

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

2021

This document lists the scientific output of the Fisheries Management Branch for 2021, arranged by output category. Figures in brackets represent the output for the previous two years, 2020 and 2019, respectively, and are included for comparison. For the second consecutive year, travel and in-person meetings were severely curtailed by restrictions associated with the COVID-19 pandemic, which limited certain categories of output. In the category 'peer-reviewed publications' there were 37 (56, 41) papers. There were 12 (11, 12) documents in the category 'theses/dissertations/tertiary projects', none of which were DFFE-authored but all of which were DFFE-supervised or co-supervised. There were 24 (20, 50) documents in the category 'book chapters, published reports and popular articles', and only 18 (11, 40) 'contributions to symposia and conferences, and public presentations', a category of output that, as was the case in 2020, was affected by the pandemic. Easing of lockdown restrictions allowed some presentations to be made in person, rather than virtually, towards the end of the year. There were 22 (17, 64) 'contributions to workshops, short courses, and management and scientific bodies, and unpublished technical reports', another pandemic-affected category. Of these, 10 were contributions to virtual meetings of the *Indian Ocean Tuna Commission (IOTC)*. Finally, there were 51 (55, 59) unpublished working group documents.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. As in 2020, the number of contributions was similar to previous years, suggesting consistent output of the working groups, notwithstanding the pandemic.

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

- Asbury TA, Bennett R, Price AS, **da Silva C**, Bürgener M, Klein JD, Maduna SN, Sidat N, Fernando S, Bester-van der Merwe AE. 2021. Application of DNA mini-barcoding reveals illegal trade in endangered shark products in southern Africa. *African Journal of Marine Science* 43: 511–520.
- Button R, **Parker D**, Coetzee V, *Samaai T*, Palmer RM, Sink K, **Kerwath SE**. 2021. ROV assessment of mesophotic fish and associated habitats across the continental shelf of the Amathole region. *Scientific Reports* 11: article 18171.
- Carvalho F, **Winker H**, Courtney D, Kapur M, Kell L, Cardinale M, Schirripa M, Kitakado T, **Yemane D**, Piner KR, Maunder MN. 2021. A cookbook for using model diagnostics in integrated stock assessments. *Fisheries Research* 240: article 105959.
- Crope V, Ferrari A, Hanner R, **Leslie RW**, Steinke D, Tinti F, Cariani A. 2021. Molecular taxonomy and diversification of Atlantic skates (Chondrichthyes, Rajiformes): adding more pieces to the puzzle of their evolutionary history. *Life* 11: article 596.
- Daly R, **Parker D**, Cliff G, Jordaan GL, Nomfundo N, Bennett RH, Mann BQ. 2021. Long-term catch trends and risk assessment of the Critically Endangered white-spotted wedgfish (*Rhynchobatus djiddensis*) from South Africa. *Aquatic Conservation: Marine and Freshwater Ecosystems* 31: 777–778.
- da Silva C**, Attwood CG, Wintner SP, **Wilke CG**, Winker H, Smale MJ, **Kerwath SE**. 2021. Life history of *Mustelus mustelus* in the Langebaan Lagoon marine protected area. *Marine and Freshwater Research* 72: 1142–1159.
- da Silva C**, **Kerwath SE**, Winker H, **Lamberth SJ**, Attwood CG, **Wilke CG**, Næsje TF. 2021. Testing the waters to find the 'goldilocks' zone: fine-scale movement of *Mustelus mustelus* in relation to environmental cues. *Marine and Freshwater Research* 73: 110–124.
- Ebert DA, **Leslie RW**, Weigmann S. 2021. *Etmopterus broseii* sp. nov.: a new lanternshark (Squaliformes: Etmopteridae) from the southeastern Atlantic and southwestern Indian oceans, with a revised key to the *Etmopterus lucifer* clade. *Marine Biodiversity* 51: article 53.
- Emami-Khoyi A, le Roux R, Adair MG, Monsanto DM, Main DC, Parbhu SP, Schnelle CM, **van der Lingen CD**, van Vuuren BJ, Teske PR. 2021. Transcriptomic diversity in the livers of South African sardines participating in the annual sardine run. *Genes* 2021 12: article 368.
- Fleischman MJ, Bolton JJ, **Rothman MD**. 2021. *Macrocystis* (Laminariales, Phaeophyceae) in South Africa: potential for cultivation through holdfast fragmentation and use as feed for the aquacultured abalone, *Haliotis midae*. *Journal of Applied Phycology*. 33: 1731–1740.
- Gon O, Miya T, McMillan P, **Leslie R**. 2021. The distribution of four species of the genus *Macrourus* (Gadiformes: Macrouridae) from the Southern Ocean based on samples from the toothfish longline fishery. *Zootaxa* 4903: 6 Jan 2021.
- Grégoire M, Garçon V, Garcia H, Breitburg D, Isensee K, Oschlies A, Telszewski M, Barth A, Bittig HC, Carstensen

