've been with the land and sea unit for just under 6 months now but culturally I've been doing it for the last 25 years. I've basically been doing the dream time stories and songs. Now it's just a new area for me doing only on country cultural stuff. So mainly cultural and heritage aspects are my role.

The people have come back to the area and started acknowledging the true cultural significances of the area here and started to find objects they identify with from their own culture like scar trees. Historical areas that we are trying to maintain now which is part of our job to look after and protect.

Mainly significant sites like scar trees and most of them are still being found, so it's important we use the I-Tracker. [...] It also has a good cultural aspect to it, it identifies Indigenous significance, which I think is really good. A lot of the sites that we go to I guess they're story places but it's really specific areas where family groups have intellectual copyright or intellectual ownership of that area. So just being a ranger or being associated to land and sea doesn't mean you can tell those stories because they belong to the families that own that area. It's good to take the family with you to that area because they can share stories with you. [...]

Important to have knowledge and the knowledge of the cultural and heritage significance in that area and the historical traditional lands I think. Just to mark the areas to protect and to also show the Queensland Government that there is living history on our land here and there are places to protect. There is a reason for us to protect certain habitats and certain areas. I guess just simple things that we do around here like fencing off certain areas to protect them so we have knowledge of where the scar trees are and we aren't knocking them down. I guess the main thing is for Queensland Cultural Heritage to know these sites as well.

There is a lot happening and the area here is quite vulnerable. It might seem like a sturdy country and it is in a sense but it's an area that's quite small for too much to be happening. We have to show our true connection to the land and so by documenting these areas it shows that the people are aware of the culture here. They aren't just living on the land but there's an actual connection.

Panel Comments

- The family groups and intellectual property copyright is important;
 - the connection to country and the change with I-Tracker giving it a Western documentation or proof;
- Tells a specific story about an area but captures the whole use of the tool and it's benefit for cultural heritage management.

Story 44: They've invested the time

NGO Representative

Well there's one Ranger group and I remember when they first started using it. And probably about 18 months later, I was learning language off the guys using their I-Tracker.

So what they've done, I mean the sequences had been put in there for them. And they'd decided that it wouldn't be "pig tracks" anymore, they'd put it in language. So it would be "piggy piggy jawa jawa".

So, you're out there and you understand how to use the sequence but then when it's written in language it's all totally different. So then the guys actually start teaching us how to use the sequence

in language.

That was really good to see. Good to see that they've taken it on board. And they've invested the time into changing it into language. It was great, I mean if they didn't like it, they wouldn't go that way you know what I mean, they just wouldn't touch it. So it was good to see that they got into it and used language.

Panel Comments

- Language being used and recorded in the sequences and I-Tracker facilitating that;
- We do the same sort of thing with our group, with NAILSMA working with us to put language in.

Story 86: Identifying our land

Ranger

The best thing about I-Tracker is more or less it shows you in your own little group or tribe. Like us we've got six clan groups and just by using the I-Tracker and our Elders and our governance, we can map out cultural places using the maps. And it clearly states, even though we the one tribe, that we've also got six clan groups and the I-Tracker plays a big part in that.

Not only that but also our water holes and our fishing spots, ah maybe not fishing spots (*laughs*) but identifying our land. I mean we can tell stories but now we can show it just by using the I-Tracker.

And keep it for the people to show it. Just by getting information out of the I-Tracker we take it to our two community schools, one Catholic and one Government, so the information we do get off the I-Trackers goes onto our kids. And now our kids want to learn, they want to be a Ranger and use that I-Tracker (*laughs*).

Panel Comments

- The kids wanting to get involved is an important change;
 - taking it to schools;
- Our kids and young rangers know it is not a toy, it is important for collecting information and I-Tracker has brought on that attitude;
- It's important to show kids the cultural information collected;
 - especially for identifying the land if they come from different clan groups;
 - some of our kids think home is where they live, don't understand their grassroots;
- I-Tracker helps to identify country and language for generations;
- Story shows I-Tracker is encouraging culture through technology.

Domain Two: Using the power and language of Western science and management to demonstrate the work of Rangers

The top five stories for Domain Two were:

Story	Votes
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Story 132: Intellectually stimulated	15
Story 42: This is the bridge	12
Story 59: We're amazed	11
Story 8: Catching them fishermen	10
Story 66: Do your own reports	6

Change Themes

The overall change themes for Domain Two were:

- I-Tracker is facilitating a change in the way Rangers approach science and environmental management;
 - building the capacity to constantly review data and methodologies and plan accordingly;
- Existing IEK and cultural knowledge is being combined with the scientific frameworks in I-Tracker to create user driven land management;
 - acknowledging Traditional Owners and their cultural management practices and engaging them with a user friendly format;
- I-Tracker is providing a centralised program dedicated to standardised and systematic data collection
 - leading the change to consistent data collection across the North.
- Ranger groups are using I-Tracker to help with fee for service, compliance and Indigenous Protected Area work and funding opportunities;
- Rangers are engaging in reporting for both internal purposes and external stakeholders;
 - simple, efficient reporting format saves time;
 - easy to access data in single location encourages data retrieval.

Story 132: Intellectually stimulated

Ranger Coordinator

The first thing to come to mind is it's just simple and efficient. It saves the need for having notes and paper with its user friendliness, it's more approachable than pen and paper. As I was developing my skills in working in the field doing science and environmental work you realise how important it is to write things down. You carry a camera, GPS and a notepad and data sheets but this does it all for you. It takes a good photo, the photos have reference and so just the ease of it is one really important thing. That's quite obvious, it's so useful on many levels.

Then the other interesting thing about it is that because of the way it takes in the information, the way the sequence is set up, it causes you to question how you decide what data to collect too. How it is entered into the Cybertracker, you have to find a way to do it within the limits of the program, but that makes you think carefully about what that data is and that's an important concept in science. You are really thinking about how this information could be used and classified and broken down and

generalised in order for it to mean something. So this is about collecting data to build a picture of the natural world and predict changes.

So this asks you to think really carefully about what you are looking at and how to write it down. So you'd probably say "that and that and then oh no it won't work like that, so then we do it this way but now that I think about it, that wouldn't have made sense anyway". So it's a useful tool like that, it's a sequential information gathering process. I think that makes a lot of sense to smarten the way you collect data.

It's one of the good things about it, it has some error checking capability too. I think once the guys get the skills up to really critique the way the sequences work . We started doing a bit of it today in the training too. It's like you wouldn't have all these check boxes unless you needed them. What we've learnt is using the program has made us think more carefully about the data we want and how we want to break the data down into more discreet groups.

Rangers haven't had the experience of tertiary education to be able to calculate the mathematics of something or to express it in higher language but they understand the concepts and that's become very good. They really know what you are talking about and they are intellectually stimulated by this. So it's another great skill to draw upon, their scientific intelligence that they don't know they have sometimes combined with their own understanding of their environment. It's all about finding new ways to collect data too, that suit the different values you are trying to manage here as well.

