SCIENTIFIC OUTPUT OF THE BRANCH: FISHERIES MANAGEMENT OF THE DEPARTMENT OF FORESTRY, FISHERIES AND THE ENVIRONMENT (DFFE)

2022

This document lists the scientific output of the Branch: Fisheries Management for 2022, arranged by output category. Figures in brackets represent the output for the previous two years, 2021 and 2020, respectively, and are included for comparison. After two years of restrictions on travel and in-person meetings as a result of the COVID-19 pandemic, 2022 saw a return to normal movement, which allowed those categories of output that had been most seriously affected to also return to normal. In the category 'peer-reviewed publications' there were 28 (37, 56) papers. There were 11 (12, 11) documents in the category 'theses/dissertations/tertiary projects', all of which were DFFE-supervised or co-supervised. There were 29 (24, 20) documents in the category 'book chapters, published reports and popular articles', 18 of which were species profiles in a WILDTRUST special publication entitled "Species profiles of South African sharks, rays and chimaeras, vol. 1. Threatened and endemic species". There were 71 (11, 40) 'contributions to symposia and conferences, and public presentations'. This category of output showed a dramatic post-COVID recovery. The most numerous contributions in 2022 were presentations made at the 17th Southern African Marine Science Symposium (29) and the 14th Conference of the Aquaculture Association of Southern Africa (15). There were 57 (22, 17) 'contributions to workshops, short courses, and management and scientific bodies, and unpublished technical reports', another category that showed a return to normal after being severely affected by the pandemic. Of these, 26 were contributions to activities of the Indian Ocean Tuna Commission (IOTC), 10 to activities of the International Commission for the Conservation of Atlantic Tunas (ICCAT) and 5 to activities of the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR). Finally, there were 64 (51, 55) unpublished working group documents. This last category represents the output of the research component of the Branch in terms of its line function to provide scientific advice for resource management.

Peer-reviewed Publications (names of Fisheries Management staff shown in bold, Oceans & Coasts in italics)

- Amosu AO, Robertson-Andersson DV, Maneveldt GW, Knapp JL, Auerswald L, Bolton JJ. 2022. Environmental response and pH tolerance of induced CO₂ in *Ulva rigida* C. Agardh, 1823 (Chlorophyta) under controlled conditions. *Journal of Animal and Plant Sciences* 32: 1605–1615.
- Assis J, Neiva J, Bolton JJ, **Rothman MD**, Gouveia L, Paulino C, Mohdnasir H, Anderson RJ, Reddy MM, Kandjengo L, Kreiner A. 2022. Ocean currents shape the genetic structure of a kelp in southwestern Africa. *Journal of Biogeography* 49: 822–835.
- Becker FK, Shabangu FW, Gridley T, Wittmer HU, Marsland S. 2022. Sounding out a continent: seven decades of bioacoustics research in Africa. *Bioacoustics* 31: 646–667.
- Brink-Hull M, **Cyrus MD**, **Macey BM**, Rhode C, Hull KL, Roodt-Wilding RR. 2022. Dietary effects on the reproductive performance of the sea urchin *Tripneustes gratilla* I: Implications for broodstock conditioning. *Aquaculture* 552: article 738035.
- Brink-Hull M, **Cyrus MD**, **Macey BM**, Rhode C, Hull KL, Roodt-Wilding RR. 2022. Dietary effects on the reproductive performance of the sea urchin *Tripneustes gratilla* II: Implications for offspring performance. *Aquaculture* 552: article 738038.