- J, Carval T, Chai F, Chavez F, Conley D, Coppola L, Crowe S, Currie K, Dai M, Deflandre B, Dewitte B, Diaz R, Garcia-Robledo E, Gilbert D, Giorgetti A, Glud R, Gutierrez D, Hosoda S, Ishii M, Jacinto G, Langdon C, Lauvset SK, Levin LA, Limburg KE, Mehrtens H, Montes I, Naqvi W, Paulmier A, Pfeil B, **Pitcher G**, Pouliquen S, Rabalais N, Rabouille C, Recape V, Roman M, Rose K, Rudnick D, Rummer J, Schmechtig C, Schmidtko S, Seibel B, Slomp C, Sumalia UR, Tanhua T, Thierry V, Uchida H, Wanninkhof R, Yasuhara M. 2021. A global ocean oxygen database and atlas for assessing and predicting deoxygenation and ocean health in the open and coastal ocean. *Frontiers in Marine Science* 8: article 724913.
- Hallegraef GM, Anderson DM, Belin C, Bottein M-YD, Bresnan E, Chinain M, Enevoldsen H, Iwataki M, Karlson B, McKenzie CH, Sunesen I, **Pitcher GC**, Provoost P, Richardson A, Schweibold L, Tester PA, Trainer VL, Yñiguez AT, Zingone A. 2021. Perceived global increase in algal blooms is attributable to intensified monitoring and emerging bloom impacts. *Communications Earth and Environment* 2: article 117.
- Kerwath S**, Roodt-Wilding R, *Samaai T*, Winker H, **West W**, Surajnarayan S, Swart B, Bester van der Merwe A, Götz A, **Lamberth S**, **Wilke C**. 2021. Shallow seamounts represent speciation islands for circumglobal yellowtail *Seriola lalandi*. *Scientific Reports* 11: article 3559.
- Klein JD, Asbury TA, **da Silva C**, Hull KL, Dicken ML, Gennari E, Maduna SN, Bester-van der Merwe AE. 2021. Site fidelity and shallow genetic structure in the common smooth-hound shark *Mustelus mustelus* confirmed by tag-recapture and genetic data. *Journal of Fish Biology* 100: 134–149.
- Lemley DA, **Lamberth SJ**, Manuel W, Nunes M, Rishworth GM, van Niekerk L, Adams JB. 2021. Effective management of closed hypereutrophic estuaries requires catchment-scale interventions. *Frontiers of Marine Science* 8: article 688933.
- Lipiński MR, Mmethi MA, **Yemane D**, **Githaiga-Mwicigi J**, Sauer WHH. 2021. Are there long-term temporal trends of size composition and the length–weight relationship? Results for chokka squid *Loligo reynaudii* during the peak spawning season off the south coast of South Africa. *African Journal of Marine Science* 43: 227–238.
- Maapea AD, Vine NG, **Macey BM**. 2021 Bacterial microbiome of dusky kob *Argyrosomus japonicus* eggs and rearing water and the bacteriostatic effect of selected disinfectants. *Aquaculture* 542: article 736882.
- Masiko OB*, Ryan PG, **van der Lingen CD**, *Upfold L*, **Somhlaba S**, *Masotla M*, **Geja Y**, *Dyer BM*, *Crawford RJM*, *Makhado AB*. 2021. Are Cape Cormorants *Phalacrocorax capensis* losing the competition? Dietary overlap with commercial fisheries. *Ostrich* 92: 280–294.
- Mdhluvu RM, Mlambo V, **Madibana MJ**, Mwanza M, O'Brien G. 2021. Crocodile meat meal as a fishmeal substitute in juvenile dusky kob (*Argyrosomus japonicus*) diets: feed utilization, growth performance, blood parameters, and tissue nutrient composition. *Aquaculture Reports* 21: article 100779.
- Miller BS, The IWC-SORP/SOOS Acoustic Trends Working Group, Balcazar N, Nieukirk S, Leroy EC, Aulich M, **Shabangu FW**, Dziak RP, Lee WS, Hong JK. 2021. An open access dataset for developing automated detectors of Antarctic baleen whale sounds and performance evaluation of two commonly used detectors. *Scientific Reports* 11: article 806.
- Mnisi CM, Marareni M, Manyeula F, **Madibana MJ**. 2021. A way forward for the South African quail sector as a potential contributor to food and nutrition security following the aftermath of COVID-19: a review. *Agriculture & Food Security* 10: article 48.
- Munian A, **Cockcroft A**, Hoffman L, **Auerswald L**. 2021. Analysis of biological and biochemical parameters of adult male spiny lobsters *Jasus lalandii* for identification of possible growth predictors. *Fisheries Research* 243: article 106061.
- Munian A, **Cockcroft A**, Hoffman L, **Auerswald L**. 2021. Depot lipids in mature palinurid decapods. *Invertebrate Reproduction & Development* 65: 1–11.
- Mwanangombe CH, **Durholtz D**, **Yemane D**, **Githaiga-Mwicigi J**, Sauer WHH, Lipiński MR. 2021. Growth rates of the chokka squid *Loligo reynaudii* D'Orbigny, 1845 (Cephalopoda: Myopsida: Loliginidae) off South Africa, investigated over two years. *Folia Malacologia* 29: 153–162.
- Nashima FP, Strydom NA, **Lamberth SJ**, Connan M, Butler M. 2021. Stable isotopes reveal trophic linkages among fish species utilising the Orange River Estuary Continuum. *Food Webs* 24: article e00145.
- Ngwakum BB, Payne RP, Teske PR, *Janson L*, **Kerwath SE**, *Samaai T*. 2021. Hundreds of new DNA barcodes for South African sponges. *Systematics and Biodiversity* 19: 747–769.
- Peck MA, Alheit J, Bertrand A, Catalan IA, Garrido S, Moyano M, Rykaczweski RR, Takasuka A, **van der Lingen CD**. 2021. Small pelagic fish in the new millennium: a bottom-up view of global research effort. *Progress in Oceanography* 191: article 102494.
- Pitcher GC**, Aguirre-Velarde A, Breitburg D, Cardich J, Carstensen J, Conley DJ, Dewitte B, Engel A, Espinoza-Morriberón D, Flores G, Garçon V, Graco M, Grégoire M, Gutiérrez D, Martin Hernandez-Ayon J, Huang H-HM, Isensee K, Jacinto ME, Levin L, Lorenzo A, Machu E, Merma L, Montes I, Naqvi SWA, Paulmier A, Roman M, Rose K, Hood R, Rabalais NN, Salvanes AGV, Salvatelli R, Sánchez S, Sifeddine A, Tall AW, van der Plas AK, Yasuhara M, Zhang J, Zhu ZY. 2021. System controls of coastal and open ocean oxygen depletion. *Progress in Oceanography* 197: article 102613.
- Pitcher GC**, Louw DC. 2021. Harmful algal blooms of the Benguela eastern boundary upwelling system. *Harmful Algae* 102: article 101898.
- Schmidt-Roach AC, Bruels CC, Barnett A, Miller AD, Sherman CD, Ebert DA, Schmidt-Roach S, **da Silva C**, **Wilke CG**, Thorburn C, Mangel JC. 2021. Evidence of historical isolation and genetic structuring among broadnose sevengill sharks (*Notorynchus cepedianus*) from the world's major oceanic regions. *Reviews in Fish Biology and Fisheries* 31: 433–447.
- Setyadji B, **Parker D**, Wang SP. 2021. Application of fishery-independent data as an alternative source for determining relative abundance indices of blue marlin, *Makaira nigricans* (Actinopterygii: Perciformes: Istiophoridae) in the North-Eastern Indian Ocean. *Turkish Journal of Fisheries and Aquatic Sciences* 22: TRJFAS19142.
- Shabangu FW**, Rogers TL. 2021. Summer circumpolar acoustic occurrence and call rates of Ross, *Ommatophoca rossii*, and leopard, *Hydrurga leptonyx*, seals in the Southern Ocean. *Polar Biology* 44: 433–450.
- Skrypzech H, **van der Lingen CD**, Gibbons MJ. 2021. Cross shelf movement of *Chrysaora fulgida* (Scyphozoa: Discomedusae) off Namibia inferred from stable isotopes ( $\delta^{15}\text{N}$  and  $\delta^{13}\text{C}$ ). *African Journal of Marine Science* 43: 87–93.
- Teske PR, Emami-Khoyi A, Golla TR, Sandoval-Castillo J,

Lamont T, Chiazzari B, McQuaid CD, Beheregaray LB, **van der Lingen CD**. 2021. The sardine run in southeastern Africa is a mass migration into an ecological trap. *Science Advances* 2021: 7:eabf4514.

