Appendix I. Table Discussion Notes

Session 2-Habitat Mapping

Session 2-Question 1: What are the highest priority additional projects or needs for advancing habitat mapping?

Table 1:
Communication of Results: A platform for getting this information out to people who can use it. Right now this currently does not happen. Great communication within this group, but the information might not go back to the larger group. Dissemination of these results is lacking.

Tools, Service, Support Programs: Need to be set up in a way most useful to those that need it. Just because you have data, doesn't mean you have the tools to use that data. Priortization tools built within these habitat mapping systems. Maybe a GIS service in the LCC….a clearing house for these products and/or services. Keeping in mind that these are regional maps….might not be relevant to the local scale. Central entity needed that will continue to serve these functions. Who's role? LCC function. Quality Control is a big concern. Increasing confidence/validation. Updated (see timing issue below).

Additional Habitat Maps Needed: disturbance/fire dependant habitats (early successional habitats). same with coastal, grasslands.

Additioanl Modeling exercises: Modeling exercise to predict a land coverage cycle (cover type and seral stage). Add species distributions into the habitat models. Sea level rise-correlate with upland connectivity. upland barriers, sea walls, bridges, development. priority areas for upland habitat protection for future sea level rise. Big topic in coastal habitat restoration circles.

Table 2:
accuracy assessment for major habitat classifications (AA)
Current land uses need to be mapped
Where are the vulnerabilities, threats to habitats?
Baseline habitat maps, current threats
Terrestrial ephemeral habitats - early successional and late successional last for < 10 years - how do we deal with that?
Regional connectivity mapping
Forest successional
Cold water fisheries - value of acquifers - how feeds into aquatic
Agricultural practices determine value to wildlife habitat
Coastal Marine Spatial Planning - offshore mapping - geology of sea floor - more/better mapping of seafloor, incorporating biology if possible. Bottom composition
Inclusion of reservoir data
Finer resolution of aquatic variability - is a single water body a single type of classification
Better temperature data - aquatic
Validating models predictive ability
Climate change mapping - coastal inundation, etc

Future refugia - model movement of habitats, identify, and then protect; which will survive
Need to develop data for outside US - e.g. migratory birds

Top 3:
Accuracy Assessment
Threats and refugia
Land Use / Successional state if not already in data

Table 3:
-Accuraccy assessment for terrestrial mapping
-Accuracy assessment really needed for aquatic mapping, especially because based only on expert opinion. The variables are likely right, but the breaks (reflecting on the ground) need to be refined. For example, cool to warm is more transitional than cold to cool. Especially important when describing to the public. Initial overlay of species to habitat was not always accurate.
-When putting things to a regional level, that level of accuracy is more important (coarse approach) because the finer scale state mapping approaches are more likely be used for state level. It's the question that is important. Need to be cognizant of question and scale
-Terrestrial level and classification is likely accurate enough for the needs and specificity to regional approach.
-The aquatic likely needs more resolution and ground-truthing.
-Terrestrial has a lot of hard data and ground truthing behind it, but aquatic doesn't.
-Inclusion of maritime Canada into RCN project? Is this important for RCN or LCC (or both, in context of regional conservation). Yes, would be helpful, but may be hard to justfiy from RCN perspective, but from climate change, LCC perspective, it would be helpful for planning.
-What about the states that were cut in half? The entire 13 states will be mapped, they are just not finish. Started with the LCC but still expanding to complete the rest of the states outside the LCC. States will be mapped in their entirety.

-Identifying contiguous blocks of minimum threshold patch size, areas where there are patches of habitat of a large enough scale to be functional with corridor elements. i.e. New York is working to identify focus areas to keep areas intact.
-was a project (RCN) to start to do this. Species (or assemblages) based for habitat needs.
-Would the directors ever consider an analysis to develop a standing committee to conduct these analyses that could evaluate these subsequent questions (i.e. patch size, corridors, transitions…) to think of ways to use these new tools.
-If based on reaction to creation of climate change committee, then likely reaction would be that there existing committees should be using this. Need to focus on how maps get to those committees and that the directors committ to using this format and not committ to develop something else. Need to also ensure that committees have the capabilities to use the tool.
-Need dialoge and plan for translating use of tools and abilities to use tools from researchers to committees.

-Vulnerability analyses, from a standpoint of social or community impact. What habitat types are going to be vulnerable into the future. Does that feed into the designing sustainable habitats projects (LCC funded).

-Lake classification system for the aquatic mapping is needed.
-Temperature part of aquatic classification mapping is also needed. Based initially on expert opinion. Need to consider establishing long-term monitoring sites to allow for monitoring of trends, climate change. Currently difficult to put together state data.
-Included, would be definitions of impoundments and resoviors and what would be important.
-Perhaps, get committee together to revisit or continue this work. As long as the purpose continues to be something that the end user can use.

-Climate change: linking regional vulnerability assessment to a spatial component, and this should be the basis for that assessment. Hector is developing and testing the models, maybe the next step (if not already being done), have that spatial correlation be done perhaps for the LCC to fund.
-Does the landscape and habitats identified by this process match/cross walk with the habitats of neighboring LCCs?
-Will there be consistency in use of classification definitions for SWAPs when they are updated?
-How often will the data layers be updated (if?) to reflect changes in habitats over time?
-Projecting will be difficult, trying to understand predictions of how the map will move over times.
-In the end, what will we be able to do if the change that occurred was different that predictions.
-That's why using expert opinion for Regional Vulnerability assessment is fine because predictions will be difficult. Generalities are more likely.

Table 4:
accuaracy assessment of terrrestrial habitats, lakes component and completion of marine geospatial were already identified as needs. Lake and reservoir mapping is an important component -- passage structures associated with reservoirs (Elowe), ecological or instream flow (Elowe and Brunkhurst); Explanation and a big piece of the habitat mapping needs to be translated to a local scale that local users can understand. This includes audiences such as planning boards, land trusts; muncipalities (Brunkurst).
Summary of earlier comments -- simplify classification and simply language -- an agreed upon common language (New York and and New Hampshire experience).

Do we need more refined information on threats -- condition, zoning, etc (Hyatt)? Is this transferable up to regions. Fit the tool to the application.

Mapping of coldwater and warmwater habitats -- knowing the break, and knowing the trends? (several commentors).

When lumping, the criteria is what factors are most important to the user groups? (Elowe)

(Sneddon) -- we can lump up and lump down in the current NatureServe classification system -- it is a hierarchial system. That solves some of the issues.

Difference in base maps makes a difference, (Ann Kuhn). One lake can have seven IDs. Water Body ID used by EPA, (NHD, NHD+ differ, for example, issues of resolution and identification.

Dan Rosenblatt (difference in data resources and origin of classification systems.

Impacts of fragmentation -- Doris Duke map of forecast population pressure -- Rob Pisini --
Regional Planning Association -- data on fragmentation.

Table 5:
1.Communication, provide products, users guide, tool kit
2. Identify priotity focus ares for conservation (habitat) implementing the use of the mapping
efforts
3a.Fill Gaps Marine/estuarine, Lakes, and Canada (in priority order)
3b. Accuracy assessment/ demo overlays/scale validation

How do states classify habitat and is it compatible across boundaries? Next step ..
communicating making habitat classification products available to end users with manual. Will
the marine esturaine systems be integrated into existing efforts? Accuracy assessment done at
the scale of products (be careful what scale you evaluate at otherwise could just pick apart).
Accuracy may be an issueWill partners ensure their mapping efforts roll up to the larger scale
regional classification mapping. Linked to 30m DEM landforms. There appears to be a need to
carefully design the accuraccy assessment. Identify focal areas for landscape scale conservation.
Finish Lake classification and mapping. Should Canada be involved/incorporated into mapping
efforts.

Table 6:
#1Validation or verification of existing (not quite out or peer-reviewed yet) maps is
important. It is somewhat difficult to identify next steps when the quality of these products is not
yet known. What do we already have? We need to understand this before we can say "what
next?" These data need to be made available and feedback provided, to determine how robust
they are, which systems have higher or lower levels of accuracy, and where improvements are
needed.

#2Providing easy online interface, to make it as easy as possible for a range of users to get
and use the data. This will facilitate ground-truthing, but also could be used to provide examples
and context.

**Portraying the utility of the tool, by providing case-studies or examples, at different scales,
that inform how conservation priorities (or importance of conservation actions) are a function of
their value to the larger region.

**If these newly developed map products are not fine enough, in scale, or level of resolution, can
we develop the layers (or level of detail) that is needed?

**Linkages to other maps of interest to conservation partners, such as protected lands layer,
ownership patterns, parcel data, energy developments, infrastructure (e.g,. roads, ROWs, etc.),
ecological land units, intensively-managed areas, existing projects by partners, would be useful.

**If these products will be made available to or are expected to be used by the public, they may need a translation to inform them about what they are looking at, with specific examples of animals, plants, etc.

**Figuring out who is going to provide, serve up, and maintain the maps/data and/or update them is a big question to determine.

**Threats analysis may be useful, if this is not going to be part of the condition analysis that is about to be underway. Similarly, examples of "good conditions" or poor/degraded conditions may be useful to identify.

**Are the analyses on lakes and coastal habitats needed? These are not yet done.

Table 7:
inish mapping the states that aren't done
need to know the audience/need/purpose*
may need to be available at a finer scale
how often do we need to update it (e.g. Marcellus Shale is daily change)
accuracy - field checking accuracy - groundtruthing**
See great utility at regional scale for context for climate change
can we overlay habitat vulnerability to prioritize uses?
predictor of threats would help
need to go into Canada, and south and west*
is field checking accuracy a good use of $$ vs. further base mapping
need habitat age and structure db***
  can we link to FIA data in ongoing basis for age data*
land ownership info needs to be rolled in**
  societal use
can we add a hydrology layer? flow?**
greater accuracy in what we already have
find some metric about quality, towards resiliency, resistance, etc.
how do invasive species play out in this - iMap, prediction of vulnerability***
lake classification
hardened shoreline

Table 8:
#1 Data needs: Finish mapping all the systems
  Need maps of submerged lands/estuarine/marine systems
  Need to complete the lakes/ponds aspect of the aquatic mapping work.
  Classifying early successional habitats
  Get LIDAR data coverage across the region.

#2 Ensure accuracy of maps: ground truth maps at a minimal level.

#3 Accessability/usability
  Training on what the tool is and how to use it - big need. Accessibility of information.

Translation issue - need for tools that translate science into useable information for communities/users. People need to be able to filter/play with the data, and then understand "what does this mean".

Landcover tool - get these maps out to the entire natural resource community for use - NRCS, FS, NPS, so these entities can locate/conserve habitats in their area.Ask the users what they need and how they want to use it.

Regional context - use the info to inform state/local level decisions with that info.

Maps as outreach tools - people understand maps. Think about how to use maps to connect to public, show how conservation work relates to their quality of life. Seems like a great opportunity - get them on Google Earth (with some sort of feedback option?).

How are the existing maps being used? Can they be connected to state water quality standards, etc.? Have been distributed within the RCN community, but not beyond those folks and not necessarily to the right people who can access/use them.

Habitat maps are an input into other models but are these maps being used to make decisions?

Projects are in place that will use maps, logical next steps.

Connectivity, condition, etc - all in the works or proposed but need to complete and fill out to make useful.

Show up at wildlife/fisheries staff meetings and talk about the products, show them, get feedback.

Is there an opportunity to jump the border and work with Canada? YES, 2 Countries, 1 Forest, also NA LCC, GOM ecosystem indicator project done with maritimes.

Time series of habitat condition.

Table 9:
Terrestrial and aquatic classification mapping products have been produced. The next logical step is to ensure all conservatio partners are clear about potential or intended uses and applications, and yet we need to find ways to encourage creative application and further analyses. [Caveats - There will always be local/state site specific application of mapping products. And also data validation will always be a challenge - need to most useful scale of validation. Don't have resources]
- Aquatic and terrestrial Invasives mapping with priorities guided by current RCN project to identify top invasive species threats to SGN.
- Partner responsibility for reaching out to stakeholders to educate on limitations and applicability of data.
- Start crosswalking SGCNs to habitat classifcation and mapping - both predictive habitat modeling by SGCN and actual occupancy of habitat by SGCN
- From a state agency, DE perspective, what will contribute to these priorities. Crosswalked our state classification ssystem to the regional system. State level is more detailed. not clear what the other 13 states are doing with the data.

- In Maine. Are we trying to reinvent the wheel with Fish Habitat projects underway? I see much presented today, valuable, lots of projects not discussed; what are the gaps remaining?
- Invasive species mapping from aquatic perspective is a need. Large gap for conservation planning in Maine. Big focus, stream connectivity.
- Terrestrial invasives also benefit from restoration projects that provide connectivity in the habitat.
- From coastal habitat mapping and nearshore is a priority esp for fish habitat. In NY, the Hudson estuary has good benthic mapping but not turned into biological mapping and across states to see the bigger picture. On Federal/regional end, essential fish habitat designated by NOAA is needed.
- Will lake mapping and wetlands? Yes, wetlands is within terrestrial. Lake mapping needs to be funded to complete. Needs to be flagged as a priority under RCN. Also need to classify fish resevoir habitat. Effort could be piloted in this region.
- Helpful for LCC and RCN - what is the immediacy of the need? Projects identified now will not be worked on until 2012 under RCN. LCC could bridge that time gap.
- Traditional Ecological Knowledge (TEK) gets lost - no mechanism to gather and use this data. Needs to be part of our management framework and used with Mark Anderson's habitat data.
- Map and data layers generated - are what is depicted actually on the ground? Need to validate the data and what do we do if it doesn't match up?
- has field testing gone on at the state level? No - satellite data is just that.
- Are there plans to validate data?
- Difficulty with focusing on habitat mapping and it boils down to where you're doing work on the ground - looking at connectivity, habitat maps, - whole layer of questions need to be asked to get to what is useful and where we are going to work. The detailed cross checking will take a very long time. If it takes too long, may not help to wait.
- if you look at landscape level, it may not be the details but the bigger habitat biodiversity that matter. these maps will help you make some decisions that lead you to use the finer state level data
- need to be clear on intent of use of data. public groups might hold up data and say look, we need to protect our lands here……..
- ACFHP completing habitat analysis for whole atlantic coast - publicly available while they wait to publish and someone is using the data that was never intended by authors
- NY has a team of NGO and state folks looking at putting together a metadata set that will be used and confirmed within the state
- Would it make sense to overlay habitat maps to show if there is a connection between species occurrence that we are showing the occurrences? Makes you think of the accuracy assessment need.
- Talked about doing looking at habitat classification to SGN classification - for states to use at home, and if they have detailed mapping - can use.
**- 3 parts - habitat mapping, condition analyses and species occurrence or predictive model piece. Nice if constent across the region.
- What about the temporal data - maps and data layers are generated at point in time. is there a modeling component to predict over time?
- most of our spatial datasets are for current condition, looking at rates of change which is a limiting factor. Would love to have time series of road networks. Time intensive project.