- Daly R, Jordaan GL, **Parker D**, Cliff G, Nkabi N, Kyle R, Fennessy ST, Mann BQ. 2022. Movement patterns and catch trends of the diamond ray *Gymnura natalensis* (Dasyatidae) in South African waters. *African Journal of Marine Science* 44: 35–48.
- Haupt TM, Ceasar J, Stefanoudis P, von der Meden C, Payne RP, Adams LA, Anders DR, Bernard AT, Coetzer W, Florence WK, Janson LA, Johnson AS, Juby R, Kock AA, Langenkämper D, Nadjim AM, Parker D, Samaai T, Snyders LB, Upfold L, van der Heever GM, Williams LL. 2022. The WIO Regional Benthic Imagery Workshop: lessons from past IIOE-2 expeditions. Research Ideas and Outcomes 8: e81563.
- Holness SD, Harris LR, Chalmers R, De Vos D, Goodall V, Truter H, Oosthuizen A, Bernard AT, Cowley PD, **da Silva C**, Dicken M. 2022. Using systematic conservation planning to align priority areas for biodiversity and nature-based activities in marine spatial planning: a real-world application in contested marine space. *Biological Conservation* 271: article 109574.
- Kapula VK, Ndjaula HON, Schulze M, Durholtz D, Japp D, Singh
 L, Matthee CA, von der Heyden S, Henriques R. 2022.
 Genetic assessment of seasonal alongshore migration in Merluccius capensis in the Benguela region. Fisheries Research 250: article 106293.

- Kock AA, Lombard AT, Daly R, Goodall V, Meÿer M, Johnson R, Fischer C, Koen P, Irion D, Gennari E, Towner A, Jewell OJD, da Silva C, Dicken ML, Smale MJ, Photopoulou T. 2022. Sex and size influence the spatiotemporal distribution of white sharks, with implications for interactions with fisheries and spatial management in the southwest Indian Ocean. *Frontiers in Marine Science* 9: article 811985.
- Letsheleha IS, **Shabangu FW**, Farrell D, Andrew RK, la Grange PL, Findlay KP. 2022. Year-round acoustic monitoring of Antarctic blue and fin whales in relation to environmental conditions off the west coast of South Africa. *Marine Biology* 169: article 41.
- Madibana MJ, Fouché CH, Davids JJ, Mthembu ST, Motubatse MH, Poni Z, Thomas AE, Nyengule O, Nemakhavhani LR. 2022. Chemical and biophysical indices of soybean meal fermented with *Lactobacillus acidophilus* and *Lactobacillus cereus*-containing products. *Agricultural Science and Technology* 14: 32–39.
- Marco HG, **Auerswald L**, Matumba TG, Gäde G. 2022. Distribution of astaxanthin in the spiny lobster *Jasus lalandii*: trends during biological cycles. *Invertebrate Reproduction and Development* 66: 120–134.
- **Mbokane EM**, **Fouche CH**. 2022. The potential use of acid fermented one-day old male chick meat in *Oreochromis mossambicus* diets its effect on growth performance, digestive enzymes and gut health. *Aquaculture* 554: article 738110.
- Mbokane EM, Mbokane LM, Fouche CH. 2022. The effect of fishmeal replacement with acid-fermented chicken silage on growth, digestive enzyme activity and histology of the intestine and liver of juvenile Mozambique tilapia (*Oreochromis mossambicus*). Aquaculture International 30: 1–22.
- **Mbokane EM**, Moyo NAG. 2022. Use of medicinal plants as feed additives in the diets of Mozambique tilapia (*Oreochromis mossambicus*) and the African sharptooth catfish (*Clarias gariepinus*) in Southern Africa. *Frontiers in Veterinary Science* 9: article 1072369.
- Nyuliwe CT, Mlambo V, **Madibana MJ**, Wokadala OC, Mwanza M. 2022. Partial substitution of fishmeal with mopane worm meal in dusky kob fingerling (*Argyrosomus japonicus*) diets: feed utilization, digestive enzyme activity, blood parameters, and growth performance. *Aquaculture Journal* 2: 59–71.
- Pons M, Watson JT, Ovando D, Andraka S, Brodie S, Domingo A, ..., **Kerwath S[E]**... et al. 2022. Trade-offs between bycatch and target catches in static versus dynamic fishery closures. *Proceedings of the National Academy of Sciences of the United States of America* 119: e2114508119.
- Ramirez F, Shannon L, **van der Lingen CD**, Julia L, Steenbeek J, Coll M. 2022. Climate and fishing simultaneously impact small pelagic fish in the oceans around the southernmost tip of Africa. *Frontiers in Marine Science* 9: article 1031784.
- Samaai T, Turner TL, Kara J, **Yemane D**, Ngwakum BB, Payne RP, **Kerwath S[E]**. 2022. Confirmation of the southern African distribution of the marine sponge *Hymeniacidon perlevis* (Montagu, 1814) in the context of its global dispersal. *PeerJ* 10: e14388.
- Seakamela SM, Kotze PGH, Gumede NC, Sibiya N, Shabangu FW, McCue SA. 2022. Finally seen: a rare sighting of Antarctic blue whale cow–calf pair off the west coast of South Africa. Polar Biology 45: 1715–1721.
- Shabangu FW, Hofmeyr GJG, Probert R, Connan M, Buhrmann CA, Gridley T. 2022. In-air acoustic repertoire and associated behaviour of wild juvenile crabeater seals during rehabilitation. *Bioacoustics* 32: 261–283.

