Questions to consider while doing Conservation Ethics readings:

(1) Does Myers write from the A or B perspective of Leopold?

(2) Why does Myers think that an utilitarian argument for conservation is the only one that will work?

(3) What are the possible roles of wild species in: agriculture? Medicine? Industry?

(4) According to Myers, why should species exist?

(5) How do you think Leopold would respond to this argument?

(6) How do strictly utilitarian arguments for species conservation fail?

(7) What are the major Divine Command rationales for biodiversity protection?

(8) How can the implied dominion of humans over the rest of "creation" in the Book of Genesis be rejected as invalid?

(9) How would you generalize the reasons for biodiversity protection from the perspective of the Pueblo cultures in the SW USA?

(10) What is Leopold's definition of "ethics"? Does this make sense to you?

(11) According to Leopold, what should human's relationship be to the land?

(12) How successful is "social machinery" in undertaking conservation? What are their short-comings?

(13) Within the concept of the land ethic, how important is human benefit in determining whether a particular place is protected?

(14) How would you try and initiate development of a land ethic in the general population?

(15) What are Brower's and Fraser's differing positions on the role of humans in the environment?

(16) On page 138, McPhee writes: "Why [Brower] did not raise up and clout Fraser, verbally, seemed a little odd to me..." Can you think of words Brower could have used to argue against Fraser's plans? And can you think of reasons why Brower may have stayed quiet?

For Baker et al. 1993:

(1) How did arrival of European settlers impact the Robert's Creek watershed? Provide data to justify these answers! Consider:
    a. sedimentation rates; b. water quality; c. vascular plant composition;
    d. upland and aquatic beetle composition
(2) Compare the ecology of the Robert's Creek watershed in the years 1400 and 1900.
(3) What do you see as the main impact of European settlement on biodiversity?

For Kirch (1983):

(4) How did arrival of Polynesian settlers impact Tikopia and Hawaii? Provide data to justify these answers! Consider:
    a. sedimentation rates; b. mammals; c. birds; d. land snails
(5) How has the ecology of these islands changed following Polynesian arrival?
(6) Compare Pacific Islands biodiversity impacts to Robert's Creek. How are they similar? How are they different? Do you see a profound difference between European and non-European cultures?

For Harlan (1975)

(7) What is the history of plant domestication in Central and South America?
(8) What plants were domesticated? Where were their wild relatives found?
(9) How was agricultural biodiversity impacted?

For Brush et al (1981)

(10) What is the folk-taxonomy of potatoes grown by the Quechua? How does their cultivation vary with elevation?
(11) Describe the makeup of a single field.
(12) What is the role of 'improved' varieties in Quechuan agriculture? Why is it unlikely that the old local varieties will be totally lost?

For Pistrik (1995)

(13) What are the main factors endangering crop plant biodiversity in rural Romania?
(14) What factors promoted the persistence of this diversity?
(15) Can you think of similar places here in the Czech Republic and Slovakia where the old crops persist? Are there local land races in your grandparent's gardens? What are they? Why have then been maintained?

For Williams (1986)

(16) How does the FAO attempt to protect crop genetic resources?
(17) Critique his statement that "Landraces cannot be conserved by growing them in primitive agricultural conditions; it is neither practical nor can it be justified morally."

For Frankel & Soulé (1981):

(1) What is meant by qualitative and quantitative genetic diversity? How are they measured? Why might they be important to conservation?
(2) How does effective population size (Ne) differ from population size?
(3) What evidence exists to support the contention that heterosis is important in maintaining fitness of wild populations? Do you do find these arguments convincing? Why or why not?
(4) Do you agree that populations with high homozygosity levels represent "evolutionary dead-ends"?
(5) Does inbreeding necessarily lead to reduced fitness?
(6) Are you comfortable with the rule that Ne>50 for populations to be viable? Why or why not?

For Ehrlich (1983):

(7) What is Ne and heterozygosity in butterfly populations? How has this impacted their survival?
(8) What factors have lead to loss of butterfly populations?
(9) It appears that Frankel & Soulé's arguments may not be applicable at least to butterflies. Why is their argument flawed?

