Chapter 9

Davis begins with three questions that continue to challenge the field of invasion biology. These three being:

1. What factors determine whether a species will be an invader or not?
2. What are the characteristics of the environment that make it either vulnerable to or resistant to invasions?
3. How can the knowledge gained from answering the first two questions be used to develop effective management strategies?

Given these three questions are perceived as dichotomous: 1) do you agree with that notion; and 2) Do you believe one question potentially holds greater weight than the other?

We've already discussed that the terminology for native and non-native to be ambiguous with little, to no general consensus in the field at this point. Yet Davis points out that this demarcation in categorical classification is a result of cultural needs for organization. Furthermore, using such binary approaches can result in contradictions. Conceptually, can you see using the continuum approach in respect to 'time of residency' and 'the extent of evolutionary and ecological interactions they have had with other longer term residents?'

Reise et al. believe that the changing abiotic and biotic factors due to anthropogenic influences results in the classification of native or non-native species as obsolete. Given that view, would you infer that most, if not all, species should be referred to as invasive species based on residency time in the new abiotic and biotic conditions that are forming at local and regional scales?

- If that were true, then what you say to taking a species that is becoming ill-suited to its present distribution and transplanting it to another location completely outside of its geographic range. It other words, if we are changing the environment rapidly enough that the classification of native and non-native are becoming obsolete, then would it be a fair gesture to take plants from an area being encroached about by an aggressive invasive plant and re-locate them into the region where the invasive plant originates? By doing this, the invasive plant is limited by co-occurring species it has evolved with but the former native plant is not free from its native habitat and has the potential to survive. *It is a radical and extreme example, but I'm sure it will get the ball rolling and tickle your fancy*

Given Davis' proposal to an alternative approach at initially studying invasive species, can ecologist really take a quantitative perspective on invasive instead of qualitative? Of the questions posed on page 165,

the answer to many, if not all, of the questions can only be applied to spur action when regarded with a qualitative mindset.

Ecologists have been placed in a position where our research is to posit, or guide, decision-making. As Davis states, "... positioned to warn and advocate on matters of the environment." Therefore, a lot of emphasis is place on an ecologist's ability to predict future events given the present. Without accepting this aspect of an ecologist "job," we are merely naturalist. What would happen if society were to stop all alteration of the environment and revert to pre-1950 standards of living? What would be the trajectory for the study of ecology? How about for invasion biology?

Science is the methodology used to understand a pattern, observation, or phenomena. Yet many use science as a tool against various ideologies (i.e. traditions, religion, etc.) without recognizing that the very method of science is inadvertently (and subconsciously) an ideology. In striving to ensure that the theories and perspectives are rooted in tangible evidence, that methodology becomes the ideology a scientist follows in order to understand. Would you agree with this? *Personally I do not, but since Davis brought it up in this chapter I felt compelled to address this question with all of you.*

Chapter 10

In support of Reise's claim from chapter 9, would it be a reasonable transition to integrate invasion biology and succession for future research?

Do you think that using the cross-referencing approach implemented by PLoS One would increase interdisciplinary efforts in future invasion biology research? How about in ecological research?

Do you think that the limited taxon examples using in invasion biology would have been influential to the development of invasion biology if the species with more vagility than sessile and sedentary organisms were incorporated in early findings?

Animal behavior can alter expected responses from general predictions simply because of the unpredictability of an organism to changes in their environment. This is both the beauty of working with animals and the logistic nightmare when predicting how members of a community will respond to environmental changes. Could this factor hinder the advancement of future consensus for general risk assessment initiatives when dealing with invasive species?