- Concern time passes, data generated several years back, - how viable are certain types of analyses over time?
- for forested environments, they'll have better data to track successional habitat. maybe in 5 years.
- may need to set aside successional habitats due to change.
- a finer time slice for human change in landscape, if doing a conditional analyses may be more critical. ex: Marcellus Shale
- Fragmentation will be part of conditional analyses.
- NFHAP just came out with the disturbance index. they'll report every 5 years. a lot can happen in 5 years.
- How often can you do it? If satellites are flying past 5-10 years, that's all you can do - limited to data availability and who is collecting. Need to define expectations and measure against reality
- Validation is huge for credibility for project manager working with landowners. they are curious to know what is on their lands and if they detect a chink in the armor, they'll use it to their advantage.
- Where do you think that fits at regional scale? how to scale validity down to landowner level?
- Struggling with this in ME. High resolution datasets and it is on quasi private land that the landowners don't want out their for public access.
**- Taking mapping and data products and making them operational on the ground will have its own set of challenges and how to address those issues. Need to get work done and respect private landowners rights on information about their property. Be more explicit about intended uses and caveats and what are challenges of using data at state level. No agreed upon consistent response to those concerns.
- RCN is only about $400K a year - if you want data validity for all 13 states, you're asking for failure.
- Better define how we are going to use the data we are developing………Define expectations of state agencies.
- Is this a workshop to bring technical staff to engage in the products? How do we incorporate these products into our work at home? Need to start offering sessions on how to use.
- two scenarios that might be a challenge - 1) maps of designated critical habitats gets into legislative process and makes landowners unhappy and 2) public groups that out to do the right thing and puts a target or neglects their favorite area - puts you into the legal realm or protests from the public groups.
- May also put you into a position where someone doesn't believe in the data that is provided.
**- FHAP and bird joint ventures need to be part of the key audience for a workshop. EBTJV is important to get them involved.
**- Academic community is another key audience.
**- perhaps as part of future projects - statement of how the data can/would be used and identify expectations/limitations.
- important to bring in landowners/land managers, industries that make living off of the land
- everyone has their own constituents and stakeholders. Partners can work through their own stakeholders with messaging and educational outreach.
- Regional leve scaling and state level scaling - will not reach state specific level at the RCN level. Can develop guidance for how states can use. Aim of the RCNs is to develop the tools that you can use.

Session 2-Question 2: Who are the key members of the conservation community who can address these priorities and what roles are best suited to RCN and LCC's?

Table 1:
LCC might be able to serve as a regional clearing house for this type of data, and providing data service to regional partners.

Table 2:
AA - State agencies
AA -Combination of field work - e.g. collect stream temps quickly when sampling wildlife
AA - Large landowners, e.g. forest products industries
AA - USDA
AA - Citizen science
Ephemeral (<10 years) - NGOs, universities
Historical Data for aquatic, fisheries - historic runs - state DNRs?
Data standards, taxonomy, nomenclature, e.g. IUCN, TRACS database
RCN - couple of states
LCC: compiling data all states
Delivery of conservation - more RCN than LCC

Table 3:
-To address refinement of temperature aquatic habitat mapping, it will take an outside entity to come in and coordinate and provide expertise? who-EPA, USGS may have already started. LCC may be the best funding source.
-For existing classification, more data needs to be put into it for confidence. Spatial and classification system (add or move a variable) may need to be updated: Field testing-RCN, incorporating more modeling (temp modeling): LCC since they can better tap into USGS and EPA.
-Map of habitat vulnerability for social and community concerns: may be done (at least vulnerability assessment, but overlay with the map likely could be RCN funded.
-Committee charge may be needed to coordinate and continue this effort by the NEAFWA directors.

Table 4:
RCN and LCCs vehicles --   to identify the best resource for information to be mapped. What are the specific products we need, and how do we find them?

Key partners? For example, climate change. Need well defined methods for tasking partners. The techncial committee is key -- (Sneddon).

To make this happen then the LCC steering committee needs to bring in the right players to the table to provide that expertise.

Table 5:
1. Ecologist/tech staff and Communication team/strategy (RCN)

2. Tech team RCN and/or LCC
3a Tech teams (RCN) Canada (LCC)
3b. State lead and TNC (RCN)

Table 6:
onsidering #1 & #2 above: engagement of broad conservation community would make the task easier (i.e., provide broad stream of data), with a central contractor/NGO playing a key role in organizing the effort, collating and analyzing the data.

Beyond just our wildlife and fisheries agencies, certainly, should definitely engage the Natural Heritage programs, state forestry folks, NGOs, etc. University/research community should be considered.

Tracs database could be helpful for this. It will have a public portal, and this will have several layers available. TNC has a lot of the products, and could play a key role.

Table 7:
Canadian portion - LCC
Age and Structure - USFS, State Forestry Agencies, whoever can pay for LIDAR, USGS
Invasives - USFS, TNC, Regional Invasive Species Groups, state invasive species groups, USDA/APHIS**Comments:**

Table 8:
#1 Priority - completion of maps - TNC, NOAA, NatureServe, NPS, State Coastal Programs
#2 The entire conservation community - example EPA National Wetland Condition Assessment, every state survey could use a downloadable form to ground truth maps when out in the field
#3 Coop Extension, team of individuals who are trained to translate the science, need consitent message. Extension model is being used very well in NH.

Table 9:
- We don't need to identify the specfic entity - use RFP process. Need to gather information on who is doing what in the public and private sector to make sure they can be hooked up .

Session 2-Question 3: What is value added of regional classification and mapping?

Table 1:
Common language across the region. Valuable, accessible, interactive tools (web-based desktop application).

Table 2:
Use in predictive modeling for future condtions
Current mapping
Mapping of connectivity
Setting restoration targets
To buy and/or protect land - need to protect landscape level - including demographic data
Baseline data to include current and historical data

Tremendous aid to conservation
Prioritization of limited resources - contextualizing of management of public spaces - placing into landscape context
Managing and restoring existing public land base
Publicizing data can help get public support and buy-in

Table 3:
-Really, need a process to fund and conduct the "next step" or "what if we try this with the data" from the RCN committees.
-Think about how we make the mapping products available to partners, DU and other NGOs. Need to provide for many reasons, including to empower local level decision making, and also to show justification for decision making process. Can also provide as what "best examples" of that habitat types would be.
-Need to be able to share with they public why the regional landscape view is important instead of local/state.
-Really need a roadmap for what to do with the habitat mapping effort: communication with public, awareness, availability of data, maintenance of data, who should do the work.
-If you have species that are spanning state juristrictions, with a common habitat mapping system it should help understand species habitat usage for management.
-It will help with public "conservation conversations" if the reference to habitat types is consistent across broad areas (including spanning states).
-Will also help streamline funding because will be able to define what is state or regionally rare (i.e. habitat types or species within those habitat types).
-Doesn't lessen state classifcations, but does allow for conversations using standard language.

Table 4:
Addressed this question second; What is the value? Working across artifical boundaries to look at species/habitat distribution (Elowe). This mapping has value already for issues such as connectivity.

True utility is that we don't have to translate among states, other jurisdictions. (Rosenblatt)

How often data is updated is key -- a recommendation is that the various thematic datasets need to know what their freshness date. (a two tier question -- can simply updating the data do the job, or do we have to re-evaluate the the assumptions on the dataset?) (Brunkhurst).

A habitat classification for what? Species level is too demanding -- so what can se substitute -- guilds? We need to consider these limitiations in identifying priority. How much habitat and where at a coarse scale is what is basically needed. (Sneddon).

It is a tool, not a perfect tool, but a tool (Brunkhurst). (Paul Ricard) -- concerns about data that is excluded from maps, and that assumptions that might be made from the maps. Local knowledge needs to be valued. Practical considerations need to be considered.

Doing projects in areas that have the greatest value over a larger scale -- this is an advantage of regional mapping, (example, grassland birds in the NE)

Table 5:
could be used by conservation commissions, local planning boards etc. Provides tools to
communities, identifies focal areas (once identified)
Foundational tool that can be translated at local scales

Table 6:
Great tool to use as a starting point, to launch projects and inform partners. If the data are online,
it provides a very powerful tool to land trusts, conservation commissions, part-time or volunteer
conservation partners.

Understanding how these regional products relate to state-level products, is important.
The utility of the products will be different, at different scales, by different partners.   One
primary benefit is that it helps provide a regional perspective, such as "how important is our area
to the larger region, for this habitat type?

To be useful to the public, it would be necessary to provide the data in a format that most people
can use, such as Google Earth. Providing tools, that help people visualize threats and plan for
them, will mean serving data in a way that non-GIS people (without software) can use easily.

Table 7:
helps us pool our resources
regional maps of invasives
decision support systems for e.g. transmission lines, etc.
can help development in ways we want it to happen
can help inform conversations with communities -- scale issue
help coordinate agency actions across the landscape
could help people get fired up about this -- look and realize where they are in grand scale of
things
may be less threatening with landowners, etc.

Table 8:
regional perspective for our own work
value added for individual state is to understand their role within the regional big picture
regional understanding applied locally - assist states with prioritizing work
more effective conservation, limited resources put in the right place
concept of regional responsibility

Table 9:
No Comments

**Session 2-Question 4: How often do we need to update regional maps, and how can we
build a system to make updating more efficient?**

Table 1:

Depends on the habitat. Rate of climate change is going to have an effect on how frequently it will get updated. Also need to know what we can afford. Hard part is getting the process put together, will be easier to continue to populate the database with the correct source data. Sequential data sets are valuable. NW has a large amount of data loggers deployed, we could think about doing something like that. How long does it take certain systems to change, this information could inform us on update schedule. Weather systems (hurricanes) can also affect this timeline. Depends on the type of data collected. Temporal needs assessment. Habitat attributes that were weighted the highest (highest correlation) might be the ones that get updated more frequently.

Table 2:
-10 years, depending on rate of change
Tied to management scale or habitat under consideration.
Issue of scale - who does the updates - states may want updates at different time periods

Table 3:
-Long term, data needs to be maintained-may need to put someone on retainer to handle the maintence.
-Access issue is one thing-getting it to the people that need it.
-Communication issues is also important, as a way to share their availability and usage potential.
-Have the directors encourage use of this habitat mapping classifcation: 1) within NEAFWA technical committees, 2) and within their own agencies-so that work can be compared and collaborated in the future, and 3) agency use to get the data out to partners.
-Could use the conserve lands updating program which use TNC chapters or state programs to update maps.
-Terrestrial: Most likely component that would need updating would be increased development, or ground-truthing. Otherwise, long-term change for changes in habitat. A 5 year cycle would be suggested.
-Aquatic: Temperature would likely be primary component that would change, also with development pressure on wetlands. A 5 year cycle for aquatic maps would sufficent, maybe 10-years?

-The usage and communication of the regional habitat mapping classification will help directors make the case that it makes sense to work on a landscape scale, see Duck Stamp program: funds are used elsewhere to support migratory waterfowl.

Table 4:
No Comments

Table 5:
every 10 years (modify as we learn)
update if major disaster significantly modifies landscape
foundation for update is already done

Table 6:

Every ten years is bare minimum. Five would be better, but at some point there is a cost-benefit tradeoff to consider. Is it worth our doing it constantly, the way FIA data are collected? Could allow wide network of users to input real-time information from the field (e.g., similar to Ebird), to allow rapid and inexpensive access to potentially high volume of data.

If the habitat maps could be linked to NLCD in some way, it would help inform how things have changed, keeping constant the many variables that don't change over time (e.g., slope, aspect, geology). However, methods may not allow linkage to NLCD. Plus, NLCD has high error rates for some habitat types.

Aquatic classification is fairly fixed, and should not need to be updated very often. Landcover changes quite dramatically, so this landcover is the main thing that needs to be changed/updated.

Table 7:
every 5 years?
industrial resource extraction or invasive species happen way too fast
can we tie in Landfire or piggyback on the systems they wouldn't be mapping
do a chunk every year?
contribute to Landfire - don't reinvent the wheel
update focus on major surface disturbances
2 step -- availability of already mapped info, then handle what's not available
how do we factor in climate change? Research question.
periodic on the ground accuracy checks and see how they deviate over time
look at more vulnerable communities and base on changes there

Table 8:
Answer depends upon 2 things: how quickly does the particular habitat change and how easily is the data gathered. In short, 5 years…

Table 9:
- Not in any existing products, dependent on frequency and availability of satellite data.
- Condition data needs to be updated more often.

Session 2-Question 5: Other Comments?

Table 1:
Habitat data TNC modeled is currently been used on the ground by CT, has been ground truthed in some instances, and is fairly accurate. Forward-looking ability is necessary, and also a timescale for updates. Precipitation data is very useful as well. Historical biological data could be a need. Need to figure out which historical data sets we might need. No metadata associated with these types of data sets, context is limiting. Can draw some incorrect conclusions. How fine-scale maps do we need to have, and how much ground-truthing should occur? Confidence measures of habitat attributes might be built into the models….a way to feed information back into the model? This habitat mapping is a one-shot deal…no service provided… Official administrator. Parallel is with the joint venture. Risk of people using these models beyond what

they were designed to do (black bear management in VA as an example). Sentinel programs, central clearing house.

How do various state agencies communicate with each other? (game, fisheries, env. quality, forest…).

Connection between habitat map and species present. Wisconsin model as an example (talk to Neal Hagstrom for more details)

What are the habitats that these types of projects that don't work well for….and identify some other technique for the. Articulate the species that are poorly represented in existing habitat models.

Climate Wizard (TNC).

Table 2:
Almost need to distinguish between value of current data and future predictions

Table 3:
Highlights:
-Need a roadmap for what to do with the habitat mapping effort: communication with public, awareness, availability of data, maintenance of data, who should do the work.
-Future work: continued model validation is needed for terrestrial maps. Aquatic maps would need refinement of definitions, validation and field testing for accuracy.
-Will habitat vulnerability analyses use this habitat mapping classification system?
-Complex overlay and vulnerability index studies chould be coordinated through the LCC.
-Application of more simple habitat mapping questions, along with social and community impact could be coordinated through RCN.
-Have the state directors encourage use of this habitat mapping classifcation: 1) within NEAFWA technical committees, 2) within their own agencies to allow for comparison and collaboration in the future, and 3) by the agencies to get the data out to partners.
-Add classification systems: RCN would be appropriate for lakes, LCC would be appropriate for Maritime Canada.
-Is or will this habitat mapping effort be consistent with efforts of neighboring LCCs?

Table 4:
Summary --

a. Lakes and reservoirs classifcation.
b. Fish passage
c. Stream flows and characterization
d. Additional data sets that are mappable (SPARROW water quality information)
e. Updating is topically determined.
f. Accurancy determination, (QA/QC)
g. Tracking new data information that has regional importance -- a portal for updates, new data, new application.

h. Habitat condition updates, (threats mapping -- urban growth, development, road networks, energy development, etc.

i. Tranlation in user-friendly formats for the user audiences

One -- completing the package for terrestrial, freshwater and marine -- and add lakes and

Two -- A product can be used by or target users and partners.