For Ehrlich & Murphy (1987)

(10) What is meant by a 'metapopulation'? Why does *Euphydrays editha bayensis* exist as metapopulations on the central California coast?
(11) How important is genetics in predicting the survival of individual subpopulations? What factors determine their long-term survival?
(12) Endangered species laws can only protect places where a species occurs. How could this be a problem for *Euphydrays editha bayensis*? What is required to protect this species?

For Krukeberg & Rabinowitz (1985)

(13) What are the different pathways that a species can become limited to a small area?
(14) How might this impact their expected genetic diversity?
(15) What does 'rarity' mean? What are the different ways that a species can be 'rare'?
(16) How might optimum conservation strategies vary between these different types?

For Gilpin & Soulé (1986):

(1) How do determinstic extinctions occur? How do stochastic extinctions occur?
(2) How do the R, D, F and A Vortices function? How can they be avoided?
(3) Critique the arguments presented by the authors. Do you think the science and assumptions underlying them are usually valid?

For Menges (1986):

(4) Describe a projection matrix. How is the data used in them generated?
(5) How do deterministic vs. stochastic projection models differ?
(6) Based on projection matrix studies, critique the likely importance of the above 4 extinction vortices.

For Wiens (1989)

(7) Define grain and extent. What would these represent within a conservation perspective?
(8) Provide examples of an ecological pattern that is scale dependent. For instance, which is negative at a small observation scale, but positive at a larger one. And the opposite.
(9) What is mean by closed/open and equilibrium/nonequilibrium systems? How does scale impact these states?

For Palmer & White (1994)

(10) In the Species-Area Relationship the number of species is simply plotted vs area sampled. Based on scaling theory, how could this make fair comparisons difficult or impossible between different observational designs or systems?
(11) For a given total area sampled, what is the impact of grain size on richness? Why does this exist?
(12) How does the impact of extent differ across different grain sizes? Why does this exist?

For Sousa (1984):

(1) What is a disturbance? How can their regimes be characterized? Provide examples!
(2) What are the various factors that influence the removal and repopulation of life in disturbed sites?
(3) How do disturbances impact populations and diversity of species within sites? What about between sites?

For White (1987):

(4) How do disturbances vary with operational scale? Provide some examples.
(5) Discuss how climate, successional state, and insect outbreaks impact Great Smokies pine forest.
(6) What are some unanswered questions related to the disturbance created by Balsam Wooly Adelgid?
(7) What are some of the major issues that disturbance regimes generate for reserve management?

For Romme & Knight (1982)

(8) Is fire a shifting mosaic within the Little Firehole River watershed? Defend your answer.
(9) Does the concept of 'equilibrium' make sense for plants, birds, large vertebrates and aquatic systems in this area? Defend your answer.
(10) How did fire suppression impact the area's fire regime?

For Turner et al. (1994)

(11) It is impossible to do controlled experiments on landscape-scale disturbance dynamics. How do these authors address this issue to help generate understanding about the natural world? What are the limitations of this approach?
(12) Characterize the six different phase states that exist in landscape scale disturbance regimes. How do species and habitat diversity vary over time in each?
(13) What factors influence where a given system lies within their model?
(14) Are landscape disturbance responses stable over time?

For Bierregaard et al. (1992):

(1) Do you agree that the McArthur & Wilson model simply predicts richness from area?
(2) What is the impact of fragment size and separating distance on the biota? How do these occur?
(3) What environmental changes occur on edges and how to the alter the biota?
(4) What limitations exist in the study design? Do you feel comfortable applying these findings to the design of a nature reserve system? Why or why not?

For Robinson et al. (1995):

(5) What is nest parasitism? How is its rate change with the amount of forest in the landscape?
(6) What is nest predation? How is its rate change with the amount of forest in the landscape?
(7) Can you think of any potential confounders that limit our ability to fragmentation as the cause of these responses?

For Carquist (1974)

(8) In an evolutionary context, why might loss of dispersal ability be advantageous for island species?
(9) Give an example of this pattern from tropical, temperate, and sub-antarctic islands.

For Nekola (1999)

(10) Even though they both support isolated populations of northern species, describe why Iowa algific talus slopes and fens represent a natural experiment regarding habitat origin.
(11) What factors impact species richness of these two habitats. How do they differ?
(12) How does floristic uniqueness vary across distance in these two habitats?
(13) How does seed dispersal strategies for the vascular plants of these habitats differ? Why?