Discussion: Ecological Flows Across Landscapes
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Discussion Questions To Think About as You Read:
1. Give some examples of ecological flows through landscapes. Think about how boundaries can act as filters, conduits, habitat, and population sources and sinks.
2. Are patch boundaries analogous to cell membranes? What theories are relevant to understanding ecological flows in landscapes? For instance, does diffusion theory apply? Percolation theory? Others?
3. How are landscape boundaries created, and how do they disappear? Are the boundaries that humans create fundamentally different than natural boundaries?
4. How do ecological flows change through time?
5. How important is it in land management decisions to understand ecological flows? If a particular part of a landscape can be considered a boundary for one purpose and a patch for another, is the concept of a boundary too abstract and relativistic for decision-making purposes (e.g. in designating some landscapes for conservation of biological diversity or in managing landscape dynamics)?
6. How would our vision of landscapes and landscape ecology differ if we thought of landscapes as made up of interconnected edges, rather than as adjacent patches? What if we thought of them as continuous surfaces (rather than patches with edges)?

Readings:
All are available through the University of Idaho Library electronic journal subscriptions.
Key Points We Want You To Learn From This Discussion:
1. How can we define boundaries? Draw upon relevant theory to help develop practical, useful, and functional definitions of boundaries.
2. Boundaries are important. They can provide different functions within landscapes, including filter, conduit, habitat, source/sink, etc.
3. Ecosystem processes are affected by boundaries within heterogeneous landscapes. See Chapter 9 in Turner et al. (2001).
4. Flows across boundaries include such things as species, nutrients, disturbances, water, wind, soil, etc.
5. Identify factors that enhance or restrict flows across landscapes.
6. Our vision of landscapes and landscape ecology would be very different if we thought of landscapes as made up of interconnected edges, rather than as adjacent patches.

Other relevant references:
Haber, W., 2004. Landscape ecology as a bridge from ecosystem to human ecology, Ecological Research, 19: 99-106. (available on-line through UI library, Blackwell Synergy)