Three -- QA/QC that is adequate (a continous process)

Table 5:

RI (terrestrial) and NY (terrestrial and aquatic) are modifying the habitat classification systems for their states

Table 6:

Large-scale habitat maps break down at finest scale, and can be of limited utility at fine, project-level scale. Remotely sensed habitat maps are not the same as habitat maps based on actual distributions of plants and animals, which are more meaningful, though obviously much harder to get. The existing maps are of conditions likely to be associated with these communities, but not maps of the communities.

What scale of habitat will be meaningful, e,g. what is the minimum patch size to consider, and what thresholds should be chosen to serve as conservation targets? An assessment of habitat quality, in terms of patch conditions, size, context, etc.

More systematic data on stream temperature data for streams would be helpful, but some questioned whether that is value added or worth the cost, given the existing models and the alternative of spending money on restoration or protection, instead of more modeling. In some areas, we already know the condtions are generally excellent or very poor, so more information is not really needed or valuable there, compared to funding implementation (or restoration).

Table 7:
No Comments

Table 8:
No Comments

Table 9:
No Comments

Session 3: Biological Assessments and Goal-setting

Process: For each question in this session, please address your responses to each of the following framework elements: Triage, Biological assessment, Goal-setting.

Session 3-Question 1: What are the highest priority additional projects or needs for advancing biological assessments?

Triage?
Table 1:
No Comments

Table 2:
No Comments

Table 3:
No Comments

Table 4:
Paucity of long-term data sets throughout species distribution to forecast change - population level and habitat level: habitat quality and vulnerability
Is there already a decision model to prioritize projects involving multiple species of concern? How would species be prioritized? Could that be a potential project? Guided by ESA at federal level; but states are guided by somewhat different rules. Is there something that could help states make decisions? Need an effective way to set priorities. RCN has a scoring framework for evaluating proposals, but not for conservation priorities. # states that benefit, # of species that benefit, etc. but final decision rides on other inputs as well. RCN came up with list of species regionally based on a number of criteria; SWAPS worked on the same thing at a state level. But what is the guidance on how to deal with emerging issues? When emerging issues arise, they will be treated X way. Need an umbrella policy. Method for threat assessment on regional level - on species or suites of species. Political issues. State-rare vs globally rare but depending on how conservation resources are allocated also involves political issues. Allow state practitioner to buffer political issues.
Quick response program: USGS to USFWS: crisis proposal, do you have capabability to respond? Is there a resource like that? Mechanism for quick response. Fallback at end of year, allocate remaining crisis funds to identified needs. Best way to codify an approach - would be a useful tool. E.G. every state was called in to deal with Asian carp. What was the decision tree? SWAP identified the threats, matched to species and habitats; would be good to have a tool to see interactions among threats. Could then identify commonalities, could target efforts better. Long-term monitoring - tie into existing long-term data collection such as stream gauge data. Where to put resources into conservation? Can use map to identify places, but not connectivity among these places. Don't see how to deal with key connections (but this is covered in conservation design section).

Great inconsistency in aquatic arena in species put forth in state conservation plans; lacking plants, marine - very spotty on state level but could be treated regionally.

Goal-setting is a critical regional activity; maybe not a project per se, but need to address how to roll up from SWAPS and other plans and to develop how to plug in data gaps. When actions be adequate and allow moving to other priorities? How many species and how many acres? Don't necessarily roll up numbers from state plans, would not necessarily be additive. Nuance of goal-setting doesn't necessarily roll up from individual states, but is a roll-up then roll-down. Can't have more of all everywhere; need to instead identify dynamic balance - reference sites. Is this state able to support X? Biological capability of landscape to support the expected number (carrying capacity). Do this in a more balanced setting; representative species approach: pine marten and more mature forest, and lynx with more successional habitats. But what balance? Can't maximize both? Becomes a social decision. Minimal viable vs what habitat could potentially support - public must support the goals.
Issue of point of reference: based on how many we used to have (selecting an arbitrary point in time. Successional habitats have been declining as a result of forest maturation - choosing the time period will suggest very different goals.
Trade-offs.
Representative species, tag on to existing project: Fund projects based on results of previous projects. Identify barriers to action; pick a number - model based on that, move forward, incrementally, and refine over time. Pattern and intentionality. CZM also doing some of the same thing and would like to collaborate.
Plants - are these part of LCC? Other potential partners NEPCoP

Projects: threats analysis; long-term of habitat change; decision-making protocol; Identify species that require connectivity among states. Goal-setting (target numbers); data gaps in marine and aquatic.

2 top priorities:

1. Develop a process to develop regional representative species goals (numbers and distribution) to allow development of landscape-scale habitat design and conservation.

2. Marine, aquatic, plants data gaps and representative species for marine and aquatic systems.

Table 5:
No Comments

Table 6:
States need to consider areas that simply shouldn't be addressed.
Inventory of species may be opportunistic-selection of species, some may be simply too expensive.

Table 7:
need to continually stop and say these are species we need to pay attention to
try to come to consensus on a regional goal which would draw from existing plans to the extent possible
need to do a lot of on the ground species surveys and can't get support to do them right now
region wide priorities may help make the argument

not enough oversite on how SWG money is being used

Table 8:
Conservation Status Assessment - read and think. Take next step and downscale to a state level - see how that regional responsibility fits with state level priority species. ground truth "are we keeping common species common" on the ground in our individual states.
How does federal listing fit into that process? There are a number of NE species that have just been given deadlines/mandates for decision. Regional review of high priority SGCN, look for commonalities - charge to NE FWDTC, make it a project? Can be used to provide regional context to WAP revisions in 2012.

Table 9:
No Comments

Biological assessment?
Table 1:
Identifying areas that are gaps. Focus on process as well (climate change, diseases, acidification, invasive/exotics). Has there been a region-wide assessment?

Table 2:
pecies change and habitat change - what is the connection between? Adaptive capacity. This is a long process. May not be able to wait to get research project - may need expert judgment.
Is the connection between climate and other habitat change and species effects clear?
To what level will habitat change over time drive species change.
Does the current mapping data fine enough to capture
Adaptive capacity of species - research need
Cannot know what future holds for spp - e.g. red knot, little brown bat
Urgency vs. importance
Need to see results of current projects
Mine historical data across the region
Are there particular taxonomic groups that we need more information on
Is there value of combining atlases that have been done?
Could be that a species we don't know about is a good rep spp - e.g. arachids
Lots of uncertainty within wetland systems -cross cutting research - importance high
Getting a better understanding of physical processes driving habitat migration - sea level rise, coastal geology
Effects of changing wildlife composition on habitat - e.g. deer and turkey; e.g. winters become warmer, more winter survival, culling techniques need to change.

Table 3:
Assessment of biological impacts of renewable energy (wind power, water turbines, biofuels)
-Regional native freshwater fish assessment: evaluate current state assessment programs, identify gaps, and develop standardized methods to be able to compare data across states
-Regional mussel atlas
-Didymo and periphyton communities: monitoring and tracking of spread

-Hemlock Wolly Adelgid: Keep assessment and distribution maps current to limit spread through informing the public
-Asian Longhorn Beetles:
-Invasive species: Quantifying the biological impacts, including human/cultural response to invasives (including control) to identify the response that causes the least impact overall.

Table 4:
No Comments

Table 5:
Next step identify focus areas and corridors (habitat based). In stream flow, fill in some data gaps; Spend time to really assess what we already have; Is forest cover type adequate? New habitat maps developed by TNC are. TNC Status report: pull a team together to synthesis/ determine the top 10 conservation goals, what does the report really tell us, results to inform management decisions. Missing componenet - will always have holes with endangered species that won't be covered by representative species or the like. Representative Species: Goals should include habitat quality/quantity and not just a species population goal. Can't ignore threats as we do conservation planning (disease, invasives etc.) Feed existing biological data into model development. Expand Great Lakes flow modeling. Find out a way to deliver the results of the projects (products) in a meaningful way to on-the-ground managers at state/local levels. What does success look like? How do you measure it.

Table 6:
Identify focal areas that represent the best examples of ecosystem types that allow us to define ecosystem function and integrity;

Expand surveys for regionally important species, especially with co-dependence and association with communities; coordinated and collaborative among partners.

Need biological assesment for various species; small mammals, inverterbrates; special habitats; focus areas;
Need for more regional survey work for distribution and abundance
Move occurrence information to population status; where are the core areas; differences in data types
Develop consistent protocols;
All states need to participate in regional assessments
Isolation of aquatic species and some terrestrial species
Where are the hotspots for focal species?   General thought about species may be rare in some areas because they are on the edge of their range.
Regional assessment helps states focus on species that are really important to the state rather than on edge of range.
Need to focus on species.
What ecosystem components are declining? and where?
May want to focus on a subset of the 177 species.
Missing tools for assessing species.

Focus on habitats and conditions; where are the important ecosystems for species; link species to habitats.
Rather than inventory species and habitats; look at intact habitats to be able to benchmark for climate change; look at integrity and function of the system.
Should keep species from becoming endangered; broad political and social support.

Table 7:
assessment of connectivity

Table 8:
Comprehensively describing species/habitats.
Aquatic - biological condition gradient work going on
Aquatic systems mapping - lakes/ponds and marine
Create distribution maps for representative species, or regional responsibility/high concern species - overlay on habitat maps.

Table 9:
- Human impact threat analyses, when we do those condition analyses they're not really a threat analyses cause they look back. more drivers that are forward looking are a more useful tool to combine with condition analyses - esp ways that cut across geographic habitat types.
- Established a set of building blocks and tools that build upon one another. what happens next is you look at SGCN across the region and look at the vulnerabilities and distribution. no consistency across states looking at the species list. Must look at foundational building blocks of being consistent across states before going onto next steps.
- TNC land report - planning to look at what proportion of the population is the NE responsible for? If more than 50% of the states put it on their list, it gets bumped up as High responsibility and High concern. Species mapping with this analyses.
- are the lists flawed with the way they're designed?
- Protocol for a definition for what is an SGCN - IMPORTANT to do - across all states
- need species consistently and across marine, terrestrial, etc.
- can someone take a look at the disparity that exists? what does it look like to bring consistency to the next round of plans? how will that impact regional conservation?
- All the work that is going to come now that we have established a habitat base and moving into species - need to have question answer before spending money on species.
- Don't see much change in managing by specific species….
- Disconnect with coastal species, fishes not well represented.
- encourage to engage marine species portion for discussion so not focused just on terrestrial
- one thing missing on goal setting

Goal-setting?

Table 1:
No Comments

Table 2:
No Comments

Table 3:
No Comments

Table 4:
No Comments

Table 5:
No Comments

Table 6:
No Comments

Table 7:
sustain at current level

Table 8:
Upon completion of distribution maps, conduct Structured Decision Making Workshop for high priority SGCN/rep species, starting with those species in NE on the mandated listing decision.

Table 9:
- pilot couple of different species and some major habitat systems - common habitat and a rare system. see what can be done with numerical goals. something commonly applied.

Session 3-Question 2: Who are the key members of the conservation community who can address these priorities and what roles are best suited to RCN's and LCC's?

Triage?

Table 1:
No Comments

Table 2:
No Comments

Table 3:
No Comments

Table 4:
Everyone here plus more marine folks and plant folks; public; NGO's and many more - much more comprehensive

Table 5:
No Comments

Table 6:

No Comments

Table 7:
No Comments

Table 8:
No Comments

Table 9:
- [Belongs in #1] There are threats beyond the horizon that we need to consider now for focus and funding. How to identify those aspects that threaten the wildlife community but are not currently articulated?
- Are the values we're applying, goals we're setting - are we achieving the mission we are setting? Is this what the public and society see as the real need. How to balance the science aspects and society's expectations. Need to inform and educate.
- Incorporate into pilot areas - societal needs? Do it "to" or "for" or "with" society?
- Who can help you accomplish this outreach?
- Historically functioned in a reactive mode.
- States, NGO and federal partners have done a good job. How can we do better?

Biological assessment?

Table 1:
RCN for gap analysis of biological assessment status, region-wide.

Table 2:
Academic, NGO, Partners in Flight, Joint Ventures

Table 3:
-Scale of project helps to delineate who would be appropriate funding entity
-Overlap of participants, expertise, would be helpful to share information

Table 4:
No Comments

Table 5:
No Comments

Table 6:
No Comments

Table 7:
No Comments

Table 8:
NE FWDTC

State WAPs
RCN contractors
SDM workshop - State Directors, state ES managers, Federal ES leadership, FWS SDM gurus

Table 9:
- Start with SGCN and SWAP lists. either could do the SGCN exercise and develop criteria.
- Like the RCNs to do so that the state agencies are ultimately responsible for the plans.
- whoever writes the plan does an interagency coordination.
- Departments of marine resources need to be connected. Also estuarine reserve folks might hold unique data on coastal and marine habitats.
- NE Wildlife technical committee tries to strip away the barriers that don't include part of other state agencies…
- When ME developed SWAP for grants focused on lands.
- Need to coordinate with NROC, MARCO and whatever organization is handling the CMSP portion of the National Ocean Policy. The marine LCCs and RCN need to look at what are the data gaps and how to coordinate the research and analyses.
- Conservation framework goes across into the marine portion where Regional Ocean Governance structures, National ocean Council are all tied in together
- Go thru Atlantic Coastal Fish Habitat Partnership as a communication link.
- LCC can have a coordinating role and work with the Fish Habitat Partnerships.

Goal-setting?

Table 1:
No Comments

Table 2:
No Comments

Table 3:
No Comments

Table 4:
No Comments

Table 5:
No Comments

Table 6:
No Comments

Table 7:
representative species goal setting facilitated by the LCCs
roll up what is in the current SWAPs facilitated by the RCN with NGOs with consultation from FWS office
new consistent format piece -- regional FWS office

Table 8:
No Comments

Table 9:
No Comments

Session 3-Question 3: What is the value added of regional biological assessments and goal setting to statewide or site-specific management?

Triage?

Table 1:
No Comments

Table 2:
No Comments

Table 3:
No Comments

Table 4:
guidance on how to deal with emerging issues

Table 5:
No Comments

Table 6:
No Comments

Table 7:
No Comments

Table 8:
No Comments

Table 9:
No Comments

Biological assessment?

Table 1:
baseline information. Can be turned into tools (non technical and accessible data). Can better focus state-wide priorities..tricky because of state responsibilities.

Table 2:

Useful to dictate the where? Without interfering with larger landscape
Common currency and common metric, common language
Adaptation to climate change has to be regional
States are going to be the ones to implement adaptation strategy
Not clear how regional mapping efforts can deal with successional habitat types

Table 3:
No Comments

Table 4:
Where to put resources into conservation?

