

Networks and the Environment

Worksheet 1

1. What is a food web?
2. How do you draw a food web as a network? What are the nodes? What are the edges?
3. Is the network directed? Which way do the arrows point?
4. How could analysing food webs help answer questions about the environment? What kinds of questions might we be interested in?
5. What does it mean for a species to have many links going out (i.e. a high out-degree)? Many links coming in (i.e. a high in-degree)? A low out-degree? A low in-degree? What if the in-degree is zero? What if the out-degree is zero?
6. Observations/comments from analysing your food web. Which species are the most vulnerable? How might climate change affect the food web? Any mitigation options? Other thoughts?
7. What are the limitations of the analysis so far? What information is missing / could be improved?
8. What are some other applications of network theory to the environment?