

Lates niloticus (Linnaeus, 1758)



Nile River, Uganda. © J.J. Bursell.

Synonyms

Labrus niloticus Linnaeus, 1758

Lates niloticus macrolepidota Pellegrin, 1922

Lates albertianus Worthington, 1929

Lates niloticus albertianus Worthington, 1929

Lates niloticus rudolfianus Worthington, 1932

FAO names

Nile perch

Perche du Nil

尼罗鲈

Окунь нильский

Perca del Nilo

Local names

Adangme: Dzo (Ghana)

Anywa: Gur (Ethiopia)

Arabic: Aigle (Sudan), Am'kal (Chad), Am'kaltâya (Chad), Amukal (Chad), Igl (Sudan), Samoos (Egypt)

Baoulé: Gonin (Cote d'Ivoire)

Dinka, Northeastern (Dinka and Nuer): Cal (Sudan)

Dinka, Northeastern (Dinka): Ceil (Sudan), Gwet (Sudan)

El Molo: Jinte (Kenya)

English: Nile perch (Cameroon, Ghana, Kenya)

Ewe: Leshie (Ghana), Lesi (Ghana)

Ga: Dzo (Ghana)

Hausa: Giwan ruwa (Nigeria), Giwan Ruwan (Nigeria)

Igbo: Aja (Nigeria)

Ijo: Kina (Nigeria)

Jula: Saalen (Burkina Faso)

Kanuri: Bangur (Nigeria)

Kele (Ya Okandja): Indjaidjai (DRC), Lokulola (DRC), Ndjai (Congo Dem Rp)

Kele (Ya Wembe): Ikulolakulola (Congo Dem Rp)

Kim: Fel (Chad), Fon'dolâ (Chad), Namal (Chad)

Lombo (Olombo): Njabi (Congo Dem Rp)

Luo: Mbuta (Kenya)

Luyia: Mputa (Kenya)
Mòoré : Zagre (Burkina Faso)
Language not specified: Mputa (Uganda)
Nubian: Gubro (Sudan)
Nupe: Kima (Nigeria)
Shilluk: Gur (Sudan)
So (Eso): Njabi (Congo Dem Rp)
Swahili : Chengu (Tanzania), Mkombozi (Tanzania), Sangala (Tanzania), Sangara (Tanzania)
Turkana: Idji (Kenya), Iji (Kenya)
Wolof: Diène wekh (Senegal)
Yoruba: Igbo (Nigeria)
Zande: Ndeni (Sudan), Nganzi (Sudan)

Geographical distribution

Widespread throughout the Nilo-Sudan region of Africa, occurring commonly in all major river basins including the Senegal, Niger, Volta, Chad (Paugy 2003; Liu 2008) and Nile (Daget 1986; Bailey 1994; Liu 2008), including lakes Albert, Turkana and Tana (Daget 1986). Found almost everywhere in West Africa, except in Gambia (Paugy 2003). Also found in the rivers Sanaga and Cross and in coastal rivers of Cameroon, and widespread in the Congo Basin (Liu 2008). Introduced in several lakes including Lake Victoria (Seegers et al 2003; Pringle 2005). Several countries report adverse ecological impact after introduction.

Key features

Mouth large and protrusible, lower jaw (slightly) prominent; numerous villiform teeth present in jaws on palatine and vomer (Paugy 2003; Liu 2008). Preorbital/lachrymal (Eccles 1992; Liu 2008) and preopercle (Eccles 1992; Paugy 2003; Liu 2008) denticulate. Strong, prominent opercular spine (Eccles 1992; Paugy 2003; Liu 2008) on free edge of opercle, and a smaller one dorsally (Liu 2008). Caudal fin rounded (Eccles 1992; Paugy 2003; Liu 2008). Scales ctenoid, 54-74 along lateral line, followed by 6-8 pored scales on caudal-fin base; ceratobranchial (lower limb) of first gill arch with 12-14 gill rakers (Paugy 2003). Body uniformly silvery (Paugy 2003) or dark greyish-blue dorsally, greyish-silver on flank and ventrally (van Oijen 1995; Liu 2008). Fins greyish; interior of eye conspicuously yellowish (Paugy 2003). Juveniles brownish with lighter marbling (Paugy 2003) on head and flanks (Liu 2008).

Habitat and Biology

Inhabits rivers and lakes; adults inhabit deep water, while juveniles are found in shallow water (Bailey 1994; Liu 2008). Feeds on fish especially clupeids and *Alestes* spp. in certain areas (Reed et al 1967); smaller fish also feed on larger crustaceans and insects, juveniles are planktivorous (Bailey 1994). Threatened due to overharvesting (Stone 2007). Maximum reported size of 180.0 cm (probably TL) corresponding to a weight of 164 kg in Lake Albert (Paugy 2003). IUCN red list status least concern (Lalèyè et al 2020).

