2021 | 2022

SAAMBR
Annual Report

INCORPORATING

Connecting people with the ocean

South African Association for Marine Biological Research (RF) NPC
Non Profit Company: Registration Number 1951/000002/08
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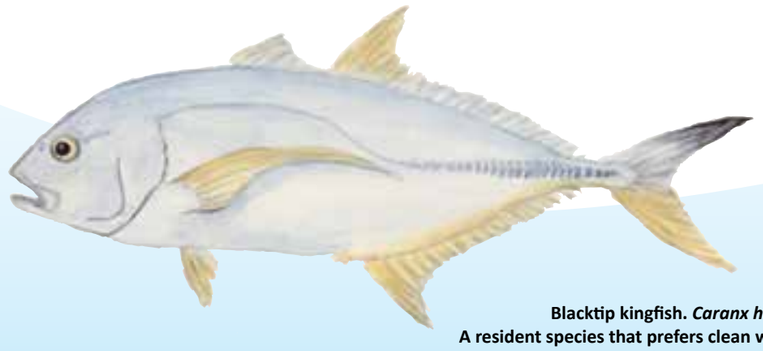

Blacktip kingfish. *Caranx heberi.* A resident species that prefers clean waters and unspoilt estuaries.

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SAAMBR Annual Report

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Seventy-four. *Polysteganus undulosus.* The stock collapsed in the 1960s, it is recovering through protection.

Welcoming Statement from the President

It is my privilege as the President of the South African Association for Marine Biological Research (SAAMBR) to welcome you to the sixty-ninth Annual Report on the activities of the Association, for the period 1 July 2021 to 30 June 2022.

As you will see from the document before you, it has been an eventful year for our organisation, as it has been for the rest of South Africa, and the World. Yet our Association has not lost sight of its purpose: to inspire, to educate and to discover the interconnections of organisms below the waves.

It was seventy-five years ago (1947) that the concept of a marine biological research station was born by the forefathers of this remarkable organization. What would their reaction be to see today our visitors standing entranced before the exhibits in the aquarium? Would they not be delighted to see the excitement of the many hundreds of the children of our province and country captivated by new educational experiences? What would their reaction be to learn that our scientists continue to be significant contributors to knowledge of the Western Indian Ocean region?

As the representative of the Members of the Association, it is my duty to report that 20 members met in person and virtually on the 28 November 2021 for our Annual General Meeting. The meeting was held in the Len Baumann Lecture Hall at SAAMBR's Education Centre, and was also attended by honorary members, staff members, and guests. Physical attendance was limited by the COVID-19 social distancing regulations in place at the time. At the AGM, I was afforded the opportunity to welcome everyone and ensure all meeting protocols were observed, before presenting my opening address. The Chief Financial Officer, Mr Denis Browne, then presented the Annual Report of the SAAMBR Council to the members, and the Financial Statements for the year ended 30 June 2021. He was followed by the Chief Executive Officer, Dr Larry Oellermann, who gave a presentation describing where he believes SAAMBR fits in as a conservation organisation, on a continuum from environmental regulators at the one extreme, to environmental terrorists at the other.

Following the presentations, a special resolution was tabled regarding SAAMBR's Memorandum of Incorporation, which was accepted by the members. Eleven Council members and I (as President) were up for re-election, and all were duly re-elected, except Ms Rose Juby. After many years of excellent service on the SAAMBR Council, Rose decided not to stand for re-election.

Auditors were proposed and appointed for the coming year, and then a brief awards ceremony was held for SAAMBR staff members. We congratulated the Safety Representative of the Year (Jason Putter), and the runner-up (Ramini Naidoo), and several staff members and volunteers who received long service awards for 10-, 20- and 30-years' service. The Chairperson of the Sea World Foundation for Research, Education and Development, Mr Peter Purnell, then introduced the Sea World Foundation Awards, and handed out several awards to staff members who had furthered their education during the year.

The meeting was adjourned after the awards, and staff and guests were invited to join the members for refreshments.

I would like to express my congratulations to the members, staff, volunteers, students and the greater SAAMBR community for yet another successful year, in a time of great adversity.

Yours sincerely,

Jean Senogles

Organisational Overview

Seventy-one years ago, a group of pioneering conservationists signed the Articles of Association that brought the South African Association for Marine Biological Research (SAAMBR) into being.

SAAMBR was established as a limited company on 30 January 1951, and has since been registered as a non-profit, public benefit organisation. Membership of the Association is open to anyone, by invitation. Since inception, the organisation has been governed by Association members who are voted onto the SAAMBR Council by their peers at the Annual General Meeting in November each year. The SAAMBR Council is currently supported by an Executive Committee and Audit Committee.

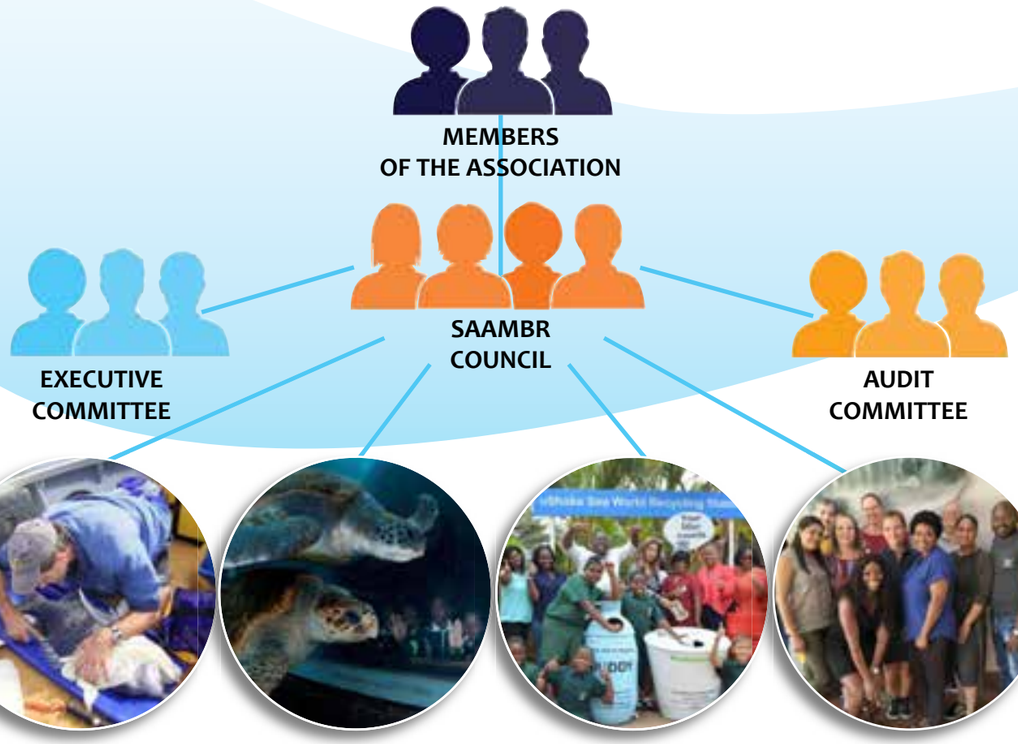
SAAMBR's research wing, the Oceanographic Research Institute (ORI) was founded in 1958, when SAAMBR moved into new premises constructed on a prime site on Durban's Golden Mile. A year later the site was officially opened, as the Durban Centenary Aquarium. Though modest by today's standards, the aquarium was state of the art for the time, and the buildings and facilities were a more than adequate base for marine and coastal research. SAAMBR's third operational division, Education, was formalised in the mid-1970s.

Forty-six years and many infrastructure changes later, SAAMBR had outgrown its old premises and in 2004, moved to the new uShaka Marine World complex, located in Durban's Point precinct. uShaka Marine World is managed by a municipal entity known as the Durban Marine Theme Park (DMTP), and the relationship between the DMTP and SAAMBR is governed by a Heads of Agreement and a service level agreement. Although SAAMBR is considered a service provider to the DMTP, the relationship is far more complex and symbiotic, and synergies continue to be explored.

SAAMBR is organised around three brands, which allows us to be recognised in different spheres of influence. These are uShaka Sea World (and uShaka Sea World Education), well-recognised in the world of zoos and aquariums; ORI, a well-respected name in marine and coastal research; and SAAMBR, which we have been actively growing into our overarching, marine conservation-focussed brand.

South African Association for Marine Biological Research (RF) NPC

SAAMBR Organogram

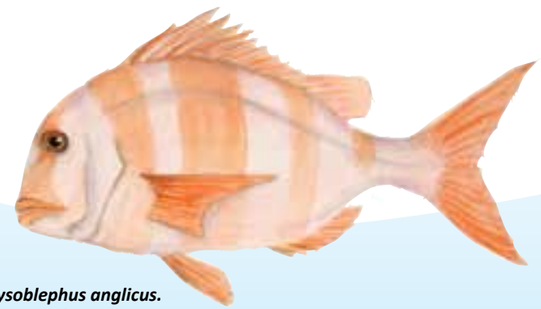


OCEANOGRAPHIC RESEARCH INSTITUTE
Undertakes applied, problem-solving research, to contribute to the sustainable use of marine resources and the conservation of marine biodiversity in KwaZulu-Natal, the South West Indian Ocean, and beyond.

uSHAKA SEA WORLD
Inspires people to enjoy and appreciate our marine heritage, and empowers people to care for our environment.

uSHAKA SEA WORLD EDUCATION
Builds an understanding of the importance of the marine environment amongst learners, educators and resource users from all sectors of the community.

FINANCE AND ADMINISTRATION
Provides a solid support structure that encompasses sound business practices to ensure the seamless integration of SAAMBR.



Englishman. *Chrysoblephus anglicus.*
Endemic to southern Africa.

Who Governs Us

SAAMBR is a Public Benefit, Non-Profit Organisation consisting of an association of private members of the South African public. The SAAMBR Council (i.e., our Board of Directors) directs, governs and controls the Association.

The members of the SAAMBR Council are elected by the Members of the Association at an Annual General Meeting and serve for a period of three years. Office-bearers include the President of the Association, who presides over the Annual General Meeting; the Chairperson of the SAAMBR Council who is also the Vice-President; and the Vice-Chairperson. The SAAMBR Council meets four times a year and currently consists of 14 Association members. They offer their time, wisdom, and expertise voluntarily, and do not receive any remuneration. All Council members are non-executive members. The Chief Executive Officer (CEO) and Executive Manager Finance and Administration of SAAMBR attend as non-voting members, and the executive managers of SAAMBR's operational divisions attend as invitees.

The day-to-day affairs of the Association are monitored by the Executive Committee of the SAAMBR Council, which meets at least four times a year. The committee is presided over by a chairperson who cannot be the Council chairperson and consists of the office bearers and three Council members. The CEO and Executive Manager Finance and Administration of SAAMBR attend committee meetings. A further sub-committee of Council, the SAAMBR Audit Committee, meets twice a year, and consists of three independent, non-executive Council members. The CEO and Executive Manager Finance and Administration of SAAMBR also attend these meetings. The chairperson of the Audit Committee may not be a member of the Executive Committee, and reports directly to Council.

In addition to the description of our Council and its sub-committees in the MOI, SAAMBR has adopted a Board Charter that clearly elucidates the roles and responsibilities of Council, office bearers, and members in terms of governance and deportment. This is amplified across the organisation by SAAMBR's Code of Business Conduct and Ethics. These are the keystones by which SAAMBR's governance and ethics are managed.

SAAMBR Council

Rory Turner
Council Chair

Jean Senogles
President

Prakash Govender
Council Vice Chair

Jeremy Hathorn
Exec Chair

Piet Strauss
Exec Vice Chair

Suraya Vally
Audit Chair

Haroon Karodia
Exec Member

Steve Leigh
Council Member

Clifford Nxomani
Council Member

Gladness Sikhosana
Council Member

Sandile Buthelezi
Council Member

Mark Logan
Council Member

Colin Levin
Council Member

Andrew Zaloumis
Council Member

SAAMBR Executive

Larry Oellermann
CEO

Rose Clark
Finance & Admin

Sean Fennessy
ORI

Jone Porter
Education

Maryke Musson
uShaka Sea World

Report of the SAAMBR Council Chairperson

Every year at this time I read my previous Council Chairman statement to review what has transpired since then. In particular, it is necessary to look at our trading environment and how uShaka Sea World is operating in that context.

Yet again it is difficult to find the silver lining. The COVID pandemic did its best to disrupt our operations and had a major impact on our footfall. Civil unrest, storms and floods, and closed beaches due to high E. coli counts did not help. Additionally, the country is on its way into a recession and in many sectors job security will be a major consideration to be tackled, whilst battling the highest inflation rate seen for some time, and its effect on food prices, the high petrol price and interest rate increases. In this rather gloomy scenario, the threats to the disposable income of families are substantially greater than they were just one year ago and that has serious implications for footfall at uShaka Marine World.

Much-reduced ticketing revenue has caused liquidity problems for the Durban Marine Theme Park (DMTP) who have had no option but to approach its shareholder, the eThekwini municipality, for funding. The eThekwini municipality has massive demands on its finances for service delivery expenditure and the July riots and April and May flood damage has in turn added to this burden. Thus, one can be sure that any funding requests will be put under the microscope, and funding will not be readily forthcoming.

In this context uShaka Marine World operates in a particularly corrosive natural environment and needs a facelift. Additionally, no funding is available in the foreseeable future for any new "must see" attractions, and these together make it challenging to market the Marine Park and attract repeat visitors. Therefore, what remains in essence is cost containment, as this is the main controllable element available to us. I am acutely aware that we have already made major sacrifices in this regard and are carrying more vacancies than we are comfortable with. Whilst a cliché, it is essential that we continue to find ways to be better and smarter at what we do, whilst holding our budget/cost increases to the minimum.

We engaged in an extensive review of SAAMBR's Memorandum of Incorporation (MOI) to bring it in closer alignment with the recommendations of the King Committee's fourth report on good corporate governance. The revised MOI was ratified at SAAMBR's annual general meeting in November 2021, and the revisions are currently being implemented. These include changes made to increase independence of chairmanship of the SAAMBR Council (i.e., Board of Directors) sub-committees, and changes to the terms of office of council members (Directors). We have also changed the requirement for certain external stakeholders to be represented on Council, which has resulted in a leaner Council of 14 members, with our eventual goal of having 11 members. These members will include the President and office bearers, as well as the Chairperson of the DMTP.

In support of the changes, the SAAMBR Council attended an Institute of Directors South Africa training session on board performance and succession planning in May 2022. They carried out a Board performance evaluation of themselves and their peers, as well as a Board skills matrix evaluation. The performance evaluations showed us that our perception of our own competence as Council members (an average score of 90%) was slightly more than that of our peers (an average of 80%). The skills matrix showed us that we lack legal and ICT expertise on the SAAMBR Council and need to consider these gaps when recruiting new Council members. We also need to improve our diversity, with only 49% of our Council members from the designated racial groups, 29% women, and 14% disabled.

Four Council meetings, four Executive Committee of Council meetings, and two Audit Committee meetings were held during the year. Quorum was achieved for each meeting, with an average attendance of 71% for Council meetings, 88% for Executive Committee meetings, and 100% for Audit Committee meetings. No Council member attended less than 50% of the meetings.

It is my considered opinion that the SAAMBR Council members fulfilled their responsibilities for the year in terms of the SAAMBR Council Charter and the annual workplans for Council and its sub-committees.

Besides participating in the development of a new strategic plan for SAAMBR (for 2021-2025), and carrying out Council business (Council appointments, succession planning & new members), SAAMBR's Council members reviewed the various operational, financial, risk and business continuity, human resources, ITC, compliance, and miscellaneous reports submitted to them by management. We also reviewed the MOI, Council Charter, Executive Committee and Audit Committee Terms of Reference, Delegations of Authority, and SAAMBR's Remuneration, Intellectual Property, and Business Conduct and Ethics policies. We reviewed and approved the annual budget, salary increases, annual financial statements, annual audit arrangements and audit fees, and Capex requests. We discussed the outcome of SAAMBR's annual staff engagement survey, annual staff KPI-related performance reviews, and I reviewed the CEO's performance.

I would like to end off by thanking my Council colleagues all our SAAMBR staff members for their commitment to making SAAMBR the wonderful organisation it is, and for their contribution to once again maintaining our very proud tradition of achieving an unqualified Audit report. Through the hard work and dedication of staff, management, and Council, SAAMBR has consistently improved its good governance. Regularly evaluated by external auditors, we started with a score of 34% compliance to the King Committee's recommendations in 2011 and have improved this to 92% compliance in 2022.

Yours sincerely,

Rory Turner

Report of the Audit Committee Chairperson

The Audit Committee of the SAAMBR Council ensures that the audit and risk management requirements of the Company's Act and King IV governance recommendations are met by the Association. The Audit Committee also governs SAAMBR's ICT and assurance matters on behalf of the Council.

The Audit Committee of the SAAMBR Council meets twice during the financial year. We have had 100% attendance of the three Council representatives and the SAAMBR CEO and CFO. The Chairperson changed from Mr Piet Strauss to Ms Suraya Vally in March 2022, to conform with amendments made to SAAMBR's Memorandum of Incorporation. This change was based on one of the King IV recommendations for good corporate governance, wherein the Chairperson of the Audit Committee should be independent of the Executive Committee of the SAAMBR Council.

The Committee received and examined several management reports during the year, including the SAAMBR risk register, business continuity and risk report, compliance manager's report, leave provisions report, critical posts and retirements report, and the ICT manager's report. In addition, they reviewed and commented on the Integrated Report component of the SAAMBR Annual Report, the draft financial statements, and the 2020/21 and 2021/22 financial variance reports. The committee determined the assurance requirements for 2021/22 and oversaw an extensive review of SAAMBR's insurance needs.

The Audit Committee appointed SAAMBR's external auditors for 2021/22, considered the audit arrangements, the annual audit fee, and fees for non-audit services. Post audit, the Audit Committee met with the external audit manager, without the SAAMBR CEO and CFO being present, to independently discuss the year's audit process and gain external assurance as to the adequateness and efficiency of the financial team at SAAMBR.

The Chairperson signed off on the reportable irregularities, fraud, error & going concern evaluation after interrogating management on the contents, and the Audit Committee reviewed the terms of reference for the Audit Committee and advised Council that no amendments were necessary.

In conclusion, the Audit Committee were satisfied with the adequacy and effectiveness of the financial team and recommended the financials for approval to the Council.

Your sincerely,

Suraya Vally

Bigeye stumpnose. *Rhabdosargus thorpei.* Rarely found south of KwaZulu-Natal.

Our Strategic Plan

SAAMBR's Mission is to contribute to the conservation of marine and coastal biodiversity and resources by generating and disseminating scientific information, and by inspiring and empowering people.

SAAMBR's Vision is to be internationally recognised as the most effective, science-based advocate for the conservation of the marine and coastal resources of the Western Indian Ocean.

SAAMBR's core values are empathy (we care for each other, our guests, and our animals), integrity (we do things for the right reasons), commitment (we are passionate, enthusiastic, and driven to succeed), and excellence (we strive to be the best we can, in all that we do).

SAAMBR's current five-year strategy is built around a framework consisting of four Key Result Areas (KRAs): Strategic leadership, Sustainability, Service delivery, and Stakeholder enhancement. Each of these KRAs have an internal (inward-looking) and external (outward-looking) component.

This framework was used to identify our strengths and the opportunities that we can use on our path towards achieving our Vision, as well as our perceived weaknesses, and the threats along the way.

Several objectives were identified for each KRA:

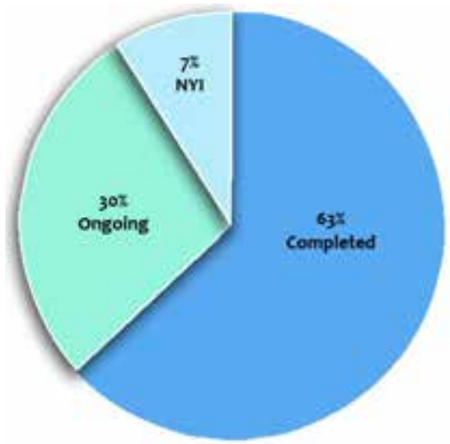
- **Strategy & leadership:** use strategic partnerships to achieve SAAMBR's mission; focus on good governance; encourage staff participation in decision-making.
- **Sustainability:** grow our social licence; institutionalise animal welfare; broaden our research scope; formalise our animal rehabilitation programme; and decrease our environmental footprint.
- **Service delivery:** simplify administration; improve information flow; streamline management reporting; and standardise job descriptions, performance management and recruitment.
- **Stakeholder enhancement:** centralise internal & external capacity building (the SAAMBR Academy); plan for succession and improve employment equity; and construct the SAAMBR Think Tank.

