ATAP NEWSLETTER

JUNE 2026

Greetings everyone

Good things comes in threes – welcome to Issue 3 of our biannual ATAP Newsletter, and the first for 2026! Data collection has continued for several student projects, including lesser guitarfish (Mia Hattingh, MSc), spotted gully sharks (Reagan Kieck, MSc) and silver kob (Hermi Spangenberg, MSc) along the Port Alfred coastline, green turtles in Aliwal Shoal MPA (Natalie dos Santos, PhD), and spotted grunter in the Port of Ngqura and neighbouring estuaries (Khanyisile Mdutyana, MSc). As if that hasn't been exciting enough, through an acoustic receiver loan, we are supporting a project on baby white steenbras in the Knysna Estuary, marking the smallest individuals that have ever been acoustically tagged in South Africa (Jessica Seath, PhD)! How exciting and what a pleasure it is to be able to support so many different projects.

A massive highlight was having two PhD students graduate – introducing Dr Dinah Mukhari and Dr Nakia Cullain! Dinah used a multimethod approach to study the movements of flathead mullet in the Kowie Estuary, and is staying on with the ATAP team as a postdoctoral fellow for the next three years through the NRF Research Infrastructure Personnel Programme. Nakia looked at the movement ecology of reef manta rays along the southern African coastline, deepening our understanding of where these amazing animals go. You can read more their respective projects in the newsletter. Congrats are also in order to three MSc students who graduated with their BSc Honours degrees at the end of March; well done Mia, Hermi and Reagan! We are equally proud of you.

Once again, this work wouldn't be possible without the ongoing support from our funders, and to you, our dedicated deployment partners and platform users. We wouldn't be able to maintain this nationwide array without your help. It doesn't go unnoticed, thank you! If you ever have any questions or concerns, please feel free to reach out to me. We are here to make sure you get the best out of the platform to meet your movement ecology research needs. #teamworkmakesthedreamwork

Happy tracking, and stay safe.

Taryn, Matt & Dinah

about ATAP

The ATAP, formalised in October 2011, is Africa's largest passive acoustic receiver array, spanning 2 300 km of the southern African coastline from St Helena Bay in the Western Cape Province of South Africa to Santa Maria in southern Mozambique. The data collected by the ATAP not only contribute to knowledge on the movement ecology of many of our important coastal fishery species, but by being incorporated into the development of, or existing management plans will help contribute to the sustainability of these species. Knowing where animals spend most of their time or move to is a critical first step in trying to protect them!

Amber Childs tagging a juvenile white steenbras *Lithognathus lithognathus* in the Knysna Estuary as part of Jessica Seath's PhD project on this Endangered species.

ATAP overview: Who we are

The ATAP network, maintained by a group of dedicated deployment partners, including Reel Science Co., Shark Spotters, Marine Dynamics, Oceans Research Institute, South African Environmental Observation Network Elwandle Node, KwaZulu-Natal Sharks Board, Rhodes University, Oceanographic Research Institute and SharkLife, currently comprises **294 receivers** (models 69 kHz, VR2W, VR2Tx and VR2AR, Innovasea, Canada) (Figure 1). Further, CapeNature assists with the retrieval and deployment of receivers around the De Hoop Marine Protected Area and adjacent region, Barry Skinstad assists with receivers deployed in Plettenberg Bay, South African National Parks (AKA Kyle Smith) assists with receivers deployed in the Knysna Estuary. Your ongoing support and assistance is so appreciated!