- Shabangu FW, Kowarski KA. 2022. The beat goes on: humpback whale song seasonality in Antarctic and South African waters. *Frontiers in Marine Science* 9: article 827324.
- Shabangu FW, Yemane D, Best G, Estabrook BJ. 2022. Acoustic detectability of whales amidst underwater noise off the west coast of South Africa. *Marine Pollution Bulletin* 184: article 114122.
- Simon CA, du Toit AN, **Lamberth SJ**, Branch GM. 2022. Standardising English and Afrikaans common names for polychaetes harvested as bait in South Africa. *African Zoology* 57: 75–89.
- van Niekerk L, **Lamberth SJ**, James NC, Taljaard S, Adams JB, Theron AK, Krug M. 2022. The vulnerability of South African estuaries to climate change: a review and synthesis. *Diversity* 14: article 697.
- van Niekerk L, Taljaard S, Lamberth SJ, Adams JB, Weerts SP, MacKay CF. 2022. Disaggregation and assessment of estuarine pressures at the country-level to better inform management and resource protection – the South African experience. *African Journal of Aquatic Science* 47: 127–148.
- van Staden M, Ebert DA, **da Silva C**, Bester-van der Merwe AE. 2022. Comparative analyses of the complete mitochondrial genomes of two southern African endemic guitarfish, *Acroteriobatus annulatus* and *A. blochii. International Journal of Biological Macromolecules* 223: 1094–1106.

Theses/Dissertations/Tertiary Projects

- Nobuhle M. 2022. Description of the reproductive cycle of the clam *Venerupis corrugatus* from Langebaan Lagoon. Advanced diploma, Cape Peninsula University of Technology, South Africa. Supervisors: **Arendse DCZ**, Sparks C.
- Bennett M. 2022. Determining larval settlement, post-settlement and weaning substrates and regimes for the sea urchin *Tripneustes gratilla* in intensive aquaculture. MSc thesis, University of Cape Town, South Africa. Supervisors: Bolton JJ, **Cyrus MD**, **Macey BM**.
- Cloete A. 2022. Growth and survival of juvenile abalone *Haliotis midae* fed diets supplemented with faecal matter from the Cape Sea urchin *Parechinus angulosus*. BSc Hons thesis, University of Cape Town, South Africa. Supervisors: Bolton JJ, **Cyrus MD**, Brink-Hull M, **Macey BM**.
- Daniels R. 2022. Acoustic ecology and occurrence of killer whales at sub-Antarctic Marion Island. BSc Hons thesis, University of Cape Town, South Africa. Supervisors: *Lamont T*, **Shabangu FW**.
- Galdardt M. 2022. The potential for increasing the recirculation rate in a commercial integrated abalone-*Ulva* aquaculture system. BSc Hons thesis, University of Cape Town, South Africa. Supervisors: Bolton JJ, **Cyrus MD**, Brink-Hull M, **Macey BM**.
- Hill F. 2022. Optimal water treatment for kelp spore settlement and juvenile development. BSc Hons thesis, University of Cape Town, South Africa. Supervisors: Bolton JJ, Cyrus MD, Brink-Hull M, Macey BM.
- Mdhluvu R. 2022. Growth performance, blood parameters and meat quality in dusky kob (*Argyrosomus japonicus*, Sciaenidae) offered crocodile meal as a replacement for the fishmeal. MSc thesis, University of Mpumalanga, South Africa. Supervisors: Mlambo V, **Madibana MJ**.
- Munian A. 2022. The search for biomarkers in the growth prediction of the West Coast rock lobster, *Jasus Ialandii*. PhD thesis, Stellenbosch University, South Africa. Supervisors: **Auerswald L, Cockcroft AC**, Hoffman LC.

