If all amphibians were removed from wetlands, ephemeral pools, etc., how many more human cases of disease would there be?

* Although some fish may consume more mosquitos than amphibians, amphibians play an important role in ephemeral wetlands that do not support fish (Brodman & Dorton 2006, DuRant & Hopkins 2008, Rubbo et al. 2011).
* Lots of evidence suggest the direct and indirect effects of amphibians on mosquito larvae survival and growth (reviewed by Raghaverndra et al. 2007; Blaustein et al. 1994, 1996, 2004; Rubbo et al. 2011). Here, we focus on the effects of amphibians on mosquito survival solely (not effects on growth [size at metamorphosis], competition, or affects on oviposition sites).
* ﻿Most species of tadpoles are omnivorous and feed on microorganisms, algae, protozoans, larvae of insects, shrimps, eggs and young ones of amphibians.
* Two genera of mosquitos, Culex and Aedes, are major vectors of human diseases, such as most arboviruses (e.g., XXX)
* Mosquitos breed in a variety of habitats such as ponds, puddles, marches, ditches, pools, drains, water containers, septic tanks, and other ephemeral habitats or small water containers
* Amphibians and mosquitos co-occur in a range of habitats (e.g., Blaustein et al. 1996, Brodman et al. 2006)
* Because the most effective way of controlling mosquito populations is via reductions in reproduction, our goal is to estimate the number of larvae prevented from reaching maturity by the presence of a single amphibian.

Note that DuRant & Hopkins show the relationship between mass and feeding:

A screenshot of a cell phone

Description automatically generated

Discussion:

* ﻿Apart from all the various factors discussed it is also important to assess the preference of the predator as to size, mobility, density, ease of availability, synchrony of breeding of the prey. Need to consider ﻿the basic principles of community ecology of mosquito and their interaction with resources, predators, and pathogens
* Amphibians also eat other mosquito predators