The Summit was on February 27 and 63 attended.

Proceedings of the Second Eastern PA Kittatinny Science and Research Summit

***Acknowledgement of Support**: Funding for the Second Eastern PA Kittatinny Science and Research Summit was sought out and obtained by LGNC staff. Lehigh Valley Greenway CLI/PA Department of Conservation and Natural Resources provided 50% of the funding for the Summit. Lehigh Gap Nature Center provided most of the matching support with Appalachian Trail Conservancy also contributing. We thank those who supported the program with funding, along with the presenters and break-out session facilitators.*

Introduction/Overview

Lehigh Gap Nature Center (LGNC) is a member of the Kittatinny Coalition, a PA Department of Conservation and Natural Resources funded landscape-scale conservation initiative. Audubon PA and the Appalachian Trail Conservancy (ATC) lead the coalition.

In 2012, Diane Husic, chair of Biological Sciences at Moravian College and an LGNC Board member, suggested that the Coalition organize and host a science summit to learn about what research is already being done on the Kittatinny, to form a network of researchers (academic and citizen scientists), and to identify the gaps in the research so we know what we still need to learn in order to best guide conservation efforts on the Ridge. Dan Kunkle, Director of LGNC, and Husic organized the first *Eastern PA Kittatinny Science and Research Summit* in April 2012 and Lehigh Gap Nature Center hosted the event. Researchers and conservationists from the eastern half of the ridge were sought out and invited to attend, and nearly 60 attended.

The 2012 Summit succeeded in creating a network of researchers, learning a great deal about what research is already occurring and where the gaps in that research lie. It also led to a desire for continuation of the dialogue, which is the reason LGNC planned and hosted the second *Eastern PA Kitatinny Science and Research Summit* on February 27, 2013. The Summit was again organized by Kunkle and Husic and 63 attended this year, including several researchers and presenters who were not in attendance at the first summit (spreadsheet attached). Husic again facilitated the summit (agenda attached).

As with the first Summit, researchers of all types were invited to participate (invitation letter attached). All previous year's Summit participants were invited to attend along with additional professors and students, conservation professionals from government agencies and private conservation organizations, as well as citizen scientists. In addition, land use specialists, planners, and land trust personnel were invited.

At the first Summit, reports from various "nodes" along the Ridge were presented. The nodes included:

- Appalachian National Scenic Trail/Delaware Water Gap NRA
- Cherry Valley NWR

- Lehigh Gap Nature Center
- Hawk Mountain Sanctuary
- Fort Indiantown Gap.

Following those presentations, there were breakout groups based on the following topics:

- Terrestrial ecology
- Watershed ecology
- Biodiversity/Inventories/Surveys
- Conservation Planning
- Ecological Restoration
- Climate Adaptation and Resilience

A second set of breakout groups were based on various taxa of organisms.

Following the first Summit, proceedings were published and a page was added to the ATC website for hosting the research information. This year's agenda was developed in response to the results of the first Summit.

The 2013 Summit began with Facilitator Diane Husic providing an overview of the goals for the meeting. Speakers followed with presentations that included:

- Kim McKee, ATC, presented on the developing web site, the regional mapping, and the overall goals of the Kittatinny Coalition (Editor's note: unfortunately, Kim has since left ATC and her work has yet to be picked up by a replacement.)
- Elizabeth Crisfield, Penn State University, discussed the AT MEGA transect project, vital signs monitoring along the AT, and climate change.
- Marian Orlouski, ATC, updated us on phenology monitoring efforts along the AT.
- Terry Master, East Stroudsburg University, spoke about songbirds as indicators of forest integrity and monitoring songbirds.
- Dave Mitchell, PA Game Commission, spoke about habitat management on state game lands on the Kittatinny.
- Marlin Corn, Mid-Atlantic Center Herpetology and Conservation, reported on plans for PARS – the Pennsylvania Amphibian and Reptile Survey.

Each of these presentations was followed with time for discussion with the summit participants.

Following these presentations, three breakout sessions were held

Session 1 – Planning for an all Kittatinny Ridge breeding bird survey for June 2013
Session 2 – Planning a pilot monitoring project for habitat quality to inform management of land on the Kittatinny
Session 3 – PA Herp Atlas, herp surveys on the ridge and corridor

Notes from these sessions follow.