Based on these objectives, 27 initiatives were chosen for 2021/22. Sixty-three percent of the initiatives were achieved during the period, 30% have been initiated but are still on-going, and 7% were not initiated. These will be carried over as initiatives to be completed in the 2022/23 financial year.

Traditionally, SAAMBR's strategic planning cycle has been based on a calendar year, with the annual strategic and operational planning workshop taking place in January of each year. We have decided to synchronise our strategic planning with our financial year in 2022, with the planning workshop taking place in July in future.

OBJECTIVES FOR EACH KRA

INITIATIVES ACHIEVED FOR 2021/22



OUR BUSINESS MODEL

INPUTS

FINANCIAL
DMTP Service Level Agreement
EDTEA Grant in Aid
Research funds
Consultancies
Donations & Sundries
MANUFACTURED
Vehicles & boats
Field & monitoring equipment
Scientific instruments
Veterinary equipment
ICT hardware & software
Husbandry equipment
Pelleted fish food
Electricity
Oxygen & other chemicals
PEOPLE
Scientists, field & lab technicians
Educators & guides
Aquarists & behaviourists
Animal health practitioners
Mechanical, civil & electrical technicians
Accountants, clerks & administrators
INTELLECTUAL
Research knowledge
Aquariology knowledge
Husbandry knowledge
Behaviour knowledge
Health & welfare knowledge
Teaching & training experience
David Davies Marine Science Library
ENVIRONMENTAL RESOURCES
Animals under managed care
Collected organisms & marine resources
Procured marine resources (e.g. feed fish)
Seawater & freshwater
Geographic location
SOCIAL
Social licence
Goodwill
Trusted source of knowledge & expertise
Reliable partner
Conservation action

ACTIVITIES

RESEARCH
Scientific research
Consultancy
Fieldwork & monitoring
Capacity-building
Advisory
ANIMAL KEEPING
Aquariology & life support systems
Husbandry
Behaviour training
Animal health & welfare
Research & development
RESCUE & REHABILITATION
Coastal monitoring & networking
First responder & rescue
Health review & rehabilitation
Transportation & release
EDUCATION & GUEST EXPERIENCE
Formal education of learners, students & public
Informal education & guest experience
Schools outreach & CSI
Environmental engagement & action
COMMUNICATION
Conservation messaging
Traditional media engagement
Social media engagement
Role player & stakeholder engagement
Communication success measuring
FINANCE & ADMINISTRATION
General management & administration
Financial management & procurement
Governance, compliance & reporting
Human resources, wellness & training

OUTPUTS

Conservation communication & leadership

A world class visitor experience in KZN

Marine mammal & bird presentations

The largest aquarium in Africa

A leading herpetological exhibit

Animal health & welfare leadership

Rescued & rehabilitated animals

In situ & ex situ research collaboration

Scientific publications

Science engagement

Knowledge dissemination

Early career scientists

Lessons for learners

Teachers' workshops

Courses for learners, students & adults

Outreach and CSI

Environmental advocacy & action

OUTCOMES

Satisfied guests

Sustainable resource use

Knowledge-based decision making

Informed & involved youth & public

Healthy animals & ecosystems

Growing local marine research capacity

Improved welfare & husbandry at facilities

Empowered educators

Report of the SAAMBR CEO

It was a difficult year for tourism-related businesses in South Africa, and KwaZulu-Natal in particular. We started off the period at level 4 of South Africa's national lockdown response to the COVID-19 virus pandemic, with no guests allowed at uShaka Marine World.

The lockdown levels eased during the year, but visitor numbers remained constrained until the regulations on social distancing and public gatherings were lifted on 22 June 2022. A terrifying week of civil unrest and looting in July 2021, a 25-year storm event, and severe flooding in April and May 2022 did not help matters in KZN.

As an enterprise dependent on footfall, revenue generation at uShaka Marine World was particularly badly impacted by these events. This resulted in the Durban Marine Theme Park (DMTP) cutting SAAMBR's budget for the second year running, this time by 10% (R8 million). Nevertheless, by not filling certain posts, cost containment, and careful reprioritization, we were able complete the year within budget, without compromising our animals' wellbeing or our employees' salaries.

Besides financial losses, we suffered people losses, too. Dr Antonio De Freitas, our past director, council member, president, and "Living Legend" passed away peacefully on 6 January 2022. By all accounts Tony was at peace with the world, and ready to move on after serving his church, and SAAMBR, diligently in his years of retirement. Nevertheless, his passing was felt keenly by the SAAMBR family he left behind; to many of whom he was employer, mentor, friend, and spiritual guide. Tony was passionately and fiercely loyal to SAAMBR, and the zoo and aquarium community, to the very end.

Our Executive Manager of uShaka Sea World, Tony McEwan, resigned in September 2021 to take up a position at the Waikiki Aquarium in Hawaii, USA. Our Conservation Strategist, Dr Judy Mann, stepped into the breach for uShaka Sea World when Tony resigned, but left us in February 2022 to join the Two Oceans Aquarium Foundation. A month later, our Executive Manager of Finance & Administration, Denis Browne, chose early retirement. All in all, a loss of 58 years of institutional knowledge. Nevertheless, every cloud has a silver lining, and we were very fortunate to entice Maryke Musson back to South Africa from her position as General Manager of one of the most innovative and fast-growing aquaculture ventures in the Netherlands, to take on the role of Executive Manager of uShaka Sea World. Maryke set up the Two Oceans Aquarium Foundation, and has great experience in aquariology, marine animal rescue & rehabilitation, and conservation communication. The appointment of Rose Clark as the Executive Manager of Finance and Administration was just as exciting. Rose, our long-serving Financial Manager, was a home-grown candidate for the position who has risen through the ranks at SAAMBR, becoming our first equity appointment to executive management.

uShaka Sea World

Even with the year's headwinds, we continued to provide Durban with a world-class marine park attraction, maintaining optimal animal care and welfare through best practice husbandry (nutrition, healthcare, and enrichment) and life support system (LSS) management. uShaka Sea World staff cared for over 8 000 animals from 508 different species during the year. Our preventative care program ensured that our animals remained in great health. The Animal Health Department, with the support of their animal care colleagues, conducted more than 800 animal health investigations, including routine health assessments and procedures, and over 100 physiological measurements to track the growth and wellbeing of our animals. Our veterinarians generated more than 300 clinical notes, and with the support of our microbiology team, conducted almost 7 000 internal laboratory tests (fluid analysis, micro-bacteriology, cytology, molecular diagnostics, endocrinology, haematology, and parasitology) and sent 336 samples for external analysis. This contributed to our low mortality rate within the aquarium (<3.5% mortality of the total fish collection). We continue to build up our biobank with more than 1 200 samples in our inventory collected during routine procedures and diagnostics. This inventory will contribute greatly to ongoing collaborative research around the World.

Our quarantine and animal health teams also ensured that the 1 433 new acquisitions of 142 different species received the best possible care on arrival. We released and transferred out (to other accredited organisations) 1 584 health-certified individuals.

We had 169 births at uShaka Sea World, including rays of three different species, tigertail seahorses, and death adders. Our hatchery project managed to collect eggs and grow out six teleost fish species during the year. Most of these juvenile fish are already on display in the aquarium, showcasing the circularity of a well-managed collection. With the successful rearing of these fishes proving the concept, we invested in upgrading what was a rudimentary hatchery to a more professional standard and we anticipate a substantial improvement in home-grown seedstock for the aquarium.

It was another bumper year for animal rescue and rehabilitation, working with various institutions that contribute to animal welfare and conservation. We had 102 rehabilitation admissions to uShaka Sea World and Dangerous Creatures (DC) from 19 different species. Unfortunately, 31 of these animals were too compromised to survive. About 25% of the rescued animals were successfully rehabilitated and released during the year, with about 50% of the admissions still under our care or being prepared for release.

Through our rescue efforts we once again encountered conservation concerns related to plastic pollution (sea turtle necropsies invariably showed significant plastic ingestion) as well as human-reptile conflict (many of the reptiles admitted to DC showed signs of intentional damage by humans or dogs). We hope that our ongoing conservation awareness and education efforts will contribute to reversing these negative human impacts on marine and terrestrial wildlife.

SAAMBR staff members collectively dedicated 1 838 hours to rescue and rehabilitation efforts. We continue to contribute actively to the KZN Marine Stranding Network, and our rescue "stories" contributed to a media value of close to R10.5 million during the reporting period. Some of our top stories included Admiral Tweni, the one-eyed sub-Antarctic fur seal; a female loggerhead sea turtle who lost about 40% of her front flippers due to a tiger shark bite; two African penguins, Amber and Blush, who were sent to SANCCOB in Gqeberha for release near Bird Island; and Dobby the elephant seal, who stole many hearts before being successfully released offshore with the assistance of a container ship. In addition, we continued to support animal welfare projects and actions with the NGO FreeMe Wildlife, and the Mitchell' Park Zoo, as part of our social impact responsibilities.

Loggerhead turtle release.

Nutrition is a very important part of ensuring optimal animal health and our animal care specialists

Sub-Atlantic fur seal, Admiral Tweni.

review and update their nutrition plans regularly. The aquarium fish consumed 15.8 tons of wet food during the year, with an additional four tons fed to the sharks. Our aim remains to feed sustainably, and we source fish certified as "green" by the South African Sustainable Seas Initiative (SASSI), such as hake and yellowtail; and we substitute formulated dry feeds for fish products where we can. Our marine mammals and birds consumed 62.2 tons of well-balanced and varied feeds, including necessary health supplements. We also used feeding times, feed variety, and feeding methods as enrichment opportunities, to keep the animals mentally stimulated.

We strive to ensure that all welfare requirements are not just met but exceeded for our animals, and we share this information with our audiences. Our constant striving to learn and do better, contributed to SAAMBR once again achieving PAAZA full accreditation, and we remain the only aquarium in Africa that has attained this standard.

The design, development, and maintenance of unique and inspiring exhibits with strong conservation messaging, offering world-class experiences to our visitors, is another critical success factor. We aim for uniqueness, learning opportunities, and of course the "wow" factor. The aquarium and DC teams developed four new exhibits during the year, including a new cold-water invertebrate display, and refurbished 10 small exhibits. We also reopened the interactive pop-up exhibits (one in the aquarium and the other in DC) once the COVID-19 regulations were relaxed. They give our visitors a wonderful opportunity to view animals up close, with the female rock lobsters in the aquarium pop-up exhibit often showing off their eggs when in berry.

Keeping the exhibits clean is a fulltime job, especially the large exhibits. Our team of divers logged approximately 10 000 dive hours during the year, mostly cleaning the large exhibits but also handfeeding some of the fish in the exhibits. To support our divers, we continued to run a commercial dive training programme, with four trainee divers registered during the year.

Our collections team went on 151 field trips and collected a total of 1 373 aquatic animals during the year; a highlight being the collection of two seamoths, which were placed on display in the aquarium for the first time. These Eurypegasus draconis, also called "little dragon fish", have a very distinctive moth-like shape. They can grow up to 10 cm in length, and unusually, shed their skin in one piece, every five days or so. They are widely used in the traditional Chinese medicine trade.

Budget cuts are a nightmare for uShaka Sea World's Technical Department, who cannot compromise on the maintenance needed to keep the marine park's facilities and life support systems operational. Nevertheless, they achieved all their KPIs (including a 100% preventative maintenance record) and continued to maintain a safe working environment for their SAAMBR colleagues while continuously improving systems, energy usage, and processes. We make use of computer maintenance management systems such as Fiix, and supervisory control and data acquisition (SCADA) software to help us monitor and manage our systems. Our technical team completed 4 495 job cards for the year, of which 73% was preventative maintenance and 27% demand maintenance and projects. Our curatorial technical team completed a further 511 preventative maintenance tasks. Some of these included major projects, such as refurbishing the ozone system, modifying the life support systems in the rehabilitation facility, replacing corroded fire lines on behalf of the DMTP to maintain safety compliance, installing catwalks in the plant rooms to allow staff members safe access to the LSS, replacing the beach-well pump, and starting major refurbishment work on the dolphin interaction pool, which will be completed in the latter half of 2022.

SAAMBR working with FreeMe Wildlife's Tortoise Project.

uShaka Sea World Education

uShaka Sea World Education continued to be the most impacted of all SAAMBR's divisions by the tribulations of the year, particularly the formal education team. Their primary focus is school groups who, for a large part of the year, were not allowed to go on field trips. When schools were eventually allowed to visit us, the restrictions on public gatherings meant that our carrying capacity for schools was severely reduced. Nevertheless, there was a positive upswing in school visits towards the end of the reporting period, with 13 066 learners from 227 schools visiting uShaka Sea World, compared to 1 461 learners the previous year. As expected, most schools were from KZN (90%), with some from Gauteng (4%) and the Eastern Cape (3%), and only one school from outside South Africa. There was an almost even split between government (48%) and private (52%) schools, with most visiting from urban areas (79%).

A total of 78 groups consisting of 3 469 learners were taken on detailed guided tours of uShaka Sea World, a significant increase compared to last year (16 groups with 589 learners). Only one paid-for lesson was given to visiting learners at uShaka Sea World during the year, but we were able to travel to 19 schools and present lessons to 550 learners on their premises.

Eurypegasus draconis.

Sixty-four courses were offered onsite at uShaka Sea World, for 2 291 learners (compared to 17 for 297 in previous year).

Most courses (61%) were presented to groups of senior primary learners, with 19% to junior primary, and 20 % to senior school learner groups.

Non-learner courses for special interest groups were held for 159 participants and

SAAMBR staff member working with UNISA students.

included a course on the South African Sustainable Seafood Initiative (SASSI) for the Jackie Cameron Culinary School, a course on the marvels of the KZN coast for eThekwini Lifesavers, and several lectures for students taking part in the Applied Centre for Climate and Earth Systems Science (ACCESS) Habitable Planet Undergraduate Workshop Programme.

The first of two annual visits to uShaka Sea World Education by second year University of South Africa (UNISA) Nature Conservation students was not possible due to the COVID-19 restrictions this year. The visit has become an important part of the students' curriculum, so (at very short notice) we modified the course for it to be presented to the 32 students virtually, online. This required a significant amount of preparation of pre-recorded lectures and videos to support the reading material that we provided the students. We then presented live, virtual practical sessions in the laboratory and in the field, and they were taken on a virtual tour of the aquarium. While this was not the most favourable arrangement (one cannot replace real-world experiential learning), the formal education team certainly learnt a lot and developed new skills.

A novel experience for the formal education team was the hosting of the multinational, multidisciplinary German Academic Exchange Service's (DAAD) TRAFFIC Summer School over a long weekend at SAAMBR in June. The Summer School was aimed at highly qualified students and early career researchers from southern African countries and Germany; and included lecturers from the University of Cape Town, the University of Namibia, Germany's Leibniz Centre for Marine Tropical Research (ZMT), Thünen Institute of Sea Fisheries, University of Bremen, and the University of Hamburg. Lectures and practical sessions included topics ranging from ocean physics and productivity to food webs and marine fisheries. The formal education team also hosted a South African Youth Climate Change Coalition Workshop.

uShaka Sea World Education's National Lottery Commission (NLC)-funded 'Catchment to Coast' outreach project was concluded in January, when the schools submitted their learner artwork projects for evaluation. The winning schools were Isihlangusabasha Primary, followed by ukuKhanya Kwe Africa Primary and Makhapha Primary.

We managed to secure funding for a new outreach project which was initiated in February 2022. Ten schools were selected from two river catchment areas, the uMngeni River and uMbokodweni River catchments. The first group are funded by Consol Glass, and the second by KZN's Department of Economic Development, Tourism and Environmental Affairs (EDTEA). By the end of the reporting period the learners had visited uShaka Sea World and received lessons on marine conservation, litter, and recycling; and had visited the rocky shores, estuaries, and mangroves that occur in their catchment areas, and carried out litter clean ups in each ecosystem. They will also collect litter in and around their respective schools and analyse the difference in the litter found at each location. Their findings will be presented as a poster, and each school will submit their best poster for evaluation by a panel of judges at the end of the project in October 2022.

The total number of learners who visited uShaka Sea World through our sponsored outreach programme was 998 for the year, while 1668 learners were visited at 28 schools.

uShaka Sea World Education's outreach activities extended beyond our formal arrangements with schools and funders, to include an annual trip to schools and communities in the Sodwana Bay region. This year we presented marine biodiversity lessons and marine careers information at 10 schools and distributed clothing to 21 needy families, donated by SAAMBR staff members.

Additional outreach activities included taking part in the eThekwini Maritime Cluster Youth Innovation Challenge and initiating a programme with 48 Addington School prefects, called the Addington Earth Warriors.

As they did last year, the formal education team assisted their informal education colleagues in the marine park during the COVID-19 induced quieter periods of the year. This was necessary as only 57% of our usual complement of volunteer guides returned to us during the year, following a two year, COVID-19 induced hiatus. Nevertheless, the volunteers gifted us 3 081 hours of their time.

uShaka Sea World Education (including the formal, informal, outreach and operations teams) continued their role as the "face" of uShaka Sea World, ensuring that our guests felt welcome and well-informed. In total, they carried out 1 431 formal (scheduled) commentaries for guests on various activities in the marine park, and informal (unscheduled) commentaries for 26 019 visitors. They manned the interaction stations in the aquarium for 14 378 hours and conversed with 273 198 visitors; a remarkable 82% of the total number of people who visited uShaka Sea World during the year. Even though it was their role to engage with as many people as possible each day, the education team maintained the lowest COVID-19 infection rate of all SAAMBR's departments since the pandemic begun, a testament to their awareness, preparedness, and training.

Limited school outings were held during Covid.

Besides their formal and informal education activities, uShaka Sea World Education led, or enabled many of SAAMBR's special events activities during the year. These included Shark Awareness Day, MPA Day, International Whale Shark Day, the International Coastal Clean-Up, the Great Global Nurdle Hunt, the Great Southern Bioblitz, a staff frogging outing, Estuaries Day, Easter eggs of the sea, the iNaturalist City Nature Challenge, World Oceans Day, and World Sea Turtle Day.

The Education team also assisted Leigh Richards (Acting Director of the Durban Natural Science Museum) with bat research in uShaka Marine World and hosted a public talk on her project. She uses acoustic listening stations located at sites within the eThekwini Metropolitan area to monitor the presence of echo-locating insectivorous bats. In the short space of five evenings in March, she was able to identify nine species in uShaka Marine World, with traffic significantly higher than expected for a green space in the CBD. She also identified two species of fruit bat. This type of research goes a long way towards highlighting the value of our marine park as a biodiverse green space in the inner city.

The Oceanographic Research Institute

The Oceanographic Research Institute's (ORI) research continued apace once we worked out how to navigate the COVID-19 world. Our scientific output was the most prolific in the institute's 64-year history, with ORI scientists co-authoring three books, 30 research papers in peer-reviewed scientific journals, and our postgraduate students producing six theses. Three books were produced: one on the conservation status of marine biodiversity of the Western Indian Ocean, another on the best practices for coastal development in KwaZulu-Natal, and the third a field guide to the reef fishes of the Seychelles. We published in international, regional, and local journals, including the African Journals of Aquatic Science, Marine Science, and Zoology; the Journal of Applied Mathematical Modelling; Ambio; Aquatic Conservation (Marine and Freshwater Ecosystems); Ecological Applications; Ecological Indicators; Environmental

ORI research.

Pollution; Fisheries Management and Ecology; Frontiers in Marine Science; Molecular Ecology; Nature Sustainability; Science Advances; Western Indian Ocean Journal of Marine Science; and two articles in the prestigious Nature journal. The range of journals will give you an indication of the breadth of research reported.