Interest to fisheries

Lates niloticus is an important commercial fisheries species throughout its range. FAO (2024b) holds catch statistics from 12 countries, from which it is clear that especially in the riparian countries of Lake Victoria, where Nile perch was introduced, catches of this species are high (Figure 1).

Elsewhere, the species makes up a relatively small part of the fisheries, mostly contributing less than 10% (e.g. Tesfaye & Wolff 2014; Nasr-Allah et al 2019; Ouedraogo et al 2021), but is often sold at high prices (Ouedraogo et al 2021; FAO 2024a).

Nile perch catches from Lake Nasser (Egypt) (Figure 2) peaked at over 10000 tonnes in 2009, but by 2016 decreased by over 75%, in accordance with the decrease in total catches from nearly 40000

tonnes to less than 15000 despite an increase in effort. The Nile perch contribution to the total catches increased from 7% in the 1980s to 15.3% in 2017, coinciding with a strong decrease of the contribution of *Oreochromis niloticus* (from 89% to 54%) (Nasr-Allah et al 2019; Mehanna et al 2021).

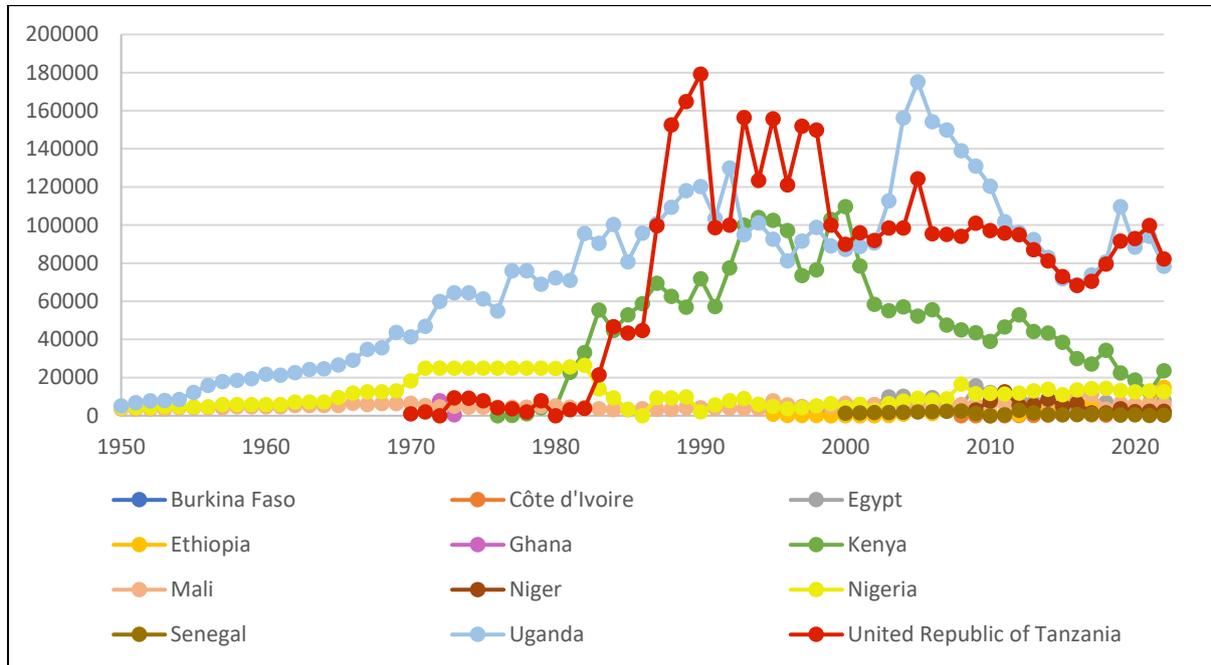


Figure 1: Catches (in tonnes) of *Lates niloticus* as available from FAO (April 2024).