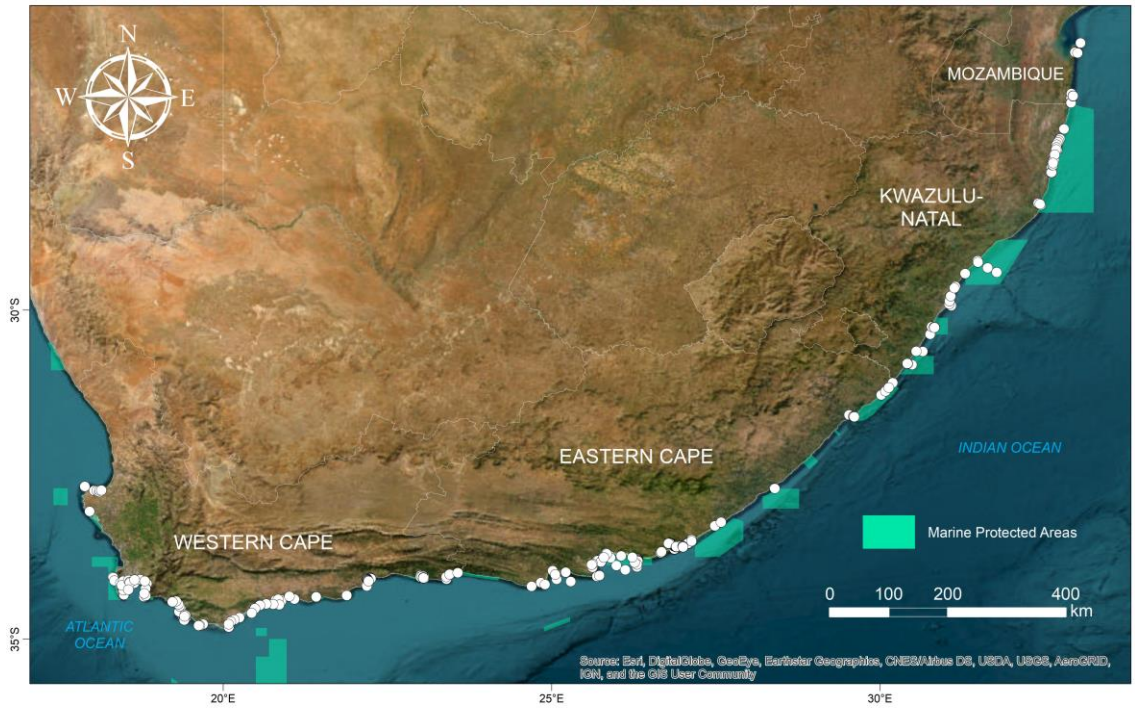
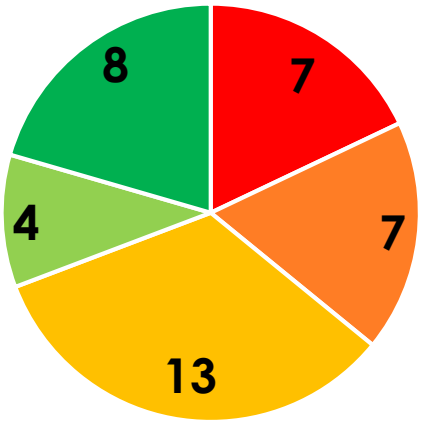


Figure 1: The current receiver (white dots) network forming South Africa's Acoustic Tracking Array Platform, covering approximately 2300 km of the coastline.

Currently, the ATAP detects the movements of **39 species** (8 fishes, 17 sharks, 10 rays, 1 skate, 3 turtles), with at least **823 active acoustic transmitters** in the water. To date, more than **30.5 million individual detection points** have been recorded, representing a significant amount of movement data! Additionally, many datasets have matured and/or are complete. If you are unsure how much data have been collected on your tagged animals, please do reach out (TS.Murray@saiab.nrf.ac.za), and we will happily put a data report together for you. If you have a preferred format in which you would like your data, please feel free to request this too, and we will try our best to meet your needs (e.g. formatted for *VTrack* and easy import into R).

ATAP in numbers



IUCN Red List Category

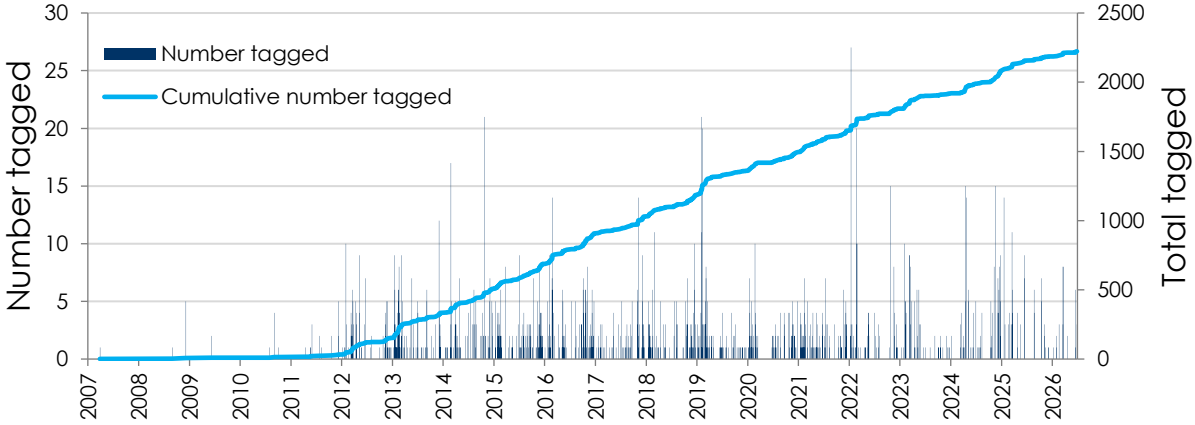
CR: n = 7 | Duckbill ray, whitespotted wedgefish, raggedtooth shark, soupfin shark, hawksbill turtle, scalloped hammerhead, common eagle ray