- Purdon J. 2022. Cetacean distribution and anthropogenic threats in South African waters to inform conservation in an expanding economy. PhD thesis, University of Pretoria, South Africa. Supervisors: Somers MJ, Findlay K, Shabangu FW, Pienaar M.
- Torr M. 2022. Investigating relationships between SST patterns and small pelagic fish distributions around the South African coast. BSc Hons thesis, University of Cape Town. Supervisors: *Lamont T*, **van der Lingen CD**.
- Werner T. 2022. Growth and survival of the South African Cape sea urchin *Parechinus angulosus* under chronic hypercapnia. BSc thesis, Heinrich-Heine-University Düsseldorf, Germany. Supervisors: Bridges C, **Auerswald L**.

Book Chapters, Published Reports and Popular Articles

- Becker FK, **Shabangu FW**, Gridley T, Wittmer HU, Marsland S. 2022. Eavesdropping on nature: why Africa needs more bioacoustics research. *The Conversation*. Available at <u>https://theconversation.com/eavesdropping-on-nature-</u> why-africa-needs-more-bioacoustics-research-175527.
- Cliff G, da Silva C. 2022. Centrophorus granulosus. In: Cliff G, Olbers JM (eds), Species profiles of South African sharks, rays and chimaeras, vol. 1. Threatened and endemic species. Special Publication No. 2. Durban, South Africa: WILDTRUST. pp 33–37.
- Cliff G, **da Silva C**. 2022. Centrophorus moluccensis. In: Cliff G, Olbers JM (eds), Species profiles of South African sharks, rays and chimaeras, vol. 1. Threatened and endemic species. Special Publication No. 2. Durban, South Africa: WILDTRUST. pp 38–41.
- Cliff G, da Silva C. 2022. Deania quadrispinosa. In: Cliff G, Olbers JM (eds), Species profiles of South African sharks, rays and chimaeras, vol. 1. Threatened and endemic species. Special Publication No. 2. Durban, South Africa: WILDTRUST. pp 52–56.
- Cliff G, da Silva C. 2022. Echinorhinus brucus. In: Cliff G, Olbers JM (eds), Species profiles of South African sharks, rays and chimaeras, vol. 1. Threatened and endemic species. Special Publication No. 2. Durban, South Africa: WILDTRUST. pp 22–26.
- Cliff G, da Silva C. 2022. Oxynotus centrina. In: Cliff G, Olbers JM (eds), Species profiles of South African sharks, rays and chimaeras, vol. 1. Threatened and endemic species. Special Publication No. 2. Durban, South Africa: WILDTRUST. pp 61–65.
- Cliff G, **da Silva C**. 2022. Squalus acanthias. In: Cliff G, Olbers JM (eds), Species profiles of South African sharks, rays and chimaeras, vol. 1. Threatened and endemic species. Special *Publication* No. 2. Durban, South Africa: WILDTRUST. pp 9–16.
- Cliff G, da Silva C. 2022. Alopias pelagicus. In: Cliff G, Olbers JM (eds), Species profiles of South African sharks, rays and chimaeras, vol. 1. Threatened and endemic species. Special Publication No. 2. Durban, South Africa: WILDTRUST. pp 103–107.
- Cliff G, da Silva C. 2022. Alopias superciliosus. In: Cliff G, Olbers JM (eds), Species profiles of South African sharks, rays and chimaeras, vol. 1. Threatened and endemic species. Special Publication No. 2. Durban, South Africa: WILDTRUST. pp 108–112.
- Cliff G, **da Silva C**. 2022. *Alopias vulpinus*. In: Cliff G, Olbers JM (eds), Species profiles of South African sharks, rays and chimaeras, vol. 1. Threatened and endemic species. Special