Table 5:
Determining focal areas will provide local context. Regional plans provide context for local planning efforts. Provides mechanism for communication within States to implement actions at local levels.

Table 6:
where are the best examples ecosystems?

Table 7:
take complementary approaches
look at how ecological communities would be affected by e.g. climate change as well as development
need to know how things are going to change in order to know where the refugia, etc, are could be useful information at the state level
if could show a threat to existing species could be really useful
what places can we save to keep some species specifically and to know what not to work on

Table 8:
Encourage states to address regional priorities in WAP revisions - provides regional context for state actions.

"Keeping Common Species Common" is more cost effective than waiting until listing for conservation actions.

Table 9:
- From Brook Trout management, the EBTJV raised the focus to direct management action at the state level. Able to reference management actions at the state level- merging effort with SWAP.

Goal-setting?

Table 1:
No Comments

Table 2:

No Comments

Table 3:
-Setting regional targets for some of the locally-based assments (i.e. conservation lands and landownership)
-Develop regional priority for conservation land conservation or acquisition, based on species distribution and status, and habitat use and status. Need to also identify that conservation of land is the appropriate conservation mechanism.

Table 4:
Method for threat assessment on regional level

Table 5:
No Comments

Table 6:
No Comments

Table 7:
Now that Mark's NE Conservation Status Report is available:
make it easily available
get a core group together to look at what is there and how to make good use of it
some small group takes it and breaks it into manageable chunks
use it with the Sustainable Landscapes project, Hector's project, etc. to inform our strategies at the highest level

Table 8:
No Comments

Table 9:
No Comments

Session 3-Question 4: How can we draw from and roll-up state plans to inform regional planning most effectively?

Triage?

Table 1:
No Comments

Table 2:
No Comments

Table 3:
No Comments

Table 4:
No Comments

Table 5:
No Comments

Table 6:
No Comments

Table 7:
No Comments

Table 8:
No Comments

Table 9:
No Comments

Biological assessment?

Table 1:
State plans have identified additional monitoring needs (unkowns). State plans are a starting point for this type of analysis.

Table 2:
Create common metrics, common language, common descriptors
Have metadata so that can informatively work with different data sets without making them try to do things they are not intended to do.
State habitat classifications can help improve/inform
Focus areas, or priority ares from state plans can be added to regional priortity areas - Areas of overlaps become more important targets

Table 3:
-Identify process to have local information be used for regional coastal assessments of sea level rise.
-Development of modeling to develop adequate streamflow to support biological processes and communities such as the ELOHA or CT and MA streamflow monitoring projects.
-Ecological limits of hydrological alterations (ELOHA): Biological water (flow, quality, etc) standards and critera are based on needs of native/local aquatic communities. Regulatory driven, but the standards are benefitting the local aquatic communities.Process is to determine what the fish community would be expected to be there, and then identify what the flow, water quality parameters. L. Poff, TNC, USGS, EPA. Currently a state-based approach, would like to make a regional effort. Could build upon on target fish community work. Massachusetts and Maine currently implementing.
-Regional expansion of proposed project: "Simluation of Current and Future Water Temperature Changes in Rivers and Streams in the Connecticut River Basin" Bjerklie et al. USGS

-Great Lakes Basin Model for stream flow monitoring

Table 4:
RCN has a scoring framework for evaluating proposals, but not for conservation priorities. # states that benefit, # of species that benefit, etc. but final decision rides on other inputs as well. RCN came up with list of species regionally based on a number of criteria; SWAPS worked on the same thing at a state level.

Table 5:
When States revise SWAPs use the information that has been developed thru RCN. In addition, develop a consistent approach/template for SWAPs. FWS lead in development of the template, i.e. elements of the plan.

Table 6:
Diversity of state wildlife action plan formats; challenging to rolling up data.
Beyond biological aspects of roll-up; there are policy and human dimension components;
May want to consider this on a regional level

Table 7:
No Comments

Table 8:
Preliminary work is already done - now need additional layers.

Table 9:
- The EBTJV developed a range of goal levels, each state developed a plan to address each of the parameters, what they're planning to do in 10-15 years
- Fish habitat partnerships might be a good model to look at for planning
- Consistency across states would be helpful. trying to roll up what states were doing was difficult due to lack of consistent language, definitions and approach.
- know who we need to draw into the process now.
- Delivery and communication style are important !!!
- Partners of all sorts hopefully will see this as useful
- Matters which species, criteria - all things matter. This 2nd round has an opportunity to convey to Partners that the choices matter, it does work, here are lessons learned.
- There are threats we don't know about - things beyond horizon that we consider big threats. Maybe encourage threats and

Goal-setting?

Table 1:
No Comments

Table 2:
No Comments

Table 3:
No Comments

Table 4:
No Comments

Table 5:
No Comments

Table 6:
No Comments

Table 7:
No Comments

Table 8:
No Comments

Table 9:
No Comments

Session 3-Question 5: Other Comments?

Table 1:
1. Assessment of the completeness/representativeness of current/existing data (i.e., gap analysis for source data used in regional assessments). What we have and don't have. Need to think about the application of the data before the assessments begin/are designed. Density analysis of existing data (heritage programs). Private lands are not well surveyed. SWAPs are a starting point for identifying these needs.   Representative species might be another tool.
2. More complete vulnerability/threat analysis done for disease). Focusing on critical communities and groups that we don't know a lot about.
Other: What species to focus on. Or what other issues/processes to focus on (climate change, instream flow) …beyond the individual species.   Figuring out issues associated with peripheral species (may be limited in one state, common in another). Disease ecology/pest risk assessments/vulnerability analysis (spatial/communities). USDA Forest Service involved with this (trees). Changes in landscape associated with new development issues (mining as a new example). Indicators of resilience. Assisted migrations: are they good or bad? Identifying risks that we have the potential to control, and focusing on them….rather than focusing on things we have no control over.

Table 2:
Vulnerability assessment in Maine - certain birds were difficult to assess because of the lack of biological information. Lack of agency funding means that this is a funding need.
If we are committed to mapping on coarse scale, does it make sense to direct resources to addressing the biological response on a local scale.
Can we draw the link between the species process and the habitat process

TOP 2:
1. Capacity of species to adapt to habitat change and/or other stressors
2. Cross-cutting understanding of aquatic habitat changes associated with climate change to include hydrology and geology

Table 3:
-Development and evaluating models to identify adequate streamflow to support biological processes and communities such as the ELOHA or CT and MA streamflow monitoring projects, and including other factors such as landscape change and social needs.
-Immediate needs for emerging impacts: assessing biological impacts of SCGN to renewable energy (e.g. wind power, water turbines, biofuels), invasive species (e.g didymo, Asian Long-horn beetle, wolly adelgid), or diesease (e.g.White-nose).

Table 4:
2 top priorities:

1. Develop a process to develop regional representative species goals (numbers and distribution) to allow development of landscape-scale habitat design and conservation.

2. Marine, aquatic, plants data gaps and representative species for marine and aquatic systems.

Table 5:
1. Deliver the results (synthesis) of the projects (products) in a meaningful way to on-the-ground managers at state/local levels and prodvide commitment of resources to accomplish (people and funds). Start with RCN Conservation Status Report.

3. Development of habitat focus areas and corridors.

Table 6:
No Comments

Table 7:
- in the new SWAPs recommend adopting a consistent format/template which will allow for a region wide roll up (including population targets) for establishing goals, perhaps a consistent summary or appendix
- try to come to consensus on a pilot process to develop regional population goals which would draw from existing plans to the extent possible

Table 8:
Priority 1:
Create distribution maps for regional responsibility/high concern species - overlay on NE habitat maps.
Priority 2:

Upon completion of species distribution maps, conduct Structured Decision Making Workshop for those species in NE with mandated listing decision. Add high priority SGCN (upon completion of regional review by NEFWDTC) into the SDM process.

Table 9:
- An SGCN analyses for preparing WAP revisions - SGCN criteria, scope of taxonomic species included, consistency to threats and conservation action nomenclature so that State plans can be rolled up regionally in a consistent manner.
- A pilot(s) goal setting exercise for either species of suites of species and habitats; incorporating society's expectations.

Session 4: From Conservation Design To Delivery

Process: For each question in this session, please address your responses to each of the following framework elements: Conservation Design, Science Translation, Conservation Adoption, Delivery.

Session 4-Question 1: What are the highest priority additional projects or needs for advancing conservation design and delivery?

Conservation Design?
Table 1:
No Comments

Table 2:
Where are opportunities to manage for species of economic concern or constituent importance AND SGCN. Tools to help that, as well as communicate that to the public. BMPs that integrate both types of species.

Table 3:
-Developing projects to combine conservation footprints identified by the states. Includes priority areas and buffers on a regional level. Can be useful to identify gaps -where and why they occur. Used Biomap and Living Waters (endangered species, intact natural communities, climate change, SGCN…). Could also compare to regional priority maps, and habitat classification mapping. GIS based information that is available to cities and towns.

Table 4:
Many LCC goals overlap with RCN goals so don't want to duplicate
Conservation design and delivery tools that are fine-tuned. Are we applying tools beyond their usefulness? A blunt tool for something requiring more precision.
Representative species to build tool for application. Tool not so much for landowners but for the consultants they employ. Proactive; target landowners. "Discourage random acts of conservation" - means strategic conservation. Active forestry provides income to landowners; logging rather than conversion to shopping malls. Identify the most important places, then decision tools for what to do - manage for in what places?
Note: Professional jargon should be avoided.
Would like to support LCC conservation design tool.
Want conservation design done for representative species, translated into a format for those who do conservation on the ground can understand and implement. Also needs to be spatially explicit. All of the work needs to be in context of changing planet - climate change. State climate adaptation plans reconciled.
In order for conservation delivery to happen, must be adopted. Majority of habitat in private ownership - this must be taken into account. Mechanism to engage them: economic, others? At design stage - role of landowner must be accounted for. Tax incentive programs. Who can feasibly implement the plan? Conservation design to encourage adjacent landowners to work together. Conservation easements (forest legacy, farm bill, conservation reserve program). Priority: all federal and state programs involved and buy into the design. Barrier is some parcels

location data not released. E.g. Farm Bill adopted some recommendations of RCN project. Is there a project that produced the key contacts that is regularly updated? Catalog of what's available - contact information; EPA, other fed agencies, other programs, to implement conservation. Getting design right, will compel others to use it. Incentive: participation, sense of contribution.
Guidebook - web site on best practices. What works and what doesn't.
Need a conservation design - translates it into pattern. Landscape pattern for multiple species. We are not marketing and PR specialists; we can provide it. But need concensus on what we are marketing first. What scale of planning? Practitioners guide - dynamic toolbox to conserving functional landscapes. Toolbox of financial incentives (tools, vehicles, approaches) for habitat conservation and management; conservation design that includes climate change and landowners and is translated to be usable by landowners. Must have landowners in mind in the design. Human demographic change, forecasting - good tool to demonstrate the effects of not conserving.

Table 5:
Priorities should be on clear conservation design and who we diliver it too. Make a map, identify focus areas and develop a tool kit so local managers can use.   Approach from bottom's up, how do we tell local land trust that what their doing fits into the overall landscape (conservation design). Tools include, a model set of zoning ordance land use planning guidelines, some process by which communities can assess what they have (local planning and land conservation). Habitat conservation, management, and restoration guidelines that help private and public (best management practices).   Expand streamflow predictaive model from CT river basin to the Region (Archfield RCH 2007 #6).

Table 6:
TAKE AWAY POINTS:
1. Develop set of examples or demonstration projects to illustrate how conservation design tool can lead to adaptive management on the ground. The regional-scale focal areas are a logical starting point for this.

2. Provide cookbook or catalog of on-the-ground implementation details that translate conservation design results into practical actions or projects. The regional-scale focal areas are a logical starting point for this.

We need tools that make it easier for land managers to make decisions on the ground (or provide good context and clear guidance for doing so) among competing habitat options, and not just provide a suite of "high priority" choices. Where should we emphasize implementation of habitat x (e.g., early-successional habitat) and where should we emphasize habitat y, which are competing possibilities.

Table 7:
what does e.g. NRCS need to best implement the farm bill that we could provide to them coastal targetting tools based on sea level rise vis a vis marsh management and when do you do that

are there obvious places where we could be buying buffer lands for sea level rise and marsh migration?
make sure we can use the results of ongoing projects to inform conservation design
understanding connectivity amongst similar habitat parcels
understanding relationship between GIS spatially explicit and on the ground reality
the flow maps..no real description of what the connectivity is for e.g. to really talk about habitat corridors informed by that flow data
will the connectivity projects help us divide up areas that are left…are they biologically relevant?
connectivity in aquatic systems and delineation of barriers, how is it to be used? are there decision support tools that could be built off that to remove barriers
what are you connecting when you remove the barriers e.g. dams. across state boundaries a real challenge
next generation of habitat connectivity work is to be more explicit about providing something that defines what the ecological purpose (what population/species) of that corridor is and that would force conversations on how that corridor would be used
Assessment of the forest system and management on habitat connectivity
need to do a much better job of bridging forest community to this science community, and how to do more without incentive programs for forestry efforts
demonstration project where we translate some of the science efforts into actual forestry conservation efforts

Table 8:
Overlay and integrate existing datasets to delineate landscapes of regional significance (focal areas and connectivity).

Table 9:
General comment: we don't know the status of all of the projects listed in the project summary document (ones that weren't discussed in the presentation earlier).
-Interactive GIS based tool to estimate target fish communities RCN project -not successful, so maybe is still a need?

Science Translation?
Table 1:
No Comments

Table 2:
Need better information on impacts of sea level rise as it applies to specific spp and habitats

Table 3:
-Develop pilot projects to develop science translation tools/ delivery strategies which would target suites of species and work with local entities to implement at the local level.

Table 4:
Want conservation design including effects of climate change and landowners done for representative species, translated into a format for those who do conservation on the ground can understand and implement. Also needs to be spatially explicit.

Table 5:
No Comments

Table 6:
RCN reports should require some sort of implementation plan, or reporting out (e.g., webinars that are archived?) that will make the information as useful as possible to conservation community.
We need to develop more cookbook applications/ideas to implement; maybe a catalog of example projects that could be widely repelicated by partners. We also want to provide enough guidance to do so. Focusing on select targets that we can engage public on.