Weston M, Nunkoo I, Reed C, **van der Lingen CD**. 2021. Ectoparasites infecting the heads and gills of commercially valuable marine fishes in South Africa. *African Zoology* 56: 303–311.

Whitfield AK, Adams JB, Harrison TD, **Lamberth SJ**, Lemley DA, MacKay F, van Niekerk L, Weyl OLF. 2021. Possible impacts of non-native plant, pathogen, invertebrate and fish taxa on the indigenous ichthyofauna in South African estuaries: a preliminary review. *Biological Invasions* 23: 2729–2747.

## Theses/Dissertations/Tertiary Projects

Adams L. 2021. An assessment of the Amathole benthic fauna to aid marine spatial planning. MSc thesis, University of Cape Town, South Africa. Supervisors: Karenyi N, **Parker D**.

Bachoo T. 2021. Reproductive state and characterization of wild and cultured *Ulva* species from South Africa. MSc thesis, University of Cape Town, South Africa. Supervisors: Bolton JJ, **Macey BM**, Reddy MM.

Baur NF. 2021. Detecting the marine haemogregarine parasite *Haemogregarina koppiensis* in evileye pufferfish *Amblyrhynchotes honckenii* using DNA barcoding. BSc Hons thesis, University of Cape Town. Supervisors: Reed C, **Christison KW**, **Lamberth SJ**.

De Souza C. 2021. Long-term faunal and physico-chemical changes of the Keurbooms-Bitou Estuary. BSc Hons thesis, University of Cape Town. Supervisors: Griffiths CL, Botha PA, **Lamberth SJ**.

Goldman T. 2021. Can the rapid disease spread in aquaculture be combated to improve the industry? An investigation on the antimicrobial properties of *Ulva* against the oomycete *Haliotricida noduliformans*. BSc Hons thesis, University of the Western Cape, South Africa. Supervisors: Maneveldt G, **Macey BM**, Beukes D.

Greenwald G. 2021. Developing dynamic energy budget (DEB) models for small pelagic fishes in the Southern Benguela. PhD thesis, University of Cape Town, South Africa. Supervisors: Moloney CL, **van der Lingen CD**.

Komane G. 2021. Molecular characterization of Flavobacteriaceae isolated from farmed rainbow trout (*Onchorhynchus mykiss*). MSc thesis, University of Cape Town, South Africa. Supervisors: **Macey BM**, Coyne VE, Flemming L.

Lester NC. 2021. The interaction of acidification and warming on the South African abalone, *Haliotis midae*, and the potential for mitigation in aquaculture. PhD thesis, University of Cape Town, South Africa. Supervisors: Bolton JJ, Lucas M, **Auerswald L**.

Mdhluvu RM. 2021. 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, O'Brien G, **Madibana MJ**.

Mare C. 2021. Examining the trophic ecology of five myctophid genera in the southern Benguela using morphological, stomach content and stable isotope analysis. MSc mini-thesis, University of Cape Town, South Africa. Supervisors: **van der Lingen CD**, Reed CC.

Rakgoale A. 2021. Development of broodstock conditioning-, induced spawning-, and hatchery methods for the South African spotted grunter (*Pomadasys commersonii*). MSc

thesis, University of Cape Town, South Africa. Supervisors: Marco H, **Fouche CH**.

Reed JR. 2021. Integrating spatial fisheries management and marine spatial planning in South Africa. PhD thesis, Nelson Mandela University. Supervisors: Lombard A, Sink K, **Kerwath S**.

## Book Chapters, Published Reports and Popular Articles

Bernard S, Kudela R, Robertson Lain L, **Pitcher GC** (eds). 2021. *Observation of harmful algal blooms with ocean colour radiometry. IOCCG Report Series No. 20*. Dartmouth, Canada: International Ocean Colour Coordinating Group.

Elliott M, Houde ED, **Lamberth SJ**, Lonsdale J-A, Tweedley JR. 2021. Management of fishes and fisheries in estuaries. In: Whitfield AK, Able KW, Blaber SJM, Elliot M (eds), *Fish and fisheries in estuaries: a global perspective*, vol. II. Hoboken, NJ, USA: John Wiley & Sons Ltd. pp 706–796.

Glibert PM, **Pitcher GC**. 2021. Harmful algal blooms, changing ecosystem dynamics and related conceptual models. In: Bernard S, Kudela R, Robertson Lain L, **Pitcher GC** (eds), *Observation of harmful algal blooms with ocean colour radiometry. IOCCG Report Series No. 20*. Dartmouth, Canada: International Ocean Colour Coordinating Group. pp 13–24.

GlobalHAB. 2021. Guidelines for the study of climate change effects on HABs. In: Wells M, Burford M, Kremp A, Montresor M, **Pitcher GC** (eds), *IOC Manuals and Guides No. 88*. Paris, France: UNESCO-IOC/SCOR.

Hallegraef GM, Aligizaki K, Amzil Z, Andersen P, Anderson DM, Arneborg L, Azanza RV, Bates SS, Benico G, Bottein M-YD, Bresnan E, Arevalo F, Belin C, Branco MAC, Carbonell DJ, Cembella AD, Chinain M, Clarke D, Correa J, Davidson K, Dhanji-Rapkova M, Dai X, Darius HT, Eikrem W, Enevoldsen H, Escalera L, Farrell H, Fensin E, Fernandez Lozano R, Fernández-Tejedor M, Gatti CM, Gobler CJ, Guðfinnsson H, Haigh N, Hay B, Hoeglund AE, Howland KL, Hubbard KA, Ismael A, Iwataki M, Jaffreze E, Jipanin SJ, John U, Karlson B, Klemm K, Kobos J, Kulis DW, Landsberg JH, Laza-Martinez A, Leaw CP, Lefebvre KA, Llehtinen S, Lemoine M, Lewis AM, Lewis NI, Lim WA, Lim PT, Locke A, Louw DC, Lu D, Lundholm N, Mackenzie L, Mancera-Pineda JE, McKenzie CH, Menendez LM, Martin JL, Maskrey BH, Mazur-Marzec H, McKinney A, Mendez SM, Montresor M, Mozetič P, Naustvoll L, Orlova T, Pazos Y, Peña A, **Pitcher GC**, Poelman M, Poulin M, Provoost P, De Rijcke M, Quod J-P, Revilla M, Rhodes L, Richlen ML, Rochon A, Rourke WA, Sakamoto S, Scarratt MG, Schweibold L, Siano R, Silva A, Smith JL, Solow AR, Soudant D, Suikkanen S, Sunesen I, Swan S, Starr M, Taş S, Totti C, Tester PA, Trainer VL, Turner AD, Wells T, West JJ, Yñiguez AT, Zingone A. 2021. Global HAB status report. A scientific summary for policy makers. In: Hallegraef GM, Enevoldsen H, Zingone A (eds). Paris: UNESCO.

