



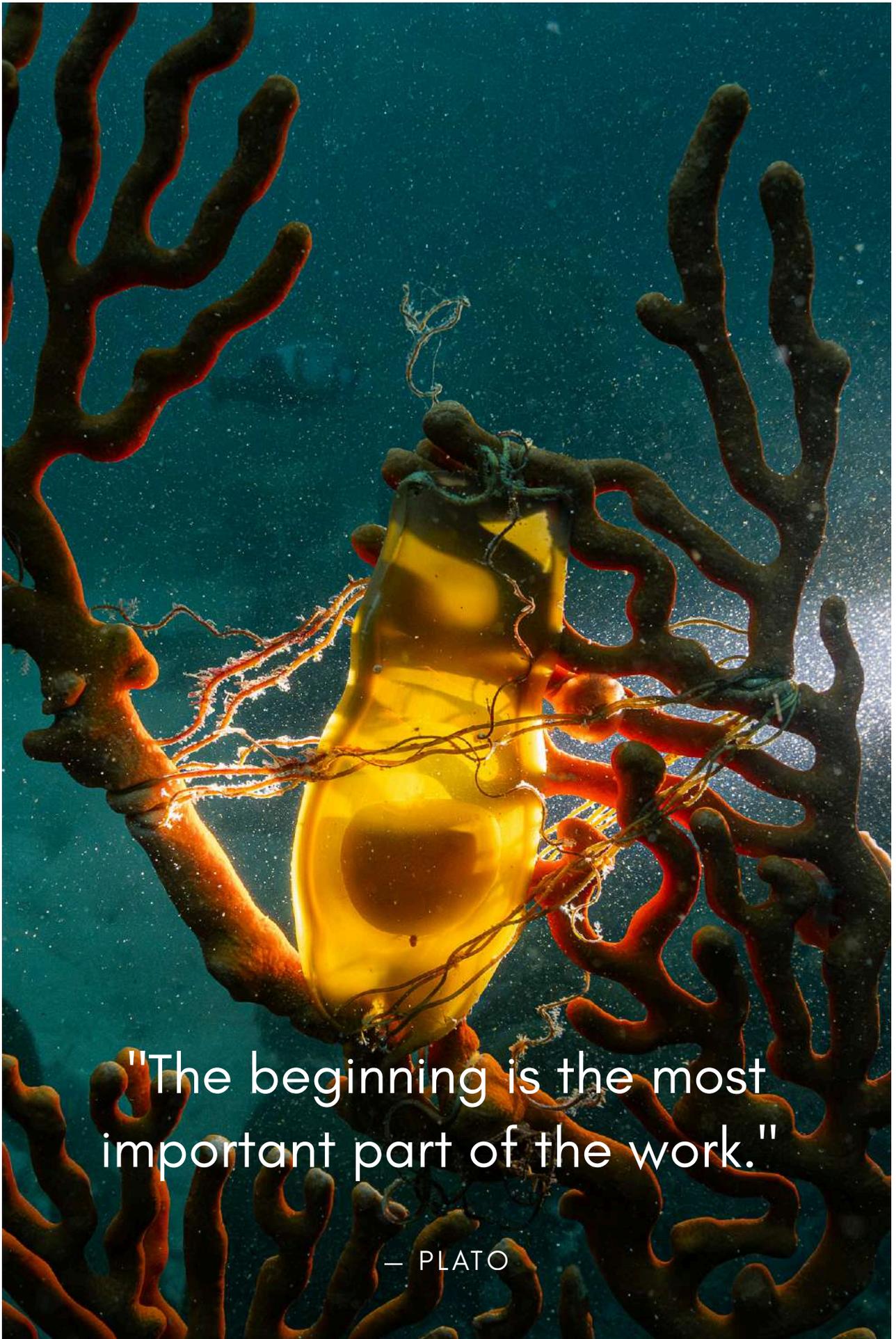
# CAPE RADD

RESEARCH &  
DIVER DEVELOPMENT



## ANNUAL IMPACT REPORT

December 2024 - December 2025



"The beginning is the most important part of the work."

— PLATO

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# A MESSAGE FROM OUR *FOUNDER*



As the year comes to a close, I want to take a moment to reflect on what has been an incredibly meaningful and impactful year for Cape RADD.

## Reflecting on 2025

This year reminded me why Cape RADD exists, to connect people to the ocean through science, education, and real-world experiences, and to measure the impact that connection can have.

We were proud to welcome back the University of Reading for their annual Faculty Marine Science Field Course, strengthening our role as a platform for applied, hands-on academic learning. And certifying all 20 students for their open water courses with us! That was a fun challenge. We also had the privilege of welcoming back Dr. Sylvia Earle and the Mission Blue team for their annual workshop and community outreach day, a highlight that continues to inspire both our team and the wider community. Our marine schools programs reached new audiences this year, with successful programs delivered for the International School of Geneva and Sandbach High School, reinforcing the importance of engaging young people with the ocean early in their educational journeys. We also collaborated with SurfPop and Ocean Pledge on Ocean youth workshops. On the operational side, our dive duck finally grew into its name 'Top Banana' with newly installed yellow pontoons, giving it the bold presence it deserves on the water. And we added a brand new Mahindra to the fleet with custom benches on the back for the comfort of our snorkellers and divers. I would like to acknowledge Dylan, who has recently parted ways with Cape RADD. We thank him for the time, energy, and contributions he made during his time with us, and we wish him all the very best for the future. Congratulations as well on the arrival of his new baby. We wish him and his family nothing but happiness in this next chapter.

We started the year with a collaborative scientific publication alongside Professor Sereena Lucrezi: "Impacts of participation in scientific activities on marine tourists' engagement and individual learning outcomes.". This publication reflects a core principle of our vision, not only to create engaging citizen science and field training experiences, but to measure and understand their impact. Evidence-based conservation and education will always sit at the heart of what we do.