Results of these sessions were presented to the entire group in a final session. Discussions on where do we go from here led to one issue that we can work on as a group – power line right-of-way management. There were numerous individuals concerned about the practices being implemented that are damaging wetlands and other kids of habitat under transmission lines. There will be an effort to meet with the power companies to discuss ways we can be proactive and help with sound habitat management under these lines. (Editor's note: Dan Kunkle arranged a meeting with PPL representative Earl Burnside to

discuss this issue with the Kittatinny Science meeting attendees in June. However, Mr. Burnside notified us he was unable to attend a few days before the meeting. We have yet to get a commitment from him for re-scheduling.)

Presentation Summaries

Kim McKee, Appalachian Trail Conservancy (ATC): Coalition purpose, Mapping, and Kittatinny Website

- Developing a network of partners to work proactively is an important goal of Kittatinny Coalition
- Protecting, managing and restoring quality habitat on the Ridge and Corridor is primary goal
- Website should be a clearinghouse for information and sharing/coordinating
- We need to explore ways to allow citizen scientists or researchers to upload data to website or at least link to websites that do (such as eBird, BAMONA)
- Mapping
    - Broke Ridge into 8 regions for planning and action purposes
    - Priority parcels for acquisition are identified

Editor's Note: *Kim McKee was the lead person at ATC for Kittatinny Coalition activities. She has left ATC to take a planning job in Vermont and has not yet been replaced as of this writing.*

Elizabeth Crisfield, Penn State: AT MEGA transect project, vital signs monitoring along the AT, and climate change.

- Discussed critical role of topography and elevation in habitat variability and usefulness in climate change adaptation
- Three ways Ridge is important in climate change
    - Local scale – short distance migration, avoidance of extirpation
    - Elevation Scale – organisms can migrate upslope
    - Landscape Scale – organisms can migrate north through preserved corridor (although there is concern that trees are not able to migrate fast enough to keep up with climate change)
- Mountain ridges are link between biodiversity protection and climate adaptation
- Roughness of topography is correlated positively with species diversity
- *Must protect the stage not the actors* – protect corridor for northward and elevational migration, not the tree or animal species; landscape is fluid
- Protection of Kittatinny is important, not just for current ridge species but also for Piedmont and Coastal Plain species

Marian Orlouski, ATC: Phenology monitoring efforts along the AT.

- A.T. Phenology Monitoring Program is an ATC citizen science project concentrating on plants
- Phenology is the study of the timing of plant and animal life cycle stages and how they relate to changes in climate.
- It promotes basic understanding of climate change impacts by engaging volunteers
- The data can be used for resource management along the A.T.
- Sites for monitoring should be easily accessible, have representative habitat and have relatively uniform conditions
- Several specimens of each tree species are marked with aluminum disks and are to be visited weekly or biweekly with leave no trace ethic

- National Phenology Network website is used to record information
- The A.T. Phenology Program uses the National Phenology Network website (www.usanpn.org) to train volunteers, submit information and analyze information.

Terry Master, East Stroudsburg University: Songbirds as indicators of forest integrity and monitoring songbirds.

- Delaware Water Gap NRA is the site of the longest, free-flowing and cleanest river in the eastern U.S.
- Long-term Landscape Scale Study
    - Diversity and species richness studies along elevational gradient from river to ridgetop
    - Lowest elevation transects have the tallest trees
    - Ridgetop has smaller trees and less volume and density of foliage
    - Breeding bird pair density/diversity is greatest at base of ridge
    - Species richness at the top of ridge is only half that at the base
- Cerulean Warbler territories have been studied
    - Densities at two sites, including the base of Kittatinny Ridge in New Jesey, rival those of the species' core range in the central southeastern US
- Hooded Warblers and invasive Japanese Barberry have postive correlation
- Wetland bird surveys – ridgetop Sunfish Pond has less richness and diversity than low elevation wetlands
- NPS Vital Signs Monitoring – One km reach monitored on 24 streams
    - Bird point counts (10 minutes) showed most potential Louisiana Waterthrush territories occupied
    - Bird Community Index (BCI) values indicate all streams are of high ecological integrity
    - Macroinvertebrates monitored
    - Invasive species monitored
- Hemlocks and Acadian Flycatchers studied
    - Adelgid infestation is being monitored and compared with uninfested Powdermill Avian Research site
        - Productivity remains similar on pristine vs. infested sites but pair density declines
- Hemlock Ravines vs. Benches and LA Waterthrushes
    - Foraging success and pair density higher on hemlock benches

Dave Mitchell, PA Game Commission: Habitat management on State Game Land 217 on the Kittatinny.

