

A Cocktail of Invasive Species in Lake Naivasha

Once in Lake Naivasha and the striking call of an African Fish Eagle is an invitation to other variety of birds, wildlife, people and the famous roses. The eagle's call is double-edged signifying pride as the lake is held in high regard for its stunning biodiversity earning it Ramsar and IBA status. It is also a cry as invasive species have almost taken over the freshwater lake interfering with ecology and livelihoods. A Fish Eagle is likely to grub Common Carp, a notorious alien fish that damages fish nurseries and uproots submerged aquatic plants. A native fish (Sardine) vanished with arrival of American Bass, Barbus and Tilapia preferred for sport fishing and to boost commercial fishery. Water hyacinth- an aquatic plant originally from South America has even conquered Lake Naivasha. It replicates fast, forms dense mats over the lake's surface denying submerged aquatic plants enough light for photosynthesis. When boats and nets become ensnared by the floating weed it affects catch, fishermen's income, supply and prices in the local market. Louisiana Crayfish, another non-native crustacean evades the beaks of storks, herons, ibises by hiding in hyacinth. Owing to a non-selective appetite, crayfish have played a part to decline of native aquatic biodiversity e.g. water lily, leaving few spawning areas for fish and limited food alternatives for waterbirds. The lake has lost most of its papyrus fringe to agriculture and tourism development. Buffaloes and cattle too have contributed as they knock the stems to reach the tender edible papyrus heads. The remaining pockets cannot adequately sieve land-based inputs (agro-chemicals, loose soil, waste from settlements) that end up into the lake and continue to 'feed' hyacinth. Cattle and Waterbuck have discovered a hyacinth diet. A weevil (*Neochetina* spp) introduced to control the aquatic weed has not been able to tame it.



Azolla species (credit:Caroline Njoki)

Expanding agriculture in the catchment has accelerated destruction of the natural plant cover allowing more nutrients to be carried by the rivers flowing into Lake Naivasha. Rising water levels since late 2011, decaying organic matter plus additional nutrients has made hyacinth

and other invasive weeds, that is, Salvinia, Azolla and Nile Cabbage (*Pistia stratiotes*) to thrive. The water hence lacks sufficient oxygen to support life beneath and deteriorating water quality is a risk to biodiversity, human health and business. Tour guides cum boat operators have to avoid sections already infested or boats consume a lot of fuel to navigate through as they take tourists around the lake. Some visitors opt to marvel from the shores rather than get stuck bringing down business for tour/boat operators. Maybe the Fish Eagle is finding it hard to hunt in the alien mats hence the call is urgent and if action is delayed, this will also be costly to the people who depend on the lake. Focus should be on how to prevent further spread of the problematic plants by reducing nutrients into the lake through: papyrus restoration; reforestation at the catchment; adoption of constructed wetlands for treatment of waste water by tourist resorts, flower farms and improving efficiency of the municipal sewage plant. Other innovative ways to utilize the noxious weeds are to make fuel briquettes, handicrafts, fertilizer and biogas production. Pursuit of specific biological control agents should not be abandoned. As for Crayfish why not feature them in our menu more often? Story by *Caroline Njoki*, Nairobi. Intern2@birdlife.org