Minutes of the Rare Plant Forum
6 March 2004
Olewine Nature Center at Wildwood Lake

Members present: James Bissell, Tim Block, Mark Bowers, Lucy Boyce, Eric Burkhart, Robert Coxe, Tim Draude, Janet Ebert, Amy Faivre, Chris Firestone, Chris Frye, Rocky Gleason, Steve Grund (Chair), Jason Harkcom, Jack Holt, Bonnie Isaac, Joe Isaac, Karen Johnston, Wesley Knapp, John Kunsman, Roger Latham, Carol Loeffler, James Macklin, Darlene Madarish, Christine Manville, Kathy McGregor, Kathy McKenna, Jessica McPherson, Rick Mellon, April Moore, Bill Olson, Stephanie Perles, Jennifer Petzold, Ann Rhoads, Autumn Sabo, Matt Sarver, Loree Speedy, Jack Stabley, Ron Stanley, Paul Teese, Christopher Tracey, Norman Tyson, Kathy Tyson, Jeff Wagner, Deanna Witman, and Thad Yorks

The meeting convened at 11:08 AM.
Steve Grund introduced the meeting and noted that there were relatively few proposals for species status changes this year because the guidelines are under discussion. We have some other items and presentations; in particular, last year's *Panax* presentation was well received so Eric Burkhart will be presenting again this year.

Announcements from Chris Firestone (BOF)
Chris Firestone reported that Governor Rendell signed a new executive order on January 27 that establishes an invasive species council. Leo Dunn heads the new council, which has seven state agency representatives and ten public members. It will look at plants, animals, aquatic organisms, and diseases.

Chris also announced that the Pennsylvania Nurserymen's Association is meeting in July and that DCNR, Audubon, and the Pennsylvania Fish and Boat Commission will have a huge native plant display.

A new brochure on giant hogweed is available from the Pennsylvania Department of Agriculture. It shows a distribution map, tips on distinguishing, and a hotline.

The Native Plant Conference on June 3-5 will be a good opportunity to talk to nurseries.

Chris Firestone also announced three job opportunities:
1) invasive species coordinator for Florida, with The Nature Conservancy
2) educational coordinator at Bowman's Hill
3) environmental review specialist for the Natural Heritage Program

Heritage GIS will soon be operational, such that we can do reviews ourselves.

Chris next noted that a tribute banquet for Frank Felbaum (who is still working for DCNR but who has left WRCF) is scheduled for April 3. Chris invited rare plant forum attenders to let her know if they wanted to attend.

Finally, Chris Firestone has Wild Plant Management Permit applications. They are two pages long and need to be filled out and sent back with a check for $5, by those who wish to collect threatened (PT) and endangered (PE) plant species in Pennsylvania. Steve Grund pointed out that for collecting on state land one needs a second permit for each specific type of land, such as State Parks or Gamelands.

Additional announcements
(Paul Teese?) made the following announcement.

A group of about 20 professional and amateur botanists is working on a flora and atlas for New Jersey. Dave Snyder has been working on a species list for the last ten years and has more than 4,000 species. Hopefully his list will be published this year, through the Philadelphia Botanical Club. Ongoing work includes bryophyte and lichen surveys in both New Jersey and Pennsylvania.

Tim Draude invited those interested in being on the Pennsylvania Nonvascular Plants Technical Committee to contact him.

Rick Mellon noted that we ought to be checking dredge spoil areas now, because we might find *Micranthemum micranthoides*, which has been thought extirpated but for which there is reason to suspect that it's around.

The Future of the Wild Resource Conservation Program. At 11:35, Ron Stanley gave a presentation on the WRCP and efforts to keep it solvent. He addressed three areas:

1) Educational material, such as the *Keystone Wildlife Notes.* He noted that a recent issue contained an article on the 25th anniversary of the Rare Plant Forum, and Steve Grund noted that the Heritage Program submits an article for every issue. *Keystone Wildlife Notes* comes out three or four times a year. Ron Stanley is pushing for four times per year and is looking at possible changes, such as a larger number of recurring themes.

2) Efforts to bring more money into the program. The Wild Resource Conservation Fund receives funding from the income tax checkoff (which is difficult to find if one files electronically) and from sale of educational videos.

3) Grants. Most of the funding for grants in this program cannot come from the Wild Resource Conservation Fund because the fund is not large, so it has to come from Growing Greener money. This year we had more than $1,000,000. Next year Growing Greener will give $750,000, or maybe more if we convince the secretary that we're doing a good job or if Growing Greener II, a bond issue, passes. Ron, who has been with the Wild Resource Conservation Program since December of 2003, had information for us on applying for grants. The program involves three agencies, the DCNR (primarily involved with plants), the Fish and Boat Commission, and the Game Commission. Law, the board of directors, and the secretary all tell Ron that we need to save species, not merely do

taxonomy on them, although he said that the program will continue to support taxonomy. We should make clear in our applications how what we do relates to saving species. Ron wants more scientific criteria for awarding grants, and will asking outside technical experts to review proposals. We should let him or Chris Firestone know if we would be willing to review applications. If Growing Greener II passes, Ron noted, we will need more applications than we've had in the past. The application deadline is June 30 for 2005 awards. Chris Firestone noted that we don't have to file a letter of intent but that they still encourage applicants to talk to Chris or to Ron before applying.