- Comprised of 7,368 acres on ridge, including a 1,500 ridge-top corridor
- Is 99% forested primarily with oaks/mixed hardwoods
- Historical uses include hunting, AT hiking, and Hawkwatching
- Management for target species including White-tailed Deer, Wild Turkey, Ruffed Grouse, Louisiana Waterthrush, Cerulean Warbler
- Forestry includes commercial and noncommercial logging, thinning, regenerative cutting
- Fire is used to promote oak regeneration
- Effort made to minimize impact of invasive species

- Monitoring is conducted
- Songbird migratory stopover site is considered in management
- Grouse management areas
- 100 foot buffers along streams for logging areas (protects waterthrushes)
- Breeding habitat of Cerulean and Worm-eating Warblers considered in management along with rattlesnakes and woodrats.
- Food plots and nut/fruit groves are used
- State Game Lands benefit all, not just hunters

Marlin Corn, Mid-Atlantic Center Herpetology and Conservation: PARS – the Pennsylvania Amphibian and Reptile Survey.

- Sponsored by PA Fish and Boat Commission, US FWS, and PA DCNR
- Professional surveys plus citizen science project
- Objectives
    - Master database of all herp records created
    - Produce current distribution maps
    - Locate rare species and critical habitat
    - Foster an informed citizenry
- Methods (based on breeding bird atlas)
    - Training workshops for citizen science volunteers
    - Regional and county coordinators
    - Use of grid system

Breakout Session Notes

Kittatinny Breeding Bird Survey Breakout Session
Recorder: Dan Kunkle

Attendees: Brian Byrnes, Dan Kunkle, Kim McKee, Dave McNaughton, Terry Master, Corey Husic, Judy Henckel, Rick Wiltraut, Dustin Welch, Laurie Goodrich, Michael Allen, Terry Master, Sally Zaino, Michele Miller, Peter Saenger, Joyce Gilmore, Wes Keller.

Background
Based on observation of eBird sightings posted for the Kittatinny Ridge, we suspect that the ridge is under-represented in reports, including in PA Breeding Bird Atlas that was recently published. We believe that PA birders can be mobilized to make an effort to bird the ridge in order to fill in the missing pieces of the puzzle concerning our knowledge of the breeding birds on the Kittatinny.

Why do this?
- Gather information to fill data gaps for the ridge. We have no idea what we might find. Also Leopold said, "The first rule of intelligent tinkering is to save all the pieces." We need to find what the pieces are so we can save them.
- Involve citizen scientists to build enthusiasm and establish interest in protecting the ridge among these volunteers – create buy-in.
- Be able to provide specific information about breeding birds along the ridge in order to be better advocates for protection of the ridge.
- The project will also help us prioritize and be proactive in our conservation efforts.
- If we are involving citizens, they'll become engaged and we'll have more buy-in.

Parameters
Because we lack funding for coordinating this project, we believe we need to keep this simple.
- We are defining the extent of the survey as the ridge itself, along its length in PA from the base on the south side to the base on the north side.
- We are seeking information on ***breeding birds*** only at this time.
- We hope to use eBird as the database for capturing and retrieving the data
- To the extent possible, we would like to know on which slope (north or south) and at what elevation (lower third, middle, upper third) each sighing took place
- We would like to use the protocols of the PA Breeding Bird Atlas and would like to use there bird cards or data sheets and protocols for safe dates and nesting evidence
- We need to identify areas not covered by Breeding Bird Atlas and will recruit serious birders for the effort.
- We need to use listservs, social media, and clubs/Audubon chapters to recruit participants along the length of the ridge.
- To the extent possible, we would like to gather some information on the habitat encountered in the breeding sites.
- The instructions and protocols can be posted on the Kittatinny web site.