Panel Comments

- Shows how I-Tracker develops skills in science and environmental management;
 - capacity building;
- Our people are scientists and anthropologists themselves;
 - they have that knowledge and can get it down in a sequence, build it to suit their own country, their knowledge and the things they want;
 - bringing it from old people's heads down onto paper and caring for country;
 - that knowledge stays there forever and young generations;
- One word that comes to mind with this story is MERI;
 - that process of reviewing and tweaking sequences is a change;
 - using the tool but also continuous improvement;
- Like the phrase "smartens the way you collect data";
- This story highlights the importance of the end use of data;
 - Rangers now thinking about why they're collecting it and focused.

Story 42: This is the bridge

NGO Representative

They know their country really well but they can't articulate it out to someone in Canberra for example. This is the bridge, the fact that I-Tracker has now been set up as a dedicated organisation to manage it.

The worst thing that could have happened was if every Ranger group had grabbed a Cybertracker and started making their own formats, it would have been an absolute dogs breakfast. We would have ended up with all manner of information in different formats. [...]

A lot of our stuff is basically on funding, so the way they've made it so the guys can do their job and actually pull that data out so the guy in Canberra can see where his money has been spent, is great. [...]

The way they are trying to capture the whole of Northern Australia in the same data format, that is where the value will be. [...]

I guess over at [Ranger group], the sea Rangers, it's a vital part of their contracts with Fisheries and Customs. I mean they really need to use this technology and they do. They've taken it on pretty well, I think they've actually got convictions from illegal fishing through using this technology. That's stuff that wouldn't have happened if they hadn't had been trained with this and taken it on board. So look it is working, it's working well.

Panel Comments

- Highlights the role of the central agency and coordinating efforts;
 - why an agency is paid to pull things together, to keep things in the same direction;
 - so that Ranger data can go back to Government;
- Everyone working on building the one data set is a change, not different stories;
- Highlights the importance of a program dedicated to systematic data collection;
 - to help evaluate the performance of Rangers and funding;
- Has changed the ways of data collection to be consistent across the North.

Story 59: We're amazed

Ranger

When we take it out and then come back, we put it into the I-Tracker computer and it doesn't take long for the I-Tracker to read the laptop and go straight into it. Just like that you know.

And you're on the screen and you're looking down at where you were working, like a couple of months back and you can see the tracks you know (*laughs*). And we all like "hey look at that, look at where we been!" and we're amazed you know, with what technology can do today, like I-Tracker (*laughs*). Oh heaps of work yeah, we going all over the place and we like "hey we was there that week and then we went back this way" (*laughs*). [...]

We show our TOs and they say "what's this?" and I say "this is a little unit called I-Tracker and it's more easy for us to work with". And they say "what's this little dot there mean?" and we say "that's your country" and say their country name and they go "oh yeah!" (*Laughing*) Like yeah, pretty surprised to see their country on a map like "eh! eh what? you can get a close up!" Like looking up that side of the country and coming back this way.

Panel Comments

- Using I-Tracker is also about acknowledging TO's and respect for working on other people's country;

- can bring the data back and show them what you've been up to;
- still have to get permission but now we can take the data back to the people who can't get out on country any more
- build that respect with the data;
- Shows the user friendliness of the I-Tracker;
 - old people can sit up and watch on the big screen what we Rangers do on country;
 - it really takes them home that data.

Story 8: Catching them fishermen

Ranger

One time we were camping out at the Bay and the fisherman, he was there and when we slept he sorta drifted his net inside the closure lines, right in. One of the boys woke up early morning and then seen a boat, a black thing going in the corner of the creek, right in the closure line. He woke everybody up and then we spotted the buoy and the net right across where we were.

We just went right over there to the buoy and started taking photos and recording it on the I-Tracker, yeah we had the yellow I-Tracker before. We recorded everything and then came back and waited for the fisherman to go get his net. And when I seen him come around past the closure line, we got on our boat and went straight there but he turned around and went back to his mother ship. [...]

And we kept on marking it with the I-Tracker, where it was moving. Then about ten o'clock he came back and offered us fish and we said "nah we don't want em fish". And then he reckons "argh last night there was a big wind and my net got dragged in" but (*laughing*) there wasn't any wind cos we were there!

We just said "yeah yeah arright" and one of the fellas went back to town and picked up the one of the guys that does work with us. He came out and took more photos, did up the report and sent it to Fisheries. By the time Fisheries police came there, the fisherman was gone. [...] So Fisheries drove around to another community and asked the local people if they seen any boats and they told em "yeah there's one there". And we went back the next day and did that re-enactment with the Police. That fella lost everything when he went to court. He's finished now.

For the first five years when I first started, I saw a lot of fishing boats everywhere, commercial fisherman. They can fish you know but stick by that law, it's there. The law's there to recognise that closure line, just respect it. But some they, you know, they like breaking the law and put the nets inside. [...]

I-Tracker's been good, cos after that when we was catching them fishermen, it was like they sorta stopped doing it. Then we got invited to a meeting with NAILSMA and the Seafood Council and there were a lot of angry fishermen there. And then we told them, we take photos and everything and we capture everything on maps and pass it onto Fisheries. Everything that we record is on the I-Tracker. And now it's sort of quietened down a bit. Like it's alright still but we're getting bored not catching people (*laughs*). You know we get bored because (*laughing*) we just go out and count pots now.

Panel Comments

- Shows that if you provide the tool, Rangers can do compliance work like anybody else;

- The I-Tracker program and the software helps for fee for service work and Indigenous Protected Areas;
 - allows for compliance to happen which has been a big change over the last few years;
 - good evidence for the discussion about joint management of Marine Protected Areas in the future;
- Tells an immediate change about a reduction in illegal fishing in their area;
 - they're getting proper and true data, enough to take someone to court.

Story 66: Do your own reports

Ranger

The little gadget that we got from NAILSMA, the I-Tracker, helps us a lot during our coastal journeys and land patrols. It saves us from jumping out and writing down on a piece of paper. If we're in the car and see the sighting, we put it straight down, the GPS location points and off we go.

Been using it about a year and a half, pretty good now. I thought it was all complicated but after I got to use it, I just said too easy. The only hard thing about it is doing up a report and documenting it, putting it onto the computer. Not putting it onto the computer so much but doing a report will be the hardest thing for me. I still haven't got it yet, the computer ways. Otherwise, in the work field, go through nice and easy, everything's all understandable. [...]

Its important for AQIS, the quarantine mob, so we can keep in touch if any other boats are coming closer and what things are floating up and coming from overseas. [...] For me it's good because the reports, we need them to give them in a proper manner, a proper way to hand them the paperwork and that. Instead of just throwing them a little piece of memory card and say "just have a look, we just downloaded loads of what we done". We can just have a look on the computer and write up a report for ourselves.

