Full Account for: *Lates niloticus*

**System:** Freshwater

<table>
<thead>
<tr>
<th>Kingdom</th>
<th>Phylum</th>
<th>Class</th>
<th>Order</th>
<th>Family</th>
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</thead>
<tbody>
<tr>
<td>Animalia</td>
<td>Chordata</td>
<td>Actinopterygii</td>
<td>Perciformes</td>
<td>Centropomidae</td>
</tr>
</tbody>
</table>

**Common name**
Persico del nilo (Italian), Nile perch (English), Nilbarsch (German), nijlbaars (Dutch), sangara (Kiswahili), Victoria perch (English), victoriabaars (Dutch), chengu (Kijitta), mbuta (Kiluo), perche du nil (French), victoriabarsch (German), perca di nilo (Spanish), nilabborre (Swedish)

**Synonym**

**Similar species**

**Summary**
The Nile perch (*Lates niloticus*) is a large freshwater fish. Also known as capitaine, mputa or sangara, it can grow up to 200kg and two metres in length. It was introduced to Lake Victoria in 1954 where it has contributed to the extinction of more than 200 endemic fish species through predation and competition for food.

[view this species on IUCN Red List](http://www.iucngisd.org/gisd/species.php?sc=89)

**Species Description**
Large perch-like predator. Dorsal fin deeply notched, giving the appearance of two separate fins; the first part completely spinous; third dorsal spine enlarged. Lateral line continuous. Pre-orbital and pre-opercular bones with spines; a large spine on operculum.

**Lifecycle Stages**
In Lake Victoria, male size at first maturity 50-55cm TL (ca. 2 years), females 67.5-85cm TL (2-4 years). Fifty percent maturity at 60-74cm TL for males and 102-110cm TL for females. Maturity sizes strongly decreasing in recent years.
Uses
Nile perch took decades to become evident in Lake Victoria and then burst into the huge biomass of the late 1980s and 1990s and the subsequent harvest for export. It rose to become the main fishery species in the lake in the late 1990s and the basis of a huge export industry. This raised the price of Nile perch to something beyond the reach of many lakeside communities. All of this was documented in the first two phases of an IUCN-World Conservation Union’s Nile perch project, which culminated in the making of the film “Big fish, small fry”. The project has moved on to conflict resolution and capacity building "beach units" to give more responsibility and management involvement to local people. This work is supported by the three riparian government fisheries departments, through the Lake Victoria Fisheries Organisation (LVFO), and is currently being reviewed.

In recent years the Nile perch population has begun to stabilise and the availability of large fish has declined as has the catch which is now way below the capacity of the factories which process and export the fish to USA, Europe, Australia and New Zealand. The view of the three riparian governments is that Nile perch is an essential export earner and they have attempted to brand it as "organic", as it is wild and without artificial additives etc.(although cage rearing has begun). This same export has brought some benefits to the local people (in income from fishing and jobs in factories) and some disbenefits from availability of fish for food and economic and social upheaval (Howard, G., pers. comm., August 2005).

Habitat Description
Freshwater species, but living in brackish waters in Lake Mariout. Introductions in Lake Victoria were mainly from Lake Albert, but also from Lake Turkana. The present populations in Lake Victoria are apparently not pure Lates niloticus but contain some genetic material from Lates macropthalmus from Lake Albert.

Reproduction
Free spawning over shallow sheltered areas, all the year round with peaks in rainy season. Up to 16 million eggs per breeding cycle.

Nutrition
Large predator, feeding in Lake Victoria on haplochromine cichlids, the zooplanktivorous cyprinid Rastrineobola argentea, the prawn Caridina nilotica and juvenile Nile perch (cannibalism). Young stages feed on invertebrates.

General Impacts
The Nile perch is responsible through predation and competition for food for the decimation and possible disappearance of two hundred or more species of the unique flock of endemic haplochromine cichlids in Lake Victoria.

Management Info
Eradication of the Nile perch in Lake Victoria is impossible in practice, and is also not an option because of its economic success.
Pathway
Introduced for fisheries purposes.

Principal source:

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ALIEN RANGE

[1] CUBA
[1] LAKE VICTORIA
[1] UNITED STATES

Red List assessed species 145: CR = 51; EN = 2; VU = 17; DD = 62; LC = 13;

- Allochromis welcommei VU
- Astatotilapia piceatus CR
- Brycinus jacksonii EN
- Haplochromis acodens DD
- Haplochromis altigenis DD
- Haplochromis apogonoides CR
- Haplochromis argenteus CR
- Haplochromis barbaraee CR
- Haplochromis bartoni DD
- Haplochromis boops DD
- Haplochromis bwathondii VU
- Haplochromis cavitrons DD
- Haplochromis chromogynos VU
- Haplochromis cinclus CR
- Haplochromis chester CR
- Haplochromis crassilabris CR
- Haplochromis cronus DD
- Haplochromis cryptogramma DD
- Haplochromis declicostoma DD
- Haplochromis dichrous CR
- Haplochromis dolichorrhynchus DD
- Haplochromis erythrocephalus DD
- Haplochromis eutaenia DD
- Haplochromis flavipinnis CR
- Haplochromis goweri DD
- Haplochromis harkaptridion DD
- Haplochromis hiatus CR
- Haplochromis iris CR