Publication No. 2. Durban, South Africa: WILDTRUST. pp 113–117.

- Cliff G, da Silva C. 2022. Mustelus mustelus. In: Cliff G, Olbers JM (eds), Species profiles of South African sharks, rays and chimaeras, vol. 1. Threatened and endemic species. Special Publication No. 2. Durban, South Africa: WILDTRUST. pp 195–201.
- Cliff G, da Silva C. 2022. Rostroraja alba. In: Cliff G, Olbers JM (eds), Species profiles of South African sharks, rays and chimaeras, vol. 1. Threatened and endemic species. Special Publication No. 2. Durban, South Africa: WILDTRUST. pp 395–399.
- Cliff G, **da Silva C**, Ntuli S, Olbers JM, Voorhis R, Leslie R. 2022. *Chondrichthyans of South Africa: a compliance and law enforcement fisheries identification guide. Special Publication* No. 1. Durban, South Africa: WILDTRUST.
- Cliff G, Dudley SFJ. 2022. Carcharhinus plumbeus. In: Cliff G, Olbers JM (eds), Species profiles of South African sharks, rays and chimaeras, vol. 1. Threatened and endemic species. Special Publication No. 2. Durban, South Africa: WILDTRUST. pp 287–292.
- Cliff G, Fennessy S, da Silva C. 2022. Dalatias licha. In: Cliff G, Olbers JM (eds), Species profiles of South African sharks, rays and chimaeras, vol. 1. Threatened and endemic species. Special Publication No. 2. Durban, South Africa: WILDTRUST. pp 66–70.
- Cliff G, Fennessy S, da Silva C. 2022. Leucoraja wallacei. In: Cliff G, Olbers JM (eds), Species profiles of South African sharks, rays and chimaeras, vol. 1. Threatened and endemic species. Special Publication No. 2. Durban, South Africa: WILDTRUST. pp 381–385.
- **da Silva C**, Cliff G. 2022. *Centrophorus squamosus*. In: Cliff G, Olbers JM (eds), *Species profiles of South African sharks, rays and chimaeras*, vol. 1. *Threatened and endemic species*. *Special Publication* No. 2. Durban, South Africa: WILDTRUST. pp 42–46.
- da Silva C, Cliff G. 2022. Centroscymnus owstonii. In: Cliff G, Olbers JM (eds), Species profiles of South African sharks, rays and chimaeras, vol. 1. Threatened and endemic species. Special Publication No. 2. Durban, South Africa: WILDTRUST. pp 57–60.
- da Silva C, Cliff G. 2022. Cruriraja durbanensis. In: Cliff G, Olbers JM (eds), Species profiles of South African sharks, rays and chimaeras, vol. 1. Threatened and endemic species. Special Publication No. 2. Durban, South Africa: WILDTRUST. pp 400–403.
- da Silva C, Cliff G. 2022. *Raja ocellifera*. In: Cliff G, Olbers JM (eds), *Species profiles of South African sharks, rays and chimaeras*, vol. 1. *Threatened and endemic species. Special Publication* No. 2. Durban, South Africa: WILDTRUST. pp 390–394.
- Gabriel NN, litembu JA, Hasimuna OJ, Rashidian G, **Mbokane EM**, Moyo NAG, Hlophe-Ginindza SN. 2022. Medicinal plants: a perspective on their application in the African smallholder aquaculture farms. In: Rajeev RK (ed.), *Sustainable agriculture and food security*. Patancheru, Telangana, India: Semi-Arid Tropics, International Crops Research Institute.
- Mann BQ, Lamberth SJ. 2022. Human environment: small-scale fisheries. In: Goble BJ, van der Elst RP (eds), *State of the coast KwaZulu-Natal a review of the state of the coast of KwaZulu-Natal*. Pietermaritzburg: KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs. pp 131–134.
- **Mbokane EM**, Mbokane LM, Motimele SS, Hlophe-Ginindza SN. 2022. Successes and challenges of catfish farming in the small-scale industry in Southern Africa. In: Atamanalp M (ed.),

