

PORTFOLIO COMMITTEE ON FORESTRY, FISHERIES & THE ENVIRONMENT 21 March 2023

Status of the South African Marine Fishery Resources







PRESENTATION OUTLINE

- Overview of the status of marine fishery resources
- **G** Focus on key resources
 - Hake
 - Small pelagic fishes (sardine & anchovy)
 - Abalone
 - West Coast rock lobster
 - Demersal sharks
 - Linefish
- **Concluding remarks**







OVERVIEW OF THE STATUS OF MARINE FISHERY RESOURCES

Abalone Dusky kob Silver kob Geelbek Dageraad Soupfin shark Shortfin mako shark Oceanic Whitetip sha Great Hammerhead s West Coast rock lobs	Red steenbras White stumpnose Seventy-four Harders Yellowfin tuna (Ind) Big-eye tuna (Atl)	Smoothh St Joseph Blue shar Biscuit sk Spearnos Oysters (S Bigeye tu	ound shark h shark k kate se skate Sn Cape) na (Ind)
Sardine Southern Bluefin tuna Swordfish (Atl) Shallow water prawns Santer Carpenter		Anchovy Hakes Horse mackerel Kingklip Monkfish Snoek Yellowtail Hottentot Slinger Squid South Coast rock lot	Agulhas sole Oysters (KZN) Seaweeds White mussels Redeye Deep-water prawns Albacore Big-eye tuna (Ind) Swordfish (Ind) Yellowfin tuna (Atl)

STOCK STATUS





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KEY RESOURCES - HAKE

- Fishery catches shallowand deep-water hakes together
- Caught by hake trawl (inshore & offshore), longline and handline, and midwater trawl as bycatch
- Value equals that of all other SA marine fisheries combined



Top: Total catches (tons) of Cape hakes split by species over the period 1917 – 2020 and the TAC set each year since the implementation of the OMP approach in 1991. Prior to 1978, the data required to allocate the catch by species are not available.

Bottom: Catches of Cape hakes per fishing sector for the period 1960 - 2020. Prior to 1960, all catches are attributed to the deep-sea trawl sector.







KEY RESOURCES - HAKE

- Hake trawl is the only South African fishery currently certified by the Marine Stewardship Council (MSC) and recently received its third re-certification
- MSC certification gains access to European markets, and this access ensures the economic viability of the industry
- MSC certification carries with it responsibilities for the client (industry) and the government management authority (Fisheries Management Branch), including:
 - Regular surveys of abundance
 - Reliable estimation of catches
 - Regular scientific assessment of resource status
 - Harvest control rules or Operational Management Procedure to determine annual catch limits
 - Independent scientific observers
 - Adequate monitoring, control and enforcement
 - Measures to reduce ecological impact, such as damage to seabed, limiting by-catch of sensitive species, and others





KEY RESOURCES – HAKE

- The most recent hake stock assessments indicate a continued steady increase in spawning biomass for *M. capensis* but a recent decrease for *M. paradoxus*.
- Both species are, however, estimated to lie well above Maximum Sustainable Yield levels.
- The current hake OMP has responded to the input data by reducing the TAC by 5% for 2022.



Trajectories of female hake spawning biomass relative to biomass at Maximum Sustainable Yield (MSY) estimated by the October 2021 hake Reference Case assessment. The female spawning biomass corresponding to the MSY level is indicated with a dashed line





KEY RESOURCES – SMALL PELAGIC FISHES

- South Africa's largest fishery; catches dominated by anchovy
- Sardine catches at an all-time low (5 300 t) in 2019 but slight recovery since
- A total of 274 000 t of anchovy, redeye round herring and sardine were caught in 2022; below both long-term (333 000 t) and shortterm (287 000 t) averages



Catches of sardine, anchovy and redeye round herring by the small pelagic fishery, 1950-2022





KEY RESOURCES – SMALL PELAGIC FISHES - ANCHOVY

- Anchovy abundance increased in 2020
- No survey result
 in 2021
- Survey result for 2022 still to be finalised
- Average anchovy recruitment in 2021 and 2022



Estimated abundance (histograms) and recruitment (line) of anchovy since 1984







KEY RESOURCES – SMALL PELAGIC FISHES - SARDINE/PILCHARD

- Small increase in sardine abundance in 2019 and 2020
- No survey result in 2021
- Survey result for 2022 still to be finalised
- The sardine resource remains of concern and necessitates continued precautionary management



Estimated abundance (histograms) and recruitment (line) of sardine/pilchard since 1984