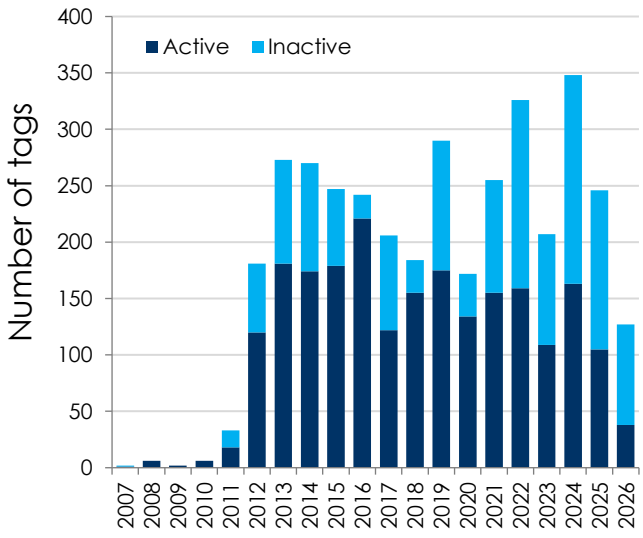
EN: n = 7

VU: n = 13

NT: n = 4

LC: n = 8





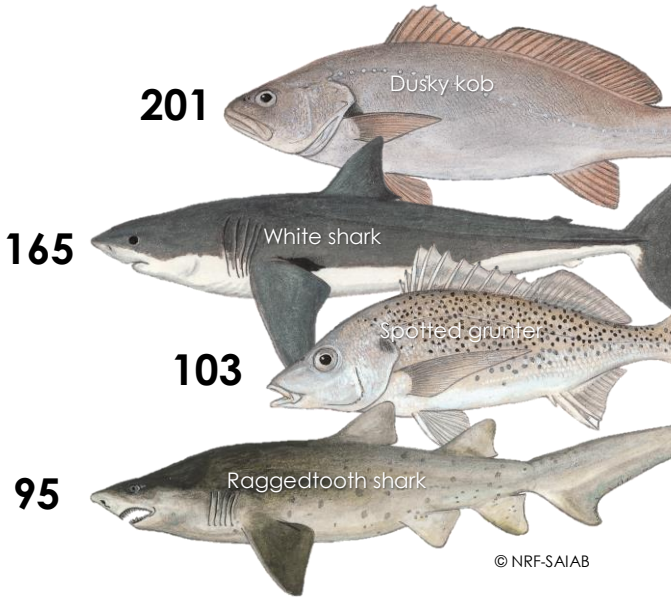


Figure 2: Pie chart showing a breakdown of the IUCN Red List status of species currently being monitored by the ATAP; number of animals tagged daily over time (dark blue bars) and the cumulative number of tags released (light blue line); number of active (dark blue) vs inactive (light blue) tags; and top four species in terms of number of individuals tagged showing the sample size.