Catfish – advances, technology, experiments. London, UK: IntechOpen.

- van Niekerk L, Adams JB, Taljaard S, Huizinga P, **Lamberth SJ**. 2022. Advancing mouth management practices in Groot Brak Estuary, South Africa. In: Slinger JH, Taljaard S, d'Hont F (eds), *Complex coastal systems – transdisciplinary learning on international case studies*. Delft, The Netherlands: Delft Academic Press. pp 89–104.
- van Niekerk L, Sink K, Lamberth SJ, Cilliers G, Karenyi N, Mackay F, Mtetandaba A, Nhleko J, Porter S, Smith M, Taljaard S, Weerts S. 2022. Policy brief: freshwater flowing into the sea is not wasted. CSIR Report No. CSIR/SPLA/ SECO/IR/2022/0011/A prepared for South African National Biodiversity Institute (SANBI) by Council for Scientific and Industrial Research (CSIR) in collaboration with the Department of Forestry, Fisheries and the Environment, Oceanographic Research Institute, University of Cape Town and SANBI. Pretoria, South Africa: CSIR.
- van Niekerk L, Taljaard S, Adams JB, Lamberth SJ, Lemley D, Weerts S. 2022. Evaluating the vulnerability of South Africa's estuarine lakes to climate change. In: Petja BM (ed.), *Climate change impacts on water resources: implications and practical responses in selected South African systems*. WRC Report No. SP 155/22. Pretoria, South Africa: Water Research Commission. pp 143–171.
- van Niekerk L, Taljaard S, Adams JB, **Lamberth SJ**, Weerts SP, Lemley D, Riddin T. 2022. *Development of climate change mitigation and adaptation strategies for the estuarine lakes of South Africa*, vol. I. *A review of available information*. WRC Report No. TT 871/1/21. Pretoria, South Africa: Water Research Commission.
- van Niekerk L, Taljaard S, Adams JB, **Lamberth SJ**, Weerts SP, Lotter D, Lemley D, Riddin T. 2022. *Development of climate change mitigation and adaptation strategies for the estuarine lakes of South Africa*, vol. II. *Climate change vulnerability assessment and recommended mitigation and adaptation strategies*. WRC Report No. TT 871/2/21. Pretoria, South Africa: Water Research Commission.
- van Niekerk L, Taljaard S, Adams JB, **Lamberth SJ**, Weerts SP, Lotter D, Lemley D, Riddin T. 2022. *Development of climate change mitigation and adaptation strategies for the estuarine lakes of South Africa*, vol. III. *Vulnerability assessment appendices*. WRC Report No. TT 871/3/21. Pretoria, South Africa: Water Research Commission.