Hampton I, **Githaiga-Mwicigi J**, **Lamberth SJ**, **Pitcher G**, **Pretorius M**, **van der Lingen CD**, **Yemane D**. 2021. Report of the Fisheries Climate Change Task Team Workshop on Adaptation to Climate Change in the South African Marine Fisheries and Marine Aquaculture Sectors Fisheries Research Aquarium, Sea Point, Cape Town. Department of Environment, Forestry and Fisheries. ISBN: 978-0-621-48871-5. 45 pp.

Hampton I, **Githaiga-Mwicigi J**, **Lamberth SJ**, **Pitcher G**, **Pretorius M**, Samodien F, **van der Lingen CD**, **Yemane D**. 2021. Report of the Fisheries Climate Change Task Team

- Workshop on Fisheries Vulnerability to Climate Change, Foretrust Building, Cape Town. Department of Forestry, Fisheries and the Environment. ISBN: 978-0-621-48870-8.
- Hampton I, **Githaiga-Mwicigi J**, **Lamberth SJ**, **Pitcher G**, **Pretorius M**, **van der Lingen CD**, **Yemane D** (eds). 2021. Report of the Fisheries Climate Change Task Team Workshop on Identifying and Coordinating Research as an Adaptation to Climate Change in the South African Marine Fisheries and Marine Aquaculture Sectors, Fisheries Research Aquarium, Sea Point, Cape Town. Department of Forestry, Fisheries and the Environment. ISBN: 978-0-621-48872-2.
- Jabado RW, Chartrain E, Cliff G, **da Silva C**, De Bruyne G, Derrick D, Dia M, Diop M, Doherty P, El Vally Y, Leurs GHL, Meissa B, Metcalfe K, Pacoureau N, Pires JD, Seidu I, Serena F, Soares A-L, Tamo A, VanderWright WJ, Williams AB, Winker H. 2021. *Mustelus mustelus*. The IUCN Red List of Threatened Species 2021: e.T39358A124405881.
- Jabado RW, Chartrain E, Cliff G, **da Silva C**, Derrick D, Dia M, Diop M, Doherty P, Leurs GHL, Metcalfe K, Pacoureau N, Porriños G, Seidu I, Soares A, Tamo A, VanderWright WJ, Williams AB, Winker H. 2021. *Myliobatis aquila*. The IUCN Red List of Threatened Species 2021: e.T161569A124508353.
- Jabado RW, Chartrain E, **da Silva C**, De Bruyne G, Derrick D, Dia M, Diop M, Doherty P, Leurs GHL, Metcalfe K, Pacoureau N, Seidu I, Soares A-L, Tamo A, VanderWright WJ, Williams AB, Winker H. 2021. *Raja straeleni*. The IUCN Red List of Threatened Species 2021: e.T161586A124510972.
- Kudela RM, Smith ME, **Pitcher GC**, Bernard S. 2021. Application of ocean colour to blooms of the toxic diatom genus *Pseudo-nitzschia*. In: Bernard S, Kudela R, Robertson Lain L, **Pitcher GC** (eds), *Observation of harmful algal blooms with ocean colour radiometry. IOCCG Report Series No. 20*. Dartmouth, Canada: International Ocean Colour Coordinating Group. pp 51–60.
- Pitcher GC**, Glibert PM, Kudela RM, Smith ME. 2021. Application of ocean colour to harmful high biomass algal blooms. In: Bernard S, Kudela R, Robertson Lain L, **Pitcher GC** (eds), *Observation of harmful algal blooms with ocean colour radiometry. IOCCG Report Series No. 20*. Dartmouth, Canada: International Ocean Colour Coordinating Group. pp 107–121.
- Richardson AJ, Eriksen R, Hallegraef GM, Rochester W, **Pitcher GC**, Burford M. 2021. Observing changes in harmful algal blooms over time: long-term observations for studying impacts of climate change. In: Wells M, Burford M, Kremp A, Montresor M, **Pitcher GC** (eds), *GlobalHAB. IOC manuals and guides No. 88*. Paris, France: UNESCO-IOC/SCOR.
- Roy S, **Pitcher GC**, Kudela RM, Smith ME, Bernard S. 2021. Ocean colour remote sensing of dinoflagellate blooms associated with paralytic shellfish poisoning. In: Bernard S, Kudela R, Robertson Lain L, **Pitcher GC** (eds), *Observation of harmful algal blooms with ocean colour radiometry. IOCCG Report Series No. 20*. Dartmouth, Canada: International Ocean Colour Coordinating Group. pp 39–50.
- Shabangu FW**. 2021. Whale song. *Quest* 17: 5–7.
- Taljaard S, van Niekerk L, Adams JB, Riddin T, **Lamberth SJ**. 2021. Communities of practice in western Indian Ocean: ocean accounts framework. Ecosystem accounting for the estuaries in Algoa Bay (physical accounts). Council for Scientific and Industrial Research research report. Stellenbosch, South Africa: CSIR.
- Teske P, **van der Lingen C**, McQuaid CD, Beheregaray L. 2021. South Africa's massive 'sardine run' leads fish into an ecological trap. *The Conversation*. Available at <https://theconversation.com/south-africas-massive-sardine-run-leads-fish-into-an-ecological-trap-168413>.
- van der Lingen CD**. 2021. Adapting to climate change in South Africa's small pelagic fishery. In: Bahri T, Vasconcellos M, Welsh D, Johnson J, Perry RI, Ma X, Sharma R (eds), *Adaptive management of fisheries in response to climate change. FAO Fisheries and Aquaculture Technical Paper No. 667*. Rome: Food and Aquaculture Organization of the United Nations. pp 177–194.
- van Niekerk L, Adams JB, Taljaard S, **Lamberth SJ**. 2021. The contribution of the WRC to estuarine research in support of effective policy development and resource management. In: Day J, Day B, Reizenberg J (eds), *WRC@50 Celebrating a half-century of excellence. Water Research Commission Report No. SP148/21*. pp 211–223. BN978-0-6392-0266-2.
- Wells ML, Burford M, Kremp A, Montresor M, **Pitcher GC**. 2021. Guidelines for the study of climate change effects on HABS: introduction and rationale. In: Wells M, Burford M, Kremp A, Montresor M, **Pitcher GC** (eds), *GlobalHAB. IOC manuals and guides No. 88*. Paris, France: UNESCO-IOC/SCOR.

