

Aquatic Health Information Brief: South Africa



Summary information

Customs and borders

1. International airports (9):

- OR Tambo International Airport
- Cape Town International Airport
- King Shaka International Airport
- Bram Fischer International Airport
- Lanseria International Airport
- Gateway International
- Kruger Mpumalanga International Airport
- Pilansberg
- Upington

2. Official Land border crossing points (54)

3. Bordering countries (4):

Nambia, Botswana, Zimbabwe and Eswatini. South Africa entirely surrounds Lesotho.

4. Official customs coastal ports (8):

East coast: Durban, East London, Mossel Bay, Port Elizabeth, Ngqura, Richards Bay. West coast: Cape Town, Saldanha Bay.

WOAH* Focal point:

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*(World Organisation for Animal Health, founded as OIE)

Key contacts supporting national aquatic health management

Fisheries and Aquaculture Department	<p>1. Dr Tlou Phukubye, Dept. Fisheries, Forestry and Environment (DFFE): aquahealth@dffe.gov.za</p> <p>2. Dr Kevin Christison, Specialist Scientist Dept. Fisheries, Forestry and Environment (DFFE): Kchristison@dffe.gov.za</p> <p>Tel: +021 430 7010</p>	Universities	<p>1. Dr Gillian Taylor, Aquatic Health Unit University of Pretoria: gillian@aquaticvet.co.za</p> <p>2. Prof. Horst Kaiser, Dept of Ichthyology and Fisheries Science Rhodes University Grahamstown: h.kaiser@ru.ac.za</p>
Veterinary Services	<p>1. Dr Mpho Maja, Director Animal Health, Dept of Animal Health Land Reform and Rural Development (DALRRD), Pretoria: Mpho.maja@dalrrd.gov.za</p> <p>Tel: +021 319 7456</p> <p>2. Dr Gretna de Wit, Deputy Director Animal Health (DALRRD), Pretoria:</p> <p>3. Dr Gugulethu Moyo, State Veterinarian Gauteng Dept of Agriculture and Rural Development (GDARD): Gugulethu.moyo@gauteng.gov.za</p> <p>4. Dr Boitumelo Motsitsi-Mehlape, Import/Export Policy Unit (DALRRD), Pretoria: BoitumeloMOT@dalrrd.gov.za</p> <p>5. Dr Grietjie de Klerk, Deputy Director Epidemiology (DALRRD), Pretoria: Grietjie@Dalrrd.gov.za</p> <p>6. Dr Patience Selotolo, Regional Vet Mpumalanga: patience123m@gmail.com</p>	Private sector and other support	<p>1. Dr David Huchzermeyer, Sterkspruit Veterinary Clinic: veter@sterkspruitvet.co.za https://www.sterkspruitveterinaryclinic.co.za/</p> <p>2. Dr Shuichi Tabei, Amanzi Biosecurity (abalone industry): info@amanzivet.co.za</p> <p>3. Dr Brandon Spolander, Aquavet Africa: brandon@aquavetafrica.com https://www.aquavetafrica.com/</p> <p>4. Dr Graeme Hatley, Abalone & aquatic animal health services: graeme@graemehatley.com</p> <p>5. Dr Francois Lampen, Ushaka Seaworld Oceanarium flampen@seaworld.org.za</p> <p>6. Dr Luca Mendes, Two Oceans Aquarium: luca@mendes.co.za</p>

Main fish pathogens and health conditions detected in South Africa

Bacteria: *Aeromonas hydrophila*, *Aeromonas veronii*, *Aeromonas schubertii*, *Aeromonas carviae*, *Aeromonas salmonicida*, *Vibrio harveyi*, *Flavobacterium columnare*, *Lactococcus garviae* primarily in salmonids. *Mycobacteria spp* in imported ornamental fish. Epitheliocystis common in tilapia, *Brevimundus vesicularis*, *Myroides odoratum* emerging pathogen in tilapia.

Parasitic: *Trichodina spp.* Dactylogyridae/ Gyrodactylidae, *Ichthyobodo necator*, *Ichthyophthirius multifiliis*, *Ambiphrya spp.* *Epistylus spp.*, *Cryptosporidia spp.* *Cryptobia iubulins*, *Chilodonella spp.*, Helminths: *Contracaecum spp.*, *Macroparasites: Argulus spp.* *Lernaea spp.*, *Bothriocephalus*, numerous different digenean trematodes.

Main fish pathogens and health conditions detected in Ghana

Fungal/oomycete: *Saprolegnia spp.* common in colder water tilapia, *Aphanomyces invadans*, epizootic ulcerative syndrome (EUS).

Viral: Koi herpes virus (KHV) ornamentals, also natural carp systems, carp pox, lymphocystis (ornamentals).

Private sector background

National finfish aquaculture production still comparatively low (circa 9,750MT by 2020) compared to some Sub-Saharan African countries. Aquatic animal health and specialised veterinary infrastructure, monitoring and regulation in government, university and private sectors highly developed and resourced. Importance, and financial cost, of aquatic diseases yet to be significant. Abalone sector is largest part of the industry by value. Marine finfish, tilapia, catfish still relatively non-intensified and low volumes. Ornamental fish production is fragmented but widespread. Trout production stable and long-established, but expansion is limited by environmental constraints. Strong international export of specific-pathogen-free rainbow trout eyed ova (current exports ~ 50 million ova).

