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Letter to Editor

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**Treat alien fish species with the same concerns as oil spills**

Sahabat Alam Malaysia learnt to our horror, as reported in a Bahasa Malaysia daily, the irreversible damage to our environment with the invasion of an alien fish species, in this particular case - the African catfish (*Clarias gariepinus*) into our rivers and ecosystem.

Alien species that enter a biological niche where they have never before existed can be difficult to control and predict, which can have catastrophic economic consequences, but the authorities do not see it that way. One of the greatest dangers is that some alien species create synergies with other aliens, with disastrous consequences. As more invaders are accumulating in ecosystems, it can be expected that they will be more disruptive.

Invaders that have appeared to be innocuous for many years may suddenly become dangerous as the result of changing factors such as climate change. The presence of the African catfish in our waterways is truly disturbing being very large top predators, and thus have the potential to cause serious threats to the native fish fauna. Our local fishermen have experienced low catches with some returning home empty handed.

Being opportunistic feeders, the African catfish are and will take any fish species which is abundant. They respond quickly to newly available food sources and will change their feeding patterns to match organisms freely available. Young fish feed mostly on small invertebrates in shallow inshore areas. Various factors make this species very difficult to control: omnivorous diet, direct air breathing, ability to walk on land, burrowing capabilities and ability to hide in vegetation. A 2kg African catfish can produce about 45 000 eggs with larger females producing larger eggs.

In addition, studies conducted in 1972 in central Africa suggested that this species have profound negative ecological effects on aquatic insect communities, amphibian and invertebrate population. Insect diversity in the Chleoptera order has been reduced by up to 78% and Hemiptera by 66%.

Parasites were also recorded on this catfish, which when translocated could facilitate the spread of these parasites which could lead to local extinctions of indigenous fish species due to their lack of resistance to these new parasites.

The unprecedented pace of introduction of this alien fish is fish farm breeding, hatcheries for commercial purposes, release into rivers and ponds by the public, import for the aquarium fish trade and other various channels.

The impact of the African catfish and other alien fish species to our environment should be treated with the same concerns as oil spills, and the impact needs more investigation with emphasis on developing techniques for controlling its dispersal.

Many citizens, key sector groups and governments have a poor appreciation of the magnitude and economic costs of the problem. As a consequence, delay in early detection and poor rapid response efforts give invaders time to reproduce, increase in numbers, and spread, making extirpation or control extremely difficult. Federal and state agencies need to monitor for new invasions, and to quickly respond when found.

Many of these losses have gone unrecorded in the past, but today, the relevant authorities must realize the ecological costs of biological invasion in terms of irretrievable loss of native biodiversity and degradation of ecosystem functioning. While the underlying causes of invasive species threats are significant and global in nature, these threats can be effectively dealt with through collaborative efforts at regional and local levels, especially through prevention, early detection and rapid response.

Failing to effectively address the invasives would mean failing to meet the criteria of the International Union for Conservation of Nature (IUCN).

SAM calls on the Ministry of Agriculture and the Fisheries department to conduct a survey into the waterways where the African catfish are currently found, and the species they will most impact on; to stop further spread of the introduced alien fish and mitigation of the impact of the species already present; and to prevent the fish from being introduced into systems where they are absent. There is a need to stop fish farming of this alien catfish and to totally ban the import of the African catfish and all alien fish species.

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