We ended the year on a powerful note with two public screenings of David Attenborough's Oceans. These events helped raise education and awareness of the threats to our ocean locally and globally, and also funds for our Ocean Literacy Programme, supporting local school learners and stakeholders whose lives and livelihoods are closely tied to the ocean. A big thank you to those involved in helping organise these screenings and who attended with generosity of their time and funds.

Looking Ahead to 2026...

As we move into 2026, our focus is on growth with purpose.

## What we're excited about:

- New collaborations and projects on the horizon
- Working with new students, including the potential supervision of a PhD project exploring applications of computer science (A.I) in conservation
- Continuing strong relationships with academic and tour groups seeking meaningful educational experiences
- Building new partnerships with universities, institutions, and tour agents

## Coming Soon:

- Offering an updated Marine Science Field Course
- Launching our new Divemaster & Marine Conservation Internship
- Delivering Ocean Literacy workshops for local stakeholders, increasing access to ocean education
- Hosting guest academics throughout the year for workshops, lectures and collaborative work

In addition, we aim to bring greater consistency to our live events and marine evenings, helping to build a stronger local community and deeper in-person engagement, watch this space.... Alongside this, we'll continue our much-loved citizen science activities, field courses, and school and faculty field trips.

## Gratitude

I'm incredibly excited about the future and the impact we can continue to create together. Thank you to everyone who has supported Cape RADD this year, our collaborators, partners, students, guests, and greater community. A special thank you to my amazing team, who continue to raise the bar and are truly the engine behind my vision. And finally, thank you to my family, for their patience and support through long days, early starts, and time away. Now is the time to forge the path of science tourism and ocean connection, and I can't wait to get started again in the new year.

'If not YOU then WHO?'

With gratitude and excitement,  
Mike Barron  
Founder | Cape RADD

# 2025 Highlights

## Mission Blue Community Day

As Co-champions of the False Bay Hope Spot, Cape RADD alongside the Two Oceans Aquarium hosted her Deepness Dr Sylvia Earle at a Hope Spot workshop as well as a community day with local conservation NGO's and companies.



## International School of Geneva

We hosted 28 students from the International school of Geneva for a 2-week long field excursion..



## Reading University Marine Science Field Course

We hosted the University of Reading for a Marine Science Field Course

## 7<sup>th</sup> Southern African Shark and Ray Symposium

Cape RADD joined Shark and Ray Scientists from southern Africa to present research at the 7<sup>th</sup> Southern African shark and ray symposium.



## Marine Protected Areas day

We offered free snorkel trips in the Table Mountain Marine Protected Area to celebrate MPA Day



## Oceans Screening Fundraiser

We hosted a screening of "Oceans with David Attenborough" to raise funds for an Ocean Literacy workshop



## Research publication

We published a paper in the Journal of Outdoor Recreation and Tourism, on how citizen science has positive effects on marine tourists.

# MISSION

Our mission is rooted in the firm belief that promoting better awareness and education for the marine environment and incredible biodiversity it harbors is paramount. To achieve this, we have established a dynamic synergy between our esteemed recreational dive center and state-of-the-art marine research station. Through this collaborative approach, we are dedicated to inspiring a deep appreciation and understanding of the mesmerizing underwater world among individuals from all walks of life.

# Outreach and Community

Throughout 2025, Cape RADD's community and outreach programmes brought marine science out of the classroom and into the lives of people who interact with the ocean every day. From local communities and students to recreational divers/snorkellers and international visitors, individuals from diverse backgrounds were given the opportunity to connect with South Africa's marine environment in meaningful and lasting ways. By combining hands-on experiences, citizen science, and open public engagement, Cape RADD transformed curiosity into understanding and awareness into action. These initiatives fostered a growing sense of shared stewardship, ensuring that marine conservation was not only something people learned about, but something they actively participated in. The achievements below capture the collective impact of these efforts and the stories of people who became part of Cape RADD's conservation journey in 2025.

## School visits

Cape RADD visited Masiphumelele High School and Simon's Town High School to engage directly with learners through interactive talks focused on marine science and conservation. These sessions went beyond traditional career presentations, offering students a clear and honest insight into what a career in marine biology looks like in practice, from fieldwork and research to conservation and education pathways. Learners were encouraged to ask questions openly, and discussions reflected genuine curiosity about studying, working, and building a future in the marine environment. For many students, these visits broadened their perspectives and highlighted marine biology as a tangible and exciting career option, particularly within one of the most biodiverse marine regions in Cape Town. By connecting local learners with real-world marine scientists and opportunities in their own coastal backyard, Cape RADD helped inspire a new generation to see themselves as future custodians of the ocean.



## School snorkelling experiences

Building on these classroom engagements, Cape RADD extended learning beyond the school environment by taking students from Masiphumelele High School and Simon's Town High School on guided snorkelling experiences along the Cape Town coastline. For many learners, this was their first opportunity to enter the ocean and explore marine life firsthand, transforming abstract concepts into lived experiences.

In 2025, Cape RADD also partnered with SURPOP, an organisation dedicated to providing water-based experiences to disadvantaged youth, to deliver inclusive snorkelling trips that prioritised safety, confidence-building, and environmental awareness. These experiences fostered a deeper personal connection to the ocean, reinforced key conservation messages, and demonstrated that access to marine environments and opportunities in ocean science can and should be inclusive.

Through these collaborative, hands-on experiences, Cape RADD helped break down barriers to ocean access and inspired participants to see the marine environment as a space where they belong.



# Community events

## Mission Blue Ocean Community day

We started the year off strong by helping organise and present a False Bay Hope Spot community day. In attendance were Dr Sylvia Earle, many NGO's and partner organisations, as well as members of our ocean community. We set up an educational stand and had some of the kids snorkel in the Dalebrook tidal pool.