## Contributions to Symposia and Conferences, and Public Presentations

- Becker FK, **Shabangu FW**, Gridley T, Wittmer HU, Marsland S. 2021. Sounding out a continent: seven decades of bio-acoustics research in Africa. *Society for Conservation Biology's 30<sup>th</sup> International Congress for Conservation Biology (ICCB 2021), 13–17 December, online virtual conference*. (oral presentation)
- Brinkman F, Wilhelm M, **Geja Y**, **van der Lingen C**. 2021. Using otolith bio-chronologies from sardine (*Sardinops sagax*) in the southern Benguela to identify ecosystem shifts. *TRIATLAS General Assembly, 27 September–1 October, online virtual conference*. (poster presentation)
- Daly R, **Parker D**, Cliff G, Jordaan GL, Nomfundo N, Bennett RH, Mann BQ. 2021. Long-term catch trends and risk assessment of the critically endangered whitespotted wedgefish (*Rhynchobatus djiddensis*) from South Africa. *6<sup>th</sup> Southern African Shark and Ray Symposium, 17–19 November, Gansbaai, South Africa*. (oral presentation)
- Dames NR, Wallschuss S, Rocke E, **Pitcher G**, Rybicki E, **Pfaff M**, Fawcett S, Moloney CL. 2021. Short-term dynamics of nanoplankton and picoplankton production and nitrogen uptake during winter in an embayment of the Southern Benguela upwelling region. *South African Society for Microbiology Conference, 4–6 May, online virtual conference*. (poster presentation)
- da Silva C**, **Kerwath SE**, **Winker H**, **Lamberth SJ**, Attwood CG, **Wilke CG**, Næsje TFN. 2021. Testing the waters to find the goldilocks zone: fine scale movement of *Mustelus mustelus* in relation to environmental cues. *6<sup>th</sup> Southern African Shark and Ray Symposium, 17–19 November, Gansbaai, South Africa*. Keynote presentation. (oral presentation)
- da Silva C**, **Parker D**, **Lamberth SJ**, **Kerwath SE**. 2021. Using charismatic species to drive conservation; helpful or harmful? *6<sup>th</sup> Southern African Shark and Ray Symposium, 17–19 November, Gansbaai, South Africa*. (oral presentation)
- Lamberth SJ**, **da Silva C**, Hutchings K, **Kerwath SE**. 2021. Nice story little data, estimating illegal gillnet catches in SA? *6<sup>th</sup> Southern African Shark and Ray Symposium, 17–19 November, Gansbaai, South Africa*. (oral presentation)
- Nhleko J**, **Lamberth SJ**. 2021. Spatio-temporal distribution of

