Connecticut River Watershed Landscape Design Pilot Project
Terrestrial Subteam Breakout Session (May 30, 2014)

We began the meeting by discussing rare species that are not being modeled by the UMASS DSL team, but we want to incorporate into the design, assuming we can get good data.

New England cottontail is a species we agreed to use. Just need to decide whether we will be using mapped priority focus areas (polygons), point locations with occurrences, buffered point locations, etc.

Discussed whether the Federal-listed Jessup's milk-vetch should also be included, but not sure if we can obtain digital location data to capture what we need to for this or other rare plants. This milk vetch is only found along the CT River.

We discussed where to draw the line with other Federal or State listed species. Some people advocate for including all Federal and state-listed species. However, it was recognized that this would require quite a process to implement this, because we'd need to go back to the States and ask for the most up-to-date data.

Typically the data will be point data or small polygons. Eric says that in VT, for the mapping of priority areas, they looked at listed species occurrence information from 20 years ago. New Hampshire was similar. Neither state portrays which species are listed for a particular area as they do not want to reveal locations. Emily Preston suggests a big challenge is using this data in our analysis, but then not being able to show those locations later.

How would we explain why we are including some listed species and not others?

Jenny Dickson suggested that the criteria could be whether the habitat for that species is already represented by other species or ecosystem types, in which case we would not include them.

Mitch Hartley suggested we use the criteria that any listed species that we have digital information for we should include, otherwise not. Eric said that's fine as long as we are explicit about the critieria.

Bats and hibernacula we agreed to use; however, data not in yet; Kevin has asked for it. Jeff Horan is trying to get it from various sources.

The beach tiger beetles (puritan and northeastern beach tiger beetle), should be considered. Most of this data is state-provided through the RCN process and is point data. However, there is concern that we do not want to show exactly where the habitat is. If people are concerned about that, they should provide comments so that we can address them.

Bill Labich: Are we looking at current and future potential sandy beaches?
Answer: The data we got for beetles includes what they use when reviewing project. So they include both areas with known populations and areas that might have appropriate habitat. But we're combining different States' data and there are always differences.

Patrick C: A few additional rare spp are worthy of consideration: cerulean warbler (petitioned for being listed, IUCN, increasing in the watershed), piping plover, saltmarsh sparrow, semi-palmated sandpiper (IUCN, globally significant population uses the mouth of the CT)

Emily P: instead of looking at the individual state wildlife action plans and respective priority species, we could look at the regional species of conservation need list. Agree that species occurring in multiple states should be the focus. Displaying rare species information as a separate analysis is not a good idea, but blended in with other analysis might be ok.

Scott S: As a reminder, we did start with that list. We asked Rachel Cliché to review a list of 100 species that was a handout at one of the first core group meetings. Is there a subset of those that would be more useful that we have missed with Rachel's analysis?

Bill L: What is the purpose of the landscape design, and what's the context in which it's presented to the public? Maybe we should mostly worry about using the data we have, even if it's not perfect. And then locals who do have access to sensitive point data can incorporate it into their analysis. Maybe we should call this regional design our collective agreement on where we might focus attention, but not be exclusive of information or priorities that others have.

Jeff Horan: We need to think of a way to address that very specifically and we probably need subgroups to do so.

Eric S: We can use the presence of rare species to inform the final selection of core areas.

Emily P: Yes, that makes sense. That also allows us to check the analysis to see if it incorporates the diversity that we're talking about.

Jenny D: We should use the RSGCN species in the CT River. That should cover most species of state importance and regional concern.

Emily P: That may potentially cut out some of our important species. We didn't focus on individual species though. We also considered politics and left out areas that we would get pushback from the public on.

Ethan Plunkett: Don't forget that many species might relate well to IEI; however others that are particularly idiosyncratic likely won't be covered.

Rachel C: Aren't there lots of areas where species will overlap with high IEI areas? Discussion resulted in the conclusion that yes, there would be.

Randy D: We need to move the discussion on to species weighting. Several handouts (posted on website) are used in the discussion. This need to weight is based on the fact that we can't maximize habitat/landscape capability for all species everywhere. We need this to be a reality check on expectations. We recognize that the weighting of species will necessarily be subjective and somewhat based on our respective cultural biases. This will be an iterative process.

We also need to think about how we connect species populations to habitat, and set habitat objectives as well. Key population metrics are density and reproductive success. We are suggesting we use the assumption that there's a direct relationship between species density and habitat capability and a relationship between habitat capability and landscape capability. This is how we suggest moving forward with population objective setting based on habitat/landscape capability.

The last table (in handout) contains additional info about each species. Many of the species are migratory, so that creates additional difficulty in defining population objectives because we can't control the full environment of those species. In terms of landscape design, we're really talking about habitat of these species (all species) within the CT River Watershed. If limiting factors are outside, we can set our objectives at maintaining the current habitat, or think about whether we need to provide additional habitat here. A species like wood thrush is being limited by overwintering survival. Our population objective might be to increase the population, but the habitat objective is to maintain habitat, because the limiting factor is outside the Watershed and therefore we have little influence on populations in the project area. We need to think about whether the objective for habitat is to maintain what we have, or to increase it.