We gave 36 presentations on our research work, at 10 colloquia. These included the International Coral Reef Symposium, the Association for the Sciences of Limnology and Oceanography Symposium, the American Elasmobranch Society Global Wedgefish & Guitarfish Symposium, the International Indian Ocean Science Conference, the Indian Ocean Rim Association Workshop (all attended virtually), and the Nor-Lanka Blue Seminars, attended in person in Sri Lanka. Regional colloquia included the Nairobi Convention Partners' Meeting (virtual) and the ReMoTURB Symposium attended in person in Maputo, Mozambique. We also attended two local conferences in person, these being the Southern African Marine Science Symposium (SAMSS) in Durban and the Southern African Shark and Ray Symposium in Gansbaai; and presented virtually at the KZN Conservation Symposium.

Besides attending and presenting at SAMSS, ORI scientists also reviewed more than 30 abstracts submitted to the conference's scientific committee, and more than 100 abstracts submitted for consideration to the Western Indian Ocean Marine Science Association Symposium, to be held in Gqeberha in the Eastern Cape in October 2022. They also peer-reviewed manuscripts submitted to a variety of journals, including Animal Conservation, Crustaceana, Diversity, Fisheries Research, Integrative Systematics, Ocean & Coastal Management, Marine Ecology, Marine Policy, Marine Science & Engineering, Movement Ecology, Western Indian Ocean Journal of Marine Science (WIOJMS), and the African Journals of Marine Science and Zoology.

ORI senior scientist Prof Johan Groeneveld, who is on the editorial board of WIOJMS, was awarded the 2021 Fellow Membership of the Western Indian Ocean Marine Science Association (WIOMSA), in recognition of his significant contributions to regional and marine research. He is the third scientist from ORI to receive this award, after Prof Rudy van der Elst (2015) and Prof Mike Schleyer (2017).

ORI produced five fledgling marine scientists during the year, all of whom were awarded Their MSc degrees by the University of KwaZulu-Natal. Twenty postgraduate (3 PhD and 17 MSc) students were supervised by ORI staff members and research associates during the year, with eight based at ORI, and the rest based at the Universities of Bremen (Germany), Cape Town, Johannesburg, KwaZulu-Natal, Rhodes, Seychelles, and Western Cape. One student was based at the Council for Industrial and Scientific Research (CSIR) in Durban.

Besides supervising their own students, ORI scientists lectured undergraduate students at UNISA and presented tutorials to the UKZN fisheries science BSc honours class. ORI staff were also external examiners of fisheries courses presented by the University of Tromsø and the University of Cape Town, and examined two MSc and two PhD theses, for the Universities of Fort Hare and Rhodes, and Cape Town and James Cook (Australia) respectively.

ORI staff members, associates and students were involved in at least 55 research projects during the year, with several large projects reaching completion. These included the ACEP -funded Marine Spatial Solutions and CAPTOR suite of projects; the SANBI FBIP funded Zooplankton project; and the WIOMSA MASMA funded ESTUARIZE-WIO, ReMoTURB, Ocean acidification, WIOBENTH, and WIO Coral Bleaching projects; and the State of the KZN Coast Assessment, funded by EDTEA.

These made way for several new research projects during the year, including a new multi-institutional research project on the water classification of the iSiyaya, uMhlathuze, iNhlabane, uMgobezeleni and Kosi estuaries (funded by the Department of Water and Sanitation); a large, multi-institutional regional project investigating ecosystem-based adaptation to climate change in the Western Indian Ocean (Blue Action Fund); an investigation of the foraminifera associated with South African coral reefs (Micropalaeontology Society's Frances Parker Grant); a study focused on predicting coral reef biodiversity in the Western Indian Ocean (Wildlife Conservation Society); an assessment of the Mozambique's Pungwe Estuary as part of a consortium of South African and Mozambiquan organisations (Global Water Partnership SA); the uSuthu Water classification project, which will consider the quantity and quality of freshwater requirements for KZN estuaries from Kosi to aMatigulu/iNyoni (Department of Water Affairs); the South African Port Water Quality Monitoring project (Transnet Ports Authority); "SeaMap", mapping South Africa's marine biodiversity (SANBI FBIP); a year-long project to monitor marine invertebrate catches made by recreational fishers along the KZN coast (EDTEA); an extension of ORI's linefish satellite tagging project to include scalloped hammerhead sharks (funded by the World Wildlife Fund in Hong Kong) and reef manta rays in the iSimangaliso Wetland Park (WildOceans); and a collaborative project with the University of Valencia (Spain) investigating the morphology, genetics, and taxonomy of lobster phyllosoma collected during the RV Fridtjof Nansen survey of the Western Indian Ocean in 2018.

Several Marine Stewardship Council (MSC) consultancies were undertaken during the year, including an assessment of the Abrolhos Islands

Whale shark.

scallop fishery, and peer-reviews of the assessment reports for the Eastern Pacific purse seine skipjack and yellowfin tuna fisheries, and the Western Australian abalone fishery. An ORI scientist was contracted as a consultant by the FAO's EAF Nansen Programme for two months to perform the role of lead fish technician on the Norwegian research vessel Dr Fridtjof Nansen, for an extended demersal fish survey off the coast of Morocco.

ORI scientists also spent some time at sea aboard SAIAB's coastal craft Phakisa, carrying out an investigation of the deep-water reefs and canyons of the iSimangaliso Wetland Park Marine Protected Area, using remotely operated vehicles and sampling equipment. We spent an accumulative 950 person-days in the field between July 2021 and June 2022, carrying out at least 57 field trips. These included monitoring the catch on board a prawn trawler; shore and boat-based angling and fish tagging; underwater acoustic receiver and environmental monitoring equipment maintenance; coral reef and estuary sampling and monitoring for a range of different projects; offshore plankton sampling at night; invertebrate (mussel, oyster, and sand prawn) sampling and resource-user monitoring; ski-boat launch site compliance monitoring, and several aerial surveys of the KZN coast, including a flight to assess coastal damage after the storms and flooding. As usual, our field work had a strong KZN focus, but we also travelled to Bazaruto Island, Ponto do Ouro, and Santa Maria in Mozambique; the Mtentu Estuary and Dwesa and Pondoland MPAs in the Eastern Cape; and to the Breede River in the Western Cape to acoustic-tag Zambezi sharks.

Not content to be "ivory tower" academics, ORI researchers are strong proponents of science engagement, at all levels of society. Our insistence on providing objective, science-based advice has resulted in ORI becoming a trusted brand in KZN, South Africa and the Western Indian Ocean region. ORI was represented on more than 50 international, regional, and local forums/decision-making bodies during the year, with engagement levels ranging from advisor to representative, to member, to board member, to chairperson. In addition to strategic input, we were also involved at the operational level, assisting government and non-government colleagues with a range of issues during the year. A good example is our continuing support of DFFE's MPA roll-out, by participating in a series of "difficult" stakeholder meetings with generally disgruntled local fishermen.

We provided advice on local environmental disasters (such as chemical and oil spills, storm and flood damage, fish kills, and illegal estuary breaches); drone fishing regulations; fish stock status; catch and license allocations for the KZN prawn trawl fishery; the monitoring requirements for climate change

Durban Country Club from the air after the devastating floods in April this year.

The Wild Coast.

decision making; coastal developments; the landing of a submarine fibre optic cable system connecting Mauritius to South Africa; and the design of a fishway and invertebrate servitude for the proposed Lower uMkomaas Bulk Water Supply Scheme.

We helped draft a freshwater related estuary policy brief and an impact statement regarding the illegal harvesting of East Coast rock lobster, and our comments were solicited on a range of matters, including the new EAF Nansen Science Plan, a draft revision of the management plan for the Ponta do Ouro Partial Marine Reserve in Mozambique, local Blue Economy capacity-building initiatives, and various estuary management plans.

Science engagement comes in many forms, and ORI scientists presented an online lecture on fisheries and MPAs for the Ocean Stewards hosted by NGO WildOceans, gave an online talk on bull shark research to members of Leadership Conservation, participated in a podcast titled "Beyond Jaws" to discuss ORI's giant sand-shark research; and were interviewed by radio 702, CNN and Al Jazeera about the sardine run, and participated in a television interview on drone fishing for a French television documentary. The CNN and Al Jazeera journalists were taken into the field, to see the sardine run first-hand, and watch the sardine netters in action.

We do not usually engage in public forum advocacy. However, Shell Oil's plan to proceed with a seismic survey along the Wild Coast precipitated us to publish a well-researched, carefully worded statement on the SAAMBR website, explaining why we thought the seismic surveys shouldn't go ahead. Although there was an already snowballing public outcry against the surveys, many NGOs thanked SAAMBR for our clear articulation of the issues involved, and for being "the voice of reason". As our communications lead on the issue, Dr Judy Mann was interviewed many times on various media platforms, including a Daily Maverick webinar, a podcast for the Sandton Times, and SAAMBR's first interview for the BBC.

The seismic survey generated substantial media interest for SAAMBR, in a satisfying year of generally high public engagement through our various communication channels. We reached almost 40 million people, with, on average for each month, 10 traditional print features, two radio interviews, 20 online media features and about eight web stories. Our social media following increased by almost 20%. Our followers loved our rescue and release stories

and followed the information on the sardine run and ORI tagging program with great interest. Our stories regarding the devastating floods and subsequent clean-up efforts in KwaZulu Natal attracted a lot of attention. A story on the highly invasive aquatic hyacinth had the highest social media reach during the reporting year and the launch of MPA Day was a huge success, with the media campaign winning five PRISM awards.

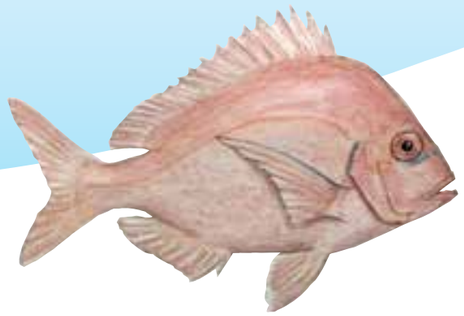
The PRISM awards are South Africa's most prestigious public relations awards, and the MPA campaign, led by Dr Mann and the SAAMBR communications team with partners from Two Oceans Aquarium, Flow Communications and Olivia Jones Communications, won gold in the category for the best environmental campaign, silver for the best use of an event to build/change reputation; silver for the best NGO/NPC campaign, silver for PR on a shoestring, and bronze for the South African publicity campaign of the year.

A satisfying end to a tempestuous year.

Yours sincerely,

Dr Larry Oellermann

Chief Executive Officer

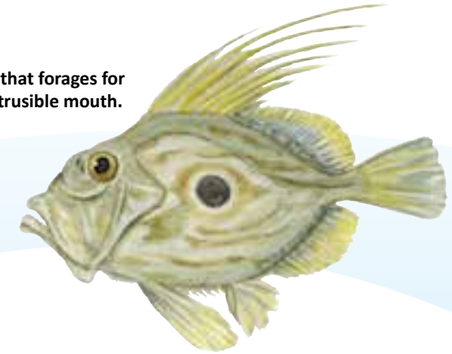


Slinger. *Chrysoblephus puniceus.*
Endemic from Mozambique to Algoa Bay occurring on off-shore rocky reefs.

Our Performance

SAAMBR monitors 22 Key Performance Indicators (KPIs) annually, as per the Service Level Agreement (SLA) that we have with the DMTP. The restrictions on public activities and social gatherings introduced by the COVID-19 national lockdown continued to impact our performance and budget in 2021/22. This necessitated the renegotiation of SAAMBR's KPIs with the DMTP. For the most part our performance was better than expected, except for KPI 17: To encourage learner footfall in uShaka Sea World through education activities, where we missed the target by 0.9%. This was a result of the slow uptake of school outings following the lifting of COVID-19 restrictions.

Key Performance Indicator		Measure	2021/22 Target	2021/22 Actual	2020/21 Actual
1	To achieve and maintain PAAZA accreditation.	Annual internal review.	100%	100%	100%
2	To ensure that uShaka Sea World achieves an acceptable Customer Satisfaction score.	A minimum score for customer satisfaction.	Suspended due to COVID-19		
3	To manage and maintain the uShaka Sea World seawater intake system to ensure an appropriate volume of quality seawater.	A minimum volume of seawater (m^3).	1,927,200	2,324,680	2,478,892
4	To undertake scheduled Preventative Maintenance (PM) to maintain uShaka Sea World plant, machinery and equipment.	A minimum percent of scheduled PM completed.	95%	100%	100%
5	To provide optimally stocked, attractive and educationally stimulating large aquarium exhibits.	A minimum number of large exhibits open to public.	6	7	7
6	To provide optimally stocked, attractive and educationally stimulating small aquarium exhibits.	A minimum number of small exhibits open to public.	40	45	45
7	To promote conservation through interactive and entertaining dolphin shows.	A minimum number of dolphin shows.	505	819	636
8	To promote conservation through interactive and entertaining seal shows.	A minimum number of seal shows.	505	596	505
9	To promote conservation through engaging penguin presentations.	A minimum number of penguin presentations.	470	533	544
10	To inform and engage uShaka Sea World guests through interaction stations manned by trained staff members.	A minimum number of interactions / hours.	6,825	7,679	9,081
11	To inform and engage guests through new interpretation signage in uShaka Sea World.	A minimum number of information outputs.	60	66	82



John dory. *Zeus faber.*
A bottom dwelling fish that forages for food using a highly protrusible mouth.

Key Performance Indicator		Measure	2021/22 Target	2021/22 Actual	2020/21 Actual
12	To disseminate marine & coastal research in accredited publications.	A minimum number of papers published.	15	28	28
13	To disseminate information generated by conservation, research and education activities in unpublished professional reports.	A minimum number of reports produced.	13	37	57
14	To disseminate conservation, research and education information at forums, such as conferences, symposia and workshops.	A minimum number of presentations.	15	40	19
15	To play an advocacy and advisory role through ongoing membership and input to professional bodies or advisory groups.	A minimum number of memberships.	35	59	51
16	To supervise a minimum number of post graduate students per year.	A minimum number of students supervised.	8	11	15
17	To encourage learner footfall in uShaka Sea World through education activities.	A minimum number of learner visitors.	15,000	14,866	967
18	To provide themed, interactive conservation lessons and courses to learners.	A minimum number of lessons and courses.	35	124	19
19	To provide themed, curriculum based conservation education workshops for educators.	A minimum number of workshops.	---	6	0
20	To provide marine career awareness workshops to learners.	A minimum number of workshops.	---	7	0
21	To provide ad hoc marine conservation and resource use courses as required.	A minimum number of courses.	4	11	7
22	To provide outreach opportunities to disadvantaged schools and educators.	A minimum number of outreach trips.	---	38	13

Operating Environment and Outlook

Several factors influenced SAAMBR's operations during the last year. By far the most impactful was the COVID-19 virus pandemic, and the resulting national lockdown, but the riots in July 2021 and the 25-year storm event and floods in April and May 2022 added to a year of tribulations.

The restrictions on travel and public gatherings meant that uShaka Marine World could not operate at full capacity throughout the year (until the restrictions were lifted on 22 June 2022), and at times was closed to the public entirely. This meant that revenue generated by the marine park was severely reduced, and after negotiations with the DMTP, SAAMBR's funding was cut by 10% for the year. We were able to absorb this cut by decreasing operational and maintenance expenditure, but with more than 70% of our annual budget going to salaries, we had to reassess our departmental organograms and staffing needs as well. We were able to survive the budget cut by "kicking the can down the road", but we will pay the price in the future, and must catch up on deferred capex and maintenance expenditure as soon as possible. We have always had a "lean machine" staffing model, but we may have become too lean, if the increase in overtime is any measure.

We will need to employ more people when the financial pressure eases, but the DMTP has advised us that they intend to freeze our grant at the 2020-2021 value for the next three years, so relief may not be around the corner. With growing national inflation numbers and the need to provide staff with a suitable annual increase, a budget freeze will place us in an untenable situation, and we are vigorously engaging with the DMTP to find a solution.

The April and May storms had no material effect on SAAMBR's operations, besides some drainage issues on the surface of the marine park, and very minor seepage and puddles in the aquarium. Compared to the damage wrought across KZN by the storms, we were unscathed; a testament to the design and construction of the uShaka Marine World facility.

The July riots in KZN were alarming and certainly influenced our operations due to the difficulty experienced by staff travelling to work. However, after many months operating with a reduced onsite staff complement during the COVID-19 pandemic, were well prepared. Our greatest concern was for the safety of our people and animals, as uShaka Marine World was listed as a potential target for the riots. However, the Point community banded together magnificently, and our facility and access routes were well protected.

Although it has been a gloomy year, the outlook for 2022-2023 is beginning to brighten. The number of visitors to uShaka Sea World increased by 170% in 2021/22 (347 047), compared to 2020/21 (203 893), although this is still only 50% of the 12-year, pre-COVID average (699 602) since we moved to uShaka Marine World. Nevertheless, comparing footfall in June 2021 with July 2022 as a percentage of the pre-COVID average for each month, we see a steady recovery from just 9% to 71% over the year.

Hardest hit by the COVID-19 restrictions was our school visitors, and footfall has increased from a total of 1855 learners in 2020-2021 to 19 705 learners in 2021-2022 (1062%!). This is only 18% of the pre-COVID average for the year, but there is currently strong interest from schools to visit uShaka Sea World Education, and some of the months in the latter half of 2022 have already been booked to capacity.

Much of our conservation activities were curtailed by the year's headwinds as well, but ORI's research and science engagement activities continued at a pace. Looking back, we have had one of the most productive years on record (refer to SAAMBR Publications). There was a threat by local government to withdraw ORI's Provincial grant in aid for research, and redeploy the funds to pandemic-related initiatives, but this did not come to pass. Looking forward, we have secured another three years of grant in aid from the province, plus significant research funds from various other sources, and ORI's list of research projects and collaborations continues to grow, boding well for the future.

Stakeholder Engagement

Our newly minted Stakeholder Engagement Policy was ratified by the SAAMBR Council and implemented during the 2021-2022 financial year. We recognise that engaging with stakeholders is crucial to the success of any organisation and is a vital component of strategic planning.

In this context, we understand 'stakeholder' to mean those groups who affect, and are affected by SAAMBR's activities, products or services and associated performance; and 'engagement' to mean communication that is issue-based, pro-active, learning-orientated, and measurable.

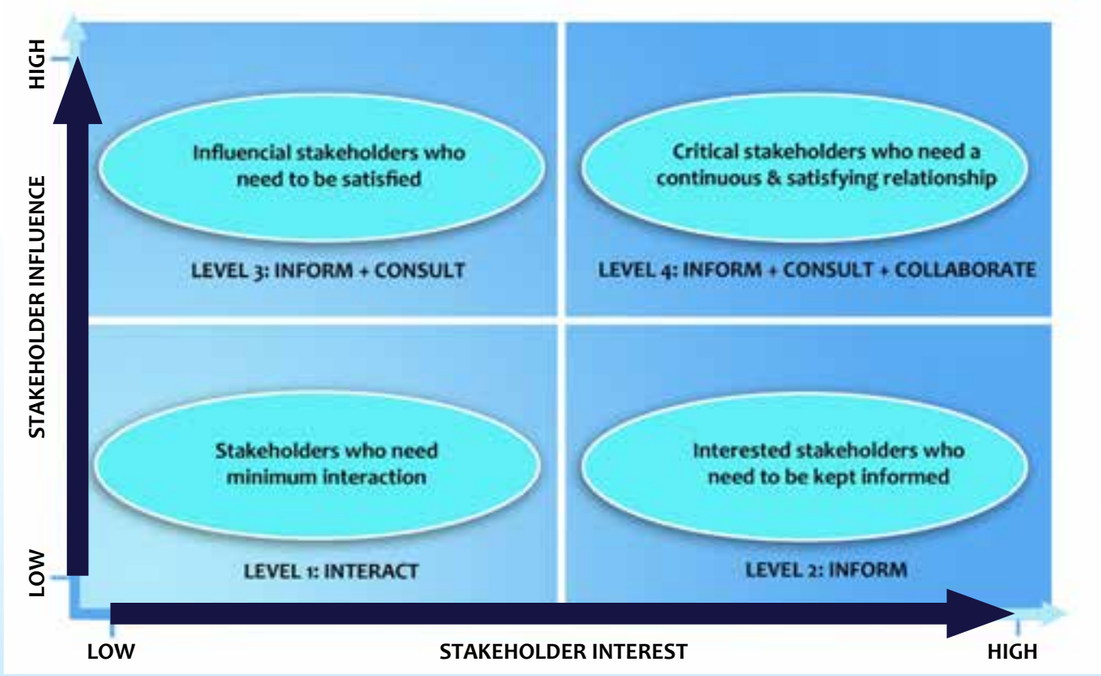
The scope of the policy includes all stakeholder engagement by SAAMBR divisions and employees, and relates to the way in which we identify, categorize, and communicate with our internal and external stakeholders. The policy dictates that our relationships with stakeholders are based on honesty, fairness, and a foundation of mutual respect; that we strive to be inclusive and ensure open communication; and that we continuously evaluate and enhance our stakeholder engagement performance.

