

## Davis Ch 7 Discussion Questions

### Structure

Davis categorized this chapter into three major themes, which are:

- I. Impacts on human health and safety
- II. Economic impacts
- III. Ecological impacts

For ecological impacts, he organized discussion in accordance to key features of ecosystem, such as impacts on population & diversity, impacts on food webs & communities and impacts on biogeochemical processes, etc. How do you think of this categorization works in terms of presenting evidence and addressing this issue? Based on your own domain, are you satisfied with the information supplied by Davis in this part?

### Human pathogen

Is there any fundamental difference between the invasion processes of introduced human specific pathogen and other invasion organisms?

On pp.102, '60% of emerging infectious diseases had a non-human animal as its source, with 72 % of these diseases originating in wild animals' which is also true when we looking back at the history, most of wide spread epidemic human diseases originated from wild animal disease. The collective human society seems to be powerless facing with this pathogen spreading; do you think whether there is any solution we can adopt to prevent being infected by zoonotic diseases? If this is a mission impossible, do you think we can at least slow down the pace of globalizing these diseases?

### Dollar effect

Davis criticized about Pimentel's estimation of economic cost caused by non-native species, but in reality it is sometimes very difficult to estimate the dollar effect of a specific invasive species (at least that is case for invasive ants), so what is the appropriate approach for ecologist to collect data and quantify the economic cost and damages? Or is it a better idea for ecologist to step down, and let the environmental economists to do the job?

### Biodiversity impact

Is there any quality evidence to prove the actual impacts on native biodiversity caused by different invasive organisms?

### Key species

Do you agree with the argument that from an ecosystem perspective, what matters is if the introduced species will substantially affect important ecosystem process rather than the species-richness differences caused by those species? Is this contradictory to conservation biology? Is it practical to use this as a principle to conduct invasive species management?

### Novel ecosystems

Are we really dealing with novel ecosystems or not? Do prior environmental data matter?