- Astatoreochromis alluaudi LC
- Baurus docmak LC
- Brycinus sadleri LC
- Haplochromis aelocephalus CR
- Haplochromis anstleter CR
- Haplochromis arcanus DD
- Haplochromis artaxerxes DD
- Haplochromis bareli CR
- Haplochromis bayoni DD
- Haplochromis brownae CR
- Haplochromis cassius DD
- Haplochromis chlorochrous DD
- Haplochromis chrysogynaen DD
- Haplochromis cinereus DD
- Haplochromis croprologus CR
- Haplochromis crocopeplus CR
- Haplochromis cryptodon DD
- Haplochromis cyaneus EN
- Haplochromis dentex CR
- Haplochromis diplotaenia DD
- Haplochromis empodisma DD
- Haplochromis estor DD
- Haplochromis fischeri VU
- Haplochromis gibertii DD
- Haplochromis granti CR
- Haplochromis heusinkveldi CR
- Haplochromis humilior DD
- Haplochromis ishmaeli CR

Haplochromis katunzii  CR
Haplochromis labriformis  DD
Haplochromis laparogramma  LC
Haplochromis lividus  DD
Haplochromis macrognathus  CR
Haplochromis maculipinna  DD
Haplochromis mandibularis  DD
Haplochromis maxillaris  VU
Haplochromis melanopterus  VU
Haplochromis melichrous  DD
Haplochromis michaeli  CR
Haplochromis mylergates  CR
Haplochromis nigrescens  DD
Haplochromis nyanzae  DD
Haplochromis obtusidents  DD
Haplochromis pallidus  DD
Haplochromis paraguarti  DD
Haplochromis paropius  LC
Haplochromis pellegrini  DD
Haplochromis perrieri  CR
Haplochromis phytophagus  DD
Haplochromis ptimani  DD
Haplochromis plagiopterus  DD
Haplochromis prodromus  DD
Haplochromis pseudopellegrini  DD
Haplochromis pyrrhocephalus  LC
Haplochromis ripionanus  LC
Haplochromis serranus  DD
Haplochromis sphex  CR
Haplochromis sp. nov. ‘micro-obesus’  CR
Haplochromis sulphureus  CR
Haplochromis teegelaar  CR
Haplochromis theldon  CR
Haplochromis thuragnathus  DD
Haplochromis tyrianthinus  DD
Haplochromis vanoliensis  VU
Haplochromis vonlinnei  CR
Haplochromis xenognathus  LC
Hoplostilapiap retrodens  VU
Macropleurodus bicolor  VU
Mormyrus kannume  LC
Oreochromis variabilis  CR
Platyttaeniodus degeni  LC
Pyxichromis parorthostoma  DD
Yssichromis fusiformis  VU

Haplochromis kujunjiu  DD
Haplochromis lacrinosus  DD
Haplochromis laprogramma  VU
Haplochromis longirostris  CR
Haplochromis macrops  DD
Haplochromis maisomei  DD
Haplochromis martini  CR
Haplochromis megalops  VU
Haplochromis melanopus  DD
Haplochromis mento  DD
Haplochromis microdon  CR
Haplochromis nanoserranus  CR
Haplochromis nuchisquamulatus  DD
Haplochromis obesus  CR
Haplochromis pachycephalus  DD
Haplochromis pancitrus  CR
Haplochromis paraplagicostoma  DD
Haplochromis parvidens  CR
Haplochromis percoideus  CR
Haplochromis pharyngomylus  DD
Haplochromis piceatus  VU
Haplochromis plagiodon  VU
Haplochromis plutoius  CR
Haplochromis prognathus  DD
Haplochromis pilistes  CR
Haplochromis pyrrhopteryx  CR
Haplochromis saxicola  DD
Haplochromis spekii  DD
Haplochromis sp. nov. ‘argens’  VU
Haplochromis squamulatus  DD
Haplochromis tanaos  LC
Haplochromis teunisraei  CR
Haplochromis thereuterion  VU
Haplochromis tridens  DD
Haplochromis ushindii  CR
Haplochromis victorianus  CR
Haplochromis worthingtoni  DD
Haplochromis xenostoma  CR
Labeo victorianus  LC
Mastacembelus frenatus  LC
Oreochromis esculentus  CR
Paralabidochromis victoriae  DD
Pundamilia macrocephala  VU
Xenoclarias eupogon  CR

BIBLIOGRAPHY

Management information


Summary: The electronic tool kits made available on the Cefas page for free download are Crown Copyright (2007-2008). As such, these are freeware and may be freely distributed provided this notice is retained. No warranty, expressed or implied, is made and users should satisfy themselves as to the applicability of the results in any given circumstance. Toolkits available include 1) FISK- Freshwater Fish Invasiveness Scoring Kit (English and Spanish language version); 2) MFISK- Marine Fish Invasiveness Scoring Kit; 3) MI-ISK- Marine invertebrate Invasiveness Scoring Kit; 4) FI-ISK- Freshwater Invertebrate Invasiveness Scoring Kit and AmphISK- Amphibian Invasiveness Scoring Kit. These tool kits were developed by Cefas, with new VisualBasic and computational programming by Lorenzo Vilizzi, David Cooper, Andy South and Gordon H. Copp, based on VisualBasic code in the original Weed Risk Assessment (WRA) tool kit of P.C. Pheloung, P.A. Williams & S.R. Halloy (1999).