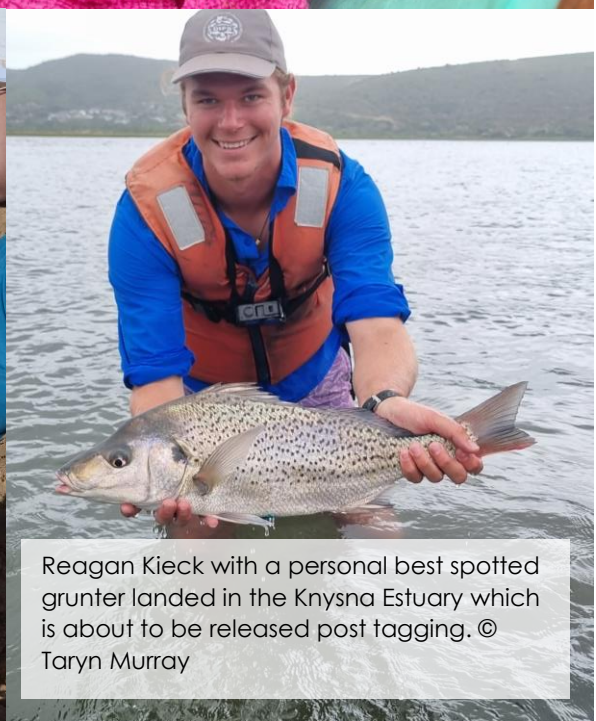
Tagging: 01 Dec ’25 to 30 Jun ‘26

Is it just us or have we hit the ground running this year?! Despite the fast pace at which this year is passing us all (did someone say July?), some tagging has still taken place, which is what we love to see. This includes, adult spotter grunter (*Pomadasys commersonnii*) and white steenbras in the Knysna Estuary headed by Kyle Smith of South African National Parks; 17 juvenile white steenbras also in the Knysna Estuary linked to Jessica Seath’s PhD on this Endangered yet iconic species; one diamond ray (*Gymnura natalensis*) linked to Romina Henriques *Searching for Ecotypes* project; and six spotted gully sharks (*Triakis megalopterus*) as part of Reagan Kieck’s MSc. We’ve definitely missed some more, so please be sure to send your tagging metadata our way so we know which tag IDs to keep an eye out for.

Bruce Mann and Mia Hattingh measure the length of an adult spotted gully shark caught along the Port Alfred coastline. © Taryn Murray

Two juvenile white steenbras getting tagged with close on the smallest transmitters used to date (V6s and V7s). © Taryn Murray

‘De Wet’ the diamond ray under tonic immobility and awaiting his tag. © Reagan Kieck



Reagan Kieck with a personal best spotted grunter landed in the Knysna Estuary which is about to be released post tagging. © Taryn Murray

© Ryan Daly

Rocking reef mantas

Movement ecology of reef manta rays in southern Africa

Reef manta rays (*Mobula afredi*) in southern Africa have experienced significant population declines reflecting increasing pressures on regional populations. Long-term sightings records have revealed a shift in reef manta behaviour and habitat use at aggregation sites such as Závora in southern Mozambique, a site serving as a key reproductive area for the region's remaining manta rays. During her PhD, Dr Nakia Cullain, together with project collaborators, acoustically and satellite tagged 72 individuals, aiming to learn more about the movements of this species in southern Africa. Results highlighted the transboundary nature of this population, with individuals exhibiting site fidelity to Závora during the reproductive season, as well as high residency within South Africa's iSimangaliso Wetland Park.

© Ryan Daly

Through her work, the movement patterns highlighted the complementary roles of Závora as a reproductive hotspot and iSimangaliso's sanctuary zone as a critical refuge for this vulnerable population. Together, these findings have painted a complex picture of decline, adaptation, and resilience, really emphasizing the need for coordinated, cross-border conservation strategies in a region where management remains disjointed and largely underdeveloped. Some recommended management steps moving forwards include: (i) strengthening regional collaboration, (ii) equitable governance, (iii) coordinated monitoring and (iv) shared data for protection of not only manta rays, but also other threatened elasmobranchs throughout southern Africa.

Marine Megafauna Foundation

DALHOUSIE UNIVERSITY

PURE OCEAN

save our seas FOUNDATION

SAAMBR

Helping people to care for our ocean

iSimangaliso Wetland Park

Mad about mullet

Movement and migration of flathead mullet in the Kowie Estuary

The global decline of estuary-associated fish species is largely attributed to anthropogenic impacts, including overexploitation, habitat modification and altered flow, and thermal regimes driven by climate change. The flathead mullet *Mugil cephalus* is an estuary-associated cosmopolitan species of high fisheries value, and plays a crucial role in aquatic estuarine food webs. Despite this, little is known about their movement patterns in estuaries, particularly on the African continent, and how these movements may be affected by a changing climate, which in turn will impact fisheries and the presence of predators who feed on them.

Through her PhD, Dr Dinah Mukhari used acoustic telemetry, thermal tolerance laboratory experiments and otolith microchemistry to assess movements of flathead mullet in the Kowie Estuary and adjacent marine environment linked to changes in temperature. Not only was this the first time these methods were used in conjunction for this species, but these results improve our understanding of their movement ecology in a changing climate, knowledge essential for adaptive fisheries and estuarine management under climate change.

What made this thesis all the more special was the fact that Amber saw her first PhD student, Taryn Murray, successfully supervise and graduate her first PhD student, Dinah! We have come full circle!