Table 7:
translate secured lands coverage to parcel level
match the scientific information to the scale of action
how do we translate the information into usable ideas in order to convince implementers/users that it's useful to them and what they are doing (cottontail as a model)

Table 8:
Communicate to landowners - decisions made on their land can contribute to local/state/regional conservation

Table 9:
-Tools that we are delivering are not always accessible. Need to segue from development of a tool to its application. Need to train users.
-Training is part of solution, also need to determine the audiences, and end users. In Maine for fisheries need to train road crews.
-Need marketing people to sell these products, not scientists.
-In Ny, Hudson River NEP has staff people who bring trainings to agencies all the time, is very effective, but not uniform across state.
-What is region's role in addressing when all decisions are made locally?
-How is broad habitat mapping across the region or model guidelines for the whole region going to help me in my state talk to my land use planners in my counties? I doubt it.
-Should help local planners understand how their actions connect with bigger picture. What we are doing is regional scale, may not translate fully to local.
-Model guidelines are like high-level textbook, still need specific diagnostic tools and menu of remedies to use
-Model guidelines should be menu, but need case studies to show examples of how it has been used in various states.
-Still need to know at what level the various pieces are useful.
-In NY Pace Land Use Law Center does trainings all over NY. If get tools in their hands, could get products out more broadly than just through state. Maybe similar partnerships could be built.
-Farm Bill for example, there is technical assistance and financial incentives included. If there was a need to integrate something out of this process into that, how to do that? In VT under EQuip they pay landowners extra if they do their first cut later in the year, there must be more programs like that that can be influenced.

-Need enough knowledgeable people on the ground to implement these programs, landowners don't know about that. Project manager devoid in Maine. Trying to train NGOs, retirees, etc. So on regional scale perhaps RCN could develop training program for program managers. Certify folks as technical service providers.

-NRCS spends $ in areas that wouldn't be highest priority

-In Bay program, they are going state by state to have conversations with NRCS to make sure priorities are in alignment to know where projects can be implemented first.

-Under National Ocean Policy, NOAA had proposed idea of Coastal Conservation Corps, this sounds like complementary effort for terrestrial areas. Federal agencies are tasked with creating lots of new jobs (obama's goal). Green jobs is huge thing.

-State agency people don't have time or $ to manage restoration projects, more could be done with more volunteer

-Need to get tools in their hands and training. Don't have enough people who know projects and these tools.

-RFP on ideas for how to integrate tools and technical assistance?

-Or capacity-building? Need ideas and then capacity on the ground.

-In case of stream connectivity we know enough about what needs to be done, but need delivery mechanism.

-In PA knew what we wanted to deliver, spent $lots to train staff, otherwise they wouldn't get NRCS to train staff. They had soil scientists, not wildlife staff. Noone is going to do it for free, even volunteers.

-Part 1 is having tools together and packaged in a way to be distributed. Step 2 is rollout on how to go out and inform folks how to use them--outreach tools. Step 3 is what capacity needed to get them out.

-Models for building capacity for on the ground implemenatition, with assessment of what we have and what's missing.

-Tools need to be packaged for intended audiences. May be multitude of audiences.

-Farm Bill implementation deals with technical service providers, but within that have several different audiences.

-EPA in late 90s developed Green Communities program, has website. Process to come into town and work with individuals. Tested in various counties. Is a framework that has already been developed and tools. Can be adapted easily. Also designed to be online, can be given to participants so they have reference to refer back to. Allow them to take it and run with it.

-Framework is better term than model.

-concern with process" 18 prioirties are so general that they may not mean much. Bad if it doesn't capture genesis of the idea.

-We are working on process. But we have details in the notes we can refer back to. Tonight we'll go through lists generated through previous sessions. Through RCN and LCC process will bring detail back.

- concern that the tables are not buying into framework. Focusing in on specific things and not thinking of big picture. But our table thinks we are thinking big picture.

Conservation Adoption?

Table 1:
No Comments

Table 2:
Expand geographic scope of vexisting tool to estimate stream flow of ungauged streams

Table 3:
-Provide some case studies so that there are examples of the transition from landscape to local for landowners/local groups can see how the potential process can work.
-Target translation (outreach) efforts to areas/species that were of the widespread distributed and highest responsiblity.
-Develop suite of Best Management Practices to be implemented within agencies (as a start, and to use as an example) for regional standards to reduce the spread of invasives (incl. aquatics), and share with all groups.

Table 4:
No Comments

Table 5:
No Comments

Table 6:
Examples are needed, so that partners can see how the ideas in common currency actually worked, out on the landscape.
Outreach to local planning boards or conservation commissions are a great model, for what to do with the maps products and guidance that comes from our conservation design outputs. Similar to above, final reports should indicate (in bullet form) the most important outcomes from the perspective of the authors, and how these should galvanize action by the conservation community.

Table 7:
No Comments

Table 8:
Adopt a Landscape/Corridor - work with local communities/subdivisions to identify opportunities and work with private landowners.

Provide information to conservation partners, big (NRCS) and small (local land trusts) to create regional landscape pattern.

Table 9:
-Slide about BMPs, then comment that we weren't talking just about small suite of conservation activities, but all the conservation tools at our disposal. Need to package into toolkits the kinds of things communities and agencies can do-- there are other ways to deal with problems other than buying land. This toolkit would be a useful piece to go along with other guidance.
-Landscope website is huge, hard to find all the pieces but they are there
-Model guidelines project is in final review, not done yet
- So we need to review what is in that toolkit to asses what is still needed.

-also related to translation tools element. Landscope is overwhelming, what would be useful for state agency people.

-Stream connectivity is most useful for fisheries people. Need a cookbook recipe for road crews to instruct how to replace culverts, define what bankfull width or depth is. This doesn' texist in a consolidated format. Can fall under translation tools or delivery.(This belongs in delivery).

Delivery?

Table 1:
No Comments

Table 2:
Good analysis on opportunities to influence other agencies to better incentivize conservation on a local level. e.g. a town could be doing good conservation planning, and would therefore be more eligible for further funds. Need financial hook to incentivize. See what is out there for existing grants to determine ability to incentivize. E.g. conservation easements. Inventory existing funds being distributed either at federal or state level; then determine which ones would be most easily modified to incentivize local conservation.

Table 3:
-Understanding what private landowners value, and what it would cost to create incentives to encourage participation in conservation delivery (e.g NRCS practice rates, forgone income, cost-share, use of different incentive programs that provide better conservation delivery).

-Identify opportunities to educate landowners to encourage buy-in to delivery: i.e. stream management plans, extension services, and action agendas with potential funding agencies that can support participation in delivery, and provide a direct link to some of the RCN and LCC project outputs that can be useful to those efforts.

-Need to be able to link planning process to implementation processes.

-Need to be able to tie biological objectives with desired outcome of the conservation delivery activity so that delivery is approriately targeted to the intended outcome.

- Scale of tools (maps, planning) needs to be relevant to user, and the products need to be scalable to meet a variety of needs: locally on the ground and then how that action relates to the broader landscape.

Table 4:
No Comments

Table 5:
Identify featured species, that would cover the diversity we are trying to maintain, identify their habitats, where and how much. Step this info to focal areas, then provide local communities with the tools and information necessary for their planning efforts. They know what important or unique habitats/species they may have.

Table 6:
Review existing RCN projects and identify applications to address conservation needs in the states.

Demonstration projects that exemplify adaptive resource management, so that we can show conservation community how it works.

Some thought must be given to how output or results could be tweaked or simplified for the general public or user groups.

Targets must be specific, tangible.

Table 7:
getting to the parcel level is really good (whose responsibility is that?)
have to be able to manage acquired lands and need appropriate level of info to do that
Always have specific implementation examples using the results of these projects for both buy in and delivery
develop a marketing, training, and capacity building strategy

Table 8:
Develop a list of groups (watershed, regional planning associations) who can carry message/tools for us.

Develop an App: Save Nature, Save Your Town Money. Example - quit mowing. "Benefits of Green Infrastructure" report.

Check into FL app that allows practitioner to use GPS to id point, access recommended practices, and develop land management prescription right on the spot.

Table 9:
-Stream connectivity (see above).
-Where in this proces do we discuss what society wants? We need society on the framework somewhere. But some people disagree.
- Identifying and engaging appropriate stakeholders is key. We talk about states and LCC, but there are many more collaborative efforts including many more partners. Science developed in this process needs to get into hands of this larger group so they can help get this info out to larger group.
-How are deliverers going to embrace this if they don't feel engaged in the process as a whole?
-Drug analogy. doctors want to talk to their patients directly about their medications, they don't want scientists in the lab telling them how to talk to their patients.
-Conservation is being conducted in this country on a starvation diet. Want more $. Need to become more relevant to society to get more $. We distrust society and they distrust us. Mistake on our part.
-AGO report, engaging communities, youth, being more relevant is part of that. WE have official framework to do this.
- Paradigm has shifted from trusting professional, now patient comes in self-informed because of internet. conservation evolution. Power of information getting quickly to the people. Useful tool but also tricky. Using Facebook, people respond back and forth very quickly. Need to use it to our advantage.
-So much emphasis on products and websites, but in a few years websites won't be primary delivery mechanism. are we looking forward to evolution of communication. are documents and tools taking advantage of this?

-for people on the ground, best tool is themselves. 1 on 1 with landowner. Has a lot to do with personalities.

-But we don't have enough people to do 1 on 1.

-If we just have enough people we could…always capacity issues, for more than just one role (landowner relations, contracting, engineers).

- Idea that we have to evaluate the tools. What is it that people need?

-Issue of where society fits in all of this. Hasn't shown up on the board yet. Ok to articulate even if it doesn't fit only under this topic.

-Community/social engagement is ahead of conservation design to have them want to be involved in implementation. Landowners are much more receptive when approached early in process.

-Traditional knowledge to augment the data. another engagement with society.

-What is value of conservation work and who do we engage?

- NGOs that have membership meetings, have to get messages out in those ways too. Al ittle different than ways gov agencies are trying to change practices on the ground.

- Model guidelines project--don't know who was involved. But would have been good to have that type of local involvement.

-At LCC level, if there are barriers to participants of LCC to assess constituents needs. Then is incumbent upon LCC to do that. don't see where individual partners that are implementing the framework can…

-Is it OK for us to assume that constituenties will be getting consistent message through LCC partners. Should we be aiming for consistency or is there enough communitiy by communitiy differences that it is okay for it to distinguish itself.

-consistency of message is really important, recognizing that we are all different states.

-consistency in communication. Assume that reps to LCC are representing constituents and will take messages back to their constituents. But need to trust that they are translating appropriately. Messges will be different depending on audiences.

- Need to make sure that we make clear that products need to address multiple audiences, and that the PIs know their target audiences.

-Need to help landowners understand the importance of their own backyard outside the context of their own jurisdiction.

Session 4-Question 2: Specifically, what are the critical decisions you are making, what regional design tools do you need to help you make them, and what format/scale do they need to be in?

Conservation Design?

Table 1:
No Comments

Table 2:
.What's missing in our portfolio of conserved lands - i.e. GAP analysis at state level.
Decide among competing conservation goals in a specific habitat or geographic area - resources devoted to one spp or hab can take away from others

Table 3:
-Increased coordination of recommended implemenation actions or targets across agencies, NGOs and any other group.

Table 4:
Development will happen. Greenprint; green infrastructure; low impact design. role of private lands explicitly involved:incentives
Incorporate climate change effects in design development

Table 5:
Spending money on land conservation, need to know where the best investment is to put those funds. Regional to parcel level scale.

Table 6:
More direct link between products that are academic in nature, and on-the-ground implementation.

Table 7:
seagrass/eelgrass beds -- connectivity, size of each community to maintain, vulnerability of amphibians and reptiles

Table 8:
With limited resources, where do we work?

Where are the places that are most critical to conserve, that have highest priority to direct resources to at a REGIONAL level, that states and local communities can buy into?

Need a process to put all of the layers/areas based upon criteria on top of each other to identify where the convergence is. We have 5 funded projects (RCN or LCC) that are working on some flavor of focal areas.

Table 9:
Building capacity issue discussed above touches on this.

Science Translation?

Table 1:
No Comments

Table 2:
How to translate science of conservation based on the regional status. Decision tool help make a decision and helps explain and justify. i.e., if CT is most important for cottontail, then may decide to take resources away from other CT conservation projects.
Allocation of state funds depending on significance of state's role in conserving a specific spp or hab. Weighted contribution based on significance of state's habitat regionally.

Table 3:
No Comments

Table 4:
No Comments

Table 5:
No Comments

Table 6:
No Comments

Table 7:
workshops to build capacity at the state and local level using these products
go to the decision makers and show them the regional products and ask them how to make those products useful to them

Table 8:
No Comments

Table 9:
No Comments

Conservation Adoption?

Table 1:
No Comments

Table 2:
Managed landscape-dependent species involve a lot of tradeoffs
What kinds of management decisions are being made now that could affect viability of habitat.

Table 3:
No Comments

Table 4:
No Comments

Table 5:
No Comments

Table 6:
No Comments

Table 7:
No Comments

Table 8:
No Comments

Table 9:
No Comments

Delivery?

Table 1:
No Comments

Table 2:
Aquatic - forced into making decisions on an already degraded system, as opposed to one in a natural state.
Limited resources should not be directed to areas that will either disappear or move. e.g. Tiger Salamander ponds in Cape May
Communication tool to create and distribute BMPs to appropriate agencies

Table 3:
No Comments

Table 4:
No Comments

Table 5:
No Comments

Table 6:
Delivery to the public, is really a translating issue. In part, it will always be opportunistic to some esxtent.

Table 7:
No Comments

Table 8:
Create a group of "regional science ambassadors" to travel around the region and explain the regional conservation framework and encourage participation/action.

Table 9:
No Comments

Session 4-Question 3: Who are the key members of the conservation community who can address these priorities and what roles are best suited to RCN and LCC's?

Conservation Design?

Table 1:
No Comments

Table 2:
No Comments

Table 3:
No Comments

Table 4:
Also bring in developers to conservation design.

Table 5:
outreach and education may be best suited for the LCC since SWG dollar availability for outreach is restricted. LCC look at outreach and plants are missing.

Table 6:
RCN website could play major role in serving up the information needed.

Table 7:
No Comments

Table 8:
With limited resources, where do we work?

Where are the places that are most critical to conserve, that have highest priority to direct resources to at a REGIONAL level, that states and local communities can buy into?

Need a process to put all of the layers/areas based upon criteria on top of each other to identify where the convergence is. We have 5 funded projects (RCN or LCC) that are working on some flavor of focal areas.

Table 9:
No Comments

Science Translation?
Table 1:
No Comments

Table 2:
No Comments

Table 3:
Non-Governmental organizations such as TNC, DU…

Table 4:

No Comments

Table 5:
No Comments

Table 6:
No Comments

Table 7:
No Comments

Table 8:
No Comments

Table 9:
No Comments

Conservation Adoption?
Table 1:
No Comments

Table 2:
No Comments

Table 3:
-Species or niche specific conservation organizations that have close ties with users and public: National Bobwhite Conservation Assocation, National Wild Turkey Federation, DU, Ruffed Grouse Society, TU, …

Table 4:
Local municipalities

Table 5:
No Comments

Table 6:
No Comments

Table 7:
No Comments

Table 8:
No Comments

Table 9:
No Comments

Delivery?
Table 1:
No Comments

Table 2:
No Comments

Table 3:
-National Fish Habitat Action Plans: Eastern Brook Trout Joint Venture
-NRCS: working to develop a regional aspect to expand upon state-level interactions to guide spending options for WHIP funds
-Regional Water Authorities
-Army Corps of Engineers
-FWS National Fish Passage Program
-State and federal DOTs
-Defenders of Wildlife
-Working with state/local planning and development groups (participation with LCC)

Table 4:
Landowners, NGO's, NRCS, State agencies

Table 5:
NRCS, State and Federal forestry programs, Universities

Table 6:
No Comments

Table 7:
No Comments

Table 8:
Create a group of "regional science ambassadors" to travel around the region and explain the regional conservation framework and encourage participation/action.