The guidance document is available from http://www.cefas.co.uk/media/118009/fisk_guide_v2.pdf [Accessed 13 January 2009].


Summary: The discussion paper presents a conceptual risk assessment approach for freshwater fish species that addresses the first two elements (hazard identification, hazard assessment) of the UK environmental risk strategy. The paper presents a few worked examples of assessments on species to facilitate discussion.

Available from: http://www.cefas.co.uk/publications/techrep/tech129.pdf [Accessed 1 September 2005]


Summary: The suggestion that the fishery in Lake Victoria would benefit if the Nile perch were introduced is based on ignorance of several fundamental biological concepts. Such an introduction is not only undesirable but would jeopardize the existing commercial fishery.
In 1993, Canada, Mexico and the United States signed the North American Agreement on Environmental Cooperation (NAAEC) as a side agreement to the North American Free Trade Agreement (NAFTA). The NAAEC established the Commission for Environmental Cooperation (CEC) to help the Parties ensure that improved economic efficiency occurred simultaneously with trinational environmental cooperation. The NAAEC highlighted biodiversity as a key area for trinational cooperation. In 2001, the CEC adopted a resolution (Council Resolution 01-03), which created the Biodiversity Conservation Working Group (BCWG), a working group of high-level policy makers from Canada, Mexico and the United States. In 2003, the BCWG produced the Strategic Plan for North American Cooperation in the Conservation of Biodiversity. This strategy identified responding to threats, such as invasive species, as a priority action area. In 2004, the BCWG, recognizing the importance of prevention in addressing invasive species, agreed to work together to develop the draft CEC Risk Assessment Guidelines for Aquatic Alien Invasive Species (hereafter referred to as the Guidelines). These Guidelines will serve as a tool to North American resource managers who are evaluating whether or not to introduce a non-native species into a new ecosystem. Through this collaborative process, the BCWG has begun to implement its strategy as well as address an important trade and environment issue. With increased trade comes an increase in the potential for economic growth as well as biological invasion, by working to minimize the potential adverse impacts from trade, the CEC Parties are working to maximize the gains from trade while minimizing the environmental costs.


Summary: This book covers the impact of species changes engendered by the introduction of fish species, impoundment and heavy exploitation. Aspects considered include reduction of biodiversity, the conservation of unique endemic faunas, the assessment of changes in Witte, F., Van Densen, W. L. T. 1995. Fish stocks and fisheries of Lake Victoria. Samara Publishing Ltd., UK. 404pp.

Summary: The results of eighteen years research on the fisheries of Lake Victoria are presented. The introduction is followed by sections dealing successively with fish and fisheries, methodologies for sampling, gear and boats, methods for monitoring fish stocks,

General information
FishBase, 2005. Species profile Lates niloticus Nile perch

Summary: FishBase is a global information system with all you ever wanted to know about fishes. FishBase on the web contains practically all fish species known to science. FishBase was developed at the WorldFish Center in collaboration with the Food and Agriculture Organization of the United Nations (FAO) and many other partners, and with support from the European Commission (EC). Since 2001 FishBase is supported by a consortium of seven research institutions. You can search on Search FishBase

This species profile is available from: http://www.fishbase.org/Summary/SpeciesSummary.cfm?id=347 [Accessed 21 March, 2005]


Summary: The database includes records of aquatice species introduced or transferred from one country to another and does not consider movements of species inside the same country. Coverage of accidental introductions of organisms (e.g., through ship ballast waters) is not complete and records on this topic have been generally entered only when important impacts on fisheries or on the environment have been caused. Hauser, L., Carvalho, G. R., Pitcher, T. J. and Ogutu-Ohwoyo, R. 1998. Genetic affinities of an introduced predator: Nile perch in Lake Victoria, East Africa. Molecular Ecology 7: 849-859.

Summary: Several populations of Nile perch have been used to stock the lakes of the Lake Victoria system. The taxonomic status of the introduced populations has been examined through enzyme analysis. Genetically, introduced Nile perch in Lakes Kyoga and Nabugabo are different from the populations in Lake Victoria. Further, a shift in dominance of species in Lake Victoria and its tributaries, followed by sections dealing successively with fish and fisheries, methodologies for sampling, gear and boats, methods for monitoring fish stocks,
ITIS (Integrated Taxonomic Information System), 2005. Online Database Lates niloticus

Summary: An online database that provides taxonomic information, common names, synonyms and geographical jurisdiction of a species. In addition links are provided to retrieve biological records and collection information from the Global Biodiversity Information Facility (GBIF) Data Portal and bioscience articles from BioOne journals.