Infrastructure and Legislation: FAQs

1. Does the government have a specialised unit for aquatic health?

Yes. ARC-Onderstepoort Veterinary Research (ARC-OVR), Private Bag X5 Onderstepoort 0110, Pretoria. Contact: ovi-info@arc.agric.za

<https://www.arc.agric.za/arc-ovi>

2. Are aquatic health diagnostics laboratories accessible and affordable to the majority of aquaculture farmers?

Yes. 1. ARC-OVR offers diagnostic testing for a number of aquatic diseases. Sample handling functions well, diagnosis turnaround time is quick and mostly affordable to aquaculture farmers. Occasional challenges with lack of reagents. Key services include molecular PCR. Capacity for viral testing. Performing virus isolation for five salmonid viruses (IPN, VHS, IHN, EHN, OMV) and cyprinid virus (SVC), molecular diagnostics for three further salmonid viruses SAV, ISA, PRV and salmonid bacterial disease (BKD), and two tilapia viral diseases (TiLV ISKNV). Laboratory will also undertake molecular examination of fish samples for KHV & EUS. Contact Dr Alison Lubisi (Virology), Dr Marco Romito (Molecular).

2. The University of Pretoria Faculty of Veterinary Science: offers specialised aquatic pathology and histopathology assessment, plus diagnostic service. Lab processes 1-3 aquatic cases per week, focus on routine health monitoring and disease outbreak diagnostics. Contact Dr J. Steyl & Dr G. Taylor.

3. Molecular Diagnostic Services provides KHV PCR screening.

4. Vetdiagnostix – aquatic diagnostics through most standard bacterial cultures. However, limited to certain pathogen screening.

5. IDEXX laboratory provides bacteriology and histopathology services.

6. Lancet Laboratories. Currently seeking accreditation to test for shellfish diseases.

Some diagnostic capacity accessible throughout country. However, need to expand diagnostics to include scope for diseases of concern e.g., TiLV, ISKNV, Koi sleepy sickness, *Francisella spp.*, etc. SANAS laboratory accreditation with validation of tests for aquatic pathogens required for some pathogens, also veterinary expertise/training still limited in aquatic histopathology and diagnostics. Council for Scientific and Industrial Research (CSIR) developing point-of-care diagnostic kits (TiLV ISKNV).

Infrastructure and Legislation: FAQs

3. Does the government have any bans or limitation on introducing live fish into the country – or moving live fish within country?

Yes. Importation of live salmonids is banned except for eyed ova accompanied by animal health certificate attesting to freedom of specified salmonid pathogens based on standards exceeding those of the WOAHA. Importation of live aquatic animals of other species requires animal health certification, reflected in RSA import permit conditions for that species; reasonably well defined for tilapia and food carps. Importation of live ornamental fish remains poorly regulated with porous health attestation requirements. Cannot import CITES-listed species including abalone, live crab and certain rock lobster species. Import prohibited on selected listed species in terms of the Alien and Invasive Species Regulations 2013. Unauthorised movement of live fish caught in inland waters is illegal. Movement of live Nile tilapia only permitted within provinces where its legal aquaculture is permitted. Importation and movement controls are also applied to live shellfish, requiring animal health assurances and disease freedom certification.

4. Does the government have any specialist legislation on aquatic health?

Yes. A number of fish diseases are listed as controlled under The Animal Diseases Act, 35 1984, which regulates export of live aquatic vertebrates and their products, and provides power to enforce disease control measures and quarantine. “The Veterinary and Para-Veterinary Professions Act, 19 1982, includes all vertebrates other than man in its definition of ‘animal’ and regulates the veterinary profession. Fertilizers, Farm Feeds, Agricultural and Stock Remedies Act, 30, 1947 and Medicines Related Substances Act, 101 of 1965 regulate registration and use of medicines in aquatic animals. Obligation to report WOAHA-listed diseases is a requirement of permits for marine aquaculture under the Marine Living Resources Act, 18 1998.

Further reading

1. WOAHA, 2022. Aquatic Animal Health: Keeping pace with the rapid growth of the aquaculture sector in Africa. Protect Africa’s aquatic resources from harmful diseases and strengthen biosecurity across all (Accessed 2022).

<https://rr-africa.woah.org/en/our-mission/keeping-pace-with-the-rapid-growth-of-the-aquaculture-sector-in-africa/>

2. D.A.F.F., 2015. Guide to the authorisation requirements for aquaculture in South Africa. Department of Agriculture, Forestry and Fisheries.

https://www.dffe.gov.za/sites/default/files/legislations/guideauthorisationrequirements_aquacultureinsouthafrica.pdf

3. D.A.F.F., 2011. Strategic Framework for Aquatic Animal Health and Welfare in South Africa. Department of Agriculture, Forestry and Fisheries.

<https://www.aasa-aqua.co.za/wp-content/uploads/2018/08/Draft-Aquatic-Animal-Health-Framework-09-11-2011.pdf>

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