- benthic macrofauna of the large fluviially-dominated Kei Estuary, South Africa in response to a flood. *ECSA 58–EMECS 13: Estuaries and coastal seas in the Anthropocene – structure, functions, services and management*, 6–10 September, Hull, United Kingdom. (oral presentation)
- Nhleko J, **Lamberth SJ**. 2021. Temporal and spatial variability of the benthic invertebrates of the Orange River Estuary. *The Annual Science and Governance Forum of the Benguela Current Convention*, 3–5 November, online virtual conference. (oral presentation)
- O'Donohoe P, **Macey BM**, Chalde T, Poersch L, Macleod A, Ravagnan E. 2021. Five integrated multi-trophic aquaculture laboratories, one goal – resilient aquaculture in the face of emerging threats. *ASTRAL Project. Aquaculture Europe 2021*, 4–7 October 2021, Madeira, Portugal. (oral presentation).
- Parker D**, **da Silva C**, **Meyer M**, **Mketsu QK**, **Kerwath SE**. 2021. Regulating pelagic shark catches in South Africa. 6<sup>th</sup> *Southern African Shark and Ray Symposium*, 17–19 November, Gansbaai, South Africa. (oral presentation)
- Pitcher GC**. 2021. Is there evidence of long-term secular change in the oxygen concentrations of the Benguela? *The Annual Science and Governance Forum of the Benguela Current Convention*, 3–5 November, online virtual conference. (oral presentation)
- Ramirez F, Steenbeek J, Shannon LJ, **van der Lingen CD**, Angelini R, Lucena F, Fredou T, Bertrand A, Coll M. 2021. SOS marine systems: a 'Safe Operating Space' for the Central and South Atlantic Ocean. *TRIATLAS General Assembly*, 27 September–1 October, online virtual conference. (poster presentation)
- Shabangu FW**. 2021. From police sirens to deep, sexy voices: calls of marine mammals in Antarctic and South African waters. *Atmospheric and Oceanic Sciences Seminar*, 10 May, University of California, Los Angeles, USA, online virtual conference. (invited oral presentation)
- van Niekerk L, Taljaard S, Adams J, **Lamberth SJ**, Weerts S. 2021. Country-level ecosystems accounts for estuaries: South Africa's experience with a transitional realm. *27th United Nations London Group on Environmental Accounting meeting*, 27 September–4 October, online virtual meeting. (oral presentation)
- van Niekerk L, Taljaard S, Adams J, **Lamberth SJ**, Weerts S. 2021. Country-level ecosystems account for estuaries: South Africa's experience with a transitional realm. 2021. *17th National Biodiversity Planning Forum*, 3–5 August. (oral presentation)
- van Niekerk L, **Lamberth SJ**, James N, Taljaard S, Theron AK, Krug M. 2021. Estuaries and coast. Climate change vulnerability. *SANBI Green Climate Fund. Coastal Initiative*. 2 February, online virtual meeting. (oral presentation)
- Monthly movements and historical catches of pygmy blue whale populations inferred from song detections. Paper SC/68C/SH/17 presented at the *International Whaling Commission Virtual Meeting*, 27 April–14 May, online virtual meeting.
- Bürgener M, Louw S, **da Silva C**. 2021. Printing of pelagic shark fins for use as a training and compliance tool. *International Commission for the Conservation of Atlantic Tunas, Madrid, Spain*, 5–7 May, online virtual meeting. Unpublished Technical report ICCAT# SCRS/2021/ 73.
- Bürgener M, Louw S, **da Silva C**. 2021. Printing of pelagic shark fins for use a training and compliance tool. *Indian Ocean Tuna Commission, Seychelles*, 6–10 September, online virtual meeting. Unpublished Technical report IOTC-2021-WPEB17AS-28\_3D\_fins.
- da Silva C**, **Parker D**, **Kerwath S**. 2021. Standardization of blue shark *Prionace glauca* catch rates of the Japanese-flagged component of the South African large pelagic longline fleet based on observer records. *Indian Ocean Tuna Commission, Working Party on Ecosystems and Bycatch, Data Preparatory*, 12–14 April 2021, online virtual meeting. IOTC-2021-WPEB17(DP)-11.
- DFFE (Department of Forestry, Fisheries and the Environment). 2021. A synthesis of current scientific information relating to the decline in the African penguin population, the small pelagic fishery and island closures. Unpublished report. Contributors: **Coetzee J** (Fisheries Management), Kock A (SANParks), Lawrence C (SANParks), **Makhado A** (Oceans & Coasts), **Masotla M** (Oceans & Coasts), **Oosthuizen H** (Oceans & Coasts), **Shabangu F** (Fisheries Management), **van der Lingen C** (Fisheries Management). Cape Town, South Africa: DFFE.
- Farley J, Krusic-Golub K, Eveson P, Clear N, Luque PL, Artetxe-Arrate I, Fraile I, Zudaire I, Vidot A, Govinden R, Ebrahim A, Romanov E, Chassot E, Bodin N, **Parker D**, Murua H, Marsac F, Merino G. 2021. Estimating the age and growth of bigeye tuna (*Thunnus obesus*) in the Indian Ocean from counts of daily and annual increments in otoliths. *Indian Ocean Tuna Commission, 23<sup>rd</sup> Working Party on Tropical Tunas*, 25–30 October, online virtual meeting. IOTC-2021-WPTT23-18\_Rev1.
- Farley J, Krusic-Golub K, Eveson P, Luque PL, Clear N, Fraile I, Artetxe-Arrate I, Zudaire I, Vidot A, Govinden R, Ebrahim A, Ahusan M, Romanov E, Shahid U, Chassot E, Bodin N, **Parker D**, Murua H, Marsac F, Merino G. 2021. Estimating the age and growth of yellowfin tuna (*Thunnus albacares*) in the Indian Ocean from counts of daily and annual increments in otoliths. *Indian Ocean Tuna Commission, 23<sup>rd</sup> Working Party on Tropical Tunas*, 25–30 October, online virtual meeting. IOTC-2021-WPTT23-05\_Rev1.
- Farley J, Robertson S, Norman S, **Parker D**, Eveson P, Luque P, Krusic-Golub K, Fraile I, Zudaire I, Artetxe I, Murua H, Marsac F, Merino G. 2021. Preliminary age and growth of Swordfish (*Xiphias gladius*) in the western Indian Ocean. *Indian Ocean Tuna Commission, 19th Working Party on Billfishes*, 13–16 September, online virtual meeting. IOTC-2021-WPB19-21.
- Githaiga-Mwicigi J**, **Ngqongwa A**. 2021. Small-scale fisheries overview: policy and legal framework in South Africa. *FAO-OOH 2<sup>nd</sup> Virtual Regional Training Workshop to test the use of the Legislative Guide and the Legal Diagnostic Tool for Sustainable Small-scale Fisheries in South Africa, Ghana and Namibia*, 12–15 April. (virtual oral presentation)
- Lamberth SJ**. 2021. Fish and fisheries of the Duiwenhoks

## Contributions to Workshops, Short Courses, and Management and Scientific Bodies; Unpublished Technical Reports

Branch TA, Monnahan CC, Širović A, Al Harthi S, Allison C, Balcazar NE, Barlow DR, Calderan S, Cerchio S, Double MC, Dréo R, Gavrilov AN, Gedamke J, Hodge KB, Jenner KCS, Leroy EC, McCauley RD, Miksis-Olds JL, Miller BS, Panicker D, Rogers T, Royer J-Y, Samaran F, **Shabangu FW**, Stafford KM, Thomisch K, Torres LG, Torterotot M, Tripovich JS, Warren VE, Willson A, Willson MS. 2021.