This work was supported by the National Research Foundation Thuthuka Grant (Grant No. 121941) and Equipment-Related Travel and Training Grant (Grant No. ERT230824145462).

Red sky at night, shepherd's delight! An absolutely beautiful sunset closing out a fantastic day's fieldwork on the Knysna Estuary tagged juvenile white steenbras (Jessica Seath's PhD) and larger white steenbras and spotted grunter (Kyle Smith's study). © Taryn Murray

Loving some loans – ATAP's Loaner Programme

While the ATAP may be the largest acoustic receiver network on the African continent, we are quite a lot smaller relative to some of the larger networks, including the FACT Network in the USA, IMOS Animal Tracking Facility in Australia, the greater European Tracking Network, and the global Ocean Tracking Network. Despite our size, we made the decision four years ago to see whether we could start supporting a small loaner programme. The idea behind this programme was much the same as the other networks offering the same opportunity – **supporting local research at sites where listening power was lacking**. While not extensively advertised, this opportunity has spread largely via word of mouth. We are proud to report that we currently support **seven** projects with receivers positioned at sites from False Bay in the Western Cape through to the iSimangaliso Wetland Park MPA along South Africa's east coast. Given our mandate of platform provision, we remain hopeful that we will be able to support similar projects in the future.

Assessing dynamics of a naturally occurring blue stingray aggregation in the Knysna Estuary
Project Lead: Dr Chantel Elston | Receivers: 15

Learning more about green and hawksbill turtle behaviour in the Aliwal Shoal Marine Protected Area
Project Lead: Natalie dos Santos | Receivers: 5

Understanding the movements of spotted gully sharks in False Bay, South Africa
Project Lead: Justin Blake | Receivers: 5

Assessing the movements of juvenile white steenbras in the Knysna Estuary
Project Lead: Jessica Seath | Receivers loaned: 6

Wonderful workshops

Our primary mandate as a marine research infrastructure platform is to make equipment available on which data can be collected. We're very proud of our collaborative network of acoustic receivers, but we're trying our best to make the ATAP so much more than just equipment.

Enter workshops! This year, so far, we've had the pleasure of hosting two workshops; the first a tagging workshop hosted by our very own Matt Parkinson in March 2026 (Figure 3), and the second a data processing and data visualisation workshop hosted by Courtney MacSween of Innovasea, and Toby Rogers of Shark Spotters. Not only were both these workshops well received, but we're quite excited to keep hosting little events/workshops like this depending on the wants and needs of the greater acoustic telemetry community. Have an idea and would like us to try and make it happen? Reach out! We're all ears.

A massive thank you, once again, needs to be extended to Toby who really went above and beyond for content created for the data processing and data visualisation workshop. For those just starting out, or even for those already well versed in tackling acoustic telemetry data (which, let's admit it, can be exceptionally overwhelming), we strongly encourage you to have a look at the online document that Toby put together for the workshop, which can be accessed here: https://l90tdr.github.io/ATAP-Telemetry-Workshop-May-2026/.

Figure 3: Matt Parkinson talking through the basics of acoustically tagging animals. This short workshop was hosted at the South African Institute for Aquatic Biodiversity. © Dinah Mukhari