We realize we will miss certain species such as raptors and owls, which breed earlier. We believe roadside raptor surveys in the spring and other methods using recorded calls, etc. are needed to capture these species.

Action Steps

- Identify the gaps using data points from the Breeding Bird atlas – query point-count data in GIS
- Develop a well-defined goal and objective for communication.
- Develop a mechanism to highlight that effort along the Ridge and be able to direct people to the places that need more data gathered – web site?
- Recruit Birders - The information could be posted on PA Birds, Facebook pages, the Audubon newsletters, Environmental Education center publications.
- Identify and contact Kittatinny partners that can also help promote effort/recruit participants.
- Coordinate another meeting specifically for the Atlas project to invite those serious birders we could anticipate accomplishing much of this.
- Get permission from the Breeding Bird Atlas folks to use their protocols and their bird cards.

NOTE: We need a conference call to assign tasks to make this happen.

Editor's note: *The person responsible for these tasks at Audubon PA is no longer there. Apparently his position has been eliminated. This makes follow through on these tasks difficult. There is not currently a paid staff person assigned to do this.*

FULL NOTES

- **UNDERLYING QUESTIONS:**
    - What are the unknowns about birdlife along the Ridge?
    - What are the areas in which we can increase our knowledge and have info that will be useful from a conservation standpoint?
    - How do we get that information? How can we organize a volunteer effort to get more birders to document their sightings from the Ridge?
    - Is the question to just organize this effort to learn what is out there? Or also to set up some monitoring or sampling that can be repeated?

- **BACKGROUND**: One of the things that we've been discussing is how we can take momentum and info gathered by the Second PA Breeding Bird Atlas (BBA). A caution – the scale of the BBA info is not necessarily precise enough to know whether or not the birder was on the ridge or somewhere near the Ridge in a particular block.

  There may also be some other gaps in knowledge aside from scale – both seasonal (more observations in Spring & Fall on the Ridge) and that the Kittatinny is somehow an area that gets comparatively few reports from birders on e-Bird. There's a lot of land and some of it isn't as easily accessible as other birding spots. Even for those areas that are accessible by roads going over the mountain, there are few reports on e-Bird.

This group can start by deciding what data we'd like to collect where, and get the information out there for volunteers to collect & cover.

Other than what we are calling the "nodes" (FTIG, DEWA, etc.), the Ridge is not well-birded or well-known. This is partly the result of difficult to access terrain in some places, but also a matter of information. If birders know we need data from the ridge, there will be more attention paid to birding the ridge and reporting.

- **FRAMEWORK:** Three aspects of the overall Bird the Ridge project:
    - Cerulean Warbler – separate project spearheaded by Audubon with interns
    - Public Outreach project – Birdwalks, get people out birding, engage new birders
    - Breeding Bird Atlas (focus of this break-out) - taking the atlas idea and getting more data gathered ON THE RIDGE

- **IDENTIFYING THE GAPS:** Maybe the easiest way to do it is to pull up one of the species that should be just about everywhere. Look at records at the state level. Zoom in on different sections of the Ridge. Parts of the Ridge that are visited more often will have a lot of pin-points, other parts we'll know are not well-birded will not have as many points.

- We need the information from the atlas to figure out who birded what blocks along the Ridge. It might be the fact that the block was drawn half on the ridge and half off – those covering that block may not have birded the part of the block on the Ridge. Part of the atlas involved point-counts that were randomly distributed – we should find coordinates for those that fell on the Ridge. Some of those points might fill in the gaps. Dave McNaughton noted we can query that data for the point counts in GIS.

- We should be starting by gathering as much information as we can, but keeping in mind that we should develop something replicable for continued monitoring.

- For some of the more common species like Ovenbirds and Wood Thrushes, we probably have about as much information as we would need to create density maps.