- Estuary. *Duiwenhoks Estuary Conservancy stakeholder engagement, March, online virtual meeting.* (oral presentation)
- Lamberth SJ.** 2021. Monitoring and measuring illegal gillnet catch and effort in SA. *Wild Trust: Protection for Threatened Sharks and Rays in South Africa, Gill Netting in Estuaries Workshop, 16 February, online virtual meeting.* (oral presentation)
- Parker D.** 2021. Assessment of the Indian Ocean black marlin (*Makaira indica*) stock using JABBA. *19th Working Party on Billfishes, 13–16 September 2021, virtual online meeting.* IOTC-2021-WPB19-18.
- Parker D.** 2021. Assessment of the Indian Ocean striped marlin (*Tetrapturus audax*) stock using JABBA. *Indian Ocean Tuna Commission, 19th Working Party on Billfishes, 13–16 September 2021, virtual online meeting.* IOTC-2021-WPB19-15.
- Parker D, da Silva C, Mketsu Q, Kerwath SE.** 2021. South Africa – National Report 2021. *Indian Ocean Tuna Commission, 23rd Scientific Committee Meeting, 6–10 December 2021, virtual online meeting.* IOTC–2021-SC24-NR25.
- Rice J, **Parker D.** 2021. Stock assessment of blue shark (*Prionace glauca*) in the Indian Ocean using Just Another Bayesian Biomass Assessment (JABBA). *Indian Ocean Tuna Commission, 23rd Scientific Committee Meeting, 6–10 December 2021, virtual online meeting.* IOTC–2021–WPEB17(AS)-15.
- Setyadji B, **Parker D,** Wang S-P, Sulistyaningsih RK. 2021. Update on CPUE Standardization of Black Marlin (*Makaira indica*) from Indonesian Tuna Longline Fleets 2006–2020. *Indian Ocean Tuna Commission, 19th Working Party on Billfishes, 13–16 September 2021, virtual online meeting.* IOTC-2021-WPB19-17.
- van der Lingen CD.** 2021. Trophic ecology of mesopelagic fishes in the SE Atlantic (high-productivity Benguela Current ecosystem and low-productivity oceanic SE Atlantic Ocean), EAF-Nansen Theme 3 – *MEESO Joint Meeting, 24–25 March, online virtual workshop.* (oral presentation).
- van der Lingen CD, Lamberth SJ, Githaiga-Mwicigi J.** 2021. Climate change and South Africa's marine fisheries: vulnerability and adaptation. *SANBI Provincial Coastal Resilience Workshop, 2 February 2021, online virtual meeting.*
- van Niekerk L, Adams J, **Lamberth SJ,** Taljaard S, Weerts S, MacKay F. 2021. South Africa's National Biodiversity Assessment and red listing of ecosystems: condition assessment at regional scales. *Inaugural International Workshop on Intermittent Estuaries in a Changing Climate, 15–18 June, online virtual meeting.*
- van Niekerk L, **Lamberth SJ,** James N, Taljaard S, Theron AK, Krug M. 2021. Vulnerability of South Africa's estuaries to climate change. *Inaugural International Workshop on Intermittent Estuaries in a Changing Climate, 15–18 June, online virtual meeting.*
- Weerts SP, **Lamberth SJ.** 2021. Fish response to mouth state in intermittent estuaries – a regional South African case study. *Inaugural International Workshop on Intermittent Estuaries in a Changing Climate, 15–18 June, online virtual meeting.*
- Auerswald L,** Butterworth DS, Johnston SJ, **Glazer JP,** Bergh M, **van Zyl DL, Scholtz LS.** 2021. Recommendations of the Rock Lobster Scientific Working Group for the sustainable management of the West Coast rock lobster resource for the 2021/2022 season. *FISHERIES/2021/AUG/SWG/WCRL24.* Department of Forestry, Fisheries and the Environment, Cape Town.
- Auerswald L,** Butterworth DS, Johnston SJ, **Glazer JP, van den Heever ND.** 2021. Recommendations of the Rock Lobster Scientific Working Group for the sustainable management of the South Coast rock lobster resource for the 2021/2022 season. *FISHERIES/2021/AUG/SWG/SCRL/08.* Department of Forestry, Fisheries and the Environment, Cape Town.
- Auerswald L, Conrad SM.** 2021. Recommendation of the Small Invertebrates and Seaweeds Scientific Working Group for the sustainable management of white mussels (*Donax serra*) for the 2022 season. *FISHERIES/2021/AUG/SWG/SIS03.* Department of Forestry, Fisheries and the Environment, Cape Town.
- Auerswald L, John S.** 2021. Recommendation of the Small Invertebrates and Seaweeds Scientific Working Group for the sustainable management of the oyster fishery for 2022. *FISHERIES/2021/AUG/SWG/SIS02.* Department of Forestry, Fisheries and the Environment, Cape Town.
- Auerswald L, Rothman MD.** 2021. Recommendations of the Abalone Scientific Working Group for the sustainable management of abalone for the 2021/22 season. *FISHERIES/2021/OCT/SWG/ABA01.* Department of Forestry, Fisheries and the Environment, Cape Town.
- Auerswald L, Rothman MD, Kemp D, Boothroyd C.** 2021. Recommendation of the Small Invertebrates and Seaweeds Scientific Working Group for the sustainable management of seaweed resources for the season March 2022 to February 2023. *FISHERIES/2021/OCT/SWG/SIS01.* Department of Forestry, Fisheries and the Environment, Cape Town.
- Auerswald L, van den Heever ND.** 2021. Recommendations of the Rock Lobster Scientific Working Group for the sustainable management of the KwaZulu-Natal prawn trawl fishery for 2022. *FISHERIES/2021/AUG/SWG/PRN/01.* Department of Forestry, Fisheries and the Environment, Cape Town.
- Coetzee JC, Shabangu FW, Geja Y, Maliza L, Phillips M, Peterson J, Jarvis G, Ntiyantiya D, Bali A, Jansen M, Williams M, Biyase S, Mahlali O, Merkle D.** 2021. Results of the 2021 pelagic recruit survey. *FISHERIES/2021/JUL/SWG-PEL/51.* Department of Forestry, Fisheries and the Environment, Cape Town.
- Coetzee JC, van der Lingen CD.** 2021. A structured approach for evaluating potential benefits and costs of long-term closures to purse-seine fishing around African penguin breeding colonies. *FISHERIES/2021/JUL/SWG-PEL/44.* Department of Forestry, Fisheries and the Environment, Cape Town.
- de Moor CL, **Merkle D, Coetzee J, van der Lingen CD.** 2021. The data used in the 2021 sardine assessment. *FISHERIES/2021/APR/SWG-PEL/22.* Department of Forestry, Fisheries and the Environment, Cape Town.
- Durholtz D.** 2021. Catch and effort in the SA squid jig fishery 2006–2019. *FISHERIES/2021/MARCH/SWG-SQ/13.* Department of Forestry, Fisheries and the Environment, Cape Town.
- Durholtz D.** 2021. DFFE demersal research 2021. *FISHERIES/2021/MAR/SWG-DEM/03.* Department of Forestry, Fisheries and the Environment, Cape Town.
- Durholtz D.** 2021. Squid jig catch and effort update – February

## Unpublished Working Group Documents

- Auerswald L.** 2021. Proposal to assess the economic viability of farming with West Coast rock lobster *Jasus lalandii*. *FISHERIES/2021/JUNE/SWG/WCRL05.* Department of Forestry, Fisheries and the Environment, Cape Town.