## Marine Science Open Day

We hosted our second Marine Science Open day, where young students were invited to Cape RADD to experience what is like to be a Marine Biologist for the day.



## Blue Connections Night

In collaboration with the Two Oceans Aquarium and Mission Blue, we hosted a "Blue Connections" evening, inviting partner organisations to come together and network.



## Marine Protected Area's day

The 1<sup>st</sup> of August is Marine Protected Area's day, Cape RADD celebrated our own Marine protected area by offering guided snorkels free of charge to the community.



## Ocean Documentary Screening

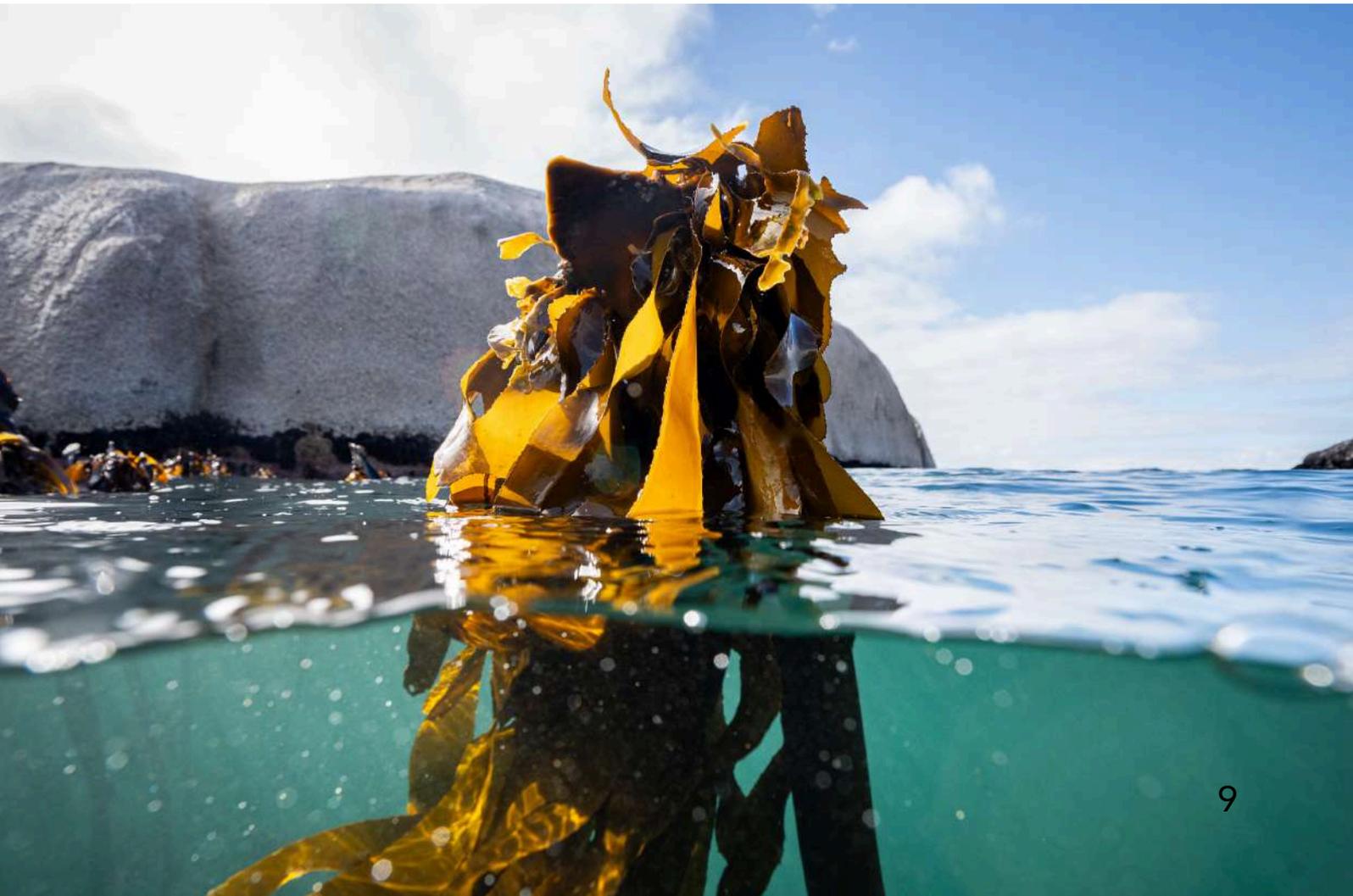
We hosted two screenings of Ocean with David Attenborough, the first being free of charge, the second, to raise funds for a future Ocean Literacy school workshop that will be done in 2026. Both screenings were well attended.

## Reading University Marine Evening

At the end of the Marine Science Field course with Reading university, the community were invited to watch their final project presentations at the Simons Town Museum.

## Research Publication

Serena La Cruzei and our founder Mike Barron release a paper this year on the Impact of scientific activities has on in-water tourism activities



# Our Year in Research

At Cape RADD, ongoing research forms a cornerstone of both knowledge generation and education, serving as a platform through which science is shared, taught, and applied. Our long-term research initiatives are designed not only to contribute to the broader scientific understanding of South Africa's marine ecosystems, but also to function as active learning tools for students, interns, and citizen scientists. Cape RADD has a comprehensive marine monitoring database, creating a centralised resource where scientists, students, and research organisations can access and utilise high-quality data collected through our programs. This approach ensures that data gathered through education and ecotourism activities contributes meaningfully to research projects, collaboration, and evidence-based conservation.