Updates from VPTC: new criteria for determination of species status for Plant Species of Special Concern in Pennsylvania (POSCIP). John Kunsman took the floor and reported that the Vascular Plant Technical Committee is trying to improve the process of categorizing species, and in particular we want to bring quantitative and qualitative viewpoints together at an early stage, so that we categorize species in a consistent fashion, in a manner reminiscent of a well-oiled machine. John invited anyone with suggestions to get in touch with someone on the VPTC.

More updates from VPTC: guidelines for plant monitoring as part of mitigation. Autumn Sabo reported that a subcommittee of the VPTC has met and decided that because projects differ, they will have a list of guidelines for plant monitoring rather than a standard protocol for mitigation proposals. Consultants will still need to submit proposals on how they will meet minimum requirements for mitigation. Deanna Witman asked if this will be put into the regulations. Chris Firestone explained that the issue came up because the first thing proposed for mitigation always seems to be to move rare plants to another site, but this may or may not work so as part of mitigation it is now required that monitoring be done to see if moving the plants was an appropriate mitigation strategy. Steve Grund agreed with the concept, noting that we need data.

Revision of the regulations associated with the Wild Resource Conservation Act (legal status of POSCIP species). Chris Firestone took the floor to explain where we stand on updating the statuses of POSCIP species. The POSCIP list on the Bureau of Forestry website includes both the current official state status and the status proposed by the Vascular Plant Technical Committee or VPTC (following Rare Plant Forums and VPTC meetings). The process to update the statuses in the regulations is long and drawn out. A package is put together by legal counsel to DCNR, and then the proposed statuses become the state statuses, The process should take 1.5 – 2 years, and then the next round of updates should start 1-2 years after that. The update process has not been done fore 12 years.

Chris Firestone compared the current state list and the proposed list. Out of more than 2,000 native species, 584 are currently listed as POSCIP. The proposed list has 661 species. This represents a net addition of 77 species, but the total number to be added is actually 156, because 79 species are proposed to be delisted. The reason for the large

number of additions is that in 1996 and 1997 the VPTC went systematically through all species in Pennsylvania, looking for species that needed to be added. Additions to the PE list are most numerous, followed by TU, with PX a close third. The smallest number of additions is to PV (vulnerable).

Steve Grund asked if Maryland is updating their plant species statuses as well. Chris Frye responded that in 1997 they went through the entire list with 26 or 27 botanists including Jack Holt and Janet Ebert. They made a lot of changes at that meeting, doing both S-ranks (Heritage Program ranks) and official state statuses. It took almost four years for the first round of updating, following the 1997 meeting. The next round of official updates took about two years, and they anticipate a two-year cycle from now on. Steve Grund asked if they had any trouble getting changes through. Chris Frye responded that the first round took four years probably because of industry objections, but he isn't sure because the politicians didn't talk to him.

Chris Firestone noted that Pennsylvania also lists vulnerable plants, and that Pennsylvania is changing the season of harvesting for ginseng. August 1 is too early, so the season is being pushed back to September 1, which is more in line with the seasons in adjacent states. They have also made some changes in reporting requirements.

Status of *Bidens discoidea* in eastern Pennsylvania. Jennifer Petzold, a botany intern with Ann Rhoads and Tim Block at the Morris Arboretum and with the Pennsylvania Natural Academy of Science with James Macklin and others, gave a presentation on her findings on the status of this taxonomically tricky species (it resembles *Bidens frondosa*, which differs in having 5-10 involucral bracts whereas *B. discoidea* has 3-5). *Bidens discoidea* flowers in mid-August to mid-October. It ranges over the eastern half of the U.S. and northward into Canada. In Pennsylvania it is found mainly in the north. They focused on Luzerne, Monroe, Pike, Wayne, and other northeastern counties, checking 28 lakes there as well as 12 sites along the Delaware River to the east where there were collections in the late 1800s. Places in which it can be found include on fallen logs, with roots dangling down to the water, and on wooden planks of old boathouses. They found it in good numbers at some lakes, but missing from others (it was missing from 11 of the 28 lakes). Lakes with *B. discoidea* were spatially intermingled with lakes that did not have *B. discoidea.* long the Delaware River, she found it at none of the 12 sites. There was good habitat everywhere, including at the Delaware River sites. Population counts ranged from five to 300; but for a lot of the lakes she only explored part of the shoreline, so the actual populations may have been larger. There are 25 sites total in PA, the 17 lakes and eight additional sites in western and northern PA.