Table 9:
No Comments

Session 4-Question 4: What is value added of regional conservation design tools? What additional work needs to be done to make existing tools more useful?

Conservation Design?

Table 1:
No Comments

Table 2:
Website to serve as clearinghouse for projects that are in process or completed. What other tools and websites are avail

Table 3:
-Incorporation of focal areas into highway and road design to avoid or minimize impacts to focal areas.

Table 4:
Conservation design translated for landowners. Also bring in developers to conservation design. Need simplified translation tool: e.g. we could protect 90% of this suite of species if we do x,y,z then talk to municipalities.

Table 5:
No Comments

Table 6:
Cost effective and time saving to do one large-scale version of any online product, tools, databases, or models. If we do them at smaller scales, and have to repeat them for different states, landscapes, etc., it costs much, much more.

Table 7:
No Comments

Table 8:
EPA Healthy Watersheds - look at this info on web. Example of criteria used to assess landscapes.

Table 9:
No Comments

Science Translation?

Table 1:
No Comments

Table 2:
Expand geographic scope of vexisting tool to estimate stream flow of ungauged streams

Table 3:
No Comments

Table 4:
No Comments

Table 5:

No Comments

Table 6:
We need to be able to step-down, to many "smaller" conservation partners (e.g., those with limited professional staff or capacity), which habitat types or successional stages are most needed, where, and therefore what the most valuable contributions are that partners (e.g., land trusts) could make in a given area. Need to make very clear and simple recommendations to the public or even conservation partners. Many times even our best conservation plans and products are complex and have conflicting objectives and messages, which require a translation (i.e,. a decision made) or nuanced interpretation to guide ultimate implementation.

Table 7:
what additional translation of regional tools could be done to be useful in land use planning, etc. have successful examples to use in training and communication

Table 8:
No Comments

Table 9:
No Comments

Conservation Adoption?

Table 1:
No Comments

Table 2:
No Comments

Table 3:
No Comments

Table 4:
No Comments

Table 5:
No Comments

Table 6:
No Comments

Table 7:
No Comments

Table 8:
No Comments

Table 9:
No Comments

Delivery?

Table 1:
No Comments

Table 2:
No Comments

Table 3:
No Comments

Table 4:
No Comments

Table 5:
No Comments

Table 6:
No Comments

Table 7:
ready for on the ground delivery? cottontail, wood turtle?
web accessible tools in one place would be very useful

Table 8:
No Comments

Table 9:
No Comments

Session 4-Question 5: Other Comments?

Table 1:
1. An information delivery mechanism should be a requirement of every future RCN product to deliver information to pre-defined user groups (i.e., public, resource managers, stakeholders) with associated effectiveness measures.

2. Take existing RCN products and fund a communication specialist to repackage and deliver information to pre-defined user groups (i.e., public, resource managers, stakeholders) with associated effectiveness measures.

Other: Conservation Framework has a line drawn between science and managers. Needs to be somewhere in there a feedback loop between the science and the managers. Regional conservation priorities need to be taken to the leadership. Need to engage the people on the ground. Products are coming out of a variety of different sources, being staged to the public in a variety of ways and through a variety of sites. Should there be a separate RCN project that translates all of these products into deliverables? Product applied to an area. A centralized access to RCN projects? Craft an appropriate message to each one of the users groups (biologist to fisherman). Some people need the data, some people need the process. Overwhelmed with information. RCN product results need to be better communicated…providing advice. Manager doesn't want too much information, data needs to be provided in a filtered manner useful to him/her. Begin with the end in mind. We don't go about determining RCN priorties to this extent. Needs to be a more strictly connected process. Mechanism to communicate results. Education and outreach science translators. Lots of examples in agriculture science, delivering this information to the farms. Could use this mechanism as an example. Wildlife cooperative extension offices is another example. REGIONAL focus. Increase the awareness of managers to things outside their borders. Professional communicators. Core message built in to the projects. USDA people are not in the room, and they have a data delivery system…somewhat scattered approach, however. We don't have the infrastructure in place to deliver the information. NRCS might be the model for this. Educational campaign. Sea Grant, cooperative extensions. These groups need to be engaged in developing the outreach. Framework of the information collected, user groups identified, identify appropriate entities to help develop that message for the usergroups because they know the usergroups better than the scientists. Need a group between the scientists and the public. Someone who can deliver the information to the appropriate user groups.

Table 2:
TOP 2:
1. Good analysis on opportunities to influence other agencies to better incentivize conservation on a local level. e.g. a town could be doing good conservation planning, and would therefore be more eligible for further funds. Need financial hook to incentivize. See what is out there for existing grants to determine ability to incentivize. E.g. conservation easements. Inventory existing funds being distributed either at federal or state level; then determine which ones would be most easily modified to incentivize local conservation.
2.Where are opportunities to manage for species of economic concern or constituent importance AND SGCN. Tools to help that, as well as communicate that to the public. BMPs for agencies that integrate both types of species.

Table 3:
-Target science translation (outreach) efforts to areas/species that are of widespread distributed and highest responsiblity.
-Develop suite of regionally standard Best Management Practices to be implemented to reduce the spread of invasives (incl. aquatics), and share with all groups.

Table 4:
.Develop comprehensive toolbox of financial tools, vehicles, and approaches to local conservation that includes federal, state, local, NGO partners.

1. Develop conservation designs for multiple representive species, with consideration that actions will happen by private landowners and with consideration of a changing climate and other threats and translated into a format for those who do conservation on the ground can understand and implement.

Table 5:
1. Identification of habitat focus areas with a step up step down (Regional to local) process to implement on the ground habitat conservation, restoration, and management.
2. Expand streamflow predictaive model from CT river basin to the Region (Archfield RCN 2007 #6).

Table 6:
No Comments

Table 7:
- Next generation of habitat connectivity work is to be more explicit about providing something that defines what the ecological purpose (what population/species) of that corridor is and that would force conversations on how that corridor would be used.
- Working with implementers/users, translate the information into usable tools in order to convince them that it's useful to them and what they are doing (cottontail as a model.) Always have specific implementation examples using the results of these projects for both buy-in and delivery. Develop a marketing, training, and capacity building strategy targeted to specific needs.

Table 8:
Priority #1:
Overlay and integrate existing datasets to delineate landscapes of regional significance (focal areas and connectivity).

Priority #2:
Provide information on landscapes of regional significance to conservation partners, big (e.g. NRCS) and small (e.g. local land trusts) to implement specific conservation actions.

Table 9:
1. A framework for building and aligning conservation capacity to address shared habitat objectives at mutliple spatial scales (e.g, tools, standard guidelines for small-scale road crossings like culverts, shared Farm Bill stewardship biologists/technical service providers, trainings for habitat restoration project managers like a coastal conservation corps)
2. Need to engage society and major stakeholders beyond the typical conservation community in entire framework process to get their buy-in, consent, perspective and get them to be part of the engine for implementation. Consider incorporating this priority into entire conservation framework (in center or overlaying whole).

Session 5: Monitoring, Evaluation and Research

Session 5: Question 1: What are the highest priority additional projects or needs for advancing monitoring, evaluation and research?

Table 1:
No Comments

Table 2:
Expand on Maryland Biological Stream Survey - multi disciplinary survey: fish, herps, invertebrates from randomly chosen sites, as well as fixed sites. Look at other states for compatible surveys
Inventory of monitoring efforts - all organizations, including citizen science
Make data from monitoring more easily available and useable - import directly into GIS.
Monitoring based on metrics effective in measuring spps response to conservation actions (e.g.) with feedback loops leading to improving those actions
Best practices for long term, sustainable monitoring of other guilds
Monitoring response of target spp or habitat changes that occur as a result of NRCS (Farm Bill) funded projects

Table 3:
-Shared regional database to be able to combined and analyze data on a regional perspective, but make flexible to allow for individual needs. Examples include: Monitoring of native pollinator (could also link to economic impacts), or freshwater mussel monitoring
-Conduct monitoring (including demographic analyses) of RCN/LCC website, along with how the site is being used to determine impact/visibility of activities.
-Alternate methods of monitoring (such as environmental DNA) as a new technique
-Identify ways to include citizen scientists in monitoring to engage the public and participate in the process. For specific questions/needs-would include regional set of protocols, regional database (i.e. bat call surveys, aquatic invertebrate, phenology network). Should include QAQC into protocols.
-Use Indicators of Measures Monitoring Report, follow up on a set time frame (i.e. every 5 years or so) to guage the of effectiveness of the monitoring program. For example, see if there has been a change in the amount of conserved lands as a result of the RCN needs. Need to identify goals as part of report, and report needs to be implemented and that there is commitment to implement the report.
-Conduct an analysis of expected outcomes of specific management actions and identify an accepted surrogate outcome in place of monitoring every action to be more cost effective and reduce endless monitoring expenditure. Could develop standard low level spot check monitoring program…i.e. removal of a dam that restores 2 miles of habitat will result in an increase of 1 mile of accessible spawning habitat for Atlantic salmon and 30 adult Atlantic salmon, and an increase to the adult population in the river of 15%.
-Regional tagging efforts: Marine birds to understand potential impacts of wind parks.
-Using outcomes of vulnerability analysis currently in progress, identify those habitats that are most vulnerable and monitor them over time.

-Cost out replacement value of habitats lost to climate change (or other impact) to understand the cost or creating new habitats to continually support existing populations-levels.

Table 4:
Design metrics to assess effectiveness of technical assistance
2. link species numbers to habitat acreage (or integrity); may use or start with representative species

Table 5:
Development of remote sensing techniques for monitoring as surrogates for species/habitat monitoring. This evaluation is the missing link in what we already are doing. Collect a lot of information and it doesn't get evaluated. Utilize existing information/datasets do do as much of the monitoring as possible. Full utilization of existing regional datasets (e.g. FIA, BBS, eBird,). Further groundtruth the remote sensing capabilities, validate the techniques. Increase citizen monitoring programs. Monitor the degradation, species response takes time. Factor habitat quality into habitat monitoring efforts. Wetland quality determination. Be flexible to keep up with new technologies and how they may be useful to our efforts. Implement the NE Monitoring and Performance Framework and National effectiveness measures (prioritize staff and funds to implement).

Table 6:
 ***Need to design and implement a monitoring system to inform management at multiple scales as well as provide status/trends information.

***Ensure that relationship(s) between representative (i.e., indicator, umbrella) species and "target" species are established (i.e., assumptions or key thresholds are tested).

Should answer how effective is a project? Did we obtain the anticipated response?

Level of response to protection and management will be contigent upon initial status. Example response of management on a highly degraded habitat is likely to be greater than response of a species to management of a good quality habitat.

Want to know the population response to management action. Sometimes there are limiting factors are beyond our control (i.e., species that migrate)

Monitoring for representative species-need to invest in understanding relationship between representative species and "target" species. Are the assumptions of the relationships valid? Even within representative species, thresholds may be different (example-response to climate change), so relationship between representative species and target species may even less direct. Need a strong statistical relationship.

Be realistic with investing funds. Funding level may not be commensurate with the resource needs. Some species populations may be to degraded for the available funding.

Need to develop a project focused on SGCN, implement and monitor the status (i.e., adaptive management)

Table 7:
come up with a template to answer the questions Congress is asking, or money is turned off
demonstrate conservation success on the ground -- goals with specific targets so monitoring and evaluation relate to those goals
delisted species because of this stuff -- used as best presentation material
hard to show conversation success in the short term -- 5 years is short
we don't sell what we should in terms of numbers we can show e.g. number of contacts with landowners, how many acres we've protected
stronger if "by protecting these acres, this has been the result"
prioritization of habitats becomes important so we can say this action has protected these habitats
need to have a really good understanding of how a certain population level is supported by a habitat level e.g. should be able to say Ches Bay should be able to support 100,000 black ducks (doesn't mean you'll ever count 100,000)
NE cottontail has been a good example with clear goals that this amount of habitat will support this number of cottontails, and it has -- need to do continued monitoring
some SWG projects can directly measure, e.g. number of fledglings, but with others it's harder e.g. may have met with this many landowners, but did they do what we wanted them to do
a barrier in some states is that management won't support even conservation easements, much less conservation land purchases
specific performance criteria and reporting must be a required part of all RCN projects -- best if it is standardized
ensure accurate monitoring of representative species to support biological assessment and conservation design
monitoring of threats at a regional scale

Table 8:
Two parallel and simultaneous efforts:
1. Immediate need for reporting on success of SWG grant-funded work. (PA example - 10 fish species taken off state list) Need to package our project information as success stories that ordinary people/Congressionals can read and understand.

2. Long term monitoring and performance evaluation to feed into the conservation framework. Fund the implementation of the NE Regional Monitoring and Performance Reporting Framework.

Need to understand the information needed:
Are we being effective?
Can we detect long term change?