The policy introduces an annual stakeholder mapping exercise, and we analysed each of our stakeholders based on their influence and interest in our activities (see Figure below).

The level at which the stakeholder is scored will inform us how, and how regularly, to engage with them. The details of our stakeholders, their contact person/s, type of entity, relationship (supplier, funder, partner, etc.), SAAMBR division of primary contact, anticipated level of engagement, etc. are all recorded in a database accessible to all staff from SAAMBR's SharePoint staff portal.

Besides our Council members, SAAMBR considers our most important stakeholders to be our employees, and we regularly evaluate our engagement with them through an annual Staff Satisfaction Survey (besides the usual organisational mechanisms). The first survey was carried out in 2019, and since then our staff have scored an average engagement rating of between 72 to 74% each year. This is significantly higher than the benchmark for the type of survey used.

Our next most important stakeholder is the Durban Marine Theme Park (DMTP), with whom we engage constantly, at every level, from mutual Board representation to executive management meetings, general management, and operations meetings, to staff interactions on the ground.



uShaka Sea World.

Our uShaka Sea World guests are important stakeholders as well, and until recently (COVID-19) we monitored their satisfaction levels through roving surveys in the marine park. The DMTP currently monitors guest satisfaction on our behalf, though social media comments and sites such as Hello Peter, Trip Advisor, etc.

The KZN Department of Economic Development, Tourism and Environmental Affairs is another vital stakeholder, and the database lists them as being a funder, partner, and regulator. We engage with them on a weekly basis, through meetings, reports, presentations, training courses, etc; all recorded in the database.

During our inaugural stakeholder mapping exercise, we identified more than 260 stakeholders, of which 38 were Level 4 (i.e., critical), these ranging from national and local government departments, through parastatals, universities, NGOs and civil organisations, associations, to other animal-keeping and research institutions. As our staff get more adept at stakeholder analysis and the engagement that follows, this list will continue to grow.

Blacktail. *Diplodus capensis.*
Endemic to southern Africa living shallow, rocky shores down to 40 metres.

Investing in Our People

SAAMBR welcomed 11 permanent staff members and awarded 41 well-deserved promotions to staff across the organisation during the year.

Even with the restrictions resulting from South Africa's response to the COVID-19 pandemic, training and development remain a priority for SAAMBR with an investment of R381 000 towards staff training.

The successful mandatory grant submission of both internal and external training to the Culture, Art, Tourism, Hospitality, and Sport Sector Education and Training Authority (CATHSSETA) resulted in the organisation receiving a grant of R64 088.

The hard work and dedication of six postgraduate students based at the Oceanographic Research Institute (ORI) have earned them their MSc qualifications from the University of KwaZulu-Natal, while two of uShaka Sea World's Education staff members used their free time to improve their education, one achieving her advanced diploma in Nature Conservation with distinction, and another earning her higher certificate in Animal Welfare, both from the University of South Africa.

The opportunities given to those individuals serving their internships at SAAMBR have proven to be beneficial, as many interns have secured both internal and external permanent positions. Interns from across various fields (diving, mechanical engineering, electrical engineering, civil engineering, and water quality) continue to gain their practical experience within SAAMBR.

SAAMBR acknowledges the value of staff development and continues to focus on training initiatives and succession plans, thereby allowing employees the opportunity to enhance their skills and advance their careers.

Continuous improvement to the initiatives aligned with employment equity were evident through the successful employment equity reporting to the Department of Labour for the period 2021/2022. The contribution of SAAMBR's outgoing Employment Equity Committee members and Chairperson is acknowledged and appreciated, and the new members welcomed and their contributions highly anticipated. SAAMBR remains dedicated to achieving our employment equity targets and goals in accordance with the Employment Equity Plan.

We have shown steady improvement these last few years, with 60% of our senior management represented by employees from the designated groups (including black South Africans, women, and disabled employees) in 2022, compared to 25% in 2019; 50% of our management team (compared to 40% in 2019), 63% of professionally qualified staff (56% in 2019), 81% of our skilled technical staff (75% in 2019), and 91% of our semi-skilled employees, compared to 93% in 2019.

As we approach another year, SAAMBR remains invested in the development of staff and the continued promotion of equity in the workplace. We believe in "ithemba" – the Zulu word for "hope". Despite the recent challenges we have faced, it is because of hope that we work together and stand strong as the people of SAAMBR.

Staff participating in the cleanup after the floods in April.

Occupational Health and Safety

We lost no workdays due to injuries on duty in 2021-2022. This means that SAAMBR's Disabling Injury Frequency Rate (DIFR) was zero for the year, down from 1.15 in 2020-2021 and 0.98 in 2019-2020.

This is the first time we have achieved this milestone in 18 years, since moving to the uShaka Marine World premises in 2004. The DIFR is an industry standard that represents the number of injuries that result in a lost workday, for every 200 000 person-hours worked. Our actual score for the year was far more impressive: zero for 343 473 person-hours worked, or 42,934 workdays.

Staff member working with the correct personal protective equipment.

Nevertheless, the year was not without incident. We submitted seven medically treated injuries on duty (IOD) claims to the Work Compensation Commissioner, where the employees were able to return to their shifts after medical treatment. This was the third lowest number of compensations claimed since our move to uShaka Marine World.

Safety training is a critical component for building SAAMBR's health and safety culture, as is extending our knowledge of occupational health and safety requirements to ensure legal compliance. During the year, SAAMBR staff received training from external service providers in first aid, the operation of monorail hoists & mobile cranes, the duties of general safety representatives as per the Occupational Health and Safety (OHS) Act, and hazard identification and risk assessments (HIRA). In-house training included staff induction, chemical spill training, and toolbox talks. A total of 1827 hours were spent on training in 2021-2022, compared to 1412 hours in 2020/21.

Despite the pressures that the COVID-19 pandemic caused for our employees, SAAMBR's general safety representatives continued to perform monthly inspections in their departmental areas of responsibility, and our equipment inspectors performed their monthly or quarterly inspections to ensure that the equipment used by staff was in a safe working condition. A total of 256 safety deviations were recorded during the various monthly and quarterly inspections, which was slightly more than in 2020/2021 (n=247). The completion percentage in addressing OHS issues was 69% overall. For comparison, the completion percentages for 2020-2021 and 2019-2020 were 77% and 57% respectively. We had hoped to do better, but the COVID-19 pandemic and national lockdown, with limited staff numbers onsite, presented some challenges, particularly financial and procurement constraints.

The challenge of COVID-19 virus management at SAAMBR continued in 2021-2022. Our COVID-19 policy and associated standing operating procedures had to be revised several times during the year as government legislation changed. Between March 2020 and June 2022 seventy-four SAAMBR employees contracted the virus. Thorough investigations of each incident indicated that almost all infections occurred outside of SAAMBR, except for one cluster outbreak of ten cases in June 2022, probably due to COVID-19 "fatigue" setting in. The total amount spent on combating the COVID-19 virus at SAAMBR was about R516 000, from March 2020 to June 2022.

Sustainability Report

At SAAMBR our aim is not just to contribute to the sustainability of our natural resources, but to help improve the health of our oceans and planet through science-based conservation.

Over the last two decades we have developed and implemented robust and impactful sustainability practices at uShaka Marine World, which have contributed to a significant reduction in our energy demand and thus carbon emissions. This formed a clear launch pad for our long-term sustainability journey, which we are now building on. We have aligned our environmental and social impact activities with the United Nation's Sustainable Development Goals, which were developed as a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030. It is a blueprint to achieve a better and more sustainable future for all. With this in mind, we have reviewed our 2021-2022 sustainability activities against the SDGs as follows:

SDG 14: Life Below Water.

Our actions continue to connect people with the ocean while contributing to impactful research, education, and awareness. Some 347,047 people experienced 'Life Below Water' through visiting uShaka Sea World, 19,705 children received marine conservation specific education (also SDG 4: Quality Education) and our researchers participated in 55 scientific projects linked to the ocean and coastal environments. Our contribution to Life Below Water is recognised world-wide.

SDG 7: Clean Energy and SDG 12- Responsible Consumption.

Our SAAMBR administration building operated on 51% solar energy during the reporting period, which avoided the emission of 87 tons of CO_2, and our site Sustainability Committee continues to set clear targets to reduce our energy demand.

SDG 17: Partnerships for the Goals.

We have a large network of partners and stakeholders collaborating to achieve positive environmental impact.

SDG 12: Responsible Consumption and Production. Ongoing energy demand reduction due to best practice maintenance and circular design.

SDG 11: Sustainable Cities and Communities.

Through our extensive range of educational programmes and conservation awareness activities we continue to contribute to growing sustainable communities. Our outreach and schools' programmes, Marine Protected Areas monitoring program and ongoing work with coastal communities, our beach clean-up efforts as well as our ongoing CSI projects with other NGOs and municipal facilities all contribute to positive community and environmental impact.

We have initiated a review of our Environmental Management System and will be developing a revised Environmental Management Plan in line with ISO 14001 during 2022-2023. Our impacts post Covid-19 will be reassessed and updated ESG targets will be formulated. Circularity will inform all aspects of our technical design, maintenance and operational decision-making and procurement. We are increasing monitoring efforts of our capital assets performance, while maintaining 100% preventative maintenance to ensure our technical plant operates at the most efficient and cost-effective levels, reducing energy demand year-on-year.

Our hatchery programme has proven to be a successful and sustainable practice, supplying exhibit animals cultured within our facility, thereby reducing our need to collect certain species from the wild, while contributing to species survival plans for endangered marine species.

Our communication efforts contribute to sharing our sustainability efforts, but also to encouraging and inspiring people to reduce their environmental impacts. We produced 66 new conservation specific interpretations within the aquarium, with our core impact themes being pollution prevention, sustainable seafood, and climate action. We make sustainable choices when feeding our animals and encourage our visitors to also make smart seafood choices by following the WWF's South African Sustainable Seafood Initiative (SASSI) and Marine Stewardship Council (MSC) guidelines.

For our Blueprint 2030 we are aiming at being regenerative. We will monitor and manage our carbon emissions while we set new improvement targets for our scope 1, 2 and 3 impacts. SAAMBR is committed to working towards carbon neutrality.

Solar panels on the roof of the SAAMBR administration offices.

Information and Communication Technology Report

Our Information and Communication Technology (ICT) is governed by the SAAMBR Council, through its delegated Audit Committee.

The technology aspect has as its focal point SAAMBR's ICT Manager, whilst information management is the ambit of SAAMBR's Chief Executive Officer (Information Officer, as per the POPI Act), with the support of the Health, Safety and Compliance (HSC) Manager. The ICT and HSC Managers provide an annual report on their activities to the Audit Committee, as well as ad hoc reports on request. The Chairperson of the Audit Committee informs the SAAMBR Council regarding information and communication technology matters, as necessary.

SAAMBR has an ICT policy that requires anyone making use of its ICT systems to do so in an acceptable and secure manner and to agree to certain responsibilities. These include allowing SAAMBR access to all information stored on its ICT infrastructure; to monitor all email and internet usage on its ICT network; to discourage the transmission and storage of private files and information; and to restrict use of its ICT systems for authorized purposes only. The ICT policy is supported by the Standard Operating Procedure (SOP) for Data Management at SAAMBR, as well as several departmental SOPs that describe data collection, management, and storage, pertinent to their requirements.

SAAMBR's ICT unit consists of an ICT Manager and ICT Technician, who administer a hybrid cloud and physical network of some 174 personal computers, 13 servers, 9 NAS servers, 14 switches, 13 printers, 10 digital signage displays, several portable storage devices, etc. linked by kilometres of cabling across an area of about four hectares. Each component is mapped in SAAMBR's ICT Inventory System (masterplan), along with details such as the operating system and software used, acquisition dates, user information, etc. Hardware and software are updated and replaced according to the masterplan, whilst demand maintenance (help desk or user requests) is managed according to a job card-based workflow management system.

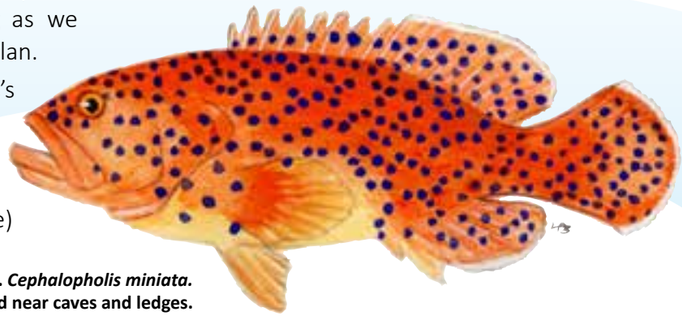
In conjunction with the CEO and Executive Manager Finance and Administration of SAAMBR, the ICT Manager develops an annual ICT workplan and budget for SAAMBR. An assessment of the implementation of the plan is carried out by SAAMBR management in July each year, at SAAMBR's annual operational planning workshop.

Eagle ray in Open Ocean exhibit.

Initiative	Target	Actual	Achieved
1. Replace desktop computers according to masterplan	15	15	100%
2. Replace notebooks according to masterplan	10	10	100%
3. Upgrade projectors for HDMI/wi-fi compatibility	5	5	100%
4. Replace white screens	2	2	100%
5. Server maintenance - upgrade storage, rebuild RAID	5	5	100%
6. Upgrade standalone printers	3	2	67%
7. Cloud backup for all user accounts & servers	215	201	94%
8. Upgrade wi-fi access points	4	0	0%
9. Create cloud SharePoint portals for each department	10	10	100%
10. Decommission old servers	3	2	67%

A focus for SAAMBR's ICT unit during the 2021-2022 financial year has been to future-proof SAAMBR's data and information resources, by implementing and fully utilising the "cloud" by means of SharePoint and Microsoft Online servers. This has allowed us to decommission old servers, secure user data, and allow inter-departmental operability, both on-site and off-site. We also invested in the technology and software needed for a distributed workspace, including virtual meetings and interactions. Working from home has become a feasible reality that is sometimes a necessity, and our switch to the Microsoft 365 platform across the organisation has resulted in a cloud-based office that can follow you home. The system is relatively resource and bandwidth hungry, which affects our older computer hardware, a problem that is ameliorating as we update our hardware as per the ICT masterplan.

The table above summarizes SAAMBR's ICT workplan and achievements for the 2021-2022 financial year. The workplan was mostly (93%) achieved, except for one replacement of a desktop (standalone) printer, the upgrading of four wi-fi access points, and the decommissioning of one of our onsite servers. The printer and wi-fi access points were put on hold due to budget adjustments during the year, and the server continues to provide a timekeeping (NTP) role for SAAMBR's extensive ICT network and will be decommissioned as soon as a suitable alternative is found.



Coral rockcod. *Cephalopholis miniata*.
A solitary fish found near caves and ledges.

Animal Ethics and Welfare Report

Ensuring good animal welfare has always been at SAAMBR's core.
Our staff are passionate to a fault, many treating their jobs as a calling rather than a vocation.

Green mamba hatching at Dangerous Creatures.

Passion is all very well, but recently we have begun to institute mechanisms to critically assess and measure what we do, so that we can continuously monitor our progress towards improved animal welfare practices. Towards this end, we have engaged with welfare experts around the world, who have provided guidance and training where needed. We created an animal welfare manual for our staff, which incorporates the most recent international perspectives on the topic, as well as a bespoke online welfare measurement tool. The tool is designed as a web based programme that can be used across digital platforms, with the aim of encouraging our understanding of the natural history of the animals in our care, evaluating what we provide for the animals based on their natural history, and recording any changes we subsequently make, to assess the resulting outcomes. In addition, we continued integrating the International Species 360 Database into our operations, which now includes a powerful animal welfare module.

Besides the usual medical indicators, we have identified various additional measures that we can now use to help us determine the welfare state of the animals in our care, from the basics such as appetite and body condition, to more advanced concepts such as willingness to participate during training sessions. Research is key, and we have a full-time PhD student working with our marine mammals, investigating ways in which to determine their welfare state from their behaviour. Our goal for next year is to look at how we can build these indicators into a comprehensive welfare index.

Two well-attended Animal Welfare Committee meetings were held during the year, during which the members received an animal welfare report from SAAMBR's designated animal welfare champion; discussed the animal welfare manual and associated standard operating procedures; debated the role of exotic animals in uShaka Sea World's Animal Collection Plan; interrogated the welfare component of the PAAZA accreditation assessment of SAAMBR; received a report on the current climate of welfare understanding in our facility; discussed an ongoing concern regarding the exposure of the monitor lizards at the entrance to Dangerous Creatures to noise emanating from the Village Walk; and arranged for a workshop to be held on the new animal welfare app.

We also held two Animal Ethics Committee meetings during the year. The matters discussed included SAAMBR's role regarding stranded dolphins, and the likelihood of us being allowed to rescue and rehabilitate animals that were unable to be refloated, instead of having to euthanise them on the beach as is currently required by the Department of Forestry, Fisheries and Environment. Another concern was the issue of releasing rescued and rehabilitated African penguins to the wild, when the population was dwindling at such an alarming rate. In a similar vein, the value of keeping an ex-situ backup breeding penguin population was debated, when it was clear that the environment couldn't sustain the wild population.

The ethics of displaying hammerhead sharks was debated. These iconic animals are firm favourites with our guests, but very sensitive in the captive environment.

A substantial portion of the committee's time was taken up by evaluating several research project proposals submitted for ethics approval, as well as the methodology for the handling and tagging of fish caught by ORI's research anglers.

We were very fortunate to receive training on animal ethics and the role of animal ethics committees from Prof Graham Louw, the long-time Chairperson of the University of Cape Town's Medical School Animal Ethics Committee.

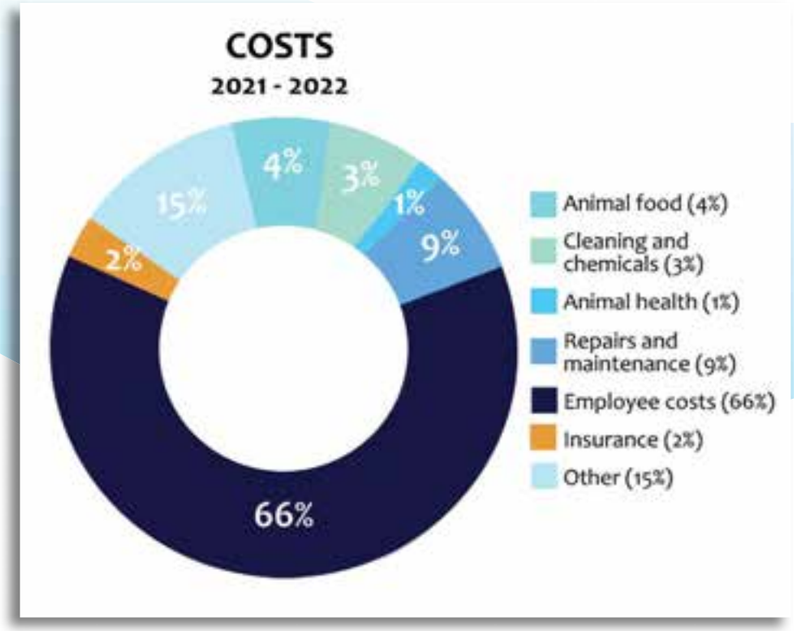
Prof Louw kindly reviewed our animal ethics policy and committee structure, and we will be implementing some changes based on his advice in the coming year.

African Penguins at uShaka Sea World.

African Penguin numbers in the wild are decreasing.

Financial Overview

At SAAMBR we manage our limited financial resources prudently. One of the advantages of being a Non Profit Company for over 70 years is that SAAMBR is no stranger to strong financial controls and the careful use of financial resources.