Save them from doing it, we're the ones who do all that and we know what to do with the documents and the places. It's much easier for us and for them. Sometimes they might come back and say "we can't find any data, any good data" you know. Then they send it back to us and we just go whack, whack, whack and hand it back and they're like "aww alright".

So for me it's much better, do your own reports. If you get other people to do your reports, that's just like they're doing your job for you. Like what we want to do, it's fun doing everything in the field but you gotta do a bit of the office work as well. You just gotta do a little bit more in the air-con with the brain. *(laughs)*.

Panel Comments

- Good story about simple reporting and the change these Rangers have made in accessing their data;
- Us rangers don't all do reports, one girl does them for us but we can build on them;
 - all our Rangers need to sit down and do reports or add to them and they're learning that;
 - the boys didn't like it at first but now on the I-Tracker they just download it to go;
- It shows the time efficiency and value of reporting in Rangers' own words;

- Shows how easy it is to update and get into continuous monitoring which is a positive shift for Rangers;
 - everything in the one place, easy to update and encouraging monitoring the health of the country.

Domain Three: Increased capacity, skills and opportunities for shared learning of Rangers

The top five stories for Domain Three were:

Story	Votes
Story 151: It's become mainstream	16
Story 56: Literacy and numeracy	10
Story 95: Those things do come to life	10
Story 150: Hate to see what it was like before we had it	8
Story 173: It makes life a bit easier	8

Change Themes

The overall change themes for Domain Three were:

- I-Tracker has made the journey from an innovative idea to a mainstream aspect of Ranger work in the space of three years;
- Rangers can use their existing understanding of country combined with I-Tracker to monitor and capture data in a communicable format;
- The NAILSMA staff are dedicated to building the capacity of Ranger groups;
 - effectively adapting training and sequences to suit the needs and aspirations of the group;
- Ranger groups are overcoming low literacy and numeracy rates to capture defensible, scientific data;
 - also improving their numeracy and literacy through the user friendly interface;
 - learning to read, spell and count through on-country work;
- I-Tracker is acting as a gateway to further technology and IT use for Rangers;
 - Rangers are exchanging methods and learning skills from each other

Story 151: It's become mainstream Ranger Coordinator

I've been at the Rangers since early 2008, so nearly five years and I've been working with Cybertracker and NAILSMA since I started. When I first arrived we didn't have Cybertracker on the ground, it was one of these ideas that was out there, so it was still a little abstract at that time. But then it was developed fairly quickly in 2008 and I think it was on the ground by the end of the year and we had units out and we were working with it.

I thought it was a great idea initially. We were working with paper in the field and paper is fraught with danger because it gets wet, gets lost and blows away. And also you have to re-enter paper when you get back and that's a significant amount of time investment and you have to be quite disciplined to get that paper record data into an electronic one. And it's usually the Coordinator who does it, so the idea of having something that does that for you in the field was really positive.

Certainly when it initially came on board it felt so different. Sort of quite clunky, well not clunky but it was sort of hard to make that transition. Some people didn't trust it and some people didn't think it could record what we were already recording. So there's always a little bit of resistance to change and I think that went on for probably a couple of years, that transition to using it daily.

Whereas now at our office we have signs up saying "have you got your nomads" to really prompt the Rangers to take it out. So now it's become mainstream, every time we go out they're grabbing the nomads. So it's taken five years but it's really become part of what the Rangers do everyday. They take a camera, they take a nomad and they take car keys and then they're ready to patrol. [...]

The most valuable aspects are the reliability of information and the user friendly interface for the Rangers. So I mean if they can't use it they're not going to pick it up. So I think that interface has been really good. Getting rid of the paper in that rugged form, that handheld device has been really good too. So that's for Cybertracker itself but also with the NAILSMA support along with it. So I don't think one could have happened without the other, they're both very closely linked. Yeah it's been a real package sort of deal

Panel Comments

- Shows how dedicated the staff and NAILSMA are to building capacity;
 - the support turns talk into action;
- Tells a very significant change; documents the journey from innovation to mainstream in a short timeframe;
 - shows there is a lot going for it and there must have been a need for it to be picked up so quickly;
- It changes and simplifies how you do things;
- Makes you want to get out there and do it, because it's easier instead of caring about what you carry;
 - like a complete package.

Story 56: Literacy and Numeracy

Ranger

I-Tracker is a good tool. Like before when we had no I-Tracker it was pretty hard because some of the boys have low literacy and numeracy. Basically you've got everything on the I-Tracker and all you're doing is pushing the little stick on the screen. Just the main points for what you find on the beach or what you find inland or what birds or feral animals that you got out there. It also shows you the tracks of the animals and what sort of animals, like donkeys, cattle, maybe some horses. [...]

Mainly all of us eight boys use it. Even with the literacy and numeracy, the boys just pick it up quick you know, doing it like that. Me and the Head Ranger went quite a few times to Darwin for the

meeting on how to handle the I-Tracker and they gave us the information. And we come back here and show the boys what to do and they pick it up pretty fast.

When [I-Tracker staff] comes up, he's got something new to tell us every time, for the I-Tracker mainly and also the other stuff we've got in our head. And the new stuff, we pick it up fast again you know. It's a handy little tool, I-Tracker.

Panel Comments

- I-Tracker is giving the opportunity to learn literacy and numeracy for people who already understand country and can now capture it;
- For us Rangers it's about getting out there and learning and working on country;
 - learning to read, spell and count makes our job more exciting;

Story 95: Those things do come to life

I-Tracker Staff

One recent one was a trip with Rangers last year as part of the land trial and one of the Rangers there was very standoffish the whole time. When we did the trial we introduced the application and we went through and answered questions and concerns. We customised the application for the Ranger group and there was one Ranger that didn't get too involved. he was excited by it but a bit standoffish. It wasn't until we got out on country and he was using the application that he started to get really involved in it.

When we came back you could just see the level of enthusiasm had sky rocketed. We were looking at the maps and data and how easily it translates stuff onto the computer and we have a quote from him saying that "he is not a technology person, he doesn't even know how to turn the computer on, (he was a young guy as well, so I think he felt he should know these things but he didn't and he couldn't program a video player or have a fancy phone, he wasn't into technology at all) but after using this application he was so excited".

He said it was so easy to use, he could see how helpful it was and how it would make his work heaps easier. He didn't need to write reports later on, it did it all for him and he got really excited and felt quite empowered by that. And he didn't require someone to help him with the technology or digital tool, he could do it himself.

It was an exciting and proud moment for him and for us because we are involved in that as well and it's good to see why it is important. Those things do come to life and you think "great we are on the right page here, we are doing the right thing here".

Panel Comments

- This is an exciting story for me, shows how thankful we are to NAILSMA for showing us I-Tracker and learning us;
- Helped to bridge the fear of technology even though he's young;
 - helped him apply his knowledge and experience with I-Tracker as the bridge;
- Individual change.