Slowly, slowly catch the monkey

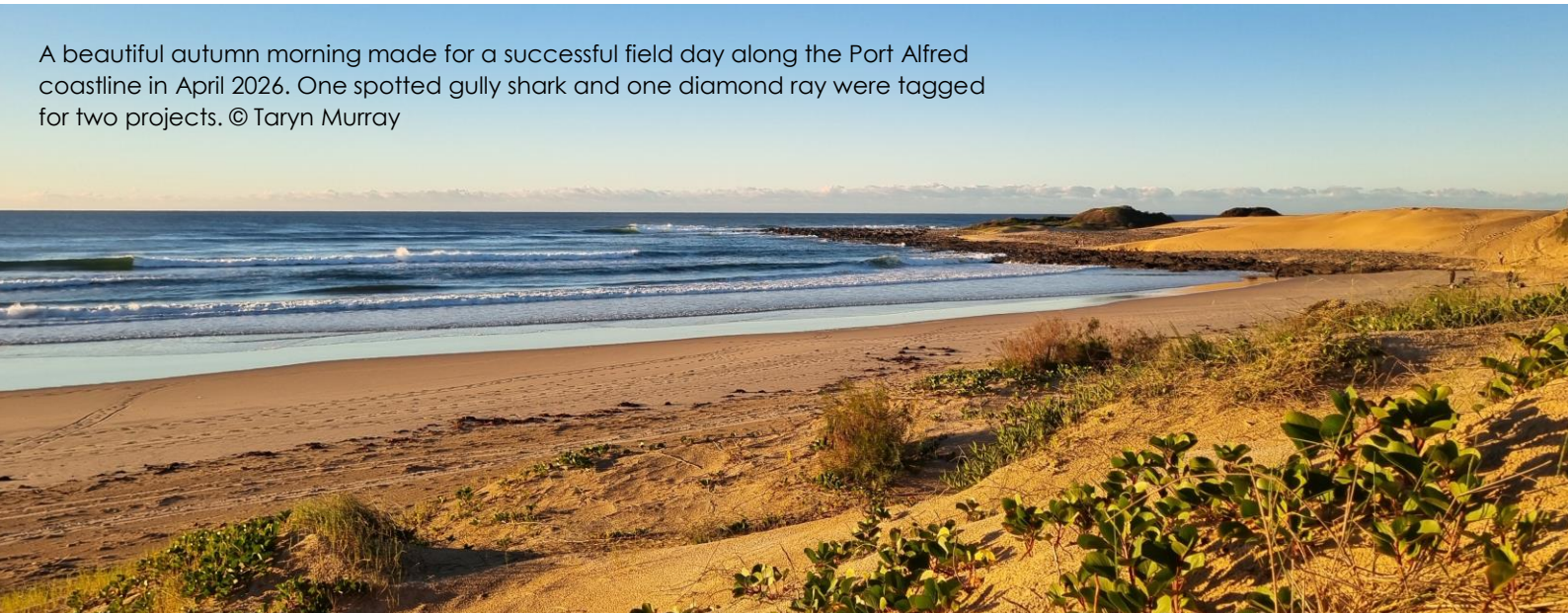
Given the longevity of some acoustic transmitters (up to 10 years), we're all well aware that data for a project can take years to collect. Given the extensive amount of tagging that has taken place over the past 10 years on all sorts of species of fishery importance, many datasets are finally reaching maturation, with many or most tags expiring. This means that there are lots of data to play with, ready for analyses and writing up! While things have generally ticked over slowly but surely for the ATAP, we are finally starting to see a consistent return in reward. Another big thank you to all of you for acknowledging the ATAP! This helps us flag down any publication making use of the ATAP for data collection.

Between 01 December 2025 and 30 June 2026, the following papers were published:


© Marc Dando

- Cottrant E, Morrison JH, Elston C, Murray TS, Drobniewska NJ, Underhill LG, Hammerschlag N, Albano PS, McCord ME, Cowley PD, Fallows C, Paulet TG. 2026. Residency, site affinity and coastal movements of the southern African endemic spotted gully shark *Triakis megalopterus*. *African Journal of Marine Science* 48:115–125. doi: 10.2989/1814232X.2025.2605156
- Dixon RB, Murray TS, Daly R, Cowley PD, Mann BQ. 2025. Unravelling the mystery of a unique giant trevally *Caranx ignobilis* aggregation in the Mtentu Estuary, Pondoland Marine Protected Area, South Africa. *African Journal of Marine Science* 47: 461–477. doi: 10.2989/1814232X.2025.2574371
- Elston C, Murray TS, Mann BQ, Daly R, Parkinson MC, Bennett RH, Rogers T. 2026. Coastal movements of a Critically Endangered wedgefish species and the importance of transboundary conservation. *Canadian Journal of Fisheries and Aquatic Sciences*. doi: 10.1139/cjfas-2025-0338
- Mann BQ, Daly R, Jordaan GL, Elston C. 2026. Movement patterns of the rate, range-restricted flapnose houndshark *Scylliogaleus quecketti* (Family: Triakidae) in South Africa. *Endangered Species Research* 59: esr01488. doi: 10.3354/esr01488
- Venables SK, Müller L, Rohner CA, Marshall AD, van Rijn J, de Catarina N, Filmalter JD, Daly R. 2026. Habitat use, residency, and connectivity of bull sharks (*Carcharhinus leucas*) in the Bazaruto Seascape, Mozambique. *Fishes* 11(5): 291. doi: 10.33990/fishes11050291
- Zaza S, Atemkeng M, Murray TS, Filmalter JD, Cowley PD. 2026. Unsupervised-explainable anomaly detection in large-scale estuarine acoustic telemetry data. *Ecological Informatics* 94: 103672. doi: 10.1016/j.ecoinf.2026.103672

A beautiful autumn morning made for a successful field day along the Port Alfred coastline in April 2026. One spotted gully shark and one diamond ray were tagged for two projects. © Taryn Murray



GEN 2, NexTrak, Increased Residency and Fathom – what you need to know!