SAAMBR's total assets on 30 June 2022 amounted to R76 460 253, which reflects a 14% increase. This includes biological assets which were valued at R19 506 075. Current liabilities stood at R18 224 222 and the accumulated surplus was R53 637 544.

Total revenue for the period was R71 888 518 and other income R9 193 796. The other income includes research funding of R8 750 155 and interest received of R1 822 940. The cost of operating the Association for the period was R77 582 688. This resulted in a surplus for the year of R7 463 241 after accounting for the fair value adjustments of Biological Assets. After accounting for the revaluation of plant and equipment of R111 259 a total comprehensive income for the year of R7 574 500 was recorded.

The Biological Assets are revalued annually. The value of dolphins is stated as USD 125 000. The fluctuation in the rate of exchange resulted in a Fair Value Adjustment of R 2 140 675. The estimated value of each Cape fur seal was R 10 000 and for each African penguin R 20 000.

The Oceanographic Research Institute (ORI) generated R8 750 155 in research revenue during the review period from contributions towards specific research projects and specialist services. The Province of KwaZulu-Natal's Department of Economic Development, Tourism and Environmental Affairs (EDTEA) demonstrated their commitment to SAAMBR through project funding of R5 451 702. It must be noted that R7 968 000 was received from EDTEA. Of this amount R5 254 622 (2021 - R3 714 024) was rolled over for research that can only be undertaken during the next reporting period. The National Research Foundation and the University of Kwazulu-Natal funded projects to the value of R832 200.

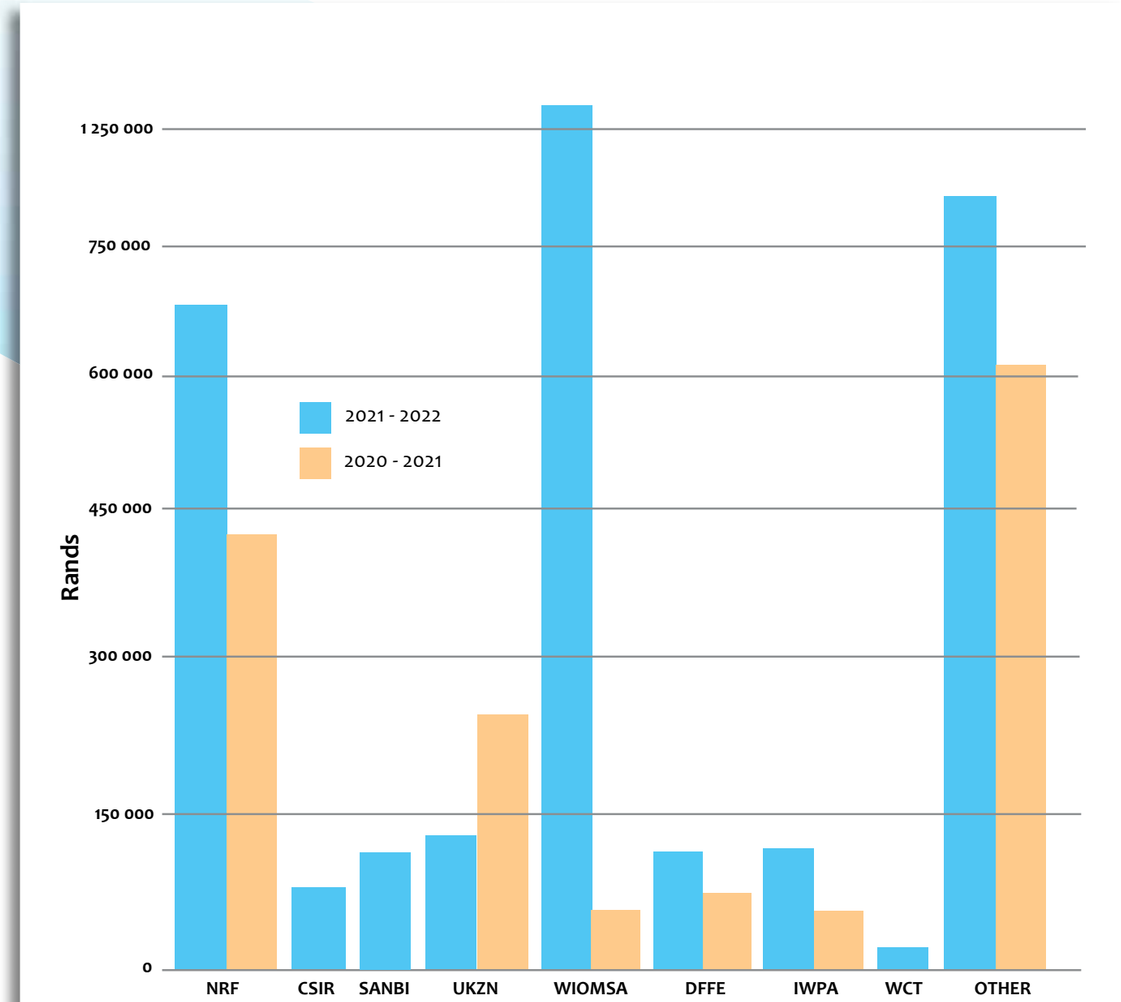
On the international front, contributions were received from the Western Indian Ocean Marine Science Association of R1 254 171. Funding from specialist services to local, provincial, and international organisations generated a further R1 212 082.

Being a Non Profit Company, SAAMBR relies on Gifts-in-Kind. This refers to time, services, and the use of equipment at no cost to SAAMBR. These include veterinarians, specialist veterinary equipment, volunteers in uShaka Sea World Education and uShaka Sea World, technical assistance from divers and fishermen, and the voluntary contribution of time of the members of the SAAMBR Council, SAAMBR Executive Committee and SAAMBR Audit Committee. Although impossible to accurately measure, the value for the year was more than R500 000.

Financial Summary Table

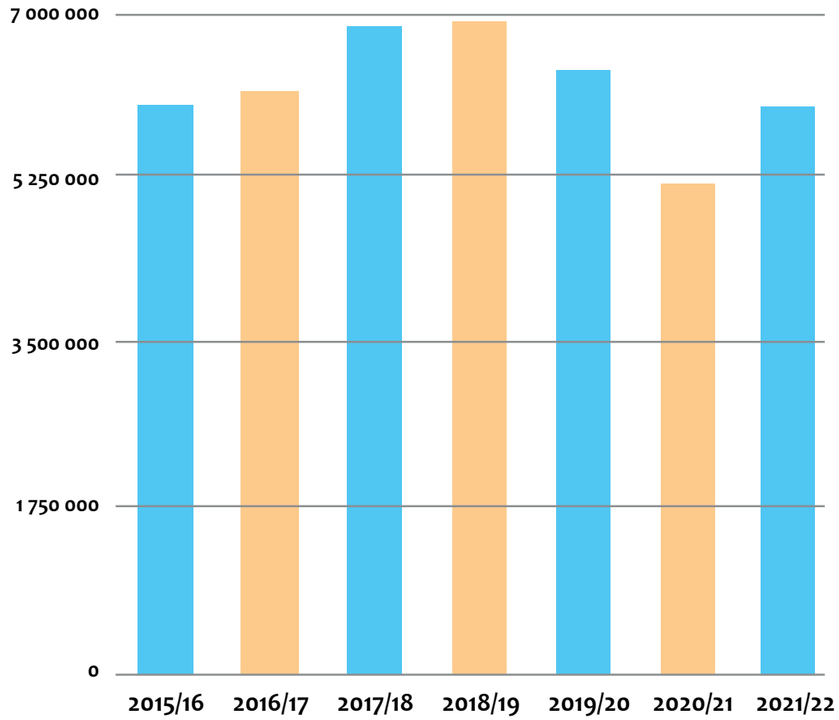
Category	2020-2021	2021-2022
Revenue	67 812 626	71 888 518
Other Income	8 205 68	11 016 736
Research Income	6 535 802	8 750 155
Education Programmes	118 784	56 307
Interest Received	1 550 838	1 822 940
Fair Value Adjustments	(3 336 200)	2 140 675
Revaluation of Plant and Equipment	131 082	111 259
Expenses	72 970 485	77 582 688
Total Assets Including	67 333 210	76 460 253
Biological Assets	17 365 400	19 506 075
Current Liabilities	16 671 679	18 224 222
Accumulated Surplus	45 474 309	53 637 544
Value of Free Media, in Excess of:	4 658 988 (for 8 months)	10 550 000
Gifts-in-Kind, in Excess of	400 000	500 000

Sources of Research Income

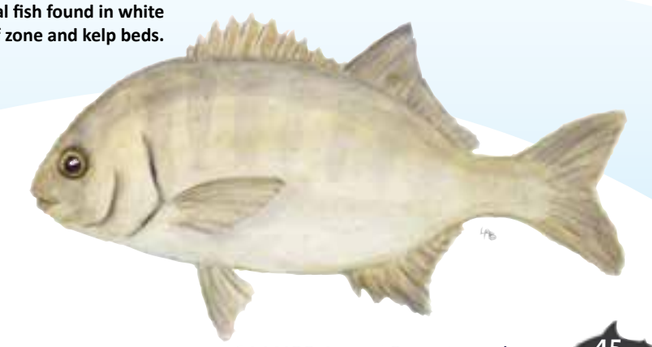


Total Research Income 2021 - 2022 Excluding EDTEA

Funding from EDTEA



Galjoen. *Dichistius capensis.*
South Africa's national fish found in white water in the surf zone and kelp beds.



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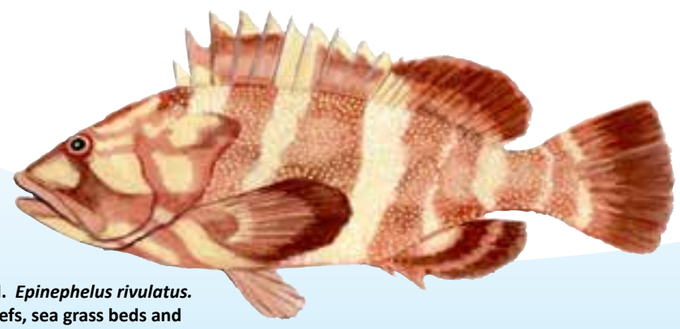


Halfmoon rockcod. *Epinephelus rivulatus.* Found on rocky reefs, sea grass beds and mangrove estuaries. Southern limit is Knysna.

Our Strategic Partners

SAAMBR Activities Report

2021 - 2022

70 years of helping people to care for our ocean

71 years of SAAMBR contributing to marine research and conservation

14 council members supporting the management of SAAMBR

92 % King IV compliance achieved

species under our care **509**

8 009 individual animals cared for at uShaka Sea World

169 births recorded within our collection

>100 physiological measurements done to ensure we track the growth and well-being of our animals

Successful PAAZA accreditation. SAAMBR is the only fully PAAZA accredited aquarium on the continent.

5 031 volunteer hours logged

36 presentations by ORI scientists on research work

very active sea turtle rescue, rehabilitation, release and research programme

stranded or rescued animals admitted of 19 different species **102**

1 838 hours dedicated to rescue and rehabilitation efforts

5 046 maintenance job cards completed
73% preventative maintenance
27% demand maintenance

7 species of fish being bred in-house including tigertail seahorses contributing to the sustainable stocking of the aquarium

samples in our biobank contributing to future research **1 200**

10 000 dive hours logged feeding fish and maintaining tanks

13 066 learners from 227 schools visited uShaka Sea World

3469 learners from 78 schools experienced a detailed guided aquarium tour

19 school visits by the education team to 550 learners

courses offered in the education centre **64**

2 291 learners attended and benefited from the on-site courses

10 schools participated in the 'Catchment to Coast' outreach programme

1 431 formal and informative commentaries offered during aquarium feeds

average monthly communication features included:

10 traditional print

radio interviews **2**

20 online media

web stories **8**

30 research papers co-authored and published by ORI scientists

57 research specific field trips

>50 decision-making bodies with ORI representation at international, regional and local level

>130 abstracts reviewed as part of conference scientific committeess

20 post-graduate students supervised by ORI staff and research associates

55 research projects with ORI involvement

20 % increase in social media following

person-days spent in the field executing research monitoring and sampling **950**

>40 million people reached through our communication channels

Corporate Social Investment Report

Activities that SAAMBR undertakes for the greater good of South Africans. Including charity, education and skills development, environmental awareness and conservation, animal rescue and rehabilitation and the use of wise, research-based counsel to influence decision making through meetings, committees and public fora.

2021 - 2022

70 years of helping people to care for our ocean

120 learners received marine career guidance

4 dive interns joined the SAAMBR Commercial Dive school for training and work experience

28 schools visited as part of our outreach programme

20 post-graduate students supervised by ORI Scientists

5 international ocean science and conservation programmes involvement

9 environmental days celebrated such as MPA day, World Sea Turtle day, Bioblitzes and Estuaries day

3 081 hours of volunteering by our volunteer guides

1 838 hours dedicated to the care of rescued animals

14 regional ocean science and conservation programmes involvement

48 Addington Primary prefects participated in the Addington Earth Warriors programme

14 national ocean science and conservation programmes involvement

coordinated all KZN clean-ups for International Coastal Clean-up Day 2021

46 rehabilitated animals released or transfered out

19 representing different species

130 science symposium abstracts reviewed

896 840 Rand value of the CSI activities by SAAMBR

Memories of a SAAMBR Legend
Dr Antonio Jorge de Freitas
1933 - 2022

Tony receiving the SAAMBR Living Legend Award in 2017.

Dr Tony de Freitas has been an integral part of the SAAMBR family since the 1970s, when he was employed as a researcher at the Oceanographic Research Institute (ORI), while completing his PhD research on the prawns of southeast African waters. He became ORI's Principal Research Officer in 1979 and was recognised as a Professor by the University of Natal in 1980. He was appointed as SAAMBR's Executive Director in 1990, a position he held until retirement in 2004. On retirement, Tony continued to serve the Association as an active member of the SAAMBR Council and was elected President of the Association in 2015; a position he held until he retired from the Council in 2018.

Tony grew up in Johannesburg, where he attended Marist Brothers School and Wits University, graduating with an MSc on insects. He applied for, and (to his surprise!) was offered an entomological position in Mozambique, initially based on Inhaca Island. The marine environment had its influence, and Tony moved to a marine biological position, eventually becoming the Director of Fisheries for the Mozambique government.

Tony was a generous host, and many SAAMBR researchers visiting Mozambique enjoyed his hospitality. Others who benefitted from his open-arms policy were the Witwatersrand University students supervised by Bill Macnae, who was the inspiration behind the Marine Biology Research Station on Inhaca Island. Each year a group of Wits students would visit the station as part of their practical assignments. Tony would assist by taking a group through the muddy mangroves to study mudskippers. In one group of students he noticed an attractive, fashionable girl wearing snow white tackies. He gallantly offered to help her through the mud – but instead of falling in the mud, he fell in love with this Johannesburg beauty named Cathy. They got married and for many years the de Freitas's were one of the 'to know' couples in Lourenco Marques society. His love for Cathy was obvious; deep and enduring.

Tony's local status was enormous, by virtue of his authority over the awarding of prawn quotas, Mozambique's major export product. As the director he did a great job in managing the Mozambique fisheries, but with increasing political instability Tony and his family moved to South Africa in the 1970s. Tony ended up at ORI, where he completed his PhD under Allan Heydorn and Bill Macnae. He participated in the first international Indian Ocean Cruise and subsequently played an important role in developing marine invertebrate research at ORI. He published widely and gave presentations at many conferences.

Although a scientist at heart, as SAAMBR's Executive Director Tony realised that the organisation was more than just ORI and he fully supported Sea World. He was an active member of the World Association of Zoos and Aquariums (WAZA), and a founding member of the African Association of Zoos and Aquaria (PAAZA). He drew up the PAAZA constitution and ensured that the PAAZA Executive Committee stayed on the 'straight and narrow'. He Chaired the PAAZA Executive Committee for several years and was instrumental in the growth of the organisation. He was always prepared for meetings and was fondly known as 'The Portuguese Man of War', as he argued a point. And usually won – he knew the constitution better than any of us. Tony loved PAAZA conferences and especially the final dinners. He liked nothing more than to dance – when the DJ eventually played proper music – rock-and-roll was a favourite. To ensure that SAAMBR stayed innovative he attended conferences around the world, even attending the International Marine Animal Trainers Association (IMATA) conference, so that he could support the mammal team more effectively.

Tony was passionate about marine education, and it was thanks to him that the Sea World Education Centre became the third 'leg' of SAAMBR's three-legged pot. He said yes to almost every initiative we approached him with – always with the caveat – 'You can do it, if you find the money.' His support enabled the Education Centre to grow from a staff of one and a half, to one of the leading marine education centres in Africa. He loved the volunteers and always had time for a chat with them.

Tony with the prawn he discovered, **Cryptopenaeus catherinae,** *named after his beloved wife, Cathy.*

It was his vision and drive that led Durban to build the new aquarium at the Point, that ultimately became uShaka Marine World. He initiated the move from the old Sea World premises at the end of West Street to the new uShaka Marine World complex. Tony is the reason we have an uShaka Sea World, in fact, he is the reason that SAAMBR still exists, as the old aquarium at the bottom end of West Street, after over 40 years of service, was really falling apart.

Tony's titles and positions only tell us about his career – what they do not tell us about is his humanity. Tony was far more than a boss – he was a friend and a mentor to so many of us, he led us and guided us, he cared for us as people. He gave us advice, which was not always what we wanted to hear, but usually needed to be said. He had one of the clearest moral compasses of anyone we know; he knew right from wrong. His integrity was without compromise, and he led SAAMBR with that integrity. Tony was able to help us to see the big picture, he reminded us of why we do what we do. He was committed to SAAMBR and completely believed in what the Association stands for.

As a scientist who was also a staunch Catholic, Tony's principles and beliefs were strong. Well-read, he loved engaging in debates ranging from the philosophy of ethics to fossils and early homo sapiens. His 'Evolution and Religion' talk helped many a disturbed Christian reconcile their knowledge and faith.

After his retirement Tony played an important role in the church, devoting much of his time to his fellow parishioners as a deacon of the Blessed Sacrament Church in Durban North. Nevertheless, his commitment to SAAMBR never wavered, and Tony was always on hand when needed.

Tony had no fear of death, firmly believing that his beloved Cathy was waiting patiently for him on the other side. We will forever be grateful to Tony for all he was to SAAMBR, and to so many of us individually.

ORI's Role in the International Coral Reef Conservation Community

The Oceanographic Research Institute had a busy year contributing to the international coral reef conservation community in several ways.

These contributions included both field and desktop-based activities and collaborations. This follows over thirty years' worth of research by ORI on coral reefs in the region, with a focus on conducting applied research to provide advice on the sustainable management and conservation of reefs in a world that is undergoing rapid changes from various anthropogenic pressures.

A key component is monitoring temporal changes of coral communities, which ORI has been doing since the early 1990s. These data made a pivotal contribution towards the Global Coral Reef Monitoring Networks (GCRMN) Status of the World's Coral Reefs report. The GCRMN provides a conduit for ORI to provide important information on the status of our coral reefs to the International Coral Reef Initiative, the de facto body that advises the United Nations on coral reef related matters. The data emanating from ORI's long-term coral reef monitoring also made a key contribution to assessing the extinction risk of reefs in the Western Indian Ocean. This is the first time that an International Union for the Conservation of Nature (IUCN) red listing of ecosystems framework has been applied to the coral reefs of the world, and the research was published in the esteemed journal Nature – Sustainability. Similarly, ORI has been involved in the IUCN Species Survival Commission's Coral Specialist Group, assessing the extinction risk of the World's 850 reef-building coral species, using the IUCN red listing framework.

A new global initiative, the United Nations G20 Nations Coral Research and Development Accelerator Platform, aimed at saving the world's coral reefs, was also founded recently. ORI was a founding member of the committee, and we have been involved in two years' worth of negotiations and meetings, designing the Governance Charter and Constitution. Now that the initiative has commenced, ORI sits on the Scientific & Advisory Committee as a G20 member country, providing guidance on strategies to best conserve and restore coral reefs globally.