- **HOW TO REACH BIRDERS:** Drew Weber posted a challenge on social media last year to hit 150 different species in each County of PA. Generated a lot of response – managed to accomplish the goal. It came down to the wire but people birded throughout the season. There is a core group of birders out there that will come down and fulfill that challenge. We need to put a well-defined goal and objective out there. The second piece is to have some mechanism to highlight that effort along the Ridge and be able to direct people to the places that need more data gathered. The information could be posted on PA Birds, Facebook pages, the Audubon newsletters, and Environmental Education center communications.

- It was noted that Western region of the Ridge will be the most difficult to reach - west of Harrisburg. Dave McNaughton says there are probably 2 or 3 serious

birders that could take on that whole region

- It was proposed that we have another meeting like this but specifically for the atlas to invite those serious birders we could anticipate accomplishing much of this.

- Identify organizations that can help you get the word out? Organizations can send out information to their members to help get the word out.

- **DATA COLLECTION:** It would be a good idea to have a protocol similar to the breeding bird atlas. Kittatinny Region geographic extent on e-Bird could be used for data collection. Each sighting is tied to a point.

- We should come up with one or two lines: a simple objective, noting how much information we want. We can set goals for each block – note when we've met the goals for this area and then send people elsewhere.

- Dave McNaughton noted we can also work with Cornell directly to pull data from e-Bird. Do we ask Brian Byrnes to get permission from the BBA folks to use their protocols? Use their bird cards? We could distribute those to the birders. Can they be downloaded from the internet?

- Connecting Nature with Commerce – Wes Keller is proposing the idea of promoting the Audubon trail in Carbon County. Maybe this project is a hook to bring birders to that effort – they'll spend money, make a weekend out of it.

- Are we going to have this information available on a web site for download? ATC – National Phenology Network has a portal specific to ATC's effort. Can we do that with e-Bird for the Kittatinny Ridge? Right now we can go in and query records just from the Kittatinny Ridge IBA.

- **GEOGRAPHIC EXTENT AND ACCESS:** The Kittatinny IBA is a defined area – it's pretty tight to the Ridge. The Corridor is actually defined by municipal boundaries – a conservation planning decision made at the time. The IBA boundary could work for our purposes.

- Two different projects – this one should be just breeding birds. Another project would have to be checking out the different areas for migrant purposes. Try to get this breeding bird project going first.

- We should partner with Game Commission to get access through their access points. We can also rely on birders to get permission for access to private land. If we lay out the objective and ask the birders to help us, maybe they can work the access side of things for us.

Habitat Monitoring Breakout Session
Recorder: Jeanne Ortiz

Participants: Terry Kleintop, Sherry Acevedo, Elizabeth Crisfeld, Chris Habeck, Shaun Levi, Brenda Casper, Jon Peterson, Diane Husic, Teresa Mackey, Don Heintzelman, Jim Kunkle, Stephanie Augustine, Amy Faivre, Todd Kluska, Greg Czarnecki, Jim Wilson, Karen Lutz, Tim Latz, Judy Bibinger, Rick G., Julie Eckenrode, Tim Dugan, Ned Fletcher

SUMMARY

Goal: To conduct a structured analysis of ecosystems along the Kittatinny Corridor.

Key Initial Questions/Issues:
1. What do we want to monitor?
2. What has been done already?
3. Protocols are all different. Can we adapt them to other sites?
4. Do we need to add sites to monitor the same things?
5. What do we define as good habitat?
6. What do we think is important?
7. What are we trying to detect? Climate change? Fragmentation? Vital signs of ecosystem health?

Plots: Identify plots that are already set up and being monitored. Replicate them. Some areas are already well-covered.

We could also partner more with the Game Commission. They have lands that have been purchased recently, which are not surveyed. These lands may be ideal for testing monitoring protocols. Volunteers can help but need coordination We can also fill data gaps with studies that have been conducted by the Game Commission.

There are 5 places that have good, stable monitoring programs (Delaware Water Gap NRA, Cherry Valley NWR, Lehigh Gap Nature Center, Hawk Mountain Sanctuary, and Fort Indiantown Gap). Is anything the same at all sites?

Do more research in areas outside of the existing nodes. Go to key areas.

Much of the mountain is not monitored. There is a significant amount of private and game lands, but no formal monitoring on them. We need a lot more information and for the entire Kittatinny to identify gaps and share information.

