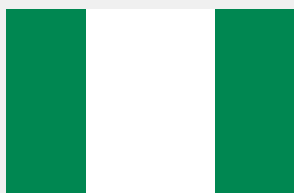


Aquatic Health Information Brief: Nigeria



Summary information

Customs and borders

1. International airports (5):

- Mutala Mohammed
- Nnamdi Azikiwe
- Port Harcourt
- Mallam Aminu
- Akanu Ibiam

2. Official land border crossing points (22)

3. Bordering countries (4):

Benin, Chad, Niger, Cameroon

4. Coastal customs ports (6):

Lagos port complex (Apapa), Tin Can Island Port, Calabar Port, Rivers Port Complex, Delta Port, Onne Port.

5. Nigeria Agriculture Quarantine Service (NAQS)

has seven zonal offices across the country that oversee all these entry points.

6. Focal point officer:

Mr Adamu L. Abubakar
Tilapia Lake Virus Project

Desk Officer: fish farm certification and routine farm visitation

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Key contacts supporting national aquatic health management

| | | | |
|--------------------------------------|---|----------------------------------|--|
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| | 2. Dr Suliat Yetunde Adeleke: suliatna2@gmail.com Tel: +234 9080042621 | | 2. Dr Oladosu, Wildlife and Aquatic Diagnostic Laboratory, Department of Veterinary Medicine, University of Ibadan: gbolatomi@yahoo.com Tel: +234 8037978139 |
| Veterinary Services | 1. Dr Modupeola Ogunnoiki, (Seconded to Fisheries Commission): dupeogunnoiki@yahoo.com Tel: +234 8033599666 | Private sector and other support | Animal Care Services, Kilometer 2, Iperu Ogere Road Lagos Ibadan Express Way Ogere Remo Ogun State: Tel: +234 8056293249 or +234 8056290726 https://animalcare-ng.com/technical-laboratory/ |
| | 2. Dr George R. Uzuoga: georgereuben2000@yahoo.com Tel: +234 80359050883 | | |

Main fish pathogens and health conditions detected in Nigeria

The most common pathogens encountered are linked to the country's main catfish aquaculture industry, particularly in hatcheries and to a lesser extent grow-out tanks/ponds. However, some tilapia pathogens are evident as its importance as an aquaculture species in Nigeria grows.

Bacterial: *Aeromonas hydrophilis* - Haemorrhagic septicaemia of catfish (Bacteraemia); *Pseudomonas sp.*; Vibriosis; *Flexibacter* (surface bacteria, secondary infection); *Streptococcus iniae*; Furunculosis – *Aeromonas salmonicida*, *Aeromonas sobria*; *Enterobacter cloacae* - Arborescent organ necrosis syndrome; *Klebsiella pneumoniae sub sp. pneumoniae* especially in clarias fry; *Acinetobacter baumani* in clarias grow-out, often RAS systems; *Staphylococcus aureus* - Jaundice catfish syndrome; *Myxosoma sarigi* from orbit/cornea of *Oreochromis niloticus* tilapia; *Myxobolus sp.* gonadal infection in tilapia.

Parasitic: Coccidiosis (Earthen pond); Hexamita (tapeworms) *Corallobothrium fimbriatum* and *Ligula Intestinalis*; *Monogenea Gyrodactylus sp. Dactylogyrus sp.*; Digenea Opisthorchids (*Clonorchis*, *Opisthorchis*); Trichodinids *Piscicola sp.*; Costiasis; Grubs: (a). *Clinostomum* (Yellow grub) (b). *Posthodiplostomum* (White grub); Fish Lice – Genus *Argulus*, *Cleidodiscus sp*, *Tetrahymela sp*, *H. pseudolamellaris* on gills of *Heterobranchus sp.* and *Cichlidogyrus sp.* on gills of *O. niloticus*.

Fungal: Saprolegniasis, Aspergilomycosis, Aflatoxicosis (Aflatoxin from feed).

Viral: Lymphocystis, Infectious Pancreatic Necrosis (IPN) [not clearly identified].

Non-pathogenic conditions: Scoliosis – vitamin C deficiency and genetic deformities.

Unknown aetiology: Range of tumours in catfish and carps, including cracked skull syndrome found in *C. gariepinus* growout.

Private sector background

Nigeria is by far the largest aquaculture producer in sub-Saharan Africa - with over 300,000MT, primarily of catfish *Clarias gariepinus*, *Heterobranchus bidorsalis* and associated hybrids. Commercial culture of tilapias is growing, bringing its own challenges with potential pathogens. Introductions of other species, such as *Pangasius sp.* from Asia, now appear to be spreading across the country. Catfish tend to have most health problems in hatchery and juvenile stages, pre-growout. Across the hatchery sector there is widespread purchase and largely unregulated use of a range of chemicals and pharmaceuticals including antibiotics and prebiotics. Catfish hatchery operators are used to treating their fish both in-water and in-feed. There are a number of well-established producers and value chain organisations FSON, CAFAN (and [TADAN](#) for tilapia) that support their members with fish health/biosecurity information and trainings. The nascent tilapia sector is likely to bring in new challenges, since most of the key bacterial and viral pathogens of tilapia are not pathogenic for catfish. There is also an active and lucrative ornamental fish sector across Nigeria where import and export of live fish also brings risks and challenges. Vaccination is not yet common or practiced in either catfish or tilapia sectors.

Infrastructure and Legislation: FAQs

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

Partially. There are currently three people employed within the Federal Department of Fisheries, Federal Ministry of Agriculture and Water Resources, No 1 Wilmot Point, Off Ahmadu Bello Way P/ MB 12529 Victoria Island, LAGOS - including Dr Mrs G. A Modepeola Ogunnoiki (contact above) who's sole responsibilities relate to aquatic animal health (AAH).

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

There is one private sector laboratory: Animal Care Ogere Ogun State (contacts above) with PCR/molecular capacities, but no specialist fish health staff. Their main clientele is the poultry sector. In academia Dr Selim at the Department of Veterinary Medicine at University of Ibadan has some expertise and molecular capacities for AAH.

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

Within the legislature it appears that there have been no specific bans on the introduction of live fish into the country nor movement of live fish within. However, any proposed new introductions from other countries must first go through the Ministry of Fisheries and Aquaculture and follow a set application procedure to get approval. There was a recently successful application by WorldFish for GIFT (Genetically Improved Farmed Tilapia) to be introduced into Nigeria.

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

Not specifically as yet. However other Acts have component parts: (1) The Sea Fisheries Act No. 71 of 1992 and its Regulations -promulgated for the purpose of ensuring adequate management of the Nation's marine fisheries. (2) Inland Fisheries Act No. 108 of 1992 - promulgated for the purpose of enabling adequate coordination in the management of Nigeria's inland fisheries resources (3) Live Fish (Control of Importation) Act 1963. (4) Sea Fisheries Act of 2004. None of these laws have relevant sections and do not meet the demand of the aquaculture on fish disease control. In 2011, the EU programme ACP Fish II program reviewed relevant sections of the Sea Fisheries Act to set out where aquatic health could be included.

Further reading

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3. Igbani Flourizel, Hauwa O Sadiq and Tukura E Eyiseh, 2019. A review of the parasites of catfishes and tilapias in the wild and homestead ponds in Nigeria. *International Journal of Fisheries and Aquatic Studies*. 2019; 7(5): 307-310.

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6. Adeyemo, A.O., 2013. Effective fish health management strategy in Nigeria: A review. *International Journal of Plant and Animal Sciences* Vol. 1 (1), pp. 001-004, March, 2013. Available online at <http://internationalscholarsjournals.org>

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