The past year has also seen ORI showcase its internationally recognised coral research at the International Coral Reef Symposium, first held virtually and subsequently in person, in Bremen, Germany. No less than eight presentations involving ORI scientists were given at this forum, ranging in subject from the genetic connectivity of coral populations among South Africa's marine protected areas, to the impacts of pesticides on coral reef communities.

But that's not all...

Further international collaborations include contributing to the Allen Coral Atlas to ensure South Africa's coral reefs are "on the map", and inputs to the Western Indian Ocean White Paper on Ocean Acidification, associated with the pioneering work done by ORI on the potential impacts of ocean acidification on coral reefs. ORI is also South Africa's National Contact Point for the International Coral Reef Initiative, and a member of the International Coral Reef Society.

Science engagement, at its most relevant!

Coral reef research

Cryptic Visitors From the North – WIO Decapod Larvae in KZN Waters

Decopod larva

The fast-flowing Agulhas Current transports warm tropical Western Indian Ocean (WIO) seawater southwards along the African east coast, which influences the local climate, rainfall, and marine environments in KwaZulu-Natal (KZN). The current can also bring cryptic visitors from the north, as drifting larvae of invertebrate and fish species, some of which have not yet been reported as adults in South African waters. Zooplanktonic larvae grow through a series of developmental stages, often undescribed, and are difficult and time-consuming to identify to species-level using microscopy.

Recently developed molecular methods, such as DNA metabarcoding, now allow for a rapid species-level analysis of zooplankton samples collected with plankton tow-nets at sea. We used metabarcoding to investigate the decapod species (lobsters, crabs, prawns, and shrimps) present in the zooplankton in KZN coastal waters, and then compared them with occurrence records – generally based on easily identifiable adult specimens – from the region. Some 14 000 species of decapods occur worldwide, with more than 1 000 species known from southern Africa. Several decapod species in KZN support recreational and commercial fisheries, and they also form an important component of coastal ecosystems, as scavengers.

Metabarcoding of marine zooplankton samples collected in surface waters over the KZN shelf (between the 20 and 200 metre depth contours) off iSimangaliso Wetland Park, the Thukela River mouth, Durban, and Aliwal Shoal, identified 60 decapod species at 99% similarity to DNA barcode records stored on the international Barcode of Life and GenBank reference databases. Most of the identified decapods were true crabs, hermit crabs, prawns, and shrimps, with only two spiny lobster species present. Interestingly, 19 tropical WIO species, for which there are no records of adults occurring in South African waters, were detected by metabarcoding. The finding confirms a previous hypothesis that tropical zooplankton species from the WIO disperse southwards into sub-tropical waters while drifting in currents. It remains unknown whether they will settle and establish adult populations so far south of their tropical WIO habitats. Even so, the presence of these cryptic visitors from the north has clear implications for potential geographical range extensions into KZN waters during a period of global warming.

Determining Diversity Hotspots in the WIO from Demersal Trawls

The Western Indian Ocean is an area of high biodiversity, which can be attributed to its wide range of habitats.

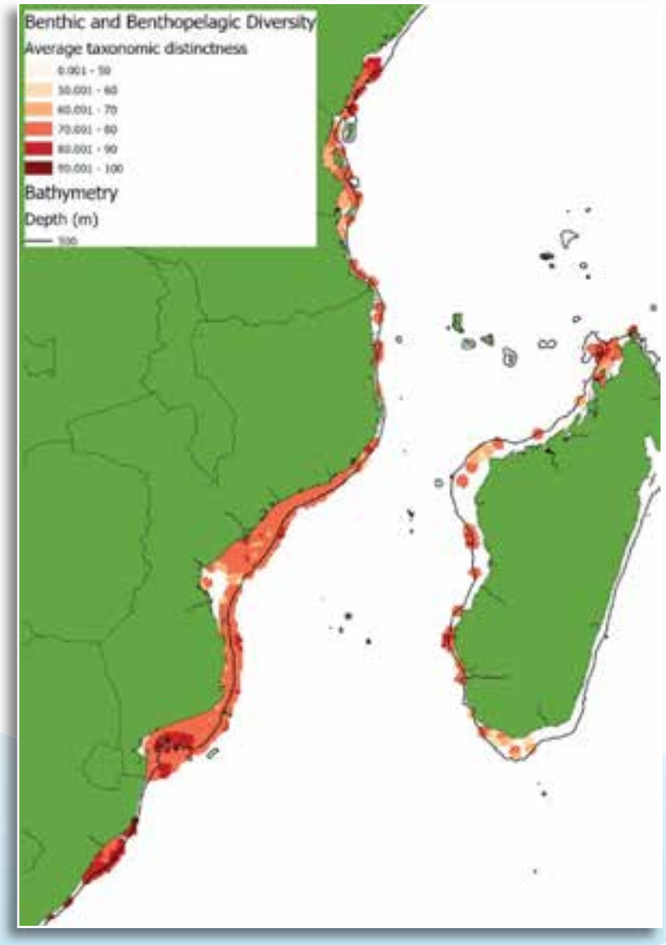
While some of these habitat types, particularly mangroves, sea grasses and coral reefs, have had extensive research conducted on them, the soft sediment habitats that are the vastest in the region, and support valuable trawl fisheries, have largely been undefined. We need to understand these habitats better to ensure their continued integrity and the sustainability of the fisheries. This knowledge, used along with other inputs, can determine if or where areas need to be protected. The WIO-Benth Project, involving participants from Kenya, Tanzania, Mozambique, Madagascar, and South Africa, aims to address this through analysing the copious amount of data collected via surveys and through fisheries observer programmes on commercial outings.

The historical catch data that we used posed many challenges, including confidentiality of national data; differences in data collection methods; poor curation of data; and low confidence in species identification. These challenges meant that only presence and absence data could be used to assess diversity, which led to the use of average taxonomic distinctness as the diversity index. This index measures how closely related (i.e., taxonomically distinct) are the genera of species caught in an area, as well as between areas. Two approaches were used. Firstly, only the benthic genera (those that are closely associated with the seabed) were used, and secondly, the benthopelagic genera (those which move between the seabed and the water column above it) and the benthic genera were combined for the analyses.

Considering only benthic genera, high diversity was observed off Kenya and northern Tanzania, off the Rovuma Delta on the border of Tanzania and Mozambique, on the Sofala Bank and in the Delagoa Bight in Mozambique, off Durban in South Africa, and off Antongil Bay in Madagascar.

When benthic and benthopelagic genera were combined, some of these hotspots were retained but the benthopelagic genera generally smoothed out the resulting map, as they have higher overall relatedness (i.e., are less taxonomically distinct). Some areas of high diversity were associated with the outflow of river systems, highlighting the important role that rivers play in influencing marine habitats. The most likely explanation for the diversity hotspot found off KwaZulu-Natal is that species identification was more accurate compared to other areas.

Our first attempt at mapping diversity associated with soft sediment habitats in the region was largely successful, and input from future surveys will continue to increase our understanding of the biodiversity of the Western Indian Ocean.



Movement Behaviour of the Enigmatic Catface Rockcod

The catface rockcod Mycteroperca (formerly Epinephelus) andersoni has puzzled scientists for years.

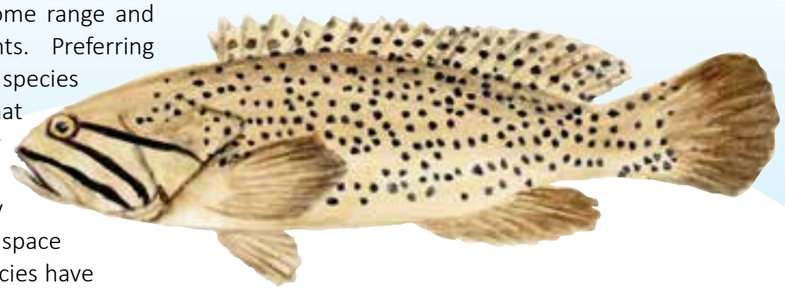
A tagged catface rockcod ready to be returned to the sea. These dart tags help to reveal the movement behaviour of many different fish species.

How do adults of this supposedly resident reef fish turn up as some of the first arrivals on new wrecks and other artificial reef structures on the sea bottom? Another question that scientists have pondered is 'Why are catface rockcod more abundant on reefs outside some of our no-take marine protected areas (MPAs) than inside?' To answer these and other questions, ORI scientists investigated the movement behaviour of catface rockcod using both conventional dart tagging and passive acoustic telemetry. Results from both methods showed that this species is likely to be a temporary resident on shallow inshore reefs. Fish showed high site fidelity and occupied relatively small home ranges (160-270 m linear distance) for periods seldom exceeding 12 months, whereafter they appeared to abandon their home range and undertake ranging-type movements. Preferring marginal reef-edge habitats, this species has evolved movement behaviour that allows it to take advantage of newly exposed reefs that were previously sanded up. They can also quickly locate and occupy suitable niche space from which other more resident species have been removed (such as speckled snapper in the iSimangaliso MPA and yellowbelly rockcod in the Pondoland MPA). This would explain why these fish are more abundant on fished reefs outside our MPAs. Adults greater than 40 cm in length were more mobile than juveniles and the distances they travelled increased with both fish size and time at liberty. Adult fish found south of Durban moved further in a northerly direction than those north of Durban, confirming that spawning likely takes place north of Durban. No direct evidence of a spawning migration was found but anecdotal observations that they form spawning aggregations suggests that migrations for this purpose are likely to occur.

For more information on this story please consult the following publication:

Mann BQ, Daly R, Jordaan GL, Dalton WN, Fennessy ST. 2022. Movement behaviour of catface rockcod *Mycteroperca (Epinephelus) andersoni* (Epinepilidae) off the eastern seaboard of southern Africa. African Journal of Marine Science 44(2): 125-137.

Catface rockcod. *Mycteroperca andersoni.*
Endemic to the eastern seaboard of southern Africa.
Status: Near threatened.



Tagging Manta Rays - a First for South Africa

This year ORI collaborated with Dalhousie University and the Marine Megafauna Foundation (MMF), to tag the first reef manta rays in South Africa.

A tagged reef manta ray

The research project aims to investigate the movement ecology of these iconic rays and is part of a greater collaborative initiative with Oceans Alive, the Shark and Ray Protection Project and University of Cape Town.

Reef manta rays (Mobula alfredi) are a tropical to subtropical species that occur frequently in neighbouring Mozambique, however little is known about their occurrence in South African waters. By conducting surveys within the iSimangaliso Wetland Park (IWP) in May 2022, we recorded 53 manta sightings and identified 25 individuals in one week. This suggests that parts of the IWP are indeed important for reef manta rays and further research is needed to confirm how manta rays potentially utilize the IWP for refuge.

After initial surveys, we deployed 12 acoustic tags on adult manta rays and established a new underwater receiver station at a key site for them. This adds to the growing acoustic receiver array within the IWP and along the south-east African coast. with help from partners at the South African Institute of Aquatic Biodiversity's Acoustic Tracking Array Platform (ATAP) and the MMF we plan to track the movements of these rays and investigate their habitat use within marine protected areas (MPA) in the region.

We hope that this research will support work done in neighbouring Mozambique, where the project is investigating the linkage between manta populations in the region, their habitat preferences and distribution, population status, and the risks they face. To help answer these questions, we will deploy pop-up satellite tags on mantas in the IWP later this year, which will allow us to monitor the activities of these iconic sea creatures continuously over a given period.

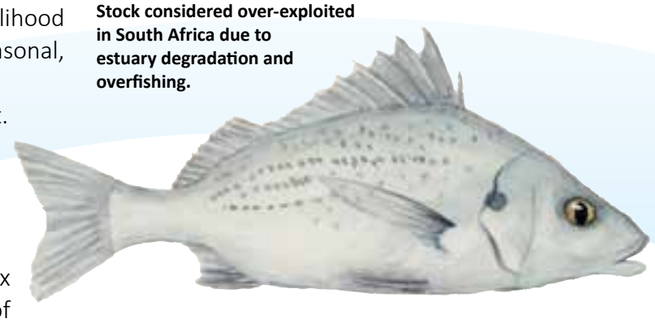
Placing an acoustic receiver on a reef in Sodwana Bay.

ESTUARIES - The Socio-ecology of Large East African Estuaries

Estuaries along the coast of the Western Indian Ocean (WIO) have been focal points for human settlement for many centuries. This is not surprising, as they are highly productive natural ecosystems that provide fresh fish for food and trade, fertile soil for crops, mangrove wood for fuel and construction, and protection against the elements. Population growth and urbanization around estuaries over the past 30 years have greatly increased demands for estuarine resources, leading to their degradation and a reduced capacity to provide essential goods and services. During the Estuarize-WIO project (2016-2021) ORI led an international team of researchers to assess socio-ecological change in estuarine systems. Three typical WIO estuarine systems covering a broad latitudinal gradient were selected - the Bons Sinais in Mozambique, Ruvu in Tanzania, and Tana in Kenya. All three estuaries were open to the sea and tidal, with similar marine species, mangrove assemblages and seasonality. In all three cases, estuarine functioning was threatened by reduced freshwater input from dams built in catchment areas, increased exploitation by local communities, and climate change effects, such as sea-level rise and more extreme floods and droughts.

Analysis of satellite images stretching back to the early 1990s showed the rapid growth of a densely populated city (Quelimane) on the banks of the Bons Sinais, medium-density urbanization at the Ruvu, and a sparsely populated rural area at the Tana. Land use / land cover analysis of the images showed decadal increases in built-up, cultivated- and grasslands, at the expense of wetlands and forests. Wetlands were transformed to agriculture and grasslands during the dry season. Livelihood strategies of households were strongly seasonal, relying on a combination of fishing, farming, and small business to make ends meet. Employment opportunities became more diverse in peri-urban areas. Estuarine fisheries ranged from catching small, fast-growing species using fine-mesh nets at the most-disturbed Bons Sinais, to a more complex organized fishery catching a broader range of species and sizes at the least-disturbed Tana Estuary. Invasive giant freshwater prawns, identified for the first time in Eastern Africa, were fished opportunistically in the Ruvu Estuary. Governance of fisheries was ineffectual and infrequently adhered to or enforced. The approach followed by Estuarize-WIO demonstrated that human-induced processes affected WIO estuaries and dependent livelihoods more deeply than inherent physical differences between the estuaries. Research findings from Estuarize-WIO were published in a Special Issue of the Western Indian Ocean Journal of Marine Science, in December 2021.

Spotted grunter. *Pomadasys commersonnii.* Adults are resident to one estuary, making seaward migrations to spawn. Stock considered over-exploited in South Africa due to estuary degradation and overfishing.



MPA Day 2021

'Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever does.' Margaret Mead.

Presenting the Virtual Tour of the MPAs from the uShaka Sea World aquarium.

On the 1 August 2021 SAAMBR led the celebration of Africa's first Marine Protected Areas (MPA) Day. The idea to launch MPA Day started with the realisation that very few South Africans know that our country has marine protected areas (MPAs) along the coast and in our ocean. Our goals were modest - generate an awareness of MPAs amongst South Africans, build an understanding of the importance of these places for both people and nature, and encourage support for MPAs. The first step was the most important – find a team of people passionate about the ocean and MPAs, with the diversity of skills necessary to make the day a reality.

The MPA Day Alliance included two communication experts (FLOW Communications and Olivia Jones Communications) and four conservation organisations (SAAMBR, Two Oceans Aquarium, Dyer Island Conservation Trust and WildOceans). With absolutely no budget, this tiny team managed to generate an incredible amount of media, support and interest.

Media during the build up to the day was vital for its success. Social media included Facebook, Twitter and Instagram; two websites MPA day - Marine Protected Areas South Africa and MPA DAY | SAAMBR; and the generation of informative fact sheets and maps for educators and others on:

www.saambr.org.za/marine-protected-areas-mpas/

Traditional media included almost 40 newspaper articles, four magazine articles, radio and TV interviews, and over 100 online articles worth over R5 million. This was all done pro-bono by our communication partners, with the support of the other members of the Alliance.

Activities on MPA Day included a technically challenging but highly successful Virtual Tour of four MPAs, with live crossings to meet the people and some of the animals living in those MPAs; exhibits in the uShaka Sea World and Two Oceans Aquariums; beach clean-ups and special displays in MPAs; and much more. The social media, including a #MPADay Twitter chat, ensured that during the last week of July and 1 August over 2.7 million people were reached on social media. We are very grateful to everyone who made these events happen, including those in the MPAs testing out their broadcasting skills; our brilliant poets and beautiful songwriters; those who organised displays and events; and the Twitter influencers who expanded our reach.

A diver in the Snorkel Lagoon shares MPA Day with visitors.

MPA Day 2021 was celebrated at the 2022 PRISM Awards, where the project took home five awards, including a gold medal for the best environmental campaign of the year. This was a well-deserved honour for the whole MPA Day team, who worked so hard to highlight the importance of these global 'game reserves of the sea'.

While we were thrilled with the media reach and awards, these only touch on what made MPA Day such a success. It was the energy of everyone who was asked to help. Every single person agreed with enthusiasm and then did way more than we expected. Indeed - 'this small group of thoughtful and committed citizens' really did change the world for MPAs in South Africa. We exceeded our goals in every way and are convinced that this is just the start of an annual celebration for these critical protected areas, so vital for ocean and human survival.

Change in Real Time

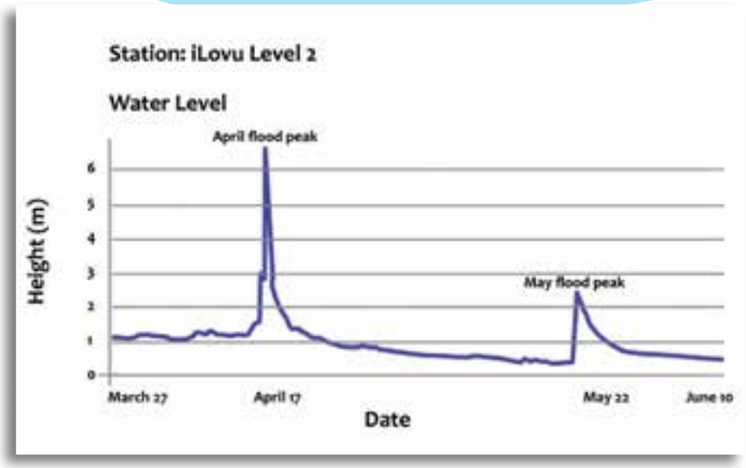
A KZN Estuary Continuous Monitoring Platform to Inform Science and Management.
Scientific monitoring of the biophysical conditions of estuaries is essential to understand their complexity and effectively manage them.

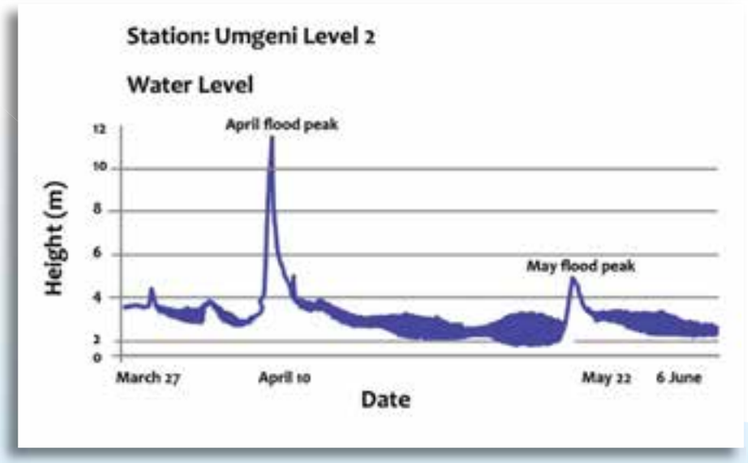
However, monitoring has all but ceased in KZN in the past decades. Continuous data is collected in just a few systems, and then only for basic parameters such as catchment freshwater inflows and water levels. Estuaries are transition areas, where natural fluxes are the norm, with conditions being more variable and less predictable than in rivers or the ocean. Adding human pressures and changing climate effects to the mix makes the need for recent, good quality data even more urgent as we prepare to climate-proof estuaries; or at least, to ameliorate the effects whilst still making use of the resources and services they provide.