In 2025, Cape RADD launched a new **Kelp Forest Ecology Monitoring Research study**, adapted from the internationally recognised **PISCO** (Partnership for Interdisciplinary Studies of Coastal Oceans) **framework** originally developed in California. This long-term study is designed to generate high-resolution data on macroinvertebrates, fish assemblages, and sea plants within kelp-dominated reef systems. This data can then be used in tandem with our existing database. By collecting data at multiple ecological resolutions, the program enables the detection of changes at both community and ecosystem levels over time. This monitoring project also serves as the primary research focus of the Marine Science Field Course, directly integrating students into active scientific research and ensuring that emerging marine scientists gain hands-on experience while contributing to a robust, long-term dataset.

## PISCO Surveys in 2025



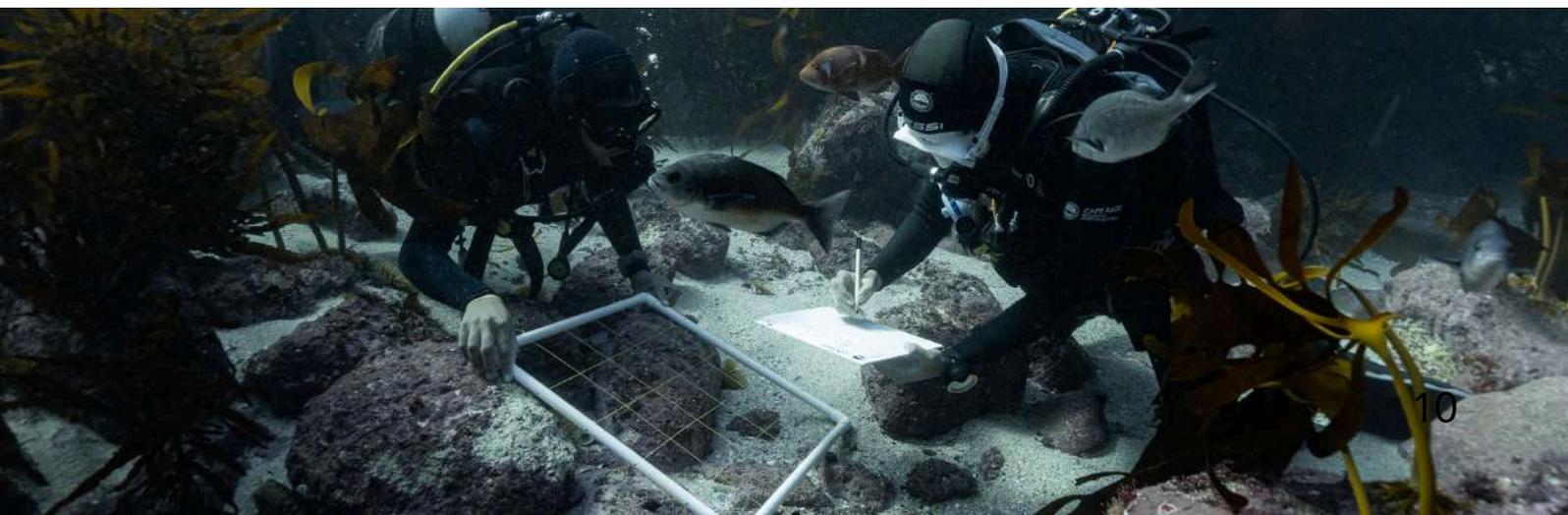
**48** Kelp Forest Monitoring Belt transect PISCO surveys completed

**2880 m<sup>2</sup>**  
Surveyed underwater in total  
(About 11 Tennis Courts)



**58** Macroinvertebrate species identified and surveyed

**17** Fish species identified and surveyed

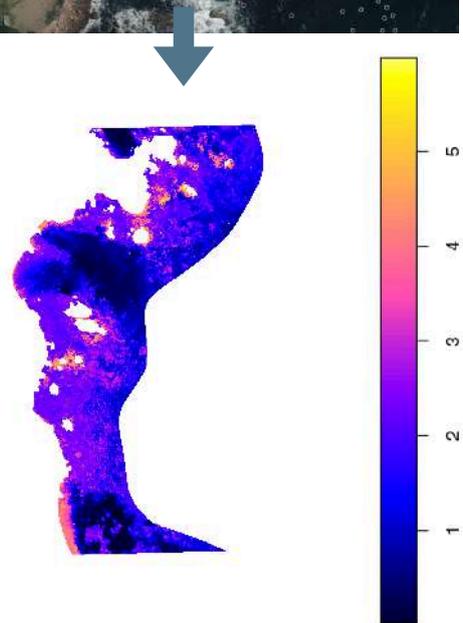


# Kelp Forest Monitoring

Established in 2017, Cape RADD's ongoing monitoring initiatives, ranging from GIS kelp forest mapping to fish assemblage surveys, have culminated in a robust, high-resolution database. Spanning hundreds of dives, this unique resource provides scientists and students with the longitudinal data necessary to analyze shifting macroinvertebrate communities and substrate compositions.



The sea urchin barren monitoring project in False Bay aims to monitor and understand the Kelp-Urchin relationship. Although urchin barrens are currently not a threat to our amazing Kelp forests, this project has been designed to gather valuable data that will help us understand the dynamics of these ecosystems better. By closely monitoring the sea urchin populations and their impact on the marine environment, we aim to identify any early signs of ecological imbalance. This proactive approach will enable us to implement timely conservation strategies, ensuring the resilience and health of the kelp forests for future generations.

