

Ecol 199 notes, 2-21-06
Dahl Winters

Planning meeting coming up after spring break – would be good if anyone could go to it.

From the Charlotte Observer newspaper: Parcels proposed for sale include some along the Little River, near the 500-acre zoo, and are all listed by tract number. Total, it is 5% of Uwharrie land. Amy will email the articles out to everyone.

Amy – what is political ecology?

The keystone paper in political ecology is Blaikie and Brookfield 1997 (they are geographers). Takes into consideration environmental variability, time, and socioeconomic hierarchies. Land managers must respond to changes in the sociopolitical-economic circumstances independently of any changes to the land. A forester must consider which administration is in charge of the rules that day, economic interests, etc. Political ecology – integrating natural ecology with all the other layers that are involved in decision-making. Lots of debate in the field of political ecology whether it should be its own separate approach, or a toolkit for understanding other areas. Zimmerer – tried to insert natural ecology back into political ecology as an important focus. Wrote a book called Political Ecology – a compilation of articles that includes topics such as the use of GIS in research, using fixed maps with changing categories.

Discussion of Amy's paper

- Zimmerer – bringing in the idea of nonequilibrium dynamics. The environment is in flux but the boundaries are solid.
- Second nature and flux – two big ideas in this article.
- Management needs to be flexible and adaptive, so that things aren't always fixed. P. 362 – walling off things with concrete boundaries – this idea isn't good for reserves because pollutants and other things act across boundaries. Also, fishing right outside those boundaries affects dispersal, so that can affect things that happen within the reserve.
- Footnote 13 – disturbances are thought of as coming out of the system instead of originating within it – makes it difficult to understand things in terms of flux.
- Territory section – thinking more broadly to describe what a territory is – ecological territories are things like watersheds, but Zimmerer thinks we should expand the definition to something more anthropogenic. This is strange because how can we change a watershed?
- In the Uwharries, where would we draw the boundaries? We could have different scales of boundaries – upper piedmont, urban areas, etc.
- Areas in the Uwharries that are unmanaged that might need to be managed may actually be more “second nature.”
- Wise Use Movement from the western US – a political ecology movement that came from the third world but is used in the first world – we have a lot of environmental law that doesn't pay attention to cultures. Political ecologists are interested in what goes on in a specific place – instead of just creating laws, they remember there is an actual place that is affected.

Liz – fire article.

- Provides a model for looking at other disturbances in the landscape using mapping.
- Paper discussed how to map fire regimes to help with resource planning and fire management.

- Defines fire regime – frequency, magnitude, size, spatial pattern, seasonality. Seasonality is especially important in the Uwharries – private landowners will probably burn at different times than the USFS would burn.
- Talked about frequency in terms of point frequency and frequency defined by a spatial perimeter – can do rotation periods and how long it takes to burn everything within the perimeter vs. the actual point pattern of fires in the landscape. The perimeter idea might be good for the Uwharries where there is an actual perimeter.
- Fire compartments also mentioned.
- Why do we want to map fire regimes? We can quantify how far areas have departed from historic fire regimes, and prioritize areas for fire management based on that.
- The article also contains a good list of things we could use for data (email Cecil Frost about that).
- Rule-based mapping – sort of haphazard – throw things down and come up with a map. That gives a coarse definition of a fire regime. The model is much like the plant community model done by Simon.
- Dendrochronology not good for fire mapping here since there aren't very many old trees.
- Quantifying error in a fire regime map can be difficult because of all the sources we're pulling data from. It's important to know how close we are to a natural fire regime, assuming we can define what's natural.
- Future prospects and needs – defining fire regimes, better data storage and management.
- On Cecil's map, we're on the boundary between 1-3 and 2-6 year fire frequencies.
- A good thing about this paper in general is mapping across time and across space. For the Uwharries, there are lots of grains and extents we could use for our scales. If we were going to map a fire regime for the Uwharries, we need to select a grain, and then a temporal extent (from 1500s, 10 AD, or 10,000 years ago?). Cecil is talking about fire regimes over 10,000 years.

Discussion of Liz's paper

- Most people go back to Native American fire regimes, but why? Why is that fire regime better than now? It was more natural – plant and animal communities are more adapted to that than they are now. That was the most recent period when forests were sustainable.
- Venus flytrap is an indicator species for the 1-3 year fire frequency, so where it is must be where that fire frequency must have been present for a long time.
- In Native American times, the land compartments were likely the same natural compartments because there was so little agriculture, so the fire frequencies were likely the same as the natural case. However, afterwards, the land became more fragmented, so this is a good reason for why our temporal extent should go back to when Native Americans were using the land.
- We should put this in the context of returning the land back to how people's great-great-grandparents once saw it, not to return the land back to how it was before the settlers got there, because it might make people feel they don't have a place on the land and this might push them away from the idea of land restoration.
- Fire regimes will feed in to the common pool resources – hunting, aesthetics, biodiversity.
- Cecil Frost is on the Ecology curriculum faculty – we could arrange to do an independent study for 3 credit hours to do a historic fire regime map.

Planning the presentation

30 minutes max (we can't hold their attention for much longer) – maybe do 15 min overview, and 15 min poster session. Don't suggest what they should do, but just offer the information and tell them if they need it in the future, they can contact us. Also frame things in the context that they have unique species and a landscape that other places in the world don't have, and that they should work on preserving it.

Katerina and Carly are talking next week. No class this Thursday, but we'll be meeting at Davis Library at 2:00.