Based on these data, plus the plant's absence from some lakes and its geographic restriction, Jennifer concluded that a status of PR seems valid for *B. discoidea.*

Chris Frye asked if there are any trends evident in population size at historic sites. Jennifer answered that Thomas Porter, who had made the collections at Delaware sites, had been vague about where he collected. Ann Rhoads and Tim Block had collected it at

northeastern lakes before, but not as quantitatively, so it is difficult to be sure of trends. Chris Frye said that Porter's vagueness probably means that it wasn't rare when he collected it in the late 1800s. Asked about seed dispersal, Jennifer responded that the seeds float. Rick Mellon asked if one could not multiply the percentage of lakes with the plant times the number of lakes in PA and conclude that *B. discoidea* has many more than 25 populations? Jennifer replied that she was reluctant to extrapolate in that way because the plant had failed to turn up in so many lakes in which they expected it. Asked by Steve Grund how the lakes were chosen for the survey, she replied that she visited the 28 lakes that she could get to in the time available. Sampling was biased toward areas where Ann Rhoads and Tim Block had seen it, although Ann Rhoads inserted a remark that this included not necessarily specific lakes that she and Tim had seen it in, but also new lakes in those areas because Jennifer had wanted to see new ones. Steve Grund remarked that maybe one could extrapolate but the study was not designed for extrapolation. He added that we do have an obligation to make intelligent extrapolations from available data, and we need to decide how much we can extrapolate from studies like this. We may end up with a range rather than a specific estimate of numbers of populations.

James Macklin remarked that Jennifer has been working with him on a list of globally rare species (those categorized as G1, G2, and G3), and they hope to get it up on their website. We should contact him if we want access to this information.

Lunch break

The role of botanists in County Natural Heritage Inventories. Jeff Wagner gave a presentation on Pennsylvania's ongoing county inventories. In eastern Pennsylvania, these are called County Natural Areas Inventories, whereas in the west they are called County Natural Heritage Inventories. They are carried out by biologists of the PA Natural Heritage Program, the Western Pennsylvania Conservancy, the DCNR, and The Nature Conservancy. Additional expertise as well as funding is provided by the Pennsylvania Game Commission, the Bureau of Forestry, and the Pennsylvania Fish and Boat Commission.

Jeff showed a map of Pennsylvania counties color-coded by whether inventories have been completed or, if not, what their status is. The goal is to finish the inventories by 2006, and Jeff said that that goal may be achieved. The program goal is to identify the most ecologically significant areas in the county. Steps are as follows:

1) Gather existing information
2) Perform landscape analysis to pick out good areas, partly using interpretation of aerial photos
3) Conduct aerial reconnaissance
4) Visit and document sites
5) Analyze data
6) Produce reports and maps

The biologists conducting the inventories also do a lot of outreach and presentations. The reports are slowly becoming PDF files on the web. To illustrate a product, Jeff Wagner projected a map of Centre County showing areas of diversity and conservation concern and Important Bird Areas. These areas are then broken up by municipality, and copies of the report are sent out to every municipality, to the county, and to various agencies.

The reports are used in a variety of ways, including comprehensive planning at the county and municipal levels; watershed planning, research, and monitoring; development planning and review; park, greenway, and open space planning and creation; and planning for natural areas, among other uses.

Funding for county inventories comes mostly through the DCNR (via WRCF), with some funding also coming from the Department of Community and Economic Development, grants, donations, and regional and local governments.

County inventories are done by a staff of eight people across the state in 14 counties, with concentrated work occurring in relatively small geographic areas. The inventories provide natural community-level data for reference and further investment. All existing plant data are compiled and applied, and specimens are collected and deposited in museums using permits as appropriate. The approach is natural community-focused, element-informed (i.e., information on target species is incorporated), site-based, and geographically defined, and standard Heritage Program methodology is used.

Jean Fike's classification of plant communities is used. Jeff noted that this classification is available as a book, *Terrestrial and Palustrine Plant Communities of Pennsylvania,* which one can get by calling Jean Fike at 717-783-0383.

Jeff Wagner noted that inventories also use the POSCIP list and database, using historic records and picking out high G-ranked species and historic locations to prioritize their site visitation efforts. Jeff noted that Potter County is a challenge from the standpoint that they don't know much about it yet; there are few herbarium records. (Chris Firestone explained this by pointing out that all of the plants are eaten by deer in Potter County.)

The biologists working on county inventories cooperate to determine species statuses in several ways. They collect under-collected species. By virtue of their spending a great deal of time looking for plants in good habitats, they find the "slow-to-find" species (species for which people have looked, but not too successfully because they haven't yet caught on to the habitat, resulting in situations such as *Scirpus ancistrochaetus* which was federally listed and later found to be more common than thought in vernal pools). They spend a lot of time looking for *truly rare* species in the right habitat, and if they don't find those species, then true rarity is verified *(Trollius laxus* and *Isotria medioloides* are examples of species that haven't turned up despite extensive search). Again through

extensive search and appropriate collection they extend the ranges of rare species, and they document invasive species.

There are ways in which we all can collaborate with county inventory biologists. We can be aware of which counties are currently being surveyed, call Jeff Wagner or Rocky Gleason, and tell them what we