Maybe we don't start with public land. We start with private landowners. Get them involved and maybe they would be interested in their land.

Existing Studies/Monitoring: We could add a layer to our mapping identifying where studies are being done. We need to attach research to sites, key papers, summaries, bibliographies, and contact information. We don't have any plans yet for data, but we are working on it.

A bibliography already exists. See www.raptorcorridor.org. It is broken down by many categories including townships and counties. We need to update and add to the database.

DEP is doing a lot of monitoring. Watershed groups are doing monitoring. Some groups may not be sharing data because they feel embarrassed of it – doesn't meet standards.

The information is scattered and should be centrally located. Who should collect it and where is the repository for the information?

The monitoring information may help county programs identify this as a critical landscape.

Photographs are powerful. We could do landscape re-photography on locations that were established years ago. Keep going back to the locations and re-photo the same location periodically. Sometimes there is no change, and sometimes it's significant. We would have before and after shots to show officials why a site is important. We need a GPS receiver, camera, laptop, and personnel. This could be a good intern project. Or it could be a dedicated volunteer supported by travel expenses.

Catalog assets and threats. We are dealing with multiple sectors. Make it simple and non-threatening.

The main habitat of the Ridge is interior forest, but that there are other types such as grasslands, riparian zones, and agricultural lands within the corridor that also need to be studied.

Species/Vital Signs/Qualities: We need to select and focus on indicators of health: hemlock, headwaters, forest, songbirds, water quality, cliff, grasslands, high elevations, streams, and rivers. Waterthrush is an indicator for healthy water. There are a lot of indicators. Pick a few. They are attractive for citizen science. Add them to layers of information.

Also, understand where species are. Find healthy places that we don't know about in contrast to places affected by threats. "Why don't I have that plant, etc?" What assets are facing threats?

Focus on the qualities we want. Make sure they are good indicators for years to come. Track assets. Protocols about assets and species are part of the problem. The National Park Service has determined what is feasible to monitor overtime to detect trends. They identified the vital signs and key indicators of health of ecosystem.

It's easy to get people to rally around water. Many at the meeting are interested in watershed issues.

Threats: Commercial activities have impacts on our watersheds and the Ridge, e.g. power companies, utility lines. Power line right-of-way (ROW) management is currently seen as a problem. Working with utility companies and contractors to improve management would be helpful. We also need to understand the legal and regulatory aspects of ROW

management. Municipalities and landowners need to understand both the legal and regulatory aspects of ROW management and their own rights.

Landowners:
If property owners let us on their property, it is a way to connect with landowners. Information can be applied to a broader database. We need to be careful when working with landowners to understand and overcome mistrust, and to help them understand the importance of their property as part of the Kittatinny Corridor.

Another way to involve landowners is the re-photography mentioned above.

EACs and Planning Commissions are important partners in protecting the Ridge and Corridor.

Citizen Science: Get a multi-disciplinary group that can be trained. It will have a domino effect: collecting information and educating. Mobilize the public.

People can put data into a web site such as National Phenology Network's Nature's Notebook (https://www.usanpn.org/natures_notebook). People can bring technology with them. But there is no central location for water quality data. Use anything we can come up with that allows people to do digital pictures and identify birds and trees, GPS, weather, species. They love it. People love immediate feedback. We need an app.

Another model is iNaturalist, which uses technology allowing citizens to post information including time and location of the sighting. If someone else verifies it gets a research grade. It is a warm, fuzzy feeling to have a contribution verified. This helps ensure that the data are sound. eBird is also a database in which citizen scientists and expert birders can post data and there are regional experts who review the inputs and verify or ask for more documentation.

There is talk about the conflict between rigorous science and citizen science. How do we navigate that? There is National Phenology Network with rigorous protocol, such as plant labeling. It is not the best entry point for citizen science, but designed for good data. There are other programs that are designed with different goals, but the data might be less rigorous.

The Eastern PA Phenology Project, which is in its 3rd year, has about 50 regular contributors, many in the area of the Ridge. This is a potentially valuable network for the Kittatinny. The project is in need a web-based data entry system and an intern to help organize and review the volumes of data that have been received.

