Right now, we mainly have ecologists trying to do philosophy--we don't have many primarily philosophy papers (written by philosopher-- Schrader-Frachette, Justus)
We also don't have any primarily science papers (maybe Naaem?)
Do we need both of these for a better mix, instead of just mainly opinion pieces? Keller and Golley's Philosophy in ecology prints the original sci. papers along with a synthesis piece about major concepts.

The value of philosophy for ecology and evolution
BIO XXXX
Monday 2:30-4:30
Reading list

Week 1. A history of philosophy in science

- Chapter 2. Ecological Detective by Hilborn and Mangel
- Possibly Kuhn, Chapter 9, The Nature and Necessity of Scientific Revolutions form the Structure of Scientific Revolutions, 1962.

Week 2. Is philosophy of value to science?

- Argument for philosophy:
    - Pigliucci. 2008. The borderlands between science and philosophy: An introduction. Quarterly Review of Biology 83: 7-15.
    - Pernu. 2008. Philosophy and the front line of science. Quarterly Review of Biology 83: 29-36.
- Argument against philosophy
    - "Against Philosophy", Steven Weinberg

Week 3. Is philosophy of value to ***ecological and evolutionary science****? (May not be necessary since I can't find an against argument in ecology)*

- Argument for philosophy:
    - Last chapter in Cuddington??--on second look, I think this chapter by itself would be a hard sell
    - Prather, Choate, and Michel
    - Paine--forward for Paradigms Lost (although this also has a historical slant)
    - Keller and Golley--The philosophy of ecology: from science to synthesis. The introduction and several chapters are pretty good.
- **Need to find argument against that is ecologically related.**

Brainstorming ideas for next several weeks:

Week XX. Was Kuhn right? Paradigm shifts in ecology

Should we read a Kuhn chapter here or above?
Graham and Dayton. 2002. On the evolution of ecological ideas: Paradigms and scientific progress. Ecology 83:1481–1489 (do paradigm shifts occur?)
Paine. 2002. Advances in ecological understanding: By Kuhnian revolution or conceptual evolution? Ecology 83: (suggesting there have been very few

paradigm shifts in ecology).

Naeem. 2002. Ecosystem consequences of biodiversity loss: the evolution of a paradigm. (provides a really interesting example of the development of a paradigm)

Cuddington and Beisner would provide several examples of about this debate of paradigms shifts in ecology

Week XX. Physics envy: Are there general laws or a unifying theory in ecology? (This topic could be drawn out into several weeks....)

Shrader-Frechette and McCoy. 1993. What ecology can't do, from Method in Ecology: Strategies for Conservation. (Doesn't view ecology as having laws, rather a series of case studies)

Lawton. 1999. Are there general laws in ecology? Oikos 84: 1999.

Scheiner and Willig. 2008 A general theory of ecology. Theoretical Ecology 1:21–28 (an attempt at unifying theory)

Dodd's new book--Laws chapter, (although this gets into equations, etc.), 2009. Laws, Theories, and Patterns in Ecology.

Week XX. Practical uses of philosophy in ecology--still really unsure about this topic.

Last chapter from Ford's Scientific Method for Ecological Research, "Criticisms and improvements for the scientific method in ecology" (gives an idea of how to use the many criticisms of ecology, many of which come from PS, to improve the sci. method in ecology)

Chapter from Pickett "Ecological Understanding and the Public" (Use understanding of theory to communicate better with the public)

Justus et al. 2009. Buying into conservation: intrinsic versus instrumental value. Trends in Ecology and Evolution 24: 187-191. (A philosopher using philosophy to answer conservation questions)

Transition to student led readings (paired philosophy / biology papers regarding sociobiology and the superorganism?)

Unplaced--still on list

2-- Graham and Dayton (rest of special feature in Ecology?)

2-- Resitarits and Bernardo (intro?)

3. -- Scheiner and Willig's paper (or other laws)

4.-- Paradigms Lost example (also look at last chapter)

6-8 Sociobiology, evolution of complex systems

Reiners and Lockwood