Story 150: Hate to see what it was like before we had it

Ranger

I've only been here for three months but I'd hate to see what it was like before we had it with the paperwork. For an example, with shorebirds we can go through and find all the shorebirds and look by species like gulls and terns and I know all of them now! (*laughs*). And that's all because of the training we got when they [NAILSMA & Birdlife Australia] came up and they're good value you know. [...]

And it saves all the paperwork and gives us time to teach other. So how we do our patrols and how we do our sea monitoring, is we take at least one extra land patrol officer with us and give him a crash course on what we're doing and show him. Then they give us a crash course on what they're doing on land.

It's good that we show each other lots of things, that's the type of team we've got here, good communications. We all show the other one what to do cos some of us who are more active show the newer ones. Like I picked up on it pretty quick and I've been showing others. I got training from [I-Tracker staff] which was really, really good and picked it up quick.

Panel Comments

- Exchanging methods between land and seas Rangers;
 - liked the part about good communication and learning species from it;
- Developing good communication skills to get the message across;
- The change towards training adapted to the needs of the group;
 - not just lumped on them and shows if training is delivered the right way, it can be really beneficial.

Story 173: It makes life a bit easier

Ranger

I've been a ranger for the last 8 years now but I've been at this Ranger group for just over 12 months. I came straight out of school into the Ranger business and have been loving it ever since.

First time I saw I-Tracker was about four years ago. They said they were using it over in Africa. So it just came from there straight over here and they were telling us how it takes pictures and the Bushmen were using it over there. So they brought it over to Australia and they tried to put it through different Ranger groups. [...]

I was quite happy actually because we used to have to write down this and that but today you don't have to. It makes it easier to identify things and having pictures is good because some people are more disadvantaged than others. Like they can't spell properly or read things properly but if you have pictures it's much easier. So if you are looking at something with a picture in front of you, then everyone can learn how to use it. It was exciting. [...]

It just takes out all the paperwork and you'll be on a boat and if a big splash came up when you were trying to record something it would get wet. So with I-Tracker, it's splash proof and water proof if you get a splash on it that's ok. It makes everything a whole lot easier because it has GPS and camera all in the one little gadget. So yeah it makes life a bit easier.

Panel Comments

- Good story to illustrate where it came from and why they brought it to Australia to help the Rangers care for country;
- It came from good Kalahari trackers but the sequences are made to suit you, to make it easier;
 - brought from somewhere else but changed to suit to us;
- The splash proof aspect is a big plus for Rangers too.

Domain Four: More able to effectively manage country

The top five stories for Domain Four were:

Story	Votes
Story 159: Buffalo shooting	11
Story 67: Like a live map	9
Story 22: Just makes the job more easier for us	8
Story 65: It has everything	7
Story 157: Just really simple	5

Change Themes

The overall change themes for Domain Four were:

- I-Tracker gives Rangers the opportunity to show their practices are being planned and implemented strategically rather than opportunistically;
 - using monitoring data to move from activity based work to planned work with Ranger set targets;
- Rangers are more effectively monitoring country by using the GPS functions to locate and plan further work;
 - using captured data to create real time mapping when planning further activities (especially in controlled burning);
 - easily locating and returning to previously captured sites and areas of significance;
- I-Tracker is being used for a diverse range of activities, reducing the amount of duplicate reporting and resources carried on country;
 - single ruggedised
 - recording tool increases efficiency in the field;
- The standardised I-Tracker capturing format allows Ranger groups to efficiently retrieve data and easily switch monitoring responsibilities between different users;
- Rangers are using I-Tracker as an essential tool to support enterprise development and fee for service activities;
 - mining and tourism monitoring and compliance, as well as Fisheries and Quarantine patrols;

Story 159: Buffalo shooting

Ranger

I've been with the Rangers for a long time, about five years now since I come to be a shooter. Just working to look for buffalo and pigs because they are damaging our sacred site areas and our bush foods. They are really, really doing a bad thing, digging up our country looking for food and damaging our bush food.

We are trying to make the number down because a lot of buffalo and also the pigs, they always do that digging up of the sacred site areas you know. In our waters and the turtles can't find their way in the mud. They make the river all salty, saltwater coming in. [...] And we're trying to clear the area where the big number is.

So on I-Tracker, adding the name of that area we were and how many buffalo or pigs we shot. Put that into I-Tracker of how many we shot and who shot them. [...] In the chopper I'm shooting and using the I-Tracker at the same time. Put down how many I shoot, maybe 6 or 7 in the I-Tracker and what's the area.

It's easy. Paper is too hard because when you are in the chopper the wind blows and that's why you can't write it down easily but the I-Tracker is better with trying to hold a gun too.

Panel Comments

- The I-Tracker fits in with holding a gun which shows the OH&S aspect;
- Shows the change towards a sophisticated feral program;
 - to measure how many are being shot, not just random;
 - catching up with other fields like fire and burning which have been using fire scars for some time;
- Shows there is some strategy with controlling, recording and planning for feral animals;
 - moving from opportunistic control to more strategic control;
 - shows and records the valuable information to plan ahead and apply for funding;
 - not just activity based but shows targets;
 - need that data and information just like planning for fire.

Story 67: Like a live map

Ranger

We use them to GPS fire location, like when we do cool burn in the afternoon, late afternoon burn. That dew's not heavy enough to die that fire down and that fire is just like lighting a bit, not too much. We just put a GPS point where the fire is and then knock off for the night and go back the next day, in the morning.

As soon as we got the GPS point, we drive just straight there. Soon as we find it it's like "oh its started up again and gone from this road and now he's on the other side of that hill". That GPS point doesn't put us like right in that exact same point but it brings us to roughly the same place. As soon as you go to the same little area, you can see the fire has pushed back this way or went easterly or it's gonna get picked up with a south east wind or westerly's.

When you go on your map to see where you been that night and you download it on the computer, you go on it the next day where you ended your patrol. You can go back on it to where you ended, a little map like all the little dotted lines where the car's been with the I-Tracker getting around. And you

see him on the map and you think “ok, we start here, what’s the plan, how are we gonna approach this and what we going to do. Are we going to go this road or this back road to get to this fire”.

Helps us get to our destinations quicker as well because it more or less shows you where you been and which country you’ve been to. Like just say if you got one day field work and the next day you’re in the office. And you’re thinking you’re not too sure if we did that on that beach or did we do this? Alright lets go look on the computer. Ok we went to this place, now we go the other side of the coast. More or less like a live map.

Panel Comments

- We haven’t used it for fire yet but the story shows how you can track fire and use GPS to show how fire has spread;
 - fits in with our knowledge about the grass and the time of year;
 - we’ll start using I-Tracker this year for fire;
- Shows how the tool is used for planning activities, not just about recording information;
 - what has been done but also what you’re going to do;
 - put the information in your hands;
- A change to real time mapping for Rangers, unless you have a spy satellite of your own, you couldn’t do that without I-Tracker.