Data is key to building models, plans, and responses, and to evaluate the results of management actions being implemented. Data collection should be over the long-term (decades) but as a stopgap, high-frequency, continuous monitoring offers improved insight into the temporal and spatial variability of our estuaries. Contemporary monitoring science has shown that not every system needs regular visits by a large field monitoring team, brandishing an assortment of measuring devices and instruments, year in and year out. Instead, recent advances in sensor technology and communication can play a crucial role.

Taking ORI into the realm of real-time observation from the safety of an office desk, our estuaries research group has designed, and invested in, a monitoring programme for KZN estuaries that

ORI continuous monitoring sensors are sited to limit vandalism and natural failure and accessed via a web-based data portal.





Left: Water level recording platform: iLovu and uMgeni estuaries showing peak flood levels during April and May 2022 floods. Note that official estuarine functional zone levels are at 5m height amsl. Both systems transgressed this vertical height (by 1.5m and 6.5m, respectively) on 12 April 2022.

integrates continuous data collection by remote, in situ detectors. All units are fully automated so that by using telemetry, we are a mouse-click away from normal surveillance or detection of extraordinary events. An example of which were the April 2022 floods, which were captured by our sensors. They provided empirical evidence that the province's current coastal development setback protocols, and even our current estuarine functional zone delineations, are far from adequate to provide protection to infrastructure, homes, and estuarine ecosystems. Working with the KZN Department of Economic Development Tourism and Environmental Affairs, we will incorporate this learning to retrofit buffer zones and put realistic coastal management lines in place around estuaries.

The continuous monitoring programme has been incorporated into ORI's KZN Estuaries Observer Programme (EOP) and monitors nine estuaries, a number we hope to double in the coming year. The array spans the province, and measures local weather conditions, monitors estuary mouth behaviour using remote cameras, detects water levels using radar technology, and records basic salinity and temperature conditions in the upper and lower reaches of estuaries, all of which are sampled at intervals measured in minutes. Soon, terabytes of data will help to categorise the biological condition, health, and function of KZN estuaries. Not only is this foundational work, but it assists decision makers and will help us target where more research is needed.

Improving Guest Experience in Response to the Covid 19 Pandemic

The key strength of SAAMBR's Education staff is engaging one-on-one with visitors to uShaka Sea World.

There were many challenges when interacting with the public while implementing Covid regulations.

The stricter levels of Covid lockdown created the opportunity for us to reassess our activities and determine how to best host our visitors in a safe environment through conversations to promote awe for marine life, encourage emotional connections with our ambassador animals, and provide ideas for daily actions to care for the ocean. We initially functioned without the support of volunteers and contract staff, who were only able to re-join the team halfway through the year, at reduced numbers.

With the decrease in school footfall, we were able to focus on training the education staff to ensure consistent, excellent guest experiences for all stations in uShaka Sea World and Dangerous Creatures, as well as education activities such as school courses, themed guided tours and offsite lessons.

Training was achieved through several interventions. Building on the basic training done the previous year, on-the-job shadowing and group discussions ensured that accurate, facts were the foundation for conversations, as well as a broader understanding of South African conservation issues and animal welfare.

We shared strategies for communicating well (with a mask) by voice strengthening, animated body language and role play exercises as well as focusing more intently on guests' responses. The team were exposed to training on social marketing and behaviour change principles to better motivate guest action.

Because we were not able to attract crowds in the aquarium, the normal programme was not advertised, and the education and aquarium curatorial teams worked closely together to make the most of opportunities to showcase animal care in many of the exhibits e.g., housekeeping, specialised feeding, enrichment of habitats and animal training

It was good to have children back exploring the marine environment.

for health care.

The visitors, whether school groups or families, were unobtrusively but strongly managed to reduce the risk of the spread of Covid 19 e.g., adapting the length of commentaries, encouraging movement to bigger areas through highlighting certain exhibits and choosing interested small groups to visit animal care activities, creating magical moments with the sense of being in the right place at the right time.

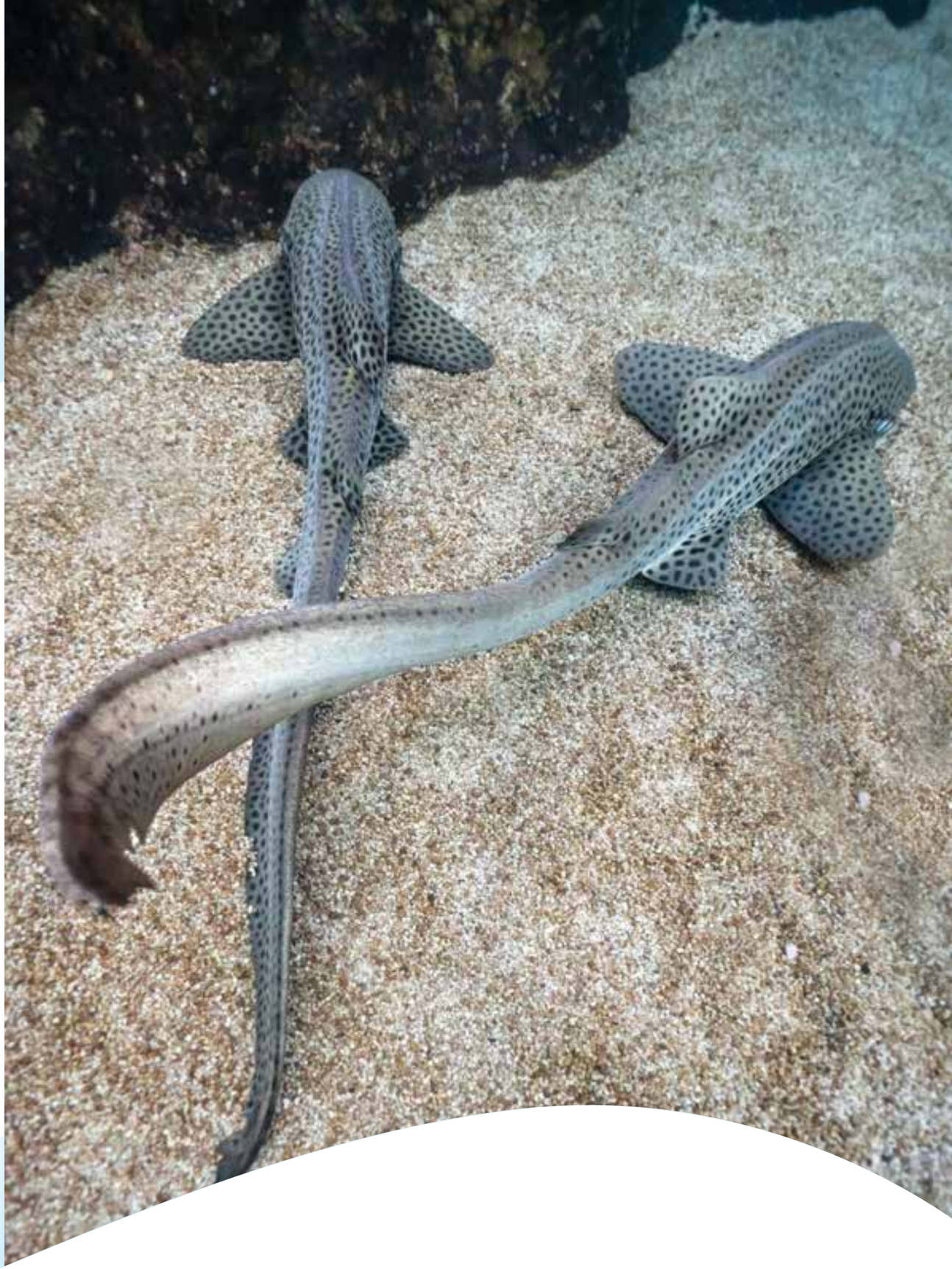
One of the most successful interventions was to have staff in each gallery who were comfortably able to move from family to family rather than draw people to one point. This call be likened to cold calling, a skill required to break into a social circle and instantly build a rapport that then enables guiding a conservation conversation. This was frequently positively commented on by guests after their visits.

Visitors during this time were more stressed than usual, with some feeling very insecure in crowds and others fed up with all the regulations. The education staff had to manage these groups together and fulfil SAAMBR's mission. Strategies were developed to encourage social distancing and mask wearing in a non-confrontational way that still allowed staff to safely engage with public and create a harmonious relationship for a conversation.

At the end of October 2021 schools were allowed to start doing excursions again and we were ready for them, despite the operating constraints associated with the Covid regulations. All staff re-arranged work to enable guided tours with one SAAMBR educator with 10 learners and the associated up-charge of a detailed guiding, which was positively marketed. Feedback this year has shown that some schools who would have previously done a basic guiding have booked for a detailed guiding as a good value for money option.

Courses have traditionally been manned by volunteers, but our cohort halved during the Covid pandemic. School visits for courses increased substantially in the latter half of the financial year and the positive comments from teachers' evaluation forms reflect the permanent staff's ability to guide course group activities with greater confidence, knowledge, and engagement at an age-appropriate level.

As a team we learnt to appreciate each other's positions by working together and we were grateful that we still had employment. The school footfall and bookings, and uShaka Sea World footfall for 2022 is quickly approaching pre-Covid levels and the SAAMBR education staff are ready, passionate, and skilled to be able to provide excellent entertaining learning experiences for all our guests. It's wonderful to have smiling, excited noise in the uShaka Sea World Education Centre again.



SAAMBR Output

Note: SAAMBR staff underlined if non-SAAMBR staff are co-authors.

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4. Hofmeyer S. 2021. Underwater photogrammetry using video data for long-term coral reef monitoring and understanding rugosity for coral reefs in South Africa. MSc dissertation, University of KwaZulu-Natal, South Africa, 163 pp.
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1. van Deventer H, Adams J, Durand JF, Grobler R, Grundling P-L, Janse van Rensburg S, Jewitt D, Kelbe B, MacKay CF, Naidoo L, Nel JL, Pretorius L, Riddin T, Van Niekerk L. 2021. South Africa's swamp forests are very likely critically endangered wetland ecosystems. The Water Wheel. Water Research Commission. Nov/Dec 2021 pp 30-33.
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5. Mann-Lang JB. 2021. How should aquariums position themselves for the future? BlooLoop Website, 6 July.
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Other Academic Output

1. 1 SAAMBR Annual Report;
2. 1 ORI Annual Research Report;
3. 14 ORI Unpublished research reports;
4. 24 Data reports;
5. 55 Presentations

SAAMBR Council and Staff

COUNCIL OF THE SOUTH AFRICAN ASSOCIATION FOR MARINE BIOLOGICAL RESEARCH (RF) NPC

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ORI EDTEA Liaison Officer
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M. Els
Laboratory Technician
S. Mselegu BCom (UNISA)
M. Mthiya
Research Assistant S. Maduna MSc (UKZN)
S. Badenhorst MSc (UKZN)
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R. Reddy BSc (Hons) (UKZN)
X. Mselegu
Post Doctorate A. Govender (MSc PhD) (UKZN)
Studentship C. Buhrmann MSc (UKZN)
K. Ramalepe BSc (Hons) (UKZN)
D. Chetty BSc (Hons) (UKZN)

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Outreach Co-ordinator
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Bookings Clerk N.Buthelezi ADNC (MUT)
Co-ordinator Education Support
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M. Moodley
Co-ordinator Visitor Engagement
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Informal Education Manager
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L. Shezi
Guest Relations Guide Level Two
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Z. Shandu; B. Ntuli; M. Mtshali
P. Govender BSc (UNISA)
S. Zakwe
Part-time Education Guides
P. Cele; N. Khoza
N. Mhlongo NDNC (UNISA)
S. Mngoma; H. Ndlovu; S. Shandu
T. Zondi NDTM (DCC)

Volunteers
C. Augustyn; S. Balding; S. Bisschoff;
G. Bright; Z. Dawood; I. D'eathe;
J. Dresner; A. Fourie; P. Freeman;
E. Frommolt; S. Funston;
S. Gibson; E. Govender;
R. Govender; Y. Govender;
M. Ismael; S. Jacobs; B. Kee;
K. Kennedy; C. Mardon;
N. Mhlongo; M. Moodley;
H. Ndlovu; R. Nunn;
A. Ramchurren; C. Ramjugath;
A. Ramroop; A. Sacco; S. Smith;
E. Stenhouse; V. Brummer;
B. Toughey; A. van der Merwe;
D. van Niekerk; C. van Wyk ; S. Wells

uSHAKA SEA WORLD

Executive Manager
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uShaka Sea World Administrator
B. Harwood

MAMMAL AND BIRDS

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Assistant Curator C. Smith
Lead Operations Officer
M. Woodroffe
Lead Behaviourist
H. Tennant Level C Animal Care and Behaviour (SAAMBR)
K. de Klerk Level C Animal Care and Behaviour (SAAMBR)
D. Kuhn ND Nature Conservation (MUT); Level C Animal Care and Behaviour (SAAMBR)
Senior Behaviourist
U. Macklin Level C Animal Care and Behaviour (SAAMBR)
B. Limbada Level C Animal Care and Behaviour (SAAMBR)
A. Eyre (BEd (UNISA) Level C (SAAMBR)
R. Bates Level C Animal Care and Behaviour (SAAMBR)
L. Paverd Level C Animal Care and Behaviour (SAAMBR)
Behaviourist 3 T. Mnyawe
Behaviourist 2 U. Wahab Level C Animal Care and Behaviour (SAAMBR)
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P. Ziegler BTech (Hons)(TUT);
C. Mdlalose; U. Wahab
Level C Animal Care and Behaviour (SAAMBR); S. Ncube
Behaviourist 1 T. Nkabinde ND Agriculture (MUT)
Animal Care Assistant
S. Cornelius BA Hons (IIE); R. Smit
S. Gumede
Apprentice Animal Care
P. Ncwane; J. Reddy
Husbandry Assistant
S. Mthembu; S. Manqele
Nightshift Monitor
M. Shadrack; S Hlekwayo;
S Magubane
Audio Visual Technicians
L. Fayers BSc (Hons) (UKZN) Geography and Environmental Management
Q. Kockott DIPL (Shaw Academy) Sound Engineering;
L. Perumal BSc (UKZN) Marine Biology
I. Rich
Technical Assistant
D. Nzuza
Dive Co-ordinator M. Magubane
Lead Diver S. Mbanjwa
Service Diver A. Netsianda; P. Ntuli;
P. Zikhali;
Intern Diver S. Mgwaba; A. Sishi; S. Mpontshane
S. Mafuleka; L. Nxumalo
Contract Diver S. Mthethwa; B. Mbuyazi;
N. Mbuyazi

VETERINARY DEPARTMENT

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Veterinary Nurse M. Benade, DVN (UP)
Registrar, PAAZA African Penguin Studbook Keeper
T. Shaw, MSc (UP)
Administrative Assistant
A. Naidoo, BSc, (UKZN)

AQUARIUM

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Administration Assistant
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Consultant J. Ballard BSc (Natal)
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J. Haxton; R. Kyle
Senior Aquarists J. Ntombela.
M. Needham BSc (UKZN). The Aquarium Vet E-quarist course
Lead Technician K. Randall
Senior Aquarium Technician
S. Ngcobo
Aquarist 3 K Brown BSc (Hons). The Aquarium Vet E.quarist course. (UKZN).
J. Ganess.
J. Swartz. The Aquarium Vet E-quarist course.
C. Wyness. The Aquarium Vet E.quarist course.
R. Rambaran MSc (UKZN)
K. Lavender BSc (UKZN) The Aquarium Vet E-quarist course.
Aquarist 2 L. Khwela The Aquarium Vet E-quarist course.
S. Ndaba (BSc (UKZN). The Aquarium Vet E-quarist course.
T. Smith MSc (Rhodes). The Aquarium Vet E-quarist course.
S Philaretou FGASA (Marine Level 1). The Aquarium Vet E-quarist course.
R.de Koker. The Aquarium Vet E-quarist course.
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T. Naidoo. Nat. Diploma Marine Science (CPUT).
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Senior Herpetologist
L. Labuschagne
Herpetologist 2 C. Van den Berg
D. Leonard ND Nature Conservation (UNISA)
Laboratory manager
K Naidoo Btech (Hons) (DUT)

Water quality team
S. Singh Biotech (DUT)
M. Thomas BSc (UKZN)
S. Harpal (intern) BSc (UKZN)
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Aquarium divers F. Masinga
A. Nyuswa
Food processors E. Khathi
L. Dhlamini
C. Pillay

LIFE SUPPORT SYSTEMS

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Assistant Curator Q. van Staden MSc (UPE) ND Engineering
P. Govender ND Engineering
Technical Administrator
D. Loukes
Senior Technician D. Waugh
Maintenance Technician
K. Delport;
E. Khumalo ND Engineering;
X. Mhlongo
S. Nyawose ND Engineering
T. Bunsee ND Engineering
Assistant Technician
S. Damane; R. Soodiyall
A. van Wyk
Process Technician
B. Dindi; V. Zungu; M. Malevu
A. de Koker; W. Lekhooana
Y. Sewcharran.

Speckled snapper. *Lutjanus rivulatus*. A beautiful, highly residential fish often associated with caves and ledges.

Summary Financial Statements

South African Association for Marine Biological Research (RF) NPC
(Registration Number 1951/000002/08)
Year ending 30 June 2022

South African Association for Marine Biological Research (RF) NPC

(Registration number: 1951/000002/08)
Summary Financial Statements for the year ended 30 June 2022

Index

The reports and statements set out below comprise the financial statements presented to the Council:

Level of assurance: The financial statements, from which these summary financial statements were derived, have been audited in compliance with the applicable requirements of the Companies Act No. 71 of 2008.

Preparer: The financial statements, from which these summary financial statements were derived, were internally compiled by Rose Clark PA (SA).

Published: 24 October 2022

South African Association for Marine Biological Research (RF) NPC

(Registration number: 1951/000002/08)
Summary Financial Statements for the year ended 30 June 2022

Council's Responsibilities and Approval

The Council is required by the Companies Act No. 71 of 2008, to maintain adequate accounting records and is responsible for the content and integrity of the summary financial statements and related financial information included in this report. It is their responsibility to ensure that the summary financial statements fairly present the state of affairs of the company as at the end of the financial year and the results of its operations and cash flows for the period then ended, in conformity with the International Financial Reporting Standard for Small and Medium-sized Entities. The external auditor is engaged to express an independent opinion on the summary financial statements.

The summary financial statements are prepared in accordance with the International Financial Reporting Standard for Small and Medium-sized Entities and are based upon appropriate accounting policies consistently applied and supported by reasonable and prudent judgements and estimates.

The Council acknowledges that it is ultimately responsible for the system of internal control established by the Association and places considerable importance on maintaining a control environment. To enable the Council to meet these responsibilities, the Council sets standards for internal control aimed at reducing the risk of error or loss in a cost effective manner. The standards include the proper delegation of responsibilities within a clearly defined framework, effective accounting procedures and adequate segregation of duties to ensure an acceptable level of risk. These controls are monitored throughout the Association and all employees are required to maintain the highest ethical standards in ensuring the Association's business is conducted in a manner that in all reasonable circumstances is above reproach. The focus of risk management in the Association is on identifying, assessing, managing and monitoring all known forms of risk across the Association. While operating risk cannot be fully eliminated, the Association endeavours to minimise it by ensuring that appropriate infrastructure, controls, systems and ethical behaviour are applied and managed within predetermined procedures and constraints.

The Council is of the opinion, based on the information and explanations given by management, that the system of internal control provides reasonable assurance that the financial records may be relied on for the preparation of the summary financial statements. However, any system of internal control can provide only reasonable, and not absolute, assurance against material misstatement or loss.

The Council is satisfied that the Association has, or has access to, adequate resources to continue in operational existence for the foreseeable future.

The external auditor is responsible for independently auditing and reporting on the Association's summary financial statements. The summary financial statements have been examined by the company's external auditor and the auditor's report is presented on page 3.

The summary financial statements set out on pages 4 to 14, which have been prepared on the going concern basis, were approved by the Council on 05 October 2022 and were signed on its behalf by:

R Turner - Chairperson

P Govender - Vice Chairperson

MOORE

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Independent Auditor's Report on the Summary Financial Statements

To the Council of South African Association for Marine Biological Research (RF) NPC

Opinion

The summary financial statements, which comprise the summary statement of financial position as at 30 June 2022, the summary statement of comprehensive income, summary statement of changes in funds and summary statement of cash flows for the year then ended, and related notes, are derived from the audited financial statements of South African Association for Marine Biological Research (RF) NPC for the year ended 30 June 2022.