Standardized protocols for wetlands -
long term ecological monitoring
regional sampling framework - build upon NPS/FWS protocol

Table 9:
- Rapid response capability for emerging threats and tracking trends not yet on the horizon.
- Measuring activity, would it be helpful to better schooled in use of metrics for outcome. Very accustomed to measuring activity and not developing outcomes.
- Training for our field staff to develop a way of thinking on day-to-day activities to look at outcomes.
- NOAA has complex logic models they use.
- A barrier is the difference in opinion between field staff and administrators. Not impt to them and it slips their mind and results in inconsistent reporting.
- lot of confusion between outputs and outcomes, are they measuring accomplishments or effectiveness?
- metrics, many times use metrics that are unproven. What's the relationship between the metric and your outcome? sometimes we don't know, we're making assumptions. may not have proven metrics -
- example: think of numbers of miles of stream habitat opened from a dam removal, but how are the shad doing?
- example: crayfish may not be what the constituents care about..
- evaluated on the effectiveness of the projects, but rather are the projects relevant?
- reinforcement on the comment in last session - what are the interim measures, what are the process measures?
- important to tell on the status of how you're doing in the interim, are you making progress towards what you're measuring?
- tricky between goal setting and measures piece - lots of little projects, are they being effectively implemented. are these little things adding up towards larger objectives. if regional objectives are not clear, this may not roll up clearly or realistically.
- struggle with FHAP grants, part of the ranking system has to have a monitoring system. tried not to make it onerous on applicants. some people imagine thick monitoring plan vs. simple did they achieve their objectives.
- EBTJV is trying to change sub-watersheds at regional scale, difficult
- Imagine measures universe where states can report accurately but can't show that it's meaningful.
- Concern about investing in a system (TRACS) that we're here to talk about developing? But it's a federal aid system. Will it be practical to handle the monitoring needs, collaborative process….
- How do we - training and capacity building - making sure enough people available to be a resource and shepard projects.
- don't know what the management tools are? shift in NY for SWIG to focus on management actions - not always clear what they are….
- example - SHARP tidal salt marsh birds project - would like to see an org to take it on, train volunteers, track for several years, hope to stagger monitoring projects and accomplish thru volunteers. do we need to identify gaps in monitoring and establish a baseline for what needs to be done?
- will require a paradigm shift for some organizations.
- is there no motivation to gather the data cause the species is not harvested? no, not evolved to that point yet.
- cultural shift that needs to occur in organizations. this is a barrier

- BMPs - best monitoring practices. We do have developed some standardized monitoring techniques so that we can combine data across geographic areas and repeated in some frequency. huge challenges facing bird issues but everyone is using different protocols.
- Breeding bird survey doesn't always work if you have to make site specific tailored decisions.
- sport species example: no biological goals or metrics for fish, they count angler days but doesn't help to manage
- Need to know right questions for management! What really are the management decision that we need to make? Measures must be useful in the management structure.
- Has to fit within existing work programs of the agencies.
- Some of the metrics used sometimes are useful, don't throw it away. Need to be cautious and look at all dimensions of goal settings to be sure that some metrics might apply to a specific audience.
- Do a review of what states are already monitoring, begin to see what the state of monitoring is and see if it's useful, and guides management.
- Challenge the long term data sets and prove they're still relevant.
- Develop decision matrix for when to monitor. example - restoration projects
- NFHAP and NEAFWA might consider to talk to each other to learn how NFHAP developed the 5-year reports to Congress. Coordinate on how they develop the effectiveness measures that Congress wants to see.
- Highly migratory species does need to be addressed. Good opportunity to engage JV and fish partnerships.

Session 5-Question 2: Who are the key members of the conservation community who can address these priorities and what roles are best suited to RCN and LCC's?

Table 1:
No Comments

Table 2:
No Comments

Table 3:
-Universities, would use graduate students to develop spot checking of monitoring.

Table 4:
Cornell's ornithology lab - QA/QC has developed a network of citizen scientists.
Phenology network; state stream assessment agencies; fish and wildlife coop units; universities recruiting; heritage programs; stewardship foresters; NRCS technical service providers.

Table 5:
No Comments

Table 6:
Bring in USDA (Conservation Effectiveness Assessment Program); bring NGO and academic community; Citizen scientists/master naturalist programs may be appropriate for some types of surveys.

Table 7:
Engage FWS and NPS inventory monitoring programs as key partners in implementing the monitoring portion of the NE Regional Conservation Framework

Table 8:
No Comments

Table 9:
No Comments

Session 5-Question 3: What is value added of regional monitoring, evaluation and research?

Table 1:
No Comments

Table 2:
No Comments

Table 3:
-Monitoring species or suite of species done at a regional level provide criteria, common database, gives trend data about a species/suite, but can analyze to make correlations with habitat types or other more powerful conclusions that make sense for conservation strategies across the region
-The benefit of having montoring projects is that it's easier to work with partners if you can demonstrate the outcome of certain actions.

Table 4:
odonate atlas identified more locations of species and decreased likeliness of rarity. Also increased interest in dragonflies. Citizen scientists become advocates for natural resources.

Table 5:
No Comments

Table 6:
No Comments

Table 7:
No Comments

Table 8:
No Comments

Table 9:
No Comments

Session 5-Question 4: Do existing monitoring programs provide what we need to make decisions? If not, what changes need to be made or what addition monitoring is needed?

Table 1:
No Comments

Table 2:
Getting good monitoring of effects of habitat change due to climate change
Wetland communities that serve as baselines for monitoring change.
Any opportunity during land acquisitions to do a quick inventory of what is there

Table 3:
No Comments

Table 4:
No Comments

Table 5:
No Comments

Table 6:
No--existing programs do not provide the required information. See other comments.

Monitoring needs to be mandatory for some projects.   Should identify expectations (may be a temporal component to response).

Table 7:
monitoring tied to delivery and design gives more return for the effort -- regionally? need to be coordinated with consistent protocols
RCN Topic 3 and 6 are focussed on RCN high priorities and should be supported

Table 8:
No Comments

Table 9:
No Comments

Session 5-Question 5: Other Comments?

Table 1:
1. Identify and leverage existing federal monitoring programs and develop state/tribal/ngo surveys to complement the federal surveys to provide regional status

2. Identify surrogates (e.g., habitats, species groups) to monitor challenging priority species.

Other: effectiveness measures have intermediate outcomes that show we are on the right track, especially when reaching the goal is long term. effectiveness measures: are the conservation measures working? status: delta. have to have both sets of data to understand if you are making progress. e.g., getting the habitat that we want (effectiveness measures) but the bird populations are going down (status). is keeping common species common a good goal? OMB just cares of the species are on the list. if scgns are reduced, then you can't put money at them. questions as to why species are on the scgn list just because they have lack of data associated with them. good success stories with candidate species being reduced to just species of concern. scgn…each state could determine their own criteria as to whether/where species were listed. has to be a species based project to get funded (rather than habitat based). related to effectiveness measures is the ability to role up action plans across the state. from this meeting there seems to be a high willingness to create plans from a similar platform so that this is a bit easier to do. voluntary guidance document was put out to guide development of wildlife action plans. northeast could be the leader on standardizing how scgn lists are determined. emerging issues can still get funded. coordinated bird monitoring was a great example of getting a program started. monitoring for monitoring's sake is going to be under more scrutiny. still need for a support for coordinating monitoring on a regional scale. focal areas could become a base for broader monitoring efforts. occupancy modeling. often times it is difficult to survey for a species, so you survey for the threat, or the condition as as surrogate. research need to understand the connections between the species occupancy and a threat or physical feature or some other factor that can serve as a surrogate to tell you that it is likely that the species is there. could be a reasonable/cheaper alternative. species associated with regional habitats….could help direct sampling strategies. exploring alternatives to direct surveys. difficult to tell regionally how a species is doing of the survey techniques/effort vary. RCN might be able to coordinate this type of sampling effort. focusing on status and standardized monitoring is where RCN can help. monitoring programs where the structure has been put in place, just need to apply it across a larger landscape. get the park service, refuges, and states to sit down to figure out how to tie in the private lands. park service and refuges are more holistic, intended to provide a baseline. fws and states have carried out monitoring programs for migratory birds for decades. takes someone like the fws or rcn to organize and make it happen. monitoring at different levels of accuracy/scale depending on objective. usually you can always collect something else besides status that will make your project that much more valuable. creating standardize data is not easy. it takes so many years to collect data that lead to trend analysis. tremendous about of information needs to go into TRACS to get the wow factor out to the public. Heinz and BLM coordination work might be a good example of this.

Table 2:
Performance monitoring/chains show actions taken which are expected to produce final results. How long to monitor? And is monitoring meaningful when e.g. wetlands change over time due to management?

TOP 2:
Monitoring response of target spp or habitat changes that occur as a result of NRCS (Farm Bill) funded projects
Inventory of monitoring efforts - all organizations, including citizen science

Table 3:
-Develop a shared regional database to be able to combine and analyze data on a regional perspective, but make flexible to allow for individual needs or species groups or guilds to be included. Examples include: Monitoring of native pollinators (could also link to economic impacts), or freshwater mussel species, could also include current RCN invertebrate monitoring (RCN 11), like DiscoverLife website.
-Conduct an analysis of expected outcomes of specific management actions and identify an accepted surrogate outcome in place of monitoring every action to be more cost effective and reduce endless monitoring expenditure. Could develop standard low level spot check monitoring program…i.e. removal of a dam that restores 2 miles of habitat will result in an increase of 1 mile of accessible spawning habitat for Atlantic salmon and 30 adult Atlantic salmon, and an increase to the adult population in the river of 15%.

Table 4:
Re-survey after distributing information to see if information was used; reportable, measurable outcomes. Be sure of outcome. Need to anticipate questions that will be asked. Congress wants to impacts on species: we gave you this money, how many more ducks do you have? What is the right metric? Real question is are we doing the right work, to justify the funds. Some outreach projects can be easily reported back. Farm Bill:
how many landowners were enrolled as a result of the activity. Identify an outcome that you can have an impact on.
Development of performance measures (TRACS)
If result is creating relationships to be more effective on the ground, vs legislation, how do you determine the metrics? Show results in 5-year chunks.
For a given state, there are certain set targets: x number of acres. Not interested in #'s of acres. Keep common species common - designing a landscape, where, what kind? Then these acres will meet this goal. Pick low-hanging fruit - find towns that are already willing to talk to us. Figure out relationship of number of species to number of acres for SGCN or representative species. e.g. shorebird folks worked on oyster catchers. With X number of dollars, got x increase in birds. Demonstrate ability to sustain populations based on species-habitat relationships. How do certain management activities affect populations? Population monitoring is a real problem if annual reporting is mandated. Populations fluctuate; looking for annual effort towards conservation. Percentage basis? Research to increase forest interior bird pops, need to protect block sizes of X with low edge sinuosity. Combination of right kind of acreage and a management practice that increases the population by x%. We did 6 treatments, don't have the numbers yet. May not need absolute numbers, but trends. Ability to use representative species results to expand to the other species they represent. For congress, just need 1 or 2 species. Want to see outcome that was stated in the proposal. What if representative species are seen as trivial? Would need to justify why it was chosen, which can be done.
Monitoring: figure out ways to look at multiple taxa of invertebrates. Representative species or guilds to look at inverts more comprehensive . Development of protocol for citizen science monitoring. Distribution should be stable. Link to water quality data already collected. Using guilds as indicators
Can use inverts as a way to assess integrity of the system. Terrestrial: pollinators understanding of species; indicator species; indicate intactness of system

Fishless ponds: inverts in greater number at fishless ponds - not looking at preserving fishless ponds, but at reservoirs of other species typically found at
Cornell's ornithology lab - QA/QC has developed a network of citizen scientists.
Phenology network; state stream assessment agencies; fish and wildlife coop units; universities recruiting; heritage programs; stewardship foresters.
access NOAA and EPA monitoring species, fish, water quality

Top priorities:
1. Design metrics to assess effectiveness of technical assistance
2. link species numbers to habitat acreage (or integrity); may use or start with representative species
3. invertebrate monitoring: identifying guilds of species that can be monitored that will give indicate health of habitat

Table 5:
1. Implement the NE Monitoring and Performance Framework and National effectiveness measures (prioritize staff and funds to implement).
2. Monitoring protocol for wetland and terrestrial habitat qaulity and degradation and investigate whether trends can be detected using remote sensing techniques for enhancing SGCNs

Table 6:
Members of the conservation community need to work together to achieve the monitoring goals.

Look to new technologies; ipod to verify calls of birds or amphibians
Remote sensing (e.g., Radar to detect birds and bats, trail cams).

In MD Constitution, compulsory education component for 7th graders need to monitor Chesapeake Bay.

Table 7:
- specific performance criteria and reporting must be a required part of all RCN projects -- best if they are standardized
- ensure accurate monitoring of representative species to support biological assessment and conservation design

Table 8:
1. Immediate need for reporting on success of SWG grant-funded work. (PA example - 10 fish species taken off state list) Need to package our project information as success stories that ordinary people/Congressionals can read and understand.

   2. Long term monitoring and performance evaluation to feed into the conservation framework. Fund the implementation of the NE Regional Monitoring and Performance Reporting Framework.

Table 9:

   - Establish Uniform Monitoring Practices that can be applied across large geographic areas for multi-jurisdictional resources (e.g., habitats for species that occur across geopolitical boundaries). These need to be relevant and applicable to inform current management decision-making. Need a consistent framework for states to implement monitoring so that we can roll up data. [Vote #5 and table 9 will buy you a drink]
- Develop a decision matrix to determine when to monitor and when it is not useful. Apply to response of certain actions at a specific site.

Session 6-Information Management

Session 6-Question 1: What are the highest priority additional projects or needs for advancing information management?

Table 1:
No Comments

Table 2:
SWAP database development that also links to TRACS - needs funding to populate SWAP database
Details of data sharing agreements worked out to specific data types
Evaluate partner needs for LCCs - possibly incorporate other database streams into a portal that will serve all partners
Do not reinvent wheels - use web services to pull data->On going inventory of database efforts
Habitat management databases - RCN/LCC need to settle on
Easy access to information for policy makers in Congress - outreach and advocacy for that audience, e.g. Value of basic monitoring data is not always known until there is a problem - translation of value of basic science for lay audience
System stability and consistency - not a new system every few years

Table 3:
-Need data to be accessible in a useful way (and use friendly) so that information can be used for a variety of users: administrators to biologists to public.
-Integrate movement databases (GIS) with other databases
-Wildlife Habitat Management Database used in MA is a project based database that can track projects (and status). Uses habitat classifications that roll up into regional habiat classification scheme, use NRCS protocols for sampling and monitoring, and … Partners interested, specific to local level, but was developed with thought to roll up to regional database.
-Create regional geospatial database that can be shared and used among all parters (states, ACOE, USGS, USDA, FWS, NGOs…) to integrate existing databases (states, NatureServe…) to identify activities on the ground. To include terrestrial, aquatics, and marine species linked with habitat. Goal of action and set of target species for action should also be included. Not meant to be fully inclusive of all data, but is targeted to habitat management.
-Need to get geo-referenced abuncance data for fish and aquatic surveys online and available to the public via a website so that it can be used for species distributions, management plans, watershed planning…
-Commitment to get existing information into GIS format so that it can be integrated into the "cloud"
-Enable existing web-based databases, such as USGS database for NWQA protocol based data (with relative abundance, counts), , MA's WHMD, FWS Partners, TRACS…to be used and accessible by anyone (state, fed, NGO, public).
-Project databases versus data databases, need to facilitate the integration of various existing databases for both types, and find a way to integrate or link these two types of database systems to provide the best monitoring and updated information on status (species and projects) and trends (species/habitats).

-Administrators need project status, updates, outcomes. Practicioners need to know what activities are taking place, what's being monitored and documented across the landscape.
-Database system needs to reflect realities of the funding. The data information system will show what was able to be accomplished given the broader needs, but due to limited funding, all the needs won't be able to be addressed. Effectiveness measures need to be carefully thought out especially if lumping species-would either reduce the number of species worked on, or identify that many more species (if under that cluster) worked on.
- Integrate regional habitat classification into MoveBank database.