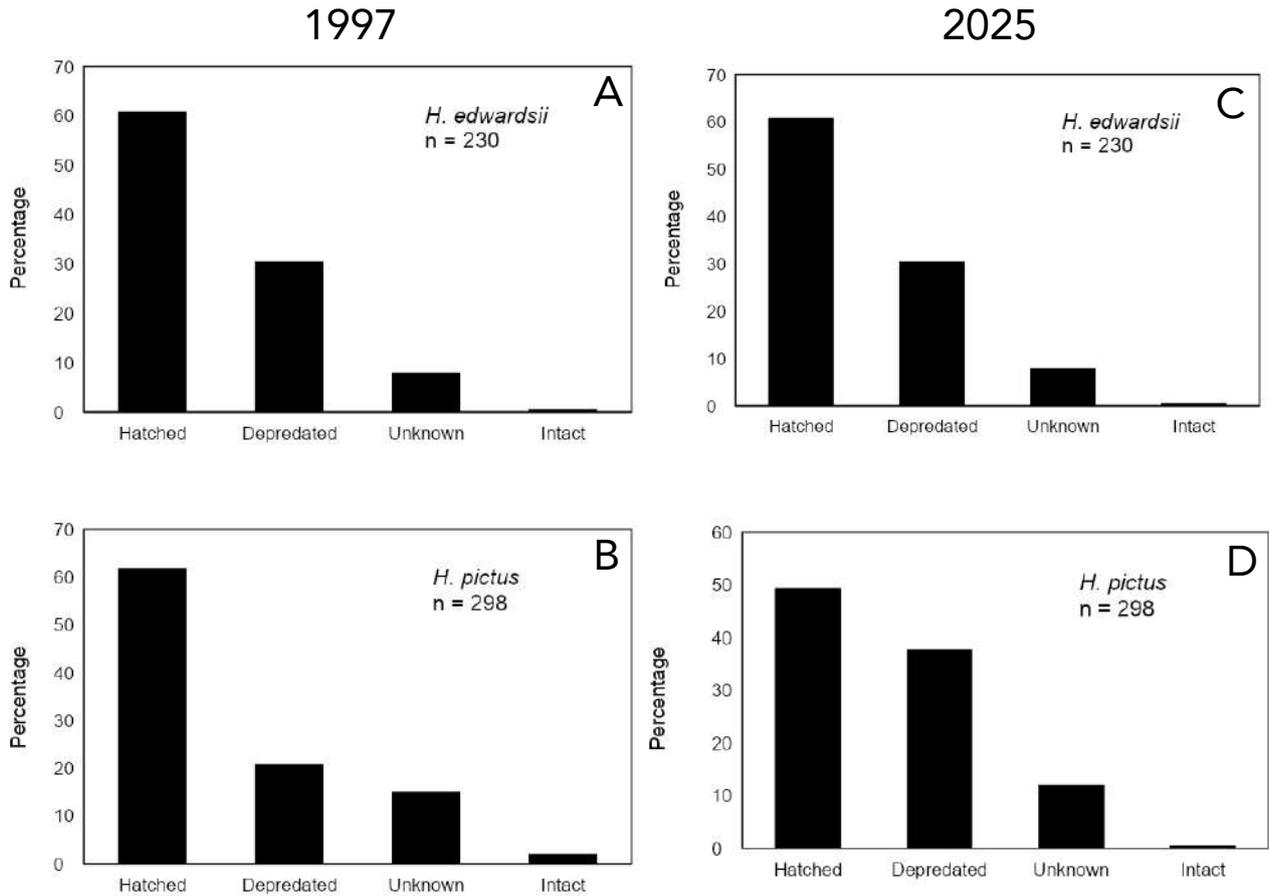


Heat map showing Kelp density along Millers Point (Stipes per meter squared)

By using rapid surface quadrat sampling, we are collecting high-resolution ground-truth data essential for calibrating and validating spectral models. In ecological research, modelling has emerged as a transformative tool for understanding large-scale environmental changes; however, the predictive power of any model is inherently limited by the quality of its inputs. By integrating precise field observations with remote sensing data, we can significantly reduce spectral unmixing errors and generate more accurate, reliable ecological outcomes.

# Shark Egg case deposition preference and hatching success

The elasmobranch egg case hatching success monitoring project aims to observe trends in how many egg bearing sharks successfully reproduce in False Bay. It also looks at which structures are most important for sharks in terms of egg case deposition. Using this data we can highlight changes in shark reproduction and note sites which may need protection.



Bar graphs showing percentage of egg cases in each category found for *Haploblepharus edwardsii* (the Puffadder shyshark) and *Haploblepharus pictus* (Dark Shyshark). Hatched: Egg found with an open hatching slit with no signs of depredation. Depredated: Clear signs of depredation, with either an open or closed hatching slit. Unknown: A closed hatching slit with no signs of depredation. Intact: Embryo still inside the egg case. Graphs A and B are from Smith and Griffiths (1997), and graphs C and D have been collected by Cape RADD and is unpublished data.



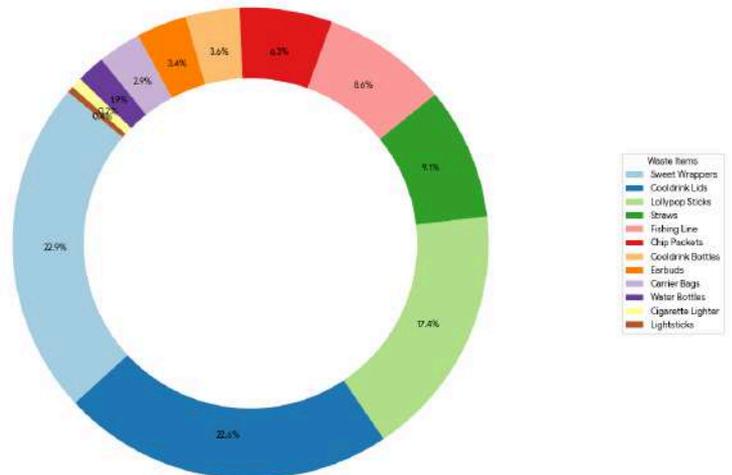
# Marine Debris tracking

We implemented the 'Dirty Dozen' methodology during our beach and harbour clean-ups to systematically identify the primary pollutants at each site. By integrating these activities into our school programs, we demonstrate the practical value of data collection in driving informed conservation strategies.