Contributions to Symposia and Conferences, and Public Presentations

- Alessio Gomiero A, Casserly J, O'Donohoe P, Michalek K, Macleod A, **Macey BM**, Lauvset SV, Goris N, Ravagnan E. 2022. Plastic litter fingerprint assessment of different trophic aquaculture systems: method development and application. *Aquaculture Europe 2022, 27–30 September, Rimini, Italy.* (oral presentation)
- Arendse DCZ, Pitcher GC, Lewis BR, Sassman LC, Fortune MN. 2022. Preliminary results from an investigation of the reproduction cycle of the clam Venerupis corrugatus. 14th Conference of the Aquaculture Association of Southern Africa, 11–15 July, Stellenbosch, South Africa. (poster presentation)
- Auerswald L, Munian A, Hoffman LC, Cockcroft AC. 2022. Biological and biochemical parameters as potential growth predictors in male Jasus Ialandii. 17th Southern African Marine Science Symposium (SAMSS), 20–24 June, Durban, South Africa. (poster presentation)

- Bachoo T, Bolton JJ, Reddy M, **Macey BM**. 2022. Characterization of *Ulva* (Ulvaceae, Chlorophyta) species cultured in commercial abalone farms in South Africa, and comparison with closely related wild species. 14th Conference of the Aquaculture Association of Southern Africa, 11–15 July, Stellenbosch, South Africa. (oral presentation)
- Bennett M, **Macey BM**, Bolton JJ, Coyne VE, **Cyrus MD**. 2022. Larval settlement, post-settlement and weaning substrates and regimes for the sea urchin *Tripneustes gratilla* in intensive aquaculture. *14th Conference of the Aquaculture Association of Southern Africa, 11–15 July, Stellenbosch, South Africa*. (oral presentation)
- Bolton JJ, **Cyrus MD**, De Prisco JA, Geldart M, Brink-Hull M, **Macey BM**. 2022. Daily rhythms of critical water quality parameters in commercial land-based, partially recirculated abalone-*Ulva* Integrated Multi-Trophic Aquaculture systems, and the potential for increasing recirculation rates. *Aquaculture Europe 2022, 27–30 September, Rimini, Italy.* (oral presentation)
- Brink-Hull M, **Cyrus MD**, Cloete A, Bolton JJ, **Macey BM**. 2022. Symbiotic integrated aquaculture: sea urchin faecal matter as a dietary supplement for juvenile abalone. *14th Conference of the Aquaculture Association of Southern Africa*, *11–15 July*, *Stellenbosch, South Africa*. (oral presentation)
- Brink-Hull M, **Cyrus MD**, Cloete A, Bolton JJ, **Macey BM**. 2022. Using sea urchin faeces as a dietary supplement for juvenile abalone: effects on growth, survival, and the microbiome. *Aquaculture Europe 2022, 27–30 September, Rimini, Italy*. (oral presentation)
- Brinkman F, Wilhelm M, Geja Y, van der Lingen CD. 2022. Using otolith biochronologies from sardine (*Sardinops sagax*) in the southern Benguela to identify ecosystem shifts. 17th Southern African Marine Science Symposium (SAMSS), 20–24 June, Durban, South Africa. (oral presentation)
- Brown-Webb B, Stander B, Bolton JJ, Lück-Vogel M, Rothman M, Cyrus MD, Macey B, Ohlson H, Arendse DCZ, Du Toit D, Meyer I, Mtombeni N, Snyman-van der Walt L, Bernatzeder A, Pillay PJ. 2022. Pre-feasibility study of the potential for commercial cultivation of kelp along South Africa's west coast. 14th Conference of the Aquaculture Association of Southern Africa, 11–15 July, Stellenbosch, South Africa. (oral presentation)
- Coetzee V, **Parker D**, **Lamberth SJ**, **Kerwath SE**. 2022. Grunting in murky waters: morphological and ethological discrimination among functional stocks of spotted grunter, an estuarine-dependent fish. 17th Southern African Marine Science Symposium (SAMSS), 20–24 June, Durban, South Africa. (oral presentation)
- **Cyrus MD**, Bennett M, **Macey BM**, Coyne VE, Bolton JJ. 2022. Identifying suitable settlement substrates and feeds for earlystage growth of the sea urchin *Tripneustes gratilla*: implications for hatchery management protocols and production. *Aquaculture Europe 2022, 27–30 September, Rimini, Italy.* (oral presentation)
- da Silva C. 2022. A day in the life of a Government scientist: policy and management. *WildTrust Ocean Stewards Seminars*, 27–28 September 2022, Durban, South Africa.
- da Silva C, Kerwath SE. 2022. Requiem shark listings in CITES Appendix II. CoP19 preparatory meeting, 19 July 2022, online meeting, South African National Biodiversity Institute (SANBI), Pretoria.
- de Cubber L, Groenewald G, Horton M, Ouzara T, Le Moan E, Pecquerie L, van der Lingen C, Maury O. 2022. A generalized Dynamic Energy Budget model including 3D shape changes for modeling small pelagic fish growth. PICES/ICES/FAO Symposium on Small Pelagic Fish: New Frontiers in Science