Story 22: Just makes the job more easier for us

Ranger

We do turtle monitoring starting from October onwards to April or May. That’s when they start laying eggs and all. Some of the other work we do is on the vine thickets, get rid of feral plants, like the buffalo grass, some of them Neem trees and Calitropis in the communities. We got donkeys but they’re mainly further down south in another community, we let the other Rangers do that.

We do turtle monitoring on land, up the coast on the beaches, drive along with quad bikes, two or three blokes. Did the marine debris, picking up rubbish along the beach and a bit of weeding in the wet season. Yeah, we always bring the I-Tracker up. They mainly let me handle all that stuff.

The last one I did was probably the biodiversity surveys, putting the traps out. Just go along, marking out the GPS points and recording it all down, take it to the office and download it. Trying to look for any new species, animals and mammals, few snakes. Do it in different spots, pick one spot and then make sure you do it in another spot.

We always take the I-Tracker. It helps a lot, just makes the job more easier for us. Instead of writing down with a pen and paper, running out of room on the paper, you just download it all there in one spot.

Panel Comments

- Monitoring work, it can be used for a variety of surveys;
 - can monitor weed spread and track everything;
 - they monitor sea turtles which is something we want to start doing, can see how they come back and nest;

- keep a close watch on something and collect good data;
- This story shows the diversity and complexity of work Rangers do and how they can now manage it with one tool;
- It connects it all; imagine if they didn't have it.

Story 65: It has everything

Ranger

All the stuff we Rangers do, we take it out. You could say nearly everything we do, like we won't go away from the office without it. Just take it out doing some weed work or feral animals.

Last Thursday, we went out to do some bird monitoring and put some birds down in I-Tracker, marking out where those camera traps were. Nearly every day, every time we go out of the office we use it. And we all take time using it, just to get our head around everything. If someone else uses it, they just let them know where they're up to. [...]

It has everything, saves you from mucking around with paperwork. If you're not sure of what you've done last week you can look it up on the I-Tracker and probably you look and remember what happened on that day and write up whatever happened on that day. That's one thing that's really good about it, you save everything.

And you got a GPS reading and if someone doesn't know where to go, you can set it up on their GPS and they can find their way wherever they want to go. It's one of the good technologies these days, the I-Tracker.

Panel Comments

- Highlights the way Rangers are retrieving data;
 - going beyond just storing it;
- The data is in a standardised format, can switch between different users;
- Like the idea of using the GPS to find each other, knowing where each other are and where to go saves time.

Story 157: Just really simple

Ranger

I've been working with the Rangers six years. Been doing a lot of permit work, checking the permits and putting them in the nomads. Been doing a lot of recreational area management so putting out fences, new tables, BBQ's and bollards. Get a lot of tourists and also the mine is fairly big, so try to look after our recreation areas that get damaged by people.

I thought Cybertracker was good when I first saw it because we used to have a lot of paperwork that would go out and on the job we'd have to write down what we were doing. Also, when we came back we'd have to write it down in the computer and stuff. So it's a lot easier, don't have to do any paper work, no writing up a report or anything. It's made my life easier.

Pretty easy to pick up. One of the easiest things I've done, so that was really good because it's a bit harder for some people but I picked it up pretty fast. It's made work faster with organisation and things. For me it's just really simple, the wording and the sequences. You can make your own sequences on them, which is what we've done, so it makes it even easier for us to understand and do the job.

Panel Comments

- Supports the enterprise development and fee for service work Rangers do;
 - not just for Government funded work;
- You can be collecting data on 3 or 4 different activities at once;
- It's all there.

Domain Five: Improved communication networks and resources available to Rangers

The top five stories for Domain Five were:

Story	Votes
Story 108: The right mix of people	18
Story 185: Better planning and prioritising	10
Story 127: The shared network	7
Story 141: Good to come to the forum	7
Story 107: Everyone knows what I-Tracker is	6

Change Themes

The overall change themes for Domain Five were:

- I-Tracker is arguably leading global best practice in and coordinating Cybertracker projects with Indigenous land managers;
- NAILSMA have been highly successful in creating a network to effectively implement and maintain a high level of on-country ownership of the CyberTracker software;
 - have developed the infrastructure and capacity to connect Ranger groups and get a high uptake of a consistent monitoring methodology across northern Australia;
- Rangers have a tool that can be shared and shown to others easily;
- A number of Ranger groups have moved beyond solely capturing data and are now using existing resources from the web portal to guide their planning for future activities;
 - comfortable using spatial data such as basemaps on top of their existing data to more effectively manage country and save time;
 - not just contributing data to a shared network but making use of existing data sets;
- The I-Tracker network has demonstrated a move towards collective thinking across State boundaries;
 - has provided the standardised system and communications infrastructure for groups to share and learn from each other;
 - considering broader management questions and providing feedback at a regional level;

- groups are making their own connections at I-Tracker forums;
- The I-Tracker initiative has entered the mainstream and is becoming academically and professionally recognised;
- I-Tracker has become an Indigenous driven initiative;
 - Ranger groups are requesting methodologies and data to suit their needs;
- A mutual working relationship has developed between NAILSMA and Ranger groups to further improve the I-Tracker initiative.

Story 108: The right mix of people

NGO Representative

I think what I found exciting about the I-Tracker program, is that it has achieved here what I have been hoping to achieve with the Kalahari Bushmen but haven't been able to achieve. Mainly because of the social, political and funding components that I haven't been able to put together. [...]

I'm hoping that the success of I-Tracker in Australia could ironically fall back over to Southern Africa and show what can be done. Because this is what the original vision was but I'd be working with individual Bushmen. Initially, it was more a research context with just me as an individual working with them. We had two or three years funding for a research program doing track surveys but once the funding came to an end everything collapsed.

So we still haven't got a sustainable program and I'm hoping that we could learn a lot more from what is required to pull the capacity, both in terms of funding but also in terms of skills and what individuals you need to make it possible. We haven't really been able to get all elements together. We work well in the National Park but that's mainly driven from a national management point of view not community driven.

I think coming to this particular forum, I've been able to meet various role players first hand and get a sense of what does it take to make it work. What type of individuals you need that have that dedication and drive to make it happen. I'm really bad at fundraising and have always known that's my weak spot and for 5 years we've had no funding. I mean it requires partnerships and collaboration especially if you want to think of bigger visions where you are collaborating across southern Africa and the rest of Africa.

So there is huge potential there with what is happening here. I wasn't even aware of the scale that it's not just NAILSMA in the north but there's a whole central block as well over here. Virtually covering a whole continent and that's impressive for me.

I think if it's too dependent on one individual it's not sustainable, because when they move on it collapses. Even to manage data is a challenge, you can't just gather data because it decays and will be lost. Even just the ability to raise funding on a sustainable basis, often funders they will give you a chunk of money and then they move off to another project.