2 Harbour Clean ups

18 Beach Clean ups

Sweet Wrappers are the most common item accounting for 22.9% of all waste gathered, closely followed by Cooldrink Lids at **22.6%**. Lollypop Sticks are also quite high at **17.4%**, and Straws are at 9.1%.



Donut chart showing percentage of marine debris items collected on beach cleans

# Nudibranch Diversity

During the marine Science field course, our students participate in a nudibranch monitoring project. Popular dive sites are searched intensively for all available nudibranchs in the area. These are done to perform an assessment of nudibranch diversity in the area. Nudibranchs act as indicators of climate change according to literature. In time, the patterns in our data will show how changing ocean conditions will affect these species.

## Key Site Analysis

- Windmill: High numbers of *Tambja capensis* and *Cratena capensis*.
- Atlantis Reef: Significant populations of *Bonisa nakaza* and *Antiopella capensis*.
- Tivoli Pinnacles: While deeper, it still showed a high count of *Tambja capensis*.
- SS Maori (Wreck): Dominated heavily by *Antiopella capensis*.

Species	Total Count
<i>Tambja capensis</i>	98
<i>Antiopella capensis</i>	60
<i>Bonisa nakaza</i>	30
<i>Polycera capensis</i>	22
<i>Cratena capensis</i>	16
<i>Antiopella longidentata</i>	15
<i>Leminda millecra</i>	13
<i>Limacia jellyi</i>	5

## Rocky Shore Ecology monitoring



During our marine science field course and school group activities, we sample multiple rocky shores along the south peninsula and atlantic seaboard. These sites include Dalebrook, Seaforth, Miller's Point and Scarborough Beach. Used mainly as an educational tool, this project has been developed into a new monitoring project aimed at observing changes in rocky shore ecology with changing climate. This year we have conducted **13** rocky shore sampling trips.

## Current ongoing projects

- FinSpotter: Using photo-ID to estimate shark population sizes.
- Kelp Forest Monitoring: Tracking community structure via standardised PISCO protocols.
- Rocky Shore Surveys: Monitoring intertidal invertebrate biodiversity over time.
- MPA Effectiveness: Assessing species diversity and abundance inside vs outside restricted zones within the Table Mountain National Park MPA using Roving Diver and BRUV techniques.
- Shark Egg case attachment preference: Understanding which faunal and flora structures endemic sharks are using to deposit their eggs.
- Kelp Distribution and Density: Mapping and monitoring the Kelp Forests of the south Peninsula.
- Invasive mussels on sea bamboo kelp *Eklonia Maxima*, extent and distribution.
- How scientific marine ecotourism effects peoples perceptions of climate change.



# Ecotourism in numbers

Cape RADD's ecotourism activities integrate citizen science as a powerful educational tool, transforming recreational ocean experiences into meaningful learning opportunities. By actively involving guests in real scientific observations and data collection, these experiences deepen understanding of marine ecosystems while fostering a sense of purpose and connection. This approach has proven to elevate guest engagement and satisfaction, demonstrating that ecotourism can simultaneously deliver high-quality visitor experiences and tangible conservation value.



**1555** Citizen Scientist Snorkellers, all joining us to find sharks in the Great African Sea Forest



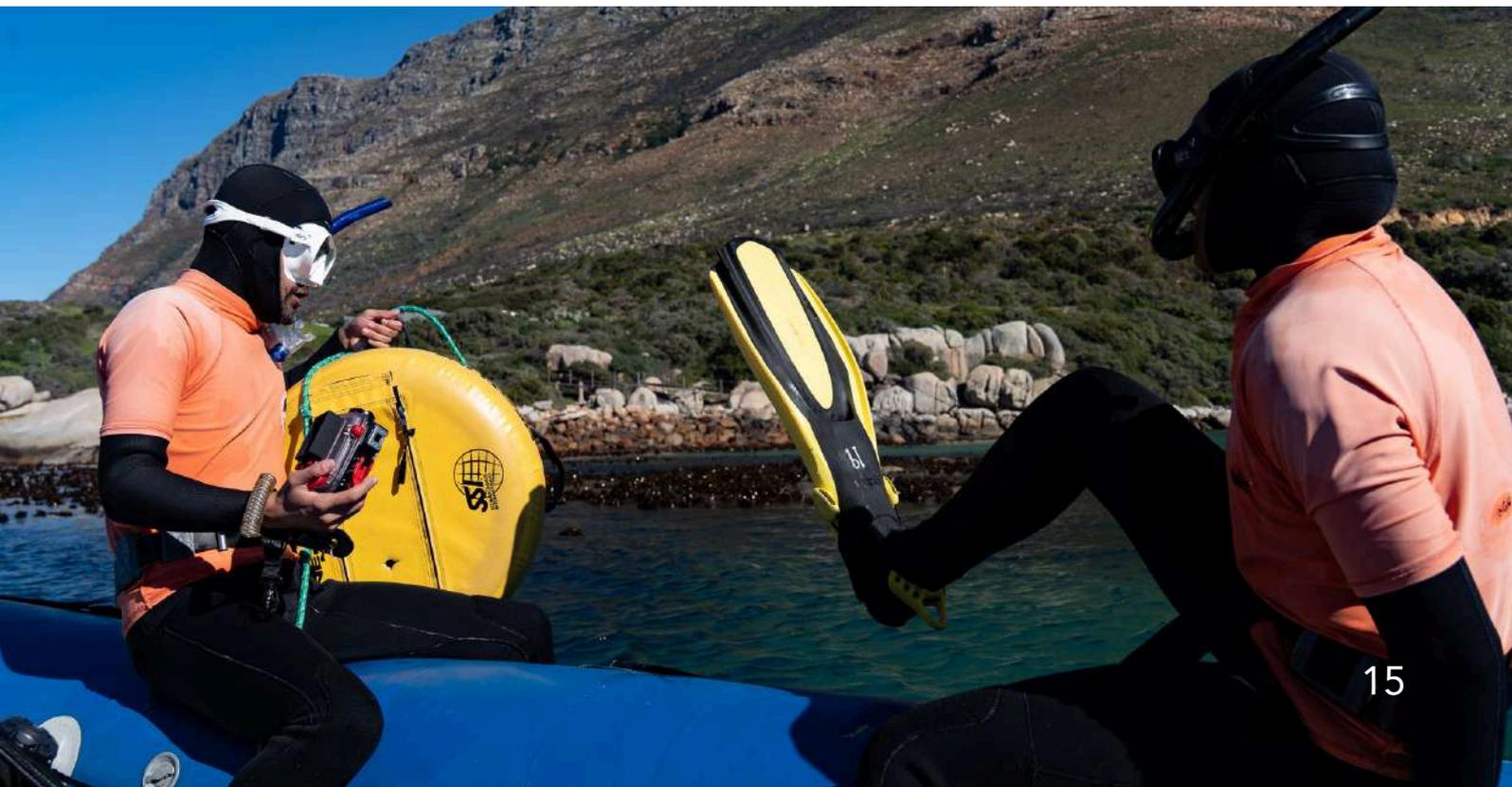
**32** SCUBA for Science guests, joining SCUBA expeditions helping us with our research