In our opinion, the summary financial statements are consistent, in all material respects, with (or are a fair summary of) the audited financial statements, on the basis described in note 1 to the summary financial statements.

Summary Financial Statements

The summary financial statements do not contain all the disclosures required by the International Financial Reporting Standard for Small and Medium-sized Entities and the Companies Act No. 71 of 2008. Reading the summary financial statements and the auditor's report thereon, therefore, is not a substitute for reading the audited financial statements and the auditor's report thereon.

The Audited Financial Statements and our report thereon

We expressed an unmodified audit opinion on the audited financial statements in our report dated 24 October 2022.

Association's Council's Responsibility for the Summary Financial Statements

The Association's Council is responsible for the preparation of the summary financial statements on the basis described in note 1 to the summary financial statements.

Auditor's Responsibility

Our responsibility is to express an opinion on whether the summary financial statements are consistent, in all material respects, with (or are a fair summary of) the audited financial statements based on our procedures, which were conducted in accordance with the International Standard on Auditing (ISA) 810 (Revised), "Engagements to Report on Summary Financial Statements."

Moore Durban
Chartered Accountants (SA)
Registered Auditor

Per: Tarryn Lyn Pedlar CA(SA), RA
Partner

24 October 2022
Durban

South African Association for Marine Biological Research (RF) NPC

(Registration number: 1951/000002/08)
Summary Financial Statements for the year ended 30 June 2022

Statement of Financial Position

Figures in Rand	Notes	2022	2021
Assets			
Non-Current Assets			
Biological assets	2	19,506,075	17,365,400
Plant and equipment	3	6,011,486	5,842,579
		25,517,561	**23,207,979**
Current Assets			
Inventories	4	247,385	243,926
Receivables	5	5,830,133	2,084,112
Cash and cash equivalents	6	44,865,174	41,797,193
		50,942,692	**44,125,231**
Total Assets		**76,460,253**	**67,333,210**
Funds and Liabilities			
Funds			
Revaluation surplus		4,598,487	5,187,222
Accumulated surplus		53,637,544	45,474,309
		58,236,031	**50,661,531**
Liabilities			
Current Liabilities			
Payables	7	16,687,718	14,596,010
Accruals	8	1,536,504	2,075,669
		18,224,222	**16,671,679**
Total Funds and Liabilities		**76,460,253**	**67,333,210**

South African Association for Marine Biological Research (RF) NPC

(Registration number: 1951/000002/08)
Summary Financial Statements for the year ended 30 June 2022

Statement of Comprehensive Income

Figures in Rand	Notes	2022	2021
Revenue	9	**71,888,518**	**67,812,626**
Other income	10	9,193,796	6,654,847
Operating expenses		(77,582,688)	(72,970,485)
Other income		**3,499,626**	**1,496,988**
Interest received	11	1,822,940	1,550,838
Fair value adjustments	12	2,140,675	(3,336,200)
Surplus/(Deficit) for the year		**7,463,241**	**(288,374)**
Other comprehensive income:			
Revaluation of plant and equipment		111,259	131,082
Total comprehensive income/(loss) for the year		**7,574,500**	**(157,292)**

South African Association for Marine Biological Research (RF) NPC

(Registration number: 1951/000002/08)
Summary Financial Statements for the year ended 30 June 2022

Statement of Comprehensive Income

Figures in Rand	Notes	2022	2021
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Other comprehensive income:			
Revaluation of plant and equipment		111,259	131,082
Total comprehensive income/(loss) for the year		**7,574,500**	**(157,292)**

South African Association for Marine Biological Research (RF) NPC

(Registration number: 1951/000002/08)
Summary Financial Statements for the year ended 30 June 2022

Statement of Changes in Funds

Figures in Rand	Revaluation surplus	Accumulated surplus	Total funds
Balance at 01 July 2020	**5,506,515**	**45,312,308**	**50,818,823**
Deficit for the year	-	(288,374)	(288,374)
Other comprehensive income	131,082	-	131,082
Transfer between reserves	(450,375)	450,375	-
Balance at 01 July 2021	**5,187,222**	**45,474,309**	**50,661,531**
Surplus for the year	-	7,463,241	7,463,241
Other comprehensive income	111,259	-	111,259
Transfer between reserves	(699,994)	699,994	-
Balance at 30 June 2022	**4,598,487**	**53,637,544**	**58,236,031**

Statement of Cash Flows

Figures in Rand	Notes	2022	2021
Cash flows from operating activities			
Cash receipts from funders		89,639,192	82,948,141
Cash paid to suppliers and employees		(87,396,332)	(82,879,334)
Cash from operations	13	2,242,860	68,807
Interest received		1,822,940	1,550,838
Net cash from operating activities		**4,065,800**	**1,619,645**
Cash flows from investing activities			
Acquisition of plant and equipment	3	(1,384,451)	(322,959)
Proceeds from disposal of plant and equipment		386,632	261
Net cash used in investing activities		**(997,819)**	**(322,698)**
Total cash movement for the year		**3,067,981**	**1,296,947**
Cash at the beginning of the year		41,797,193	40,500,246
Total cash at the end of the year	6	**44,865,174**	**41,797,193**

Notes to the Summary Financial Statements

Figures in Rand	2022	2021

1. Basis of preparation, accounting policy and comparative figures

The accounting policies applied in the preparation of the audited financial statements, from which the summary financial statements were derived, are in terms of the International Financial Reporting Standard for Small and Medium-sized Entities, and the requirements of the Companies Act No. 71 of 2008, and are consistent with the accounting policies applied in the preparation of the previous period audited financial statements. Selected disclosures from the audited financial statements, which the Council believes aptly reflects the financial results of the Association, have been used to prepare the summary financial statements. Therefore, the summary financial statements do not contain all the disclosures required by the International Financial Reporting Standard for Small and Medium-sized Entities, and the requirements of the Companies Act No. 71 of 2008. The summary financial statements are presented in South African Rand.

2. Biological assets

	2022	2021
	Valuation	Valuation
Dolphins	18,276,075	16,115,400
Penguins	1,140,000	1,160,000
Seals	90,000	90,000
Total	**19,506,075**	**17,365,400**

Reconciliation of biological assets - 2022

	Opening balance	Fair value adjustments	Total
Dolphins	16,115,400	2,160,675	18,276,075
Penguins	1,160,000	(20,000)	1,140,000
Seals	90,000	-	90,000
	17,365,400	**2,140,675**	**19,506,075**

Reconciliation of biological assets - 2021

	Opening balance	Fair value adjustments	Total
Dolphins	19,461,600	(3,346,200)	16,115,400
Penguins	1,160,000	-	1,160,000
Seals	80,000	10,000	90,000
	20,701,600	**(3,336,200)**	**17,365,400**

The fair value of the biological assets were determined by independent experts. The effective date of the fair value of biological assets is 30 June 2022 (2021: 30 June 2021).

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Figures in Rand

3. Plant and equipment

	2022			2021		
	Cost	Accumulated depreciation and revaluations	Revalued amount	Cost	Accumulated depreciation and revaluations	Revalued amount
Boats and accessories	804,457	(403,927)	400,530	717,214	(290,435)	426,779
Furniture and fixtures	241,897	(127,060)	114,837	241,897	(93,673)	148,224
IT equipment	2,426,629	(1,798,426)	628,203	2,331,016	(2,015,788)	315,228
Motor vehicles	1,374,657	(1,127,061)	247,596	1,374,657	(927,347)	447,310
Plant and machinery	5,860,651	(1,335,161)	4,525,490	5,835,590	(1,381,655)	4,453,935
Video and camera equipment	123,507	(28,677)	94,830	69,466	(18,363)	51,103
Total	**10,831,798**	**(4,820,312)**	**6,011,486**	**10,569,840**	**(4,727,261)**	**5,842,579**

Reconciliation of plant and equipment - 2022

	Opening balance	Additions	Depreciation	Revaluation	Revalued amount	Carrying amount under cost model
Boats and accessories	426,779	87,243	(113,491)	-	400,530	160,567
Furniture and fixtures	148,224	-	(33,388)	-	114,837	-
IT equipment	315,228	424,810	(111,835)	-	628,203	628,203
Motor vehicles	447,310	-	(199,714)	-	247,596	143,644
Plant and machinery	4,453,935	804,050	(843,755)	111,259	4,525,490	1,305,733
Video and camera equipment	51,103	68,348	(24,620)	-	94,830	70,329
	5,842,579	**1,384,451**	**(1,326,803)**	**111,259**	**6,011,486**	**2,308,476**

3. Plant and equipment (continued)

Reconciliation of plant and equipment - 2021

	Opening balance	Additions	Change in estimates	Depreciation	Net Depreciation	Revaluation	Revalued amount	Carrying amount under cost model
Boats and accessories	490,678	-	29,036	(135,375)	(106,339)	42,440	426,779	114,348
Furniture and fixtures	139,058	-	16,767	(51,621)	(34,854)	44,020	148,224	-
IT equipment	208,192	212,919	4,546	(110,429)	(105,883)	-	315,228	315,228
Motor vehicles	647,024	-	40,006	(239,720)	(199,714)	-	447,310	239,407
Plant and machinery	5,266,939	110,040	2,716,697	(3,651,694)	(934,997)	11,953	4,453,935	866,387
Video and camera equipment	32,373	-	(5,111)	(8,829)	(13,940)	32,669	51,103	15,465
	6,784,264	**322,959**	**2,801,941**	**(4,197,668)**	**(1,395,727)**	**131,082**	**5,842,579**	**1,550,835**

Changes in estimates

As required by the International Financial Reporting Standard for Small Medium-sized Entities, management has assessed the residual value, depreciation method and useful life of each category of asset. The result of their assessment was that no change in estimates was required in the current year. In the prior year management had revised the useful life and residual value of certain plant and equipment. The effect of this revision has decreased the depreciation charge for the prior year by R2, 801,941.

Details of revaluation

The effective date of the revaluation was 30 June 2022 (2021: 30 June 2021). The revaluation was performed by management, who have extensive experience in the use of the revalued plant and equipment. The current market value of similar items of plant and equipment was utilised in estimating the fair value of the Association's plant and equipment. An independent valuer was not involved.

4. Inventories

Consumable fish	247,385	243,926

Notes to the Summary Financial Statements

Figures in Rand	2022	2021
5. Receivables		
Other receivables	531,184	446,360
Prepayments	4,282,118	1,059,193
Value-Added Tax	1,016,831	578,559
	5,830,133	**2,084,112**
6. Cash and cash equivalents		
Cash and cash equivalents consist of:		
Bank balances	44,855,174	41,787,193
Cash on hand	10,000	10,000
	44,865,174	**41,797,193**
7. Payables		
Accrued audit fees	119,285	118,704
Amounts received in advance	13,496,244	11,141,445
Other payables	3,072,189	3,335,861
	16,687,718	**14,596,010**
8. Accruals		

Reconciliation of accruals - 2022

	Opening balance	Movement	Total
Leave pay accrual	2,075,669	(539,165)	1,536,504

Reconciliation of accruals - 2021

	Opening balance	Movement	Total
Leave pay accrual	3,127,487	(1,051,818)	2,075,669

Figures in Rand	2022	2021
9. Revenue		
Durban Marine Theme Park SOC Limited (RF)	71,520,000	67,164,019
Other revenue	368,518	648,607
	71,888,518	**67,812,626**

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Figures in Rand	2022	2021
10. Other income		
Funding for education programmes	56,307	118,784
Gain on disposal of plant and equipment	386,632	261
Gain on exchange differences	702	-
Research income	8,750,155	6,535,802
	9,193,796	**6,654,847**
11. Interest received		
Bank	1,822,517	1,550,838
Interest received - other	423	-
	1,822,940	**1,550,838**
12. Fair value adjustments		
Biological assets	2,140,675	(3,336,200)
13. Cash from operations		
Surplus /(Deficit) for the year	7,463,241	(288,374)
Adjustments for:		
Depreciation	1,326,803	1,395,727
Gain on disposal of plant and equipment	(386,632)	(261)
Interest received	(1,822,940)	(1,550,838)
Fair value adjustments	(2,140,675)	3,336,200
Changes in working capital:		
Inventories	(3,459)	80,435
Receivables	(3,746,021)	685,013
Payables	2,091,708	(2,537,277)
Accruals	(539,165)	(1,051,818)
	2,242,860	**68,807**

14. Retirement benefits

Defined contribution plan

The Association contributes to the SACCAWU Provident Fund, a defined contribution plan as defined. The fund is registered under and governed by the Pension Fund Act, 1956 as amended. 1.27% (2021: 2%) of the employees are members of this fund and current contributions amounted to R 69,633 (2021: R68,933).

The Association contributes to the AF Access Retirement Fund: Provident Section. The fund is administered by Alexander Forbes. The fund is registered and governed by the Pension Fund Act, 1956 as amended. 98.73% (2021: 98%) of the employees are members of the fund and current contributions amounted to R 5,419,572 (2021: R 5,917,079).

Notes to the Summary Financial Statements

Figures in Rand	2022	2021

15. Commitments

Operating leases – as lessee (expense)

Minimum lease payments due		
- within one year	172,210	197,369
- in second to fifth year inclusive	217,209	50,256
	389,419	**247,625**

Operating lease payments represent rentals payable by the company in return for the use of certain motor vehicles, a coffee machine and photocopiers. Leases are negotiated for an average term of 2 to 3 years (2021: 2 to 3 years) with escalations at the estimated inflation rates for future years. No contingent rents are payable.

16. Research income

KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (EDTEA) *	5,451,702	5,115,460
National Research Foundation (NRF)	699,629	421,625
Council for Scientific and Industrial Research (CSIR)	80,040	-
University of KwaZulu-Natal (UKZN)	132,571	219,547
South African National Biodiversity Institute (SANBI)	125,000	-
Western Indian Ocean Marine Science Association (WIOMSA)	1,254,171	61,220
Department of Forestry, Fisheries and Environment (DFFE)	82,605	67,466
Isimangaliso Wetland Park Authority (IWPA)	84,004	40,855
Wildands Conservation Trust	33,985	-
Other	806,448	609,629
	8,750,155	**6,535,802**

* It is noted that R 7,968,000 (2021: R 7,553,000) had been received from EDTEA. Of this amount R 5,254,622 (2021: R 3,714,024) has been rolled over for research that can only be undertaken during the next financial period.

17. Related parties

Relationships

Entity sharing common directors	Durban Marine Theme Park SOC Limited (RF)

Related party balances

Amounts included in payables		
Durban Marine Theme Park SOC Limited (RF)	(55,730)	(41,445)
Related party transactions		
Other income received		
Durban Marine Theme Park SOC Limited (RF)	59,950	26,880
Education outreach		
Durban Marine Theme Park SOC Limited (RF)	(181,493)	(16,700)
Recovery of expenditure		
Durban Marine Theme Park SOC Limited (RF)	471,193	499,140
Revenue received		
Durban Marine Theme Park SOC Limited (RF)	71,520,000	67,164,019

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Figures in Rand	2022	2021

18. Council members' remuneration

No emoluments were paid to the members of the Council during the year (2021: Rnil).

19. Income tax

No provision has been made for income tax as the Association is exempt from income tax in terms of section 10 (1)(cN) of the Income Tax Act No. 58 of 1962.

20. Impact of COVID-19

On the 04 April 2022, the President of South Africa announced the end of National State of Disaster related to the Covid-19 pandemic.

Prior to the above, the restrictions on movement and public gatherings imposed by the national lockdown had severe consequences for South African tourism, and theme parks such as uShaka Marine World. Diminished visitor numbers resulting in reduced revenue to the DMTP. Consequently, the payment to the Association was reduced by R8 million in the financial year. This resulted in some operating expenses and planned maintenance projects being reduced. Only critical posts were filled when employees resigned. Research projects were impacted by restrictions on gatherings, travel and access to public spaces such as beaches.

Whilst it is expected that the effects of the lockdown will continue to impact the economy, tourism and the footfall to the theme park has been increasing in recent months. At this stage the Association is not anticipating further reductions from DMTP for services rendered and accordingly the Council is satisfied that the Association has sufficient facilities available for ongoing operations.

21. Events after reporting period

The Council is not aware of any other material event which occurred after the reporting date and up to the date of this report, that requires disclosure in these summary financial statements.

22. Going concern

Notwithstanding the operational and financial effects of the nation-wide lockdown, the Council believes that, apart from the impacts included in the impact of Covid-19, funding from existing funders have not been negatively impacted and the Association has adequate financial resources to continue in operation for the foreseeable future and accordingly the summary financial statements have been prepared on the basis of accounting policies applicable to a going concern. The Council has satisfied themselves that the Association is in a sound financial position and that it has access to sufficient resources to meet its foreseeable cash requirements. The Council is not aware of any material non-compliance with statutory or regulatory requirements or of any pending changes to legislation which may affect the Association.

23. Date of authorisation for issue of the summary financial statements

The summary financial statements have been authorised for issue by the Council on 05 October 2022. No authority was given to anyone to amend the summary financial statements after the date of issue.

Our Heartfelt Thanks

SAAMBR would like to recognise and thank the members of the greater SAAMBR community for yet another successful year.

This includes the eminent persons who govern and guide our organisation as members of the SAAMBR Council; our committed and passionate staff members, volunteers, students, and interns; and our ever-supportive families. We are honoured to include the Trustees of the Sea World Foundation for Research, Education and Development in this group.

We are well-aware of the difficulties faced by the eThekwini Municipality at this time and are ever grateful for the support that we, the Durban Marine Theme Park (DMTP), and uShaka Marine World receive. We thank our colleagues at the DMTP for continuing to make the "marriage "between our very different organisations work.

The KZN Department of Economic Development, Tourism and Environmental Affairs is a critical stakeholder for SAAMBR, and we thank them for the funding provided to carry out our marine and coastal research in the province, and for their support in taking on all the province's environmental challenges. Likewise, we would like to acknowledge the National Departments of Forestry, Fisheries & Environment; Science and Innovation; Water and Sanitation; Higher Education and Training; Basic Education; and Employment and Labour for their support and assistance with permits and other matters.

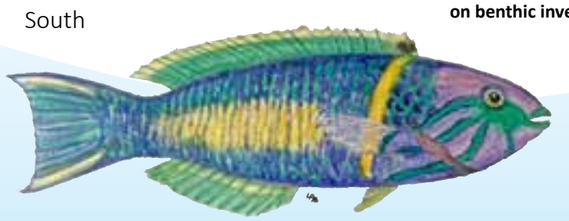
We would like to thank the state institutions with which we interacted during the year, as partners, colleagues, consultants, or as recipients of funds. These institutions include the National Research Foundation, Council for Scientific & Industrial Research, Ezemvelo KZN Wildlife, Eastern Cape Parks and Tourism Agency, the South African Environmental Observation Network, South African Institute for Aquatic Biodiversity, South African National Biodiversity Institute, South African Institute of Occupational Health, and Safety, iSimangaliso Wetland Park Authority, National Lottery Commission, and the Transnet National Ports Authority.

We would like to acknowledge and thank our colleagues and friends in the animal husbandry, welfare and conservation communities for striving to make a difference, such as the Two Oceans Aquarium, Southern African Foundation for the Conservation of Coastal Birds, BayWorld, East London Aquarium, National Zoological Gardens, World Wildlife Fund, WildOceans Trust, Sustainable Seas Trust and all the members of the African Association of Zoos and Aquaria and the South African Committee of the International Union for the Conservation of Nature, Flow Communications and Olivia Jones Communications.

We thank our research partners and colleagues in South Africa, the Western Indian Ocean region, and the rest of the World for joining us on the adventure of unlocking the mysteries of the marine environment. Too numerous to mention, you know who you are.

We would like to thank those organisations (such as the Ford Wildlife Foundation, Consol Glass, the Bateleurs and Oceans Alive) and individuals who have made donations or sponsored us during the year. Your kindness and support are much appreciated!

And last, but certainly not least, we would like to thank our guests, learners, and their schools, who continue to visit us and support our work, even during difficult times.



Goldbar wrasse.*Thalassoma hebraicum.* A solitary fish that lives on coral reefs and preys on benthic invertebrates.

South African Association for Marine Biological Research (RF) NPC
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