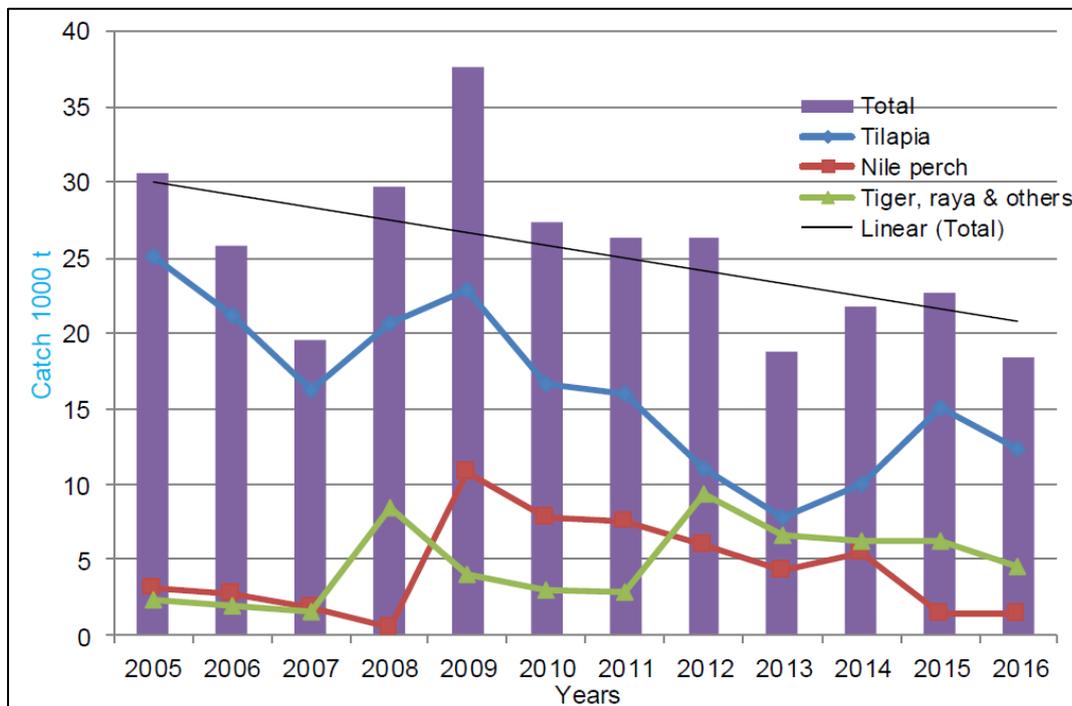


Figure 2: Annual catch in Lake Nasser (Egypt) by fish group from 2005 to 2016. Image from Nasr-Allah et al (2019) based on data from the General Authority for Fishery Resources Development (2018).

Following its introduction in Lake Victoria in the mid-1950s (Pringle 2005), the stock of Nile perch increased strongly during the late 1970s and the first half of the 1980s, first in Kenya and Uganda (Acere 1988; Ogutu-Ohwayo 1990) and a few years later in Tanzania (Goudswaard & Ligtoet 1988;

Barel et al 1991). Since 1980, the commercial fishery of Lake Victoria shifted to Nile perch, Nile tilapia (*Oreochromis niloticus*) and the native cyprinid *Rastrineobola argentea*, which together make up 80%-90% of the catch, a major shift from previous observations of 80% haplochromine catches (Njiru et al 2018). Stocks of many other species decreased (Hughes 1986; Acere 1988; Ogutu-Ohwayo 1990; Witte et al 1992a, 1992b) and although some haplochromines have been slowly recovering following the drastic decline in the mid-1980s (Witte et al 2007; Yongo et al 2021), the rest of the native species have never recovered, and their commercial importance for the fisheries in the lake is considered negligible (Goudswaard & Witte 1997).

In Tanzanian waters of Lake Victoria, in 1987 the total catch was about 160000 tonnes, and Nile perch contributed 60% (Ligtvoet et al 1988; Bwathondi 1990). Its contribution increased up to 90% in 1990 (Ligtvoet & Mkumbo 1991), while all other species continued to decrease. In Kenyan waters, catches of Nile perch increased from almost zero in the late 1960s and early 1970s to over 20000 tonnes in 1982, and Nile perch comprised about 60% of the catch in 1988 (Okemwa 1984; Ogari & Asila 1990). A similar trend was reported for Uganda (Okaronon et al 1985; Orach-Meza 1991). Nile perch catches peaked in the late 1980s and early 1990s, and started to decline afterwards. Commercial catches of Nile perch from gillnets, longlines, beach seines and mosquito seines all showed a downward trend (in kg per boat per day) from 1989-1998. Various surveys in the period 1997-2001 showed a much reduced average catch per hour, with about 70% by weight of the Nile perch being immature fish, and a stock that continued to fall, declining to 540000 tonnes by September 2001 (Lowe-McConnell 2003). Since then, the Nile perch fishery has declined so much that some of Uganda's fishers have migrated to lakes Kyoga and Albert and there have been some violent conflicts over fishing areas in Lake Victoria (Cowx, personal communication in Lowe-McConnell 2003).