What is GEN 2?

Gen 2 is Innovasea's latest CODE MAP. And the good news is it's going to be around for a while, so once you update, you don't have to worry about constantly checking your receivers' CODE MAP status. Innovasea has bundled GEN 2 with your receivers' firmware so if your receivers are up to date, you will always be current and detecting all your tags Fathom Connect will helpfully remind you when new firmware is available.

Should you update?

YES! Innovasea is aware that you may have older tags you still want to track so they've brought all those code spaces into GEN 2 along with some newly released options that continue to allow Innovasea to offer globally unique IDs, as well as some exciting new tag programming features.

CODE SPACE	MAP-114	MAP-115	GEN2
A69-1303	✓	x	✓
A69-1601 - 1604	✓	✓	✓
A69-1605	x	✓	✓
A69-9001 - 9007	✓	✓	✓
A69-2801	x	x	✓
A69-2951	x	x	✓
Future Innovasea code spaces	x	x	✓

Released 2024

What can you detect with Gen2?

- All MAP-114 and MAP-115 tag code spaces
- Newer A69-2801 (pinger) and A69-2951 (sensor) code spaces
- Future planned Innovasea code spaces

What is NexTrak?

NexTrak is Innovasea's most advanced telemetry system:

More Coverage
- 40% greater receiver detection range

More data
- Detect more unique animals
- 2X-10X* more detections
- Signal strength and noise with every detection

Better Performance
- Detect more animals in noisy environments

Compatibility with new features
- New tag programming: Increased Residency

- Enhanced post-processing data analysis options
- Can be used alongside your VR2 receivers

Check out: [NexTrak Performance Testing White Paper]

What is Increased Residency?

Increased Residency (IR) programming is a new and free tag feature designed to increase residency limits, boost detection rates up to 10x, and lower code collisions in high-tag-volume areas.

Key highlights:

- A fully backwards-compatible PPM tag programming option
- Leverages NexTrak receivers to minimize impact of code collisions in high-tag-volume areas, boosting detection rates by up to 10x

Allows researchers to:

- Hear more tags around receivers
- Increase their tag delays
- Hear more individual detections of more unique animals
- Get denser fish tracks in fine-scale positioning studies

Example Study Design Scenarios

Mixed Model (VR2TX/AR + NexTrak) Receiver Array

Tag Programming	# Tags Within Range	Average Delay (s)	VRx Detection Probability	NexTrak Detection Probability
Conventional PPM	10	120 s	50%	50%
Increased Residency PPM	10	120 s	50%	93%
	25		20%	81%

Check out: [Increased Residency White Paper]

It's time to dive into Fathom

With VUE's discontinuation, it's important that researchers transition to Fathom for all field, study, and data management needs as soon as possible. Continuing to use VUE could mean you are not seeing all detections of your tagged animals and those of your collaborators. For any Innovasea issues, contact Courtney MacSween (courtney.macsween@innovasea.com), who can also arrange your own **Intro to Fathom** session.

From south to north

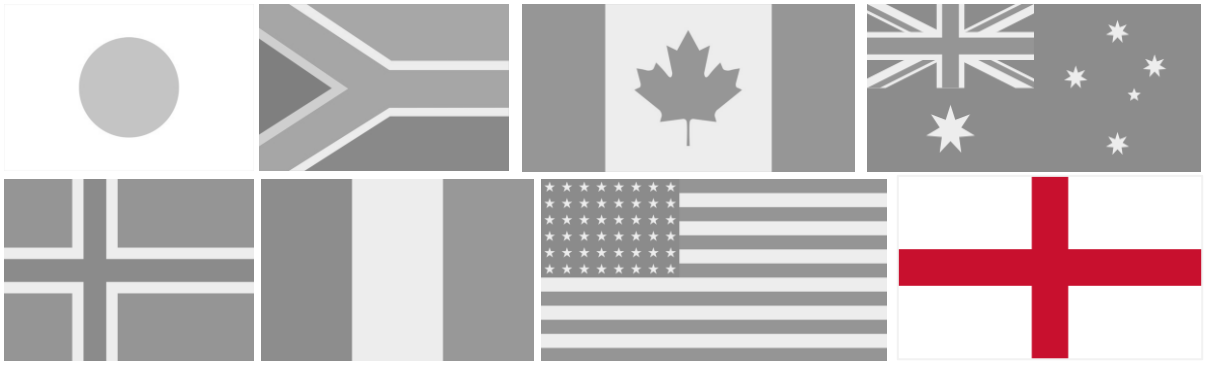
8th International Conference on Fish Telemetry