**35** Ocean Safari Citizen Scientists helping us deploy BRUV's and explore False Bay



**33** Coastal Walk guests, exploring the coastal environment of the South peninsula.



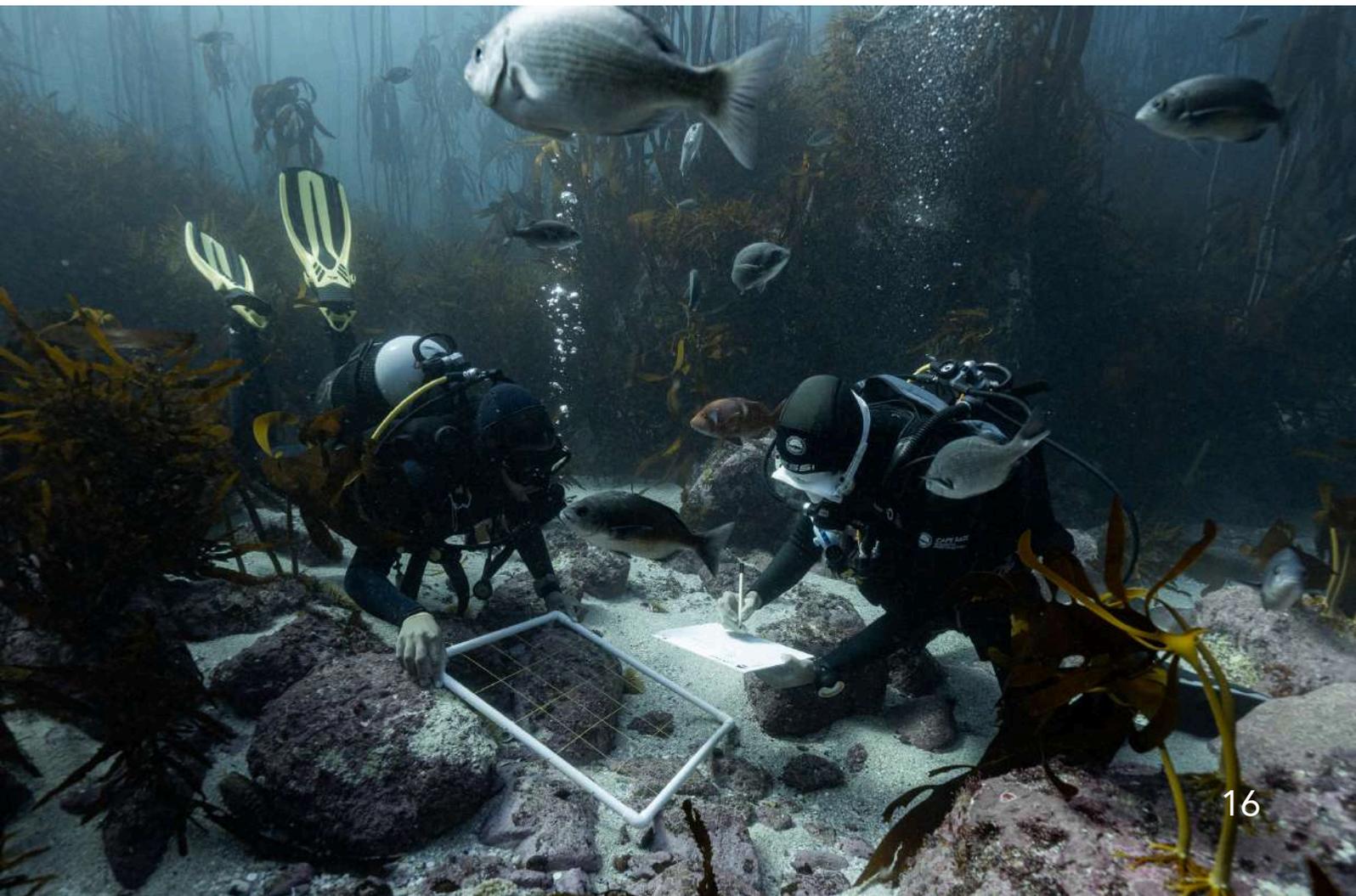
# Education

Education lies at the heart of Cape RADD's mission and underpins every aspect of our work, from scientific research and conservation initiatives to community outreach and citizen science. In 2025, this commitment was reflected in an expansion of our educational capacity, allowing Cape RADD to host a growing number of university cohorts and international school groups. By strengthening our facilities, programmes, and instructional capability, we created more opportunities for students to engage in immersive, field-based learning within one of the world's most biodiverse marine environments. This integration of education across all activities ensures that every experience with Cape RADD contributes to building knowledge, skills, and a deeper understanding of marine conservation, while supporting the development of future marine scientists and ocean stewards.