The Nile perch fishery exhibits classic indicators of overfishing: reduction in age/length at maturity, reduction in Catch Per Unit Effort (especially taking into account higher fishing pressure), reduction in mesh size of nets used, an increased proportion of immature fish (less than 50-70 cm) in the catches and a decline in asymptotic length. Trawl data also suggested that the proportion of mature adult fish in the stocks is very low (Mkumbo et al 2002; Lowe-McConnell 2003; Van der Knaap 2006; Njiru et al 2007, 2008, 2010, 2018; Omwoma et al 2014; Lake Victoria Fisheries Organisation 2016; Taabu-Munyaho et al 2016; Natugonza et al 2022).

A study in the upper Victoria Nile by Bassa et al (2020), from 2008 to 2018, similarly recorded a decrease in asymptotic length, a high proportion (80%) of immature Nile perch in the catches and the extensive use of illegal fishing gears.

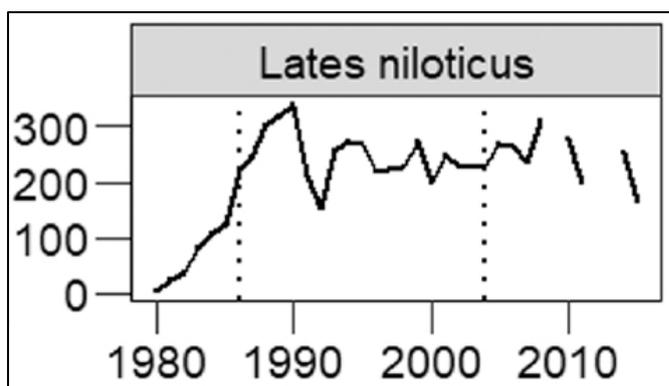


Figure 3: Total annual catches (thousand tonnes) of *Lates niloticus* in Lake Victoria over time. Image from Natugonza et al 2022.

The data that FAO (2024b) holds for the riparian countries of Lake Victoria differ from catch trends published in other sources. Natugonza et al (2022) mentioned that, based on their (incomplete) time series from 1980 to 2010, total annual catches of Nile perch from Lake Victoria are stable since the 1990s (Figure 3). Their data did not capture the reported peak in the late 1980s and early 1990s, and

especially the decreasing trend since the 1990s. The summed data from all riparian countries in FAO (2024) show a clear decline of about 50% from a peak in 2005 to 2017. This late peak, compared to published trends, is caused by large quantities of Nile perch reported from Uganda. Data in Cowx et al (2003) are totally different from the data presented in FAO (2024) both in trends and quantities, but does seem to capture the peaking catches in the late 1980s and early 1990s. The publication by Cowx et al (2003) is dedicated to the problem of poor catch statistical information, insufficient for supporting management.

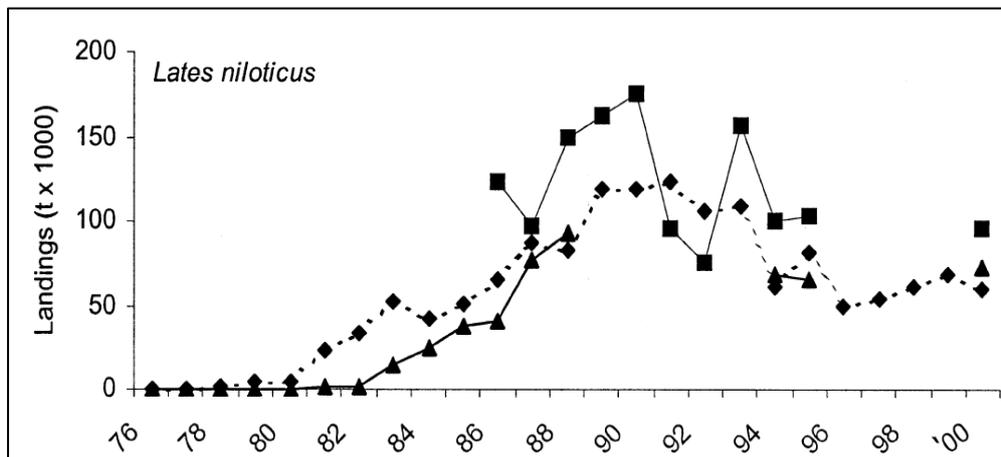


Figure 4: Trends in landings of major fish species and species groups in the riparian countries of Lake Victoria (diamond=Kenya; square=Tanzania; triangle=Uganda). Image from Cowx et al 2003.

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