We've been to Japan, South Africa (where we hosted!), Canada, Australia, Norway, France and USA. Gear up to head to the Northern Hemisphere once again, but this time to the UK, for the 8th iteration of the International Conference on Fish Telemetry. This event is being hosted by the **University of Hull, England**, from **19 to 23 July 2027**.

This conference brings together researchers, industry professionals and policy makers from across all fields of fish telemetry to share the latest advances in fish movement ecology, showcase innovation and strengthen international collaborations. The conference will take place in Middleton Hall, a 406-seat auditorium, with ample opportunity for networking with fellow participants throughout the week.

Evening entertainment will include a visit to The Deep, Hull's world-class aquarium. Midweek excursions on Wednesday will take in local natural and historic attractions — several of which were recently featured in National Geographic's Best of the World 2026. As is ICFT tradition, the conference dinner will also feature an **international singing competition**. South Africa *always* brings their A game, so be prepared! Affordable accommodation will be available in The Courtyard, conveniently located on the University of Hull campus.

Submission of abstracts is not yet open and the conference website is still under construction (www.icft.co.uk), but for any queries you may have, please contact info@icft2027.co.uk.



Creature feature

Every newsletter, we'll be doing our best to do a creature feature, focusing on one tagged species currently being monitored by the ATAP. In this issue, we'll be highlighting a globally distributed species, the **blacktip shark *Carcharhinus limbatus***.

© Marc Dando

To date, 43 individuals have been tagged between February 2012 and March 2024 from Aliwal Shoal up to Bazaruto in southern Mozambique, with the different projects each answering their own research questions. To date, 29 individuals have been recorded 47603 times on 148 receivers spanning at least 1130 km. While detection data were mostly sparse for many individuals, some had decent datasets, even being recorded for up to 6.8 years! With many tags still pinging for years to come, we anticipate some decent data on this species. A huge shout-out to Ryan Daly from the Oceanographic Research Institute who really does the heavy lifting in terms of receiver maintenance along South Africa's east coast. This is most certainly a good example of a species benefiting from the extensive east coast array that Ryan almost singlehandedly maintains.

© Ryan Daly

Ways to help the ATAP

The ATAP, being funded by several different funding bodies and institutions, is always expected to report on various activities. For these deliverables, we're required to submit information related to different projects (without giving away any of the details) as well as provide photographs related to fieldwork activities. As such, there are a number of ways that you, as an ATAP user, can assist! Any of the following things will help us greatly when it comes to reporting:

1. Please ensure you **send** us updated tagging **metadata** and/or deployment metadata **soon after the fieldwork** has taken place. In this way, we're able to keep better track of your animals for you, as well as the array.
2. Send through a couple of **photographs related to fieldwork activities**. These can include animals being tagged, close ups of tagged animals, retrievals and deployments of receivers. All photographs will be fully acknowledged, and will remain the property of the person who took the photograph.
3. Please share any **ideas** you may have **for blog posts or social media posts**. We are always more than happy to share the incredible work you're doing!
4. Please **let us know if your project has done something interesting** whether it be interesting results, something interesting you saw in the field, anything. We'd love to hear! Anything related to points 1 to 3 can be emailed through to Taryn Murray at TS.Murray@saiab.nrf.ac.za. Further, we're doing our best to keep tabs of student projects using data collected by the ATAP. If you do have students, please considering sharing their names, degree, university of study and project titles.
5. Because of our successful NEP award, we're going to be expected to keep up with the **platform user forms**. These will, however, be digital in nature and will be controlled via a platform on NRF Connect (the National Research Foundation's portal controlling funding applications). While we realise that these can be incredibly frustrating to complete, we would be most appreciative if you could take the five minutes it takes to complete these forms. We can't thank you enough for your support here. We have gone digital, so the **platform user form link** can be found here: https://userkpi.saiab.ac.za/.
6. **Please remember to acknowledge the ATAP** in any publications/outputs stemming from data collected by the platform. We have a standard acknowledgement clause that we are more than happy to share with you.

ATAP

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ATAP – Tracking fish movements