## Marine Science Field Course

In 2025, Cape RADD's Marine Science Field Course continued to train early-career marine scientists through hands-on, field-based instruction in core marine research techniques. Students gained practical experience in underwater survey methods, species identification, ecological monitoring, and scientific data collection, bridging the gap between academic theory and real-world application. A total of **10 students** completed the course in 2025, building essential skills and confidence to pursue further study and careers in marine science and conservation within a globally significant marine ecosystem.

By bridging the gap between theoretical ecology and rugged field application, these graduates are now equipped with a "wet-work" portfolio. This hands-on experience in data collection and species identification is precisely what research institutions and expedition-based maritime employers require in a competitive global market.



## Current Marine Science Field Course Curriculum

The Cape RADD marine Field Course curriculum aims to develop as a SCUBA diver, freediver, field biologist or conservationist and to broaden your horizons as a wildlife enthusiast. This is our current curriculum and practical skills.

### LECTURES AND WORKSHOPS

1. Introduction to Diving in Cape Town, dive planning and dive safety
2. Fish and invertebrate identification
3. Scientific communication and writing workshop.
4. Citizen science program and the importance of public engagement
5. Introduction to scientific diving 1 & 2 (physics of diving, benthic surveying techniques, local fish identification, BRUV, macroinvertebrate identification, fish surveying techniques)
6. Scientific diving techniques
7. Kelp ecology
8. Rocky Shore Ecology
9. Introduction to Freediving Workshop
10. Cape RADD project protocol and dive objectives, experimental design
11. Biological knowledge - predator vs. prey, white shark, cape fur seal, shark physiology, shark deterrent, white shark population and shark egg cases
12. Marine parasitology
13. Microscopy and dissection workshop
14. Measuring biodiversity
15. Data input, analyses and visualising data
16. Introduction to R-Studio
17. **NEW:** Multivariate statistics
18. **NEW:** Seal rabies observation and monitoring
19. **NEW:** Data Visualisation

### PRACTICAL SKILLS

1. SCUBA refresher, skills update.
2. Underwater photography for collecting data
3. Quadrat sampling
4. Belt transect sampling
5. Rocky shore sampling
6. Roving diver survey
7. Freediving skills
8. PISCO survey techniques
9. Animal Dissection
10. **NEW:** Skipper experience
11. **NEW:** Underwater tracking



\*NOTE: This curriculum changes based on the length of the field course as well as the knowledge level of the students.

## Cape RADD hosted 3 International High School groups and ran a University Marine Science Field Course

### International School of Geneva



### Cape ED - Sandbach High School

The Cape ED group this year saw 26 students join Cape RADD for a week-long expedition in South Africa. The group were involved in some of Cape RADD's citizen science projects, as well as exploring Cape Town and its surrounds.

### Youth For Conservation - River to Sea Program

We welcomed 12 students who were part of the Youth for Conservation River to Sea program. This program was aimed at local students who got hands on data collection experiences in both terrestrial and marine environments.

### North Carolina University

We hosted North Carolina University for a snorkel for Science Experience looking for endemic catsharks and shysharks in the Great African Sea Forest

### Tour Groups

We collaborated with Discover Eden , EDU Africa and Working abroad to run workshops and field courses with their guests who were all interested in the Marine Sciences.



## University of Reading

We continued our collaboration with the University of Reading and hosted the second Marine Science Field Course. In this 2-week long course, 15 students were trained to become open water divers, and all 18 students were then taught various aspects of underwater research.



## University Field course program

This is a sample of what a university level marine science field course looks like. This program can be tailored to suit the needs of specific curriculum needs and can include assessments.

Cape RADD University Marine Field Course Daily Activities							
Breakfast 8 AM	Morning Sessions		Lunch 1 PM	Afternoon Sessions		Dinner 6 PM	Evening Session
Day 1	Arrival and orientation			Welcome Talks			Welcome Braai
Day 2	Open Water Diver Theory Session			Open Water Diver Swim test			FREE
Day 3	Confined Water Dive 1			Open Water Dive 1			Species ID
Day 4	Confined Water Dive 2			Open Water Dive 2			Species ID
Day 5	Open Water Dive 3			Open Water Dive 4			Certification Party
Day 6	Freediving workshop			FREE			FREE
Day 7	FREE			FREE			FREE
Day 8	Scientific Diving Techniques Theory			Survey dive (Shore Entry)	Data entry and dive debrief		Movie Night - Documentary Screening
Day 9	Double Boat entry survey dives			Fin Spotter workshop - How AI is aiding marine science			FREE
Day 10	Nudibranch Survey Dive	Data entry and analysis		FREE			Guest Speaker
Day 11	Shark Egg Case Presentation	Shark Egg case survey dive		Beach clean and shark egg case search	Egg case analysis		Marine parasitology presentation
Day 12	Kelp project theory	Kelp distribution data collection (Snorkel)		Scientific communication - Presenting			Presentation awards social
Day 13	FREE			FREE			FREE
Day 14	Double Boat entry survey dives incl. BRUV deployment			BRUV Data analysis			FREE
Day 15	Intertidal Rocky Shore presentation and data collection			Data entry and analysis	FREE		Farewell Braai
Day 16	Pack up and tidy accomodation	FREE		Departure from Cape Town			