Table 4:
Tracs is a great start. But not sure if it can capture success of SWAPs. Doesn't capture SWAP work not funded by FED program (partner work not explicitly funded or used as match). Is there an effective mechanism?
FWS has looked at Direct and Indirect outcomes from PR: Funded efforts = direct, indirect = compatible work
Outside match that isn't tied to the grant financing needs to be clearly delineated.
FLIS (Forest Legacy reporting system) was modified to meet similar concerns on cost effectiveness from OMB. TRACS sounds like the same issue. Just need to clearly differentiate source of work (funded, match, "indirect"). FLIS dictated reporting format, so States had to modify reporting efforts.
Project idea: Establish a module in TRACS to better capture SWAP success from partners = conservation outcomes.
Project idea: Tie in data on species monitoring to quickly assess regional status of species = outcome
Project idea: Support development of SWAP database to promote consistancy, allow easy State rollup, guide revisions and improve accessibility.

Need input from suite of partners
Suggestion to speak with developers of Kestrel and Biotics on database development

Table 5:
Need to evaluate, analyze, and interpret existing and future datasets.
Long-term maintenance of datasets
Require data analysis for funded projects
Need to institutionalize long term datasets on a Regional cooperative basis.
Regional data gaps for SWG projects,
Datasets should be transferable as new technologies are developed

Table 6:
***Ensure that all spatial databases are designed to interface with all other existing or proposed spatial databases.

***Develop a managed lands database to document various management activities on private and public lands. This will include appropriate privacy and securities measures.

Develop a mechanism, within TRACS, to allow RCN projects to reported as regional accomplishments.

Regional managed lands database-need many participants to be robust
Currents secured lands database did not include short-term contracts/agreements.

Need to keep the database current; inactive data would be denoted by modifying display.

Stress on security. Need a variety of resolutions for displaying the data.   Example of proposed Managed lands database.

States are concerned about providing some data types to TRACS without data sharing agreements.

Example of "pins" on a map with a brief "memo" associated with the pin.
This has limited application for analytical purposes.

We need a database that will be able to address the question "Where do we need to work"--to guide work.

States need to look at recently developed maps to determine their relevance to work and where to target work.

Cautionary note: Should inventory available databases and understand current capabilities.
Long-term commitment to databases (e.g., maintenance) can be expensive.

i-MAP invasives is an example

Table 7:
Conduct a information needs assessment based on the Northeast Conservation Framework information needs and data flow (as illustrated by framework diagram with data flow) focused on regional scale needs, building off what exists already; includes a metadata analysis that catalogs and organizes what is available and is realistic based on agency capacity (assessment guided by steering committee)

Regional habitat management database that includes spatial and tabular data on habitats being managed on both public and private lands, type of management , target species; consider pilot on one type of habitat

Table 8:
Does data management incorporate ALL communication and information exchange between partners?

Need to think about collaborative decision making - we need a new model. How do we make decisions differently now, given the existence/working relationship between LCCs and RCN Program? We need this all to lead to better decisions.

What kind of information do we need to feed into the decision process and what do we need to get out? Relate that to the needs assessment.

No consistent way to access information - consistent format for questions
Example: NE Cottontail project - need was for specific maps and estimated capacity of the habitats for rabbits. Now refined, have final maps with population goals and habitat descriptions.

Issue: what to do with REGIONAL data that needs to be current and accessed by lots of people? Where should it live? Who should have access? How is it maintained securely, accurately?

Analogy of fish and dams with conservation community and data - lots of it, but all chopped up and unable to be accessed.

Information management without resulting in good decisions is pointless. A goal of making good decisions should guide the information management process. Start with "what questions do we need answered?" and "how do we use that information to make decisions?"

Need better access to data - make walls between as permeable as possible. PA example: data sharing agreements within state needed to re-negotiated. Very helpful in understanding the roles and responsiblities of the partners. Really gets back to relationships, trust between parties that the information will be used appropriately.

Need efficiency. Old mechanisms of journals and conferences don't work anymore.

Priority 1: Support and engage in the forthcoming regional information management needs assessment that was identified as a top priority LCC science need. Engage all the conservation community in this process, with the goal of making better decisions.

Priority 2: Create data sharing agreements between all members of NE conservation community - state, federal, ngo - AND get their data.

Table 9:
-NGO community has same struggles of wanting consistent data management systems and monitoring protocols
-Within and amongst state agencies always same issue of trying to find common ground, come up with basic metadata format of who is doing what and how to conatct them. But we are not getting this info distilled.
-With Ocaen Policy have Ocean portal for data across the country. Maybe gtood model for FW community. Portal for central data collection. Everyone will stil have their own needs by state, but good start.

-USGS may be starting to do this with MBII. That is what NFHAP is using. But MBII is clunky, very difficult to search. Unless you make the effort to go to the website and search, you don't know what is there. No way to notify folks what is there.

-FWS has proliferation of different databases across the country. How does FONS fit into that? (fisheries database). Noone knows. May relate to contract management. NFHAP funding goes through that.

- BJ's final thought about a needs assessment good. Need to do that as a first step. So many types of data (species, habitat, funding).

-What do we want to ask of these databases? Who is going to be accessing these?

-Current project databases have limited utility for project managers who might want to use it to inform decisions. Same issues as Conservation Registry.

-In Framework context, what do we need to see trends, check status regionally? How do we know if we're reaching goals?

-FWS has lots of databases that are just repositiories of info., EPA is building decision support systems that allow you to modify and adjust based on criteria. Important to design something that will allow you to adjust based on priorities. Need to enable variables to be changed by user. EPA is taking different models that combine into one. FWS community can use as well.

-Relationship between these tools and conservation design= decision support tools.

-NOAA Restoration Portal and TRACS list project info, but to what extent do they capture monitoring data and project success, performance measures?

-Need to stovepipe to some extent, can't be all things to all users.

-If you're interested in grassland bird mgmt, TRACS is great, but it doesn't track NGO efforts which might be very relevant

- Tracye's performance measures, that set of 8 is not the end all, be all.

- Where is repository for data from RCN projects so that anyone can go in and analyze that data for their own

-May need to develop database section for each RCN priority

-Standardized approach for aggregating and analyzing each type of database or management situation would be helpful, then with customization for each.

-In Maine have accepted standards for data sharing among state agencies. Office of GIS has standards. Basic parameters.

- Monitoring Performmance Framework is complete, next logical step is needs assessment, but it needs sideboards. Must advance regional conservation in the NE. Need to identify some things states will still have to deal with, but identify what is needed to allow RCN and LCC projects to have a useful life beyond their project.

- Needs assessment presumes a has assessment.

-Logical place for data is in Heritage Programs or NatureSErve, but many have problems sharing data. Big problem of sharing. Not the best place for monitroring data or trends over time. OK for inventrory.

-Migratory shorebird data for spring and fall is being housed by Manomet system, can also keep at home. Ok, but does everyone know where it is?

-RCN projects like habitat mapping and geospatial condition analysis need to be available. Take serious computing power to make accessible?

-All partners need to be cross-checking if their data may advance regional conservation.

-contiue to build credibility about value of regional framework

-Rather than trying to assimilate everything, we should be sure we're comfortable with an IM system that is supportive of this framework we're building. there will be new systems proposed as better, but not all will actually be better.

-USGS MBII may be valuable for larger datasets, they have capacity for large data and if you know what yo're looking for it's okay. Have a web mapping service so you can search spatially and download what you want

-Would be valuable to talk to 2 countries 1 forest people, have gone through simialar projects and went through similar discussion on how to manage their data. (2C1Forest.org). May be able to inform our efforts.

- Develop a way that states and other partners to the LCC can access the map data and condition data coming out of RCN process. Sounds small but is huge challenge. We've spent the $, now need to access it.

-DOI FWS IT folks- at national LCC meeting had meeting on IT, they are looking at it for national level. This could hopefully feed into that.

-Support a urgent needs assessment process to advance regional conservation data management and analysis. We need to include folks from other regional conservation efforts (e.g., NFHAP, NOAA, Gulf of Maine Council, Canada) to bring in additional datasets and data needs.

- It's okay to stovepipe data sources as long as we also see big picture and data can be analyzed together.

-Needs assessment should define what additional regional datasets we need to create. And find a home for these datasets.

-Also need to bring in folks from NFHAP, NOAA, Fish Habitat partnerships who have access to this other data.

-What is coordination with other LCCs? South Atlantic is also developing conservation Atlas. LCCs are coordinating. Both are in beginning stages.

-Need to figure out the right person to talk to in each organization and agency so you get the right people invovled who understand what is needed and what capabilities are.

Session 6-Question 2: Who are the members of the conservation community who can address these priorities and what roles are best suited to RCN's and LCC's?

Table 1:
No Comments

Table 2:
Everybody
LCC for cross state, program

Table 3:
Barrier: for state wildlife action plans, difficult to report on because includes partner contributions to SWAPS, but it's hard to track the partner contributions to the SWAP activities

Table 4:
State/Fed Agency personnel in Fed Aid reporting stream, NGOs with comprehensive database experience, partners that have implemented actions in support of SWAP objectives.

Table 5:
RCN could serve as basis to institionalize longterm datasets (additional 1% of funds). LCCs could match funds as necessary. Check into current admistrative dollars at WMI as a means to support. DOI could provide the funds and capacity necessary to institutionalize datasets.

Table 6:
No Comments

Table 7:
LCC for assessment; states and NGOs for habitat management

Table 8:
No Comments

Table 9:
No Comments

Session 6-Question 3: What is value added of regional information management?

Table 1:
No Comments

Table 2:
Coordination to reduce duplication and increase synergy

Table 3:
-Comparison of data for regional coordination

Table 4:
Improve regional assessments of progress, identification of priorities, improve consistancy

Table 5:
Consistency in delivering programs and communicating results.

Table 6:
No Comments

Table 7:
ata sharing, awarenees, analysis, ability to make smart management decions

Table 8:
No Comments

Table 8:
No Comments

Session 6-Question 4: What are the tartget audiences for information and how should the date be delivered?

Table 1:
No Comments

Table 2:
Easy access to information for policy makers in Congress - outreach and advocacy for that audience, e.g. Value of basic monitoring data is not always known until there is a problem - translation of value of basic science for lay audience

Table 3:
Managers, decision makers, biologists, public, communities for planning…

Table 4:
Resource agencies, conservation practitioners (private landowners, local municipalities, NGOs)

Table 5:
Congress and OMB - short and sweet - show and tell - slick and glossy - sexy covers it
Public and private land managers - delivery, whatever works

Table 6:
No Comments

Table 7:
depends on sensitivity of the data, general data for congress, data security sensitivity, get basioc RCN info. to staff and management

Table 8:
No Comments

Table 9:
-This should flow out of an in-depth discussion of roles of LCCs andRCNs. role of component partners of LCC.

Session 6-Question 5: Other Comments?

Table 1:

1. Provide workshops to improve collaboration between state natural heritage programs and state fish and wildlife agencies to achieve appropriate data access for regional conservation applications.

2. Provide appropriate counseling services to overcome dysfunctional data sharing relationships. (Free seven step process to those that vote "5" for this one! :)

Other: Data sharing was the highest priority in the pre-assessment form. Not really an issue between the states and the states/Service. Data sharing can lean to gross-misuse of data. Even when meta data are provided. Local level is where the greatest impacts can be seen. Format of data is really important. Need access to the people who collected the data. Recovery teams, association conferences, species initiatives….typically where these data are shared, at least through presentations and professional networking. Takes awhile to build these networks. Would be good to have something that is a little more established. Public access portal would reduce a lot of the data requests coming into various state agencies. Heritage programs only track sensitive species, the common species are left out. How is putting certain data out "into the cloud" going to help certain management decisions….this needs to be better defined. States are not prepared to make NatureServe be the state's "frontman". Heritage should be embedded into the states function. States are members of NatureServe. Over half the states use the data from NatureServe to drive in creating their WAP. Next generation needs to look more nationally in making decisions on priorty species. Can't trust the NatureServe data, a lot of the data are unreliable. A lot of the data comes from other sources than the states. Is there a disconnect between state agencies and their associated heritage programs? Data becomes a big control issue, sometimes there is a valid concern (misinterpreted data). Data contraints would need to be in place. Can't prevent misuse and misinterpretation of data. State WAP…need better data, have to keep these plans relevant. Historical data can be relied upon too much, because so many things have changed. I don't think the feds want to make this their responsibility. Back to natureserve….how good is the data for common species? Clearinghouse....if you want this type of data….go to this place/guy/site, etc. Databases need to be able to talk to each other. Avian Knowledge Network is getting to this point, might want to look into this as a model approach. Structually linking databases might not be a reasonable objective. Data Ecosystem approach. Summary information. Everyone wants to use the data to improve conservation. Regional use by us is our primary charge. Secondary is to get it in the hands of feds and local folks that are doing the permit.

Table 2:
TOP 2:
SWAP database development that also links to TRACS - needs funding to populate SWAP database
Easy access to information for policy makers in Congress - outreach and advocacy for that audience, e.g. Value of basic monitoring data is not always known until there is a problem - translation of value of basic science for lay audience

Table 3:
- Integrate regional habitat classification into MoveBank database.
-Create regional geospatial database that can be shared and used among all parters (states, ACOE, USGS, USDA, FWS, NGOs…) to integrate existing databases (states, NatureServe…) to identify activities on the ground. Include terrestrial, aquatics, and marine species linked with habitat. Goal of action and set of target species for action should also be included. Not meant to be fully inclusive of all data, but is targeted to habitat management.

Table 4:

1. Project idea: Tie in data on species monitoring to quickly assess regional status of species = outcome
2. Project idea: Establish a module in TRACS to better capture SWAP success from partners = conservation outcomes.

Project idea: Support development of SWAP database to promote consistancy in next generation of SWAPs, allow easy State rollup, guide revisions and improve accessibility.

Table 5:
1. Leadership commit funding and staff to evaluate, analyze, and interpret existing and future datasets
2. Institutionalize long term datasets on a Regional cooperative basis (security, access, data sharing, maitenance, transferable data technology).
3 Require data analysis for funded projects.

Table 6:
No Comments

Table 7:
What data is available to who; T&E data held close; no accesss to raw data because it can be misinterpreted; data sharing agreements as a high priority.

Habitat management database, additional layer of mapping, Massachusetts includes WMA and private lands work,

Data management not a priority in my agency, takes people,

Be careful, can eat your whole budget and huge amount of time; e.g. Interopera

What are things that we need to manage on a regional basis; what are we going to need at regional scale; something new or aggregate;

Metadatabase what is out there already; port

What data is available for representative species

Pilot that pulls information together on conservation planning actions

State capacity for data management and contributions may be limited

aquatic habitat not as easily characterized in habitat management database

Table 8:
No Comments

Table 9:
-Support an urgent needs assessment process to advance regional conservation data management and analysis. We need to include folks from other regional conservation efforts (e.g., NFHAP, NOAA, Gulf of Maine Council, Canada) to bring in additional datasets and data needs.
-Develop a way for states, LCCs and other partners to immediately access the habitat mapping and geospatial condition analysis products coming out of the RCN process.