It needs to be continuous. It's a multi-layered approach that requires a coordinated effort from different people with different skills. I'm good at research but I shouldn't be involved in fundraising because I'm bad at it. I shouldn't try and coordinate projects because I'm bad at managing people. And what I see here with I-Tracker is that combination and the right mix of people to make it work. I think that's what I find exciting here.

Panel Comments

- Highlights the global usage and that NAILSMA has done so well in that context;
- I-Tracker is doing a good job;
- Recognises all the infrastructure that needs to exist around software;
 - bringing it all together to get sustainable funding opportunities;
 - NAILSMA has really driven and taken advantage of opportunities;
- The change is the people side;
 - a close connection with Ranger groups;
 - to get the right mix together, NAILSMA got the network together across the North to work with the knowledge Indigenous people have already got;
- Have gone beyond just the tool.

Story 185: Better planning and prioritising Government Representative

It only sort of dawned on me this year when the NAILSMA team came into our office here and gave a presentation. I think most of us have always seen the I-Tracker program as a tool to collect data. But with some of the work that's been happening more recently with the portal on the website, where people can go to download Cybertracker compliant basemaps. I probably hadn't thought about it much until this year, that having existing data being made available to Rangers is probably just as valuable or more valuable than data coming back the other way.

Like if Rangers can have access at their fingertips to last year's fire scars, Fisheries closure lines, where there are registered sacred sites and other things as basemaps on their Cybertracker units, then that could be very helpful to enable rangers to do the work they want to do.

Having existing data made easily available to rangers in the bush is a big step forward. There are a lot of basemaps on vegetation types and locations of threatened species for example, that exist somewhere but probably not many Ranger groups would've had access to them or maybe don't even know that they exist. But to have one depository where people can go to get those maps which are already compatible to their Cybertracker units is a big step up. People can use them to help inform their decisions on what work they want to do with the best available information at their fingertips.

I guess it helps prioritise the work that rangers do. If you don't have that information at hand, say just for instance if a group was driving along the road burning for a day, you could waste a lot of time driving over country that was burnt the previous year and there's no fuel. But having the fire scar information in the Cybertracker unit it is pretty easy for people to see that the roadside all got burnt last year. So having the information in the CyberTracker unit helps to plan and prioritise the work, making it more efficient instead of just flying or driving blind.

And that would be the same on Fisheries patrols. If rangers go out for a patrol on the boat, by having information already on the Cybertracker unit, they wouldn't just go over the same ground as they did previously, they can adjust their routes to cover new areas. It all just helps for better planning and prioritising delivery really.

Panel Comments

- You have to have a plan and using the I-Tracker with things built into it is a big help;
 - built in sequence changed to suit our own country and fits with our plans for funding;
 - we have to use I-Tracker data and maps to prioritise and make the trade off for what we can do;
- Not just putting their data into a shared network but also being able to take it out;
 - having access to existing portals saves time;
- Improving the accessibility to existing data sources and hidden data sets;
 - can put their data on top of existing data;
- I-Tracker and Rangers are leading the shift to beyond just collecting data, getting other benefits;
 - a few years ago it was just the collection of data but now Ranger groups are downloading maps;
 - people are becoming more comfortable using spatial data.

Story 127: The shared network

Researcher

The technology is pretty good. I've been working up here for 30 years doing wildlife surveys and one thing that sticks in my mind is that we don't have a standardised system to capture data, so it's published in all different places and it's hard to bring it all together.

But the thing with the I-Tracker is that it's a standardised data collecting infrastructure right across the board and it's been rolled out successfully. And the next stage, maybe we can focus in local areas and focus on management questions and have that feedback where we've cracked baseline data. But maybe there's stuff we don't need to collect every year, we just do it every 5 years.

What sticks in my mind is the shared network, it brings people together and the forums are fantastic. Everyone gets together and swaps stories, they have common problems and similar issues and they can all sit down and try to solve them. So it's the networking and good communicating, which you don't see at State or even Commonwealth level but you see it with the ranger groups, which is powerful. It will go a long way.

Panel Comments

- Highlights that good networking and communication brings people together;
- Demonstrates the change to collective thinking across State boundaries;
 - this story also highlights some of the priorities for the future;
- The standardised system to focus on management questions and feedback is a major change;
 - feedback is important;
- I-Tracker has provided the infrastructure for people and technology to come together for a bigger purpose.

Story 141: Good to come to the forum

International Rangers

Our brothers from Queensland are using the I-Tracker with their own language. Language has been put in the application relevant to them and their country. And a brother from down Tasmania, he had a good set of views on the I-Tracker. So it's been made to use just on their country, which is good. It was good to come to this forum to get information for when we go back. We have the idea of how to move forward with the I-Tracker and to put programs and applications that are relevant to our country for land and sea. [...]

Some of the Rangers suggested that they have someone come up for a month or so with that experience to train the Rangers to get them up to speed. So we can get proper data and we can monitor everything really closely because we are professional trackers to our country and the I-Tracker is the object that we want to collect the data with. [...]

I think the most important thing for us is that it's made specific to our region because we are really different and the regional differences are quite large. There's no need for having applications that we won't need, it will just add confusion

Panel Comments

- Like the working together and sharing aspect;
 - people coming together at forums for I-Tracker;
- We go to the forums to learn how others care for their country and they learn from us too;
- The exchange groups is a great notion to share experience across the network;
 - a change in attitudes;
- Meet good Rangers at the forums, would also like them to come see our country.

Story 107: Everyone knows what I-Tracker is

I-Tracker Staff

I guess just in terms of the project, the most significant change since the beginning of 2009 is just the sheer number of groups that are now using it and the recognisable aspect of the word I-Tracker.

When we started it was just an idea. Now it's mainstream, it's part of a national program the Government has funded across the entirety of the IPA system. You have people at places like CSIRO and Universities that are using the software for other things.

Everyone knows what I-Tracker is. The number of groups that we have using it constantly and are confident enough to call us for support and problem solve things has just increased amazingly since 2009. And I think really significantly, the enthusiasm that I saw on ground in 2009 hasn't waned. And if it had, I don't think the program would have been a success but people are still as excited now as when they were when they started.

Panel Comments

- The mainstream aspect and that it is becoming academically and professionally recognised is a great change over 3 or 4 years;
- The interest in it falls back to NAILSMA providing Rangers with a tool that can be shared and shown to others like schools;

- Reminds me of a comment I heard where down south Cybertracker is just another tool outsiders have asked Rangers to use whereas the I-Tracker initiative has made a big change as an Indigenous driven initiative;
 - Ranger groups requesting methodologies and data now;
 - flipped around the other way;
- Us Rangers don't treat it like a game, they have games on them but we use it to do a job and collect data;
 - we build the sequence ourselves and if we need to change something, we ring NAILSMA and they tutor us on the phone or they come over;
 - that support means a better outcome for us;
- We use it and find the faults with the I-Tracker and then change it together, learning as we go.