and Sustainable Management, 7–11 November 2022, Lisbon, Portugal. (oral presentation)

- De Vos B, Bolton JJ, **Macey BM**, **Cyrus MD**. 2022. Using interdisciplinary modelling to assess the feasibility of a commercial scale recirculating aquaculture system integrating sea urchins (*Tripneustes gratilla*) and seaweed (*Ulva lacinulata*). 14th Conference of the Aquaculture Association of Southern Africa, 11–15 July, Stellenbosch, South Africa. (oral presentation)
- De Vos BC, **Cyrus MD**, **Macey BM**, Batik T, Bolton JJ. 2022. The development of machine vision to measure sea urchins. *Aquaculture Europe 2022, 27–30 September, Rimini, Italy.* (oral presentation)
- Dudek T, Andersen H, **Yemane D**, Fock H, Duncan S, Ekau W. 2022. Size spectra of zooplankton and mesopelagic fish in the Benguela upwelling system. 17th Southern African Marine Science Symposium (SAMSS), 20–24 June, Durban, South Africa. (oral presentation)
- Duncan S, Auel H, Bode-Dalby M, Horton M, Koppelmann R, Lahajnar N, van der Lingen C, Martin B, Sell A, Hagen W, Fock H. 2022. Pelagic food web structure in the northern and southern Benguela Upwelling Systems. 17th Southern African Marine Science Symposium (SAMSS), 20–24 June, Durban, South Africa. (oral presentation)
- **Fouche CH**. 2022. Species selection, biology and reproduction techniques of tilapia. 14th Conference of the Aquaculture Association of Southern Africa, 11–15 July, Stellenbosch, South Africa. (oral presentation)
- **Fouche CH**. 2022. Thermal induction of tetraploidy in African sharptooth catfish, *Clarias gariepinus*. 14th Conference of the Aquaculture Association of Southern Africa, 11–15 July, Stellenbosch, South Africa. (oral presentation)
- **Fouche CH**, **Goodman M**. 2022. Development of a novel and efficient method for the oral delivery of bioactive peptides in commercially used finfish that are responsive to GnRHa induced spawning. 14th Conference of the Aquaculture Association of Southern Africa, 11–15 July, Stellenbosch, South Africa. (oral presentation)
- Fouche CH, Goodman M, Hendricks A, Sophangisa S, Selapa
 W. 2022. Development of a relatively cheap fertilizer for the mass culture of *Isochrysis galbana* and *Nannochloropsis oculata*, the preferred algae species for rotifer enrichment and pseudo-green water practices in marine finfish hatcheries. 14th Conference of the Aquaculture Association of Southern Africa, 11–15 July, Stellenbosch, South Africa. (poster presentation)
- Haupt TM, Novak T, Naylor M, Auerswald L. 2022. Physiological responses to changing climates: a case study of a local abalone species. 17th Southern African Marine Science Symposium (SAMSS), 20–24 June, Durban, South Africa. (poster presentation)
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