Bill L: If a lot of what we have for a species isn't protected, then does "maintain" mean we need to step up measures to conserve/protect the habitat?

Dave/Randy: It means maintaining the current landscape capability as modeled by the DSL project. We then turn to what the strategies are for maintaining that, and protecting habitat might be one of those strategies. But, it might not be the only one.

?: So, how can we maintain habitat for different species that overlap but aren't exactly the same.

Ken E: That's kind of the point of this exercise too, is to bring out the competitive nature between species' conservation needs. We've never incorporated all the species and habitats together. It will force us to recognize that we won't be able to maximize all species in a given area every time.

Andy French: When all your objectives are maintain or increase, but there's no new land, then you're in a hard spot. We're basically going to be picking winners and losers. How do we decide if something is "excess" habitat and how do we decide how/whether to alter that habitat for another species? In reality we have fairly limited options, especially in the face of population growth/urban expansion.

Georgia Basso: I wonder if we're getting too focused on individual species and not enough focus is on diversity. Mark Anderson gave a talk recently in which he said you need to maintain a diversity of geologies in order to maintain biodiversity.

Jeff H: Mark Anderson's approach is built in to the models.
Georgia: Are we unnecessarily creating winners and losers? I worry that we're forcing something artificially. Shouldn't we focus on biodiversity.

Randy D: Remember, we are using surrogate/representative species to represent species biodiversity.

Andy F: We're trying to look at the things that don't change much. If I go mow a field, I'm creating winners and losers. So when you look at this analysis, we're going to know the impact of our choice, or have a better sense of it, on a local and regional scale.

Ken E: In reality, in management, we do create winners and losers. The states already know this because of game management obligations. We need to inform the discourse on making those choices, and maybe try to have a more balanced winner to loser ratio. Biodiversity is hard to translate into acres. This project will help portray our combined responsibilities and provides context for making decisions about where and how to prioritize.

Jenny D: I don't think of us as creating winners/losers. I think of it as focusing, and being more strategic, with conservation actions where it will have the most value. I think these tools are important to help us be more strategic in what we do. I'm not as worried about weighting something more and causing something else to be weighted less. All species can be fit into the landscape.

Eric S: I look at this as trying to duplicate the ecosystem approach. Ideally I think we could go through at the rare and representative species level. And look at what will be captured by the coarse ecosystem filter. For example black bear or blackpoll warbler. The process might be interesting, but it's not clear to me how it helps for selecting core area.

Bill D: We are incorporating both ecosystem and species. This was on a slide but it went by quickly.

Ethan P: Yes, we are trying to optimize the core area selection.

Scott S: Also, species models incorporate some things like juxtaposition and connectivity that the ecosystem approach doesn't get you.

Eric S: Can we find out what goes into the modeling? Like what habitat or soil characteristics, etc.

Bill D: After the models are completed, they will be followed by more detailed documentation that will explain that kind of thing.

Chad Rittenhouse: To kind of sum up. If we don't weight species, then we're basically maximizing biodiversity. Through unweighted scoring, we can help some species. So we have the ability to address both perspectives.

BJ Richardson: Someone asked me what the end game is between using the IEI and the species analyses. More flushing out of that concept would be beneficial.

Discussion about "Potential Criteria" for weighting species handout

Scott: one option is to leave species unweighted, as Chad brought up. On the handout there are some preliminary criteria we could use for prioritization. If we can agree on the criteria, it will be easier to make decisions when we get to the individual species.

Eric S: I'm a little confused. I think these are good criteria for evaluating individual species, but if you apply them to representative species, you'll get a different result at the regional level. How do we apply something like this to all the representative species that this surrogate species is intended to capture?

Bill L: But isnt that actually the value of the representative species? General agreement in the room that this was the case.

Ethan P: The catch is that the better the model is, the less representative it becomes. So if you have great statistics for one species, the goodness of representation of other related species may be negatively affected.

Scott S: The goal is to keep things general enough. At the marsh habitat level, this isn't a concern. If a species has a very narrow, limited threat we can choose not to incorporate it to maintain "representativeness".

The criteria are set up to help us take into account different aspects to conservation design. We don't have to take into account any of them, or we can use different ones, but we may have certain objectives that require us to weight species according to some criteria in order to achieve these objectives.

BJ: Since considering climate change is really a management issue, we should be careful about what we incorporate into the species weighting and make sure it doesn't get too far into the management side. (not totally sure this is what he meant)

Action Items:

1) At next breakout team meeting, have the UMass group present in detail on the species models, what goes into them, and then have a discussion about the criteria.
2) Jeff Horan agreed to pull together a group to discuss rare species