Domain Six: Increased participation of Indigenous people in the development of land management projects

Comments

The Selection Panel commented on the domain title

“Increased participation of Indigenous people in the development of research and conservation projects”

- Why does the domain only focus on research and conservation projects;
- Rangers are now doing activities beyond conservation;
 - generating livelihoods and income;
 - managing tourism and mining;
- We changed our planning to Healthy Country Planning instead of using the word conservation;

Agreed: Change the Domain title to “land management” projects to include the other work Rangers are doing.

The top five stories for Domain Six were:

Story	Votes
Story 85: We love it	13
Story 102: People can come up with their own ideas	13
Story 152: Someone to ring and humbug	9
Story 27: It's sort of like another family coming in to help out	7
Story 147: Ongoing training	6

Change Themes

The overall change themes for Domain Six were:

- I-Tracker has built a brand name with Ranger groups and stakeholders;
 - beginning to recognised at a national level, having won two categories in the 2013 Banksia Awards;
 - it is accepted, recognised and Rangers are proud to be a part of it;
- A bottom up approach has resulted in the tool is being created by users to suit their needs and aspirations;
 - Ranger groups are actively participating in developing sequences and making monitoring decisions for country;
 - Ranger groups are empowered by the ownership of their sequences and data;
- NAILSMA has delivered effective, ongoing training on-country which has resulted in a relationship with Ranger groups built on trust and respect;

Story 85: We love it

Ranger

That was a great thing [the 2012 Banksia Awards Ceremony]. I got an invite from NAILSMA for the Western Australian side, there was a Ranger from the Northern Territory and two ladies from Cape York and it really gave us a good buzz. And to us, yeah we pray on that I-Tracker, we love it to death. When we won the awards, it was nothing but praise. And it's such a simple little thing to use. It's more or less, our Elders tell us stories and keep that information, well now the I-Tracker more or less is sort of doing it in a technology way. What the old people are doing and we're combining it together. But winning the award that was my greatest experience, thank you NAILSMA! Just to let everybody know that we can handle simple things like the I-Trackers and computers. You know modern day technology and that the Indigenous people in the northern part of Australia are using it and making the most of it because it's a great little tool to have.

Panel Comments

- Communicates the award winning status of the project;
- About looking after traditional knowledge and what you choose to put into I-Tracker;
 - that choice changes with generations, so it's good to have it collected for the future generations;
- Shows that I-Tracker has a brand name;
 - it is well recognised and respected;
- Accepted, recognised and we are proud to be using it.

Story 102: People can come up with their own ideas

I-Tracker Staff

I guess one of the things at the beginning was that we were looking at only a saltwater application and I think when people saw the range of activities they could capture and record, their reaction was immediately we want to use it for other stuff.

But one thing I think is really a big change and significant is that when we started with the review, it was very much "here's a great tool that we've worked in particular with one Ranger group to develop". And for people to go and say "yeah that's cool maybe we can use this thing that NAILSMA's sent us

with our business". Now we are getting more groups saying "no this is what we want to do with it, how can we go about doing it like this".

The development of the land application was very much from feedback, so we started specialising in very technical applications. So I think that one of the successes is that people can come up with their own ideas. With what they want it to do and we try and keep pace with that and we have some really successful examples.

I guess I would hope that part of that is encouragement from us and making them realise that this is a different way of doing business. We don't have any agenda to make these applications; we are doing it to support what they want and what they do, so that's the reason we are here. We don't have a scientific agenda of our own that we are trying to get accomplished through the Ranger groups, we are just here to support them.

I hope that part of it is us getting the message across to them but I think it's also the nature of the people who aren't afraid to say what is working and what isn't.

Panel Comments

- A change to a tool created by users with the sequences built to suit the country;
- A bottom up approach;
- Empowerment and ownership of their data;
 - to control data is to have the power.

Story 152: Someone to ring and humbug

Ranger Coordinator

I'm pretty sure we were one of the first groups using it. Didn't work a lot with NAILSMA directly in developing the actual IT part of the saltwater sequence. I think they rolled it out with us, like they developed the sequence and gave it to us to experiment with and then we fed back what was working and what wasn't.

We didn't do a lot of playing around with the sequence in house, so NAILSMA has taken on quite a vital role as far as creating the sequence and making sure it was going to work for us and so that was really important. And then our role was to take it out and make sure it was working in the field.

And the IT to begin with, now I remember, the IT of when it came back to downloading it, getting it onto computers and getting it in the right place and learning how to report and export, I remember it did my head in a few times. There were a few phone calls to [I-Tracker staff] like "what is going on here! I can't get it to think, I can't get it to do that". So again, that IT support was really important for us to have someone to ring and humbug.

So where we are now, we're past that. What we're producing is a map with reports and then we can link up with the photos the Rangers take. Once we export a report or export a map, we're making up a bit of an extra report using our own photos. We do have some people we report back to such as Ghostnets Australia. I also produce reports for Fisheries, although we don't have any formal contracts with them we still work closely with them. And DAF is another big one, the old AQIS, we have contracts with them.

So we've got these external organisations we report to but we also keep it for in house stuff like sea patrols. I try and do up a report every time the guys go on a sea patrol and they can look at where they've gone, their data and what it looks like. Recently we did a dolphin patrol and reported on that. So mostly it's in house. So if we're not reporting to those external bodies that require it, then we're keeping it in house and the data is getting used quietly in the background.

Panel Comments

- Pretty important that Ranger groups are part of a team and get support;
 - it doesn't cost anything, there are no catches or agendas and they can take away ownership of methodologies and data;
- The opportunity to tailor and customise is great;
 - the support is just as important as the unit itself, it nurtures the whole process to go from a trial with a group to regular reporting;
- Relationship and trust with NAILSMA;
- Us rangers know we won't get turned down when we call NAILSMA for support, we can grow and develop;
 - we get the answers and pass it onto the other Rangers.

Story 27: It's sort of like another family coming in to help out Ranger

NAILSMA staff have been going out there a lot of times. Bringing a lot more training and a lot more I-Trackers. What suits us and what doesn't suit us and we talk about it. Like yeah, put another application and changing "this is what I don't like" and these guys are very, very good.

[I-Tracker staff member] sometimes comes out and the last couple of years back [another I-Tracker staff member]. And they're good, when we see them coming in, it's just like another part of, like what do you call it. Like, we are their Rangers and NAILSMA is coming and it's sort of like another family coming in to help out.

It's good, like NAILSMA is good and the service they doing. Just make us comfortable and more confident, help us to do that.

Panel Comments

- Tells the respect Ranger groups have for NAILSMA and I-Tracker;
- A good news story;
- Support and encouragement from NAILSMA;
 - this is what Ranger groups look forward to, the help to do a better job on country and show it in reports;
 - helping us with the modern technology and getting funding;
- Rangers have close relationships with NAILSMA;
 - they're not just training us to use this tool , we're also learning off each other.