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KEY RESOURCES - ABALONE

- Abalone has suffered major declines in abundance despite best efforts at management (e.g. closure of recreational fishery, drastic TAC reductions, area closures, area management system)
- The recreational fishery was closed in 2003
- The commercial fishery was closed in 2008
- Commercial fishery was conditionally re-opened in 2010



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YEAR

Total Allowable Catch (TAC) and recorded (legal) annual catches for the abalone fishery since 1953. Note that the substantial illegal catches are not included on this graph



KEY RESOURCES – ABALONE

- Available updated data do not indicate any resource recovery
- It is projected that the resource will continue to decline if current levels of illegal harvesting continue
- Recovery may still be possible in some of the fishing areas if major reductions in illegal harvesting can be achieved



Estimated weight and number of illegally-harvested abalone based on international trade data, and recorded legal abalone catch (weight) for the years 2000–2021







KEY RESOURCES – WEST COAST ROCK LOBSTER

- The fishery generates around R500m per year, and employs about 4 300 people
- The fishery has traditionally focused on the West Coast, but resource shifts in the 1990s resulted in three new areas being opened up East of Cape Hangklip
- The fishery consists of the following sectors:
 - Offshore commercial (traps)
 - Inshore commercial (hoop-nets)
 - Interim relief/ Small-scale
 - Recreational







KEY RESOURCES – WEST COAST ROCK LOBSTER

- Declines in catches (since the 1950s-1960s) have had a number of causes, including:
 - Changes in fishing methods
 - Stricter control of catches
 - Declines in resource abundance
 - Increase in illegal harvesting
 - Reduced growth rates
 - Environmental changes
- The resource is experiencing over-fishing
- <u>The resource is currently at 1.3% of</u> pristine levels (pre 1910)



Catches and growth of West Coast rock lobster



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KEY RESOURCES – DEMERSAL SHARKS

- Soupfin sharks are currently experiencing overfishing
- The status of Smoothound sharks has improved in the past decade
- These sharks are caught in multiple fisheries, including demersal shark longline, linefish and inshore trawl fisheries
- Further management measures are being put in place to improve the status of these resources



Kobe plots of stock status estimates for (a) soupfin and (b) smoothhound sharks



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KEY RESOURCES – LINEFISH

- The most recent stock assessments indicate that reductions of commercial • fishing effort implemented from 2003 onwards resulted in the partial recovery of some species, such as the slinger, santer and carpenter
- However, other important stocks such as silver kob are still being overfished, given the cumulative impact of the linefishery and inshore-trawl fishery on this species
- Snoek and yellowtail assessment suggests that the stock is optimally exploited
- Catches of yellowtail and snoek are highly • variable as they are dependent on the availability of these nomadic species in nearshore areas



Kobe plot of stock status estimates for seven important linefish species







KEY RESOURCES – LINEFISH

- For some severely depleted linefish such as red steenbras, dageraad and white stumpnose, current management measures are insufficient
- The slow translation of scientific recommendations into management regulations is a concern
- Illegal activities, such as drone fishing, further impacts over-exploited species such as silver kob.







MITIGATING MEASURES

- Continuous monitoring of stock status
- Continuous monitoring of catches
- Adaptive management to ensure sustainable catches through annual adjustment of:
 - catch (Total Allowable Catch TAC)
 - effort (Total Allowable Effort TAE)
 - other management measures encapsulated in permit conditions
- West Coast rock lobster anti-poaching strategy
- National Strategy and Action Plan to Prevent and Combat the Trade in Illegally Harvested South African Abalone
- National Plan of Action for Sharks
- Linefish State of Emergency and Protocol
- Implementation of Small-scale Fishery and support to Small-scale Fishers
- Promotion of aquaculture and alternative livelihoods



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CONCLUDING REMARKS

- Many resources are sustainably managed
- Some resources, particularly nearshore resources, are overfished and subject to overfishing
- Interventions to reduce over-fishing can lead to resource recovery. Examples include deep-water hake (*Merluccius paradoxus*), South Coast rock lobster, and some linefish species.



Harders (mullet) drying on the West Coast







THANK YOU!

Dr Kim Prochazka

Chief Directorate Fisheries Research & Development Department of Forestry, Fisheries and the Environment Tel: 021 402 3546 | Mobile: 083 302 8191 Website: https://www.dffe.gov.za/

Address: Foretrust Building, Martin Hammerschlag Way, Foreshore, Cape Town



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