2021. *FISHERIES/2021/FEBRUARY/SWG-SQ/05*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Durholtz D.** 2021. Squid jig catch and effort update – September 2021. *FISHERIES/2021/FEBRUARY/SWG-SQ/19*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Fairweather TP.** 2021. Agulhas sole – 2021 update of data for assessment of the resource. *FISHERIES/2021/OCT/SWG-DEM/28*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Fairweather TP.** 2021. Horse mackerel data document. *FISHERIES/2021/OCT/SWG-DEM/16*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Fairweather TP.** 2021. Kingklip and monk data document. *FISHERIES/2021/OCT/SWG-DEM/17*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Fairweather TP.** 2021. Standardised abundance estimates for key commercial species 2016–2021. *FISHERIES/2021/OCT/SWG-DEM/12*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Fairweather TP, Durholtz D.** 2021. Capture of commercial trawl data reported in 2020. *FISHERIES/2021/JUN/SWG-DEM/06*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Githaiga-Mwici J.** 2021. Chokka squid trawl and jig catches 1971–2020. *FISHERIES/2021/FEBRUARY/SWG-SQ/04*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Githaiga-Mwici J.** 2021. Deliberations on the length of the 2021–2022 additional squid closed season. *FISHERIES/2021/SEPTEMBER/SWG-SQ/21*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Githaiga-Mwici J.** 2021. SA squid monthly catches January 2007–October 2020. *FISHERIES/2021/MARCH/SWG-SQ/09*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Githaiga-Mwici J.** 2021. Updated history of squid TAE recommendations and approvals. *FISHERIES/2021/JULY/SWG-SQ/14*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Githaiga-Mwici J.** 2021. Update on squid jig data. *FISHERIES/2021/SEPTEMBER/SWG-SQ/21*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Githaiga-Mwici J.** (with the Squid SWG members). 2021. *Ad-hoc* scientific recommendation – squid closed season. *FISHERIES/2021/MARCH/SWG-SQ/9a*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Githaiga-Mwici J.** (with the Squid SWG members). 2021. Scientific recommendation – squid 2021. *FISHERIES/2021/MARCH/SWG-SQ/10a*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Glazer JP.** 2021. An index of abundance for Zone A West Coast rock lobster. *FISHERIES/2021/AUG/SWG-WCRL15*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Glazer JP.** 2021. South Coast rock lobster standardized cpue indices per area. *FISHERIES/2021/JUN/SWG-SCRL/02*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Glazer JP.** 2021. Standardized CPUE indices in the West Coast rock lobster trapboat fishery. *FISHERIES/2021/AUG/SWG-WCRL14*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Glazer JP.** 2021. Standardized CPUE indices per super-area in the West Coast rock lobster hoopnet fishery. *FISHERIES/2021/AUG/SWG-WCRL16*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Glazer JP.** 2021. The separation of catch by area in the South Coast rock lobster fishery. *FISHERIES/2021/JUN/SWG-SCRL/04rev*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Glazer JP, Butterworth DS.** 2021. 2021 sole dynamic Schaefer production model results. *FISHERIES/2021/OCT/SWG-DEM/29*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Glazer JP, Fairweather TP.** 2021. Standardized offshore hake CPUE indices and catches for the period 1978–2020. *FISHERIES/2021/OCT/SWG-DEM/19*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Glazer JP, Fairweather TP.** 2021. The 2021 assessment of the South African monkfish resource. *FISHERIES/2021/OCT/SWG-DEM/27*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Glazer JP, Fairweather TP, Durholtz D.** 2021. Final deep-sea trawl species- and coast-specific hake catches and standardized CPUE indices for the period 1978–2019. *FISHERIES/2021/MAR/SWG-DEM/02*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Lamberth SJ, da Silva C, Kerwath SE, Parker D.** 2021. Recommendations of the Linefish Scientific Working Group for management of sustainable beach-seine and gillnet (smallnet/driftnet) fisheries for the period 2021–2022. *FISHERIES/2020/AUG/SWG-LF/III*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Kerwath SE, Parker D, Meyer MR, da Silva C.** 2021. Recommendations of the Large Pelagics and Sharks Scientific Working Group for the sustainable management of tuna and swordfish resources. *FISHERIES/2021/LPSSWG/01*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Parker D, de la Cruz Y, da Silva C, Kerwath SE.** 2021. Recommendations of the Linefish Scientific Working Group for the sustainable management of linefish resources. *FISHERIES/2021/LSWG/01*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Parker D, Meyer MR, de la Cruz Y, da Silva C, Kerwath SE.** 2021. Recommendations of the Linefish Scientific Working Group for the sustainable management of demersal shark longline resources. *FISHERIES/2021/LSWG/02*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Shabangu FW.** 2021. Additional recommendation of the Small Pelagic Scientific Working Group to increase the >14 cm sardine total allowable by-catch and the initial directed anchovy total allowable catch. *FISHERIES/2021/APR/SWG-PEL/26*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Shabangu FW.** 2021. *Ad hoc* recommendation of the Small Pelagic Scientific Working Group to increase the >14 cm sardine total allowable by-catch with anchovy and round herring. *FISHERIES/2021/MAR/SWG-PEL/09*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Shabangu FW.** 2021. Further recommendation of the Small Pelagic Scientific Working Group to increase the sardine total allowable catch and total allowable by-catch. *FISHERIES/2021/MAY/SWG-PEL/34*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Shabangu FW.** 2021. Initial recommendation of the Small Pelagic Scientific Working Group for the sustainable management of small pelagic resources for the season 2021. *FISHERIES/2021/JAN/SWG-PEL/07*. Department of Forestry, Fisheries and the Environment, Cape Town.

- Shabangu FW.** 2021. Recommendation of the Small Pelagic Scientific Working Group for the final anchovy total allowable catch for the 2021 fishing season. *FISHERIES/2021/JUL/SWG-PEL/56*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Shabangu FW.** 2021. Revised recommendation of the Small Pelagic Scientific Working Group to increase the sardine total allowable catch and total allowable by-catch. *FISHERIES/2021/APR/SWG-PEL/16*. Department of Forestry, Fisheries and the Environment, Cape Town.
- Soule M, **Githaiga-Mwicigi J.** 2021. Squid closed season 2021 acoustic survey report. RV *Ellen Khuzwayo*. *FISHERIES/2021/SEPTEMBER/SWG-SQ/21*. Fisheries Resource Surveys (FRS), Bergvliet, Cape Town, and Department of Forestry, Fisheries and the Environment, Cape Town.
- van der Lingen CD.** 2021. Comparing prevalence-at-length plots for western and southern sardine from Pelagic Biomass Survey and October to December commercial catch samples, 2010–2018. *FISHERIES/2021/OCT/SWG-EL/61*. Department of Forestry, Fisheries and the Environment, Cape Town.
- van der Lingen CD, Coetzee JC, Geja Y, Merkle D.** 2021. Temporal patterns of adult sardine by-catch in the directed round herring fishery off the South African west coast. *FISHERIES/2021/MAR/SWG-PEL/14*. Department of Forestry, Fisheries and the Environment, Cape Town.
- van Zyl DL.** 2021. TAC split per sector per area and catches. *FISHERIES/2021/JUNE/SWG/WCRL09*. Department of Forestry, Fisheries and the Environment, Cape Town.
- van Zyl DL.** 2021. West coast rock lobster: annual TAC, catch, effort & CPUE per area. *FISHERIES/2021/JUNE/SWG/WCRL10*. Department of Forestry, Fisheries and the Environment, Cape Town.