Story 147: Ongoing training

Ranger

Been working for the Rangers for about three months and I'm finding it very interesting so far. When I first started in my first couple of weeks, went through a shorebird training camp, where we learnt how to identify shorebirds. While that was going on, [I-Tracker staff] was here also teaching the I-Tracker, so we had that going at the same time as we were identifying shorebirds. Pretty full on, I found it very interesting and I learnt a lot too because I didn't know anything about birds and [researcher] was here teaching us how to identify shorebirds whilst [I-Tracker staff] was teaching us how to do it with the I-Tracker. [...]

After the training, [I-Tracker staff] went back and there were a couple more sequences, not too sure what they were but taking a rough guess it would've been two new sequences. She went back and done that and we've got that in now. I think patrol was one of them and we had another one I can't remember.

It did help for the patrol boys, she went back and done good and she passed it back. Because she just uploaded it there and I'm not too sure how it's done but she uploaded it here and it's onto the I-Tracker. It's there! [...]

It's good for more knowledge and the best way to get that knowledge is through ongoing training. Put more fresh ideas into the I-Tracker and we have come up with fresh ideas on what we want to do. I reckon more information into shorebirds or land patrols, into those sequences. Because you never know what you're going to come across out there.

NAILSMA is very good. They've been coming over showing us what to do and asking us for feedback on how this can improve. So far it's improved a hell of a lot with identifying problems when we're doing patrols. It's become a great piece of equipment. [...]

And we've asked for more ongoing training and hopefully if we do find something else to go into our sequence, it can and it'd be good. So more ongoing training and more sequences in the I-Tracker would be very useful to cover everything.

Panel Comments

- Need the training to keep up with the changes, it is important to get refreshers;
 - change our sequences to keep up with climate changes and NAILSMA is always there for support;
- Effective training is happening on ground.

4. Ranger Favourites Stories

As part of the selection process, the Ranger told stories of the 60 Selection Panel stories were sent to the 12 participating Ranger groups for online voting.

Three sets of 14 stories each were sent to three separate sets of Ranger groups respectively (four groups per set). One set of stories received no responses and is not included in the reporting.

Groups were asked to rank their favourite stories. The favourite stories as chosen by the Rangers are:

Set One	
Story	Score
Story 69: We'll have big mob change	5
Story 82: Cultural knowledge and I-Tracker working together	4
Story 171: There is living history and places to protect	3
Story 189: A simple template for reports	2
Story 167: Like a mini computer	1

- Story 171 was voted third favourite by Ranger Set One and also ranked as third most significant in Domain One by the Selection Panel, signalling a its high level of change and strong degree of resonance on ground.

Set Two	
Story	Score
Story 190: It's also a learning tool	5
Story 22: Just makes the job more easier for us	4
Story 85: We love it	3
Story 172: Something all Departments can accept	2
Story 177: Data collection	1

- Story 190 was voted as favourite by Ranger Set Two and was also agreed on as the most significant story in Domain One, which highlights the story appeals to range of audiences both on and off country;
- Story 22 ranked as second favourite with Ranger Set Two and also appeared as the Panel's third most significant in Domain Four;
- Story 85, the third favourite with Ranger Set Two was also the Panel's most significant story in Domain Six.

5. Conclusion

The MSC evaluation confirms that NAILSMA's I-Tracker initiative has had a high level of success in engaging with and supporting the planning and operational activities of Indigenous rangers. The following points summarise the scope of this success.

- The I-Tracker initiative has proved immensely successful since its inception in 2009, making the journey from an innovative idea to a mainstream aspect of Ranger best practice;
- Key international stakeholders have confirmed that the I-Tracker initiative is leading global best practice in the coordination and uptake of the CyberTracker software on ground;
- I-Tracker has built a brand name with both Ranger groups, who recognise the initiative and are proud to be a part of it, and with major stakeholders, having won two awards at the 2012 Banksia Awards.

This success can be attributed to a number of major factors in the way that the I-Tracker initiative has been delivered including:

- The dedication of the NAILSMA staff to building the capacity of Ranger groups by using a bottom up approach to develop a tool that is being created by users to suit their needs and aspirations;

- The provision by NAILSMA of effective, ongoing training on-country with groups;
- A major focus on utilising Rangers' existing IEK and cultural knowledge to coincide with scientific frameworks in I-Tracker applications and sequences;

NAILSMA's participatory approach has fostered a relationship between Ranger groups and NAILSMA whereby Ranger groups gain a high level of on-country ownership of the sequences they have requested and developed within the CyberTracker software. Rangers are comfortable in requesting NAILSMA support and continuously improving their I-Tracker sequences and as a result, Rangers have a tool they are confident to use on a daily basis in monitoring work. They are also confident to share and show to others, particularly in actively engaging Elders and school children with their reporting and planning.

At an overall level, NAILSMA have created and foster an active network of Rangers across northern Australia who share experiences and knowledge at the I-Tracker forums. These Rangers are considering broader management issues at regional levels and across State boundaries and engaging with key stakeholders and international land managers

At the project level, I-Tracker is providing a centralised program dedicated to standardised and systematic data collection, with a consistent monitoring methodology across northern Australia

I-Tracker's bottom up approach has resulted in a number of changes at the on-ground level:

- I-Tracker is facilitating the transfer and handover of IEK and cultural knowledge by providing a generational link between both Rangers and Elders and Rangers and children by engaging them in reporting and future planning;
- I-Tracker is being used as the medium to identify, capture and record country and language;
- I-Tracker is facilitating a change in the way Rangers approach science and environmental management by building the capacity to constantly review data and methodologies and plan accordingly;
- Ranger groups are overcoming low literacy and numeracy rates to capture rigorous, scientific data and improving their numeracy and literacy through the user friendly interface;
- I-Tracker is acting as a gateway to further technology and IT use for Rangers;
- Ranger groups are using I-Tracker to help with enterprise development, fee for service, compliance and Indigenous Protected Area work and funding opportunities;
- I-Tracker gives Rangers the opportunity to show their practices are being planned and implemented strategically rather than opportunistically;
- Rangers are more effectively monitoring country by using the GPS functions to locate and plan further work including;
 - using captured data to create real time mapping when planning further activities (especially in controlled burning);
 - easily locating and returning to previously captured sites and areas of significance;
- Ranger groups have shifted from only capturing data to also utilising existing data resources (such as basemaps from the web portal) in their monitoring activities;
- I-Tracker is being used for a diverse range of activities, reducing the amount of duplicate reporting and resources carried on country. This is possible because a;
 - a single, ruggedised recording tool increases efficiency in the field;
 - a standardised I-Tracker capturing format allows Ranger groups to efficiently retrieve data and easily switch monitoring responsibilities between different users;
- Rangers are engaging in simple, efficient reporting for both internal purposes and external stakeholders and using these reports to evaluate and plan further activities.