Positive Press: The role of the media can be to promote events and share information. Letters to the editor are effective, especially if the submissions are positive. For example, get groups out to do x,y,z. Someone writes in and says it was a fun experience. A good example was the 2012 DCNR/Game Commission barn owl banding event that was open to the public. It had a large turnout, including the press.

Breakout Session Topic: Pennsylvania Herp Atlas
Recorder: Thomas C. LaDuke

Participants: T. LaDuke, M. Corn, Marian Orlousky, Beth Sheckler, Clare Kubik, Abby Pattishall, Jarrod Derr, Jim Vogt, Cassie wagner, Bill Winkelman, Manuela Schmauet, Rob Bertoni, Rick Gaeta, Mark Boyd, Anita Collins

Notes: Introductions. Marlin introduced our needs: volunteers and access to lands. Participants asked about when training sessions might take place
Marlin Corn: within the next few months.

Land access: Conservancy lands would be available, AT corridor with proper permitting, etc., Lacawac Sanctuary in the Poconos (North of L. Wallenpaupack).

Q: How will surveys be done, A: planned using topographic maps (Google Earth).

Q: Urban environments? A: Yes, schools/teachers
Q: Timeframe? A. Year round

Q: What is relation between this project and F&B/PNDI resource
A: The database produced by this project will become the new basis for F&B management and PNDI

Q: Introuduced species? A: Yes, should be reported: e.g. three species of introduced turtles in PA: e.g. red-eared slider.

Mark Boyd gives birding presentions in Allentown, should he do herps to? Absolutely.

What if you only have a call (e.g. a frog)? Yes that can be submitted.

The web site will have a detailed key to the species with photographs of different life history stages, etc.

What about under road culverts to guide, e.g. migrating salamanders under the road? We don't have programs like that in PA, but we do have road closures at some road-crossing sites.

Marlin: we expect major movement of early breeding amphibians any day now in Buck's County.

Discussion of freeze tolerance in amphibians.

Follow-up Discussion: Action steps in **bold**

1) Landscape Re-photography

Don Heintzelman began a landscape photography project in the 1990s, photographing certain views of the Kittatinny Ridge and Corridor. **Re-photographing these same locations** would provide dramatic visualization of changes to the ridge that would be useful for documenting conservation needs and for advocacy.

2) Literature Databases and Bibliography

Establishing literature databases on a website to house research and conservation information is imperative. **Updating and maintaining the existing bibliography of Kittatinny literature should be a high priority project.**

3) Exploring possibilities for collaboration of Right-of-Way (ROW) management

- The issue of the manner in which utilities manage their ROWs is an issue that keeps coming up at Kittatinny meetings. In spite of what the power company policy is, the contractors do not always follow policy.
- LGNC had a 14 year old that met with PPL and asked to turn this section of ROW into a high quality scrub habitat. He got a handshake from PPL that said they wouldn't spray this if it was properly managed. Volunteers assisted with his work. When PPL contractors came and did their spraying in 2012, they did not spray this part of the ROW – PPL kept its word.
- The LGNC example above could be a model for others to use in approaching utilities. They could probably save significant money on management.
- **Adopt-a-ROW could work**. Model it off the adopt-a-roads program.
- **The Kittatinny Coalition could invite representatives from the utilities here for a separate event targeted to this issue. (*Editor's Note:* *Dan Kunkle invited PPL's representative to a meeting in early June. He had to cancel a few days before the meeting and a new date has yet to be established.)***
- Utilities are under a lot of pressure from the state and the feds to avoid outages caused by vegetation. Herbicides are often used as a quick and least-cost option.
- For us to have any positive impact on ROW management, we need to be a proactive.
- It also depends on the voltage line. For transmission lines, there are different regulatory requirements than for distribution lines.
- **Anita Collins will find information on a speaker that spoke on the issue of ROW management at a native bee conference and report back.**
- **The Kittatinny Coalition can also produce some educational materials, brochures, web site, etc. concerning ROW management, with the purpose of letting people know why this is happening and let them know their rights.**

4) There was a call to ask subgroups to meet and to continue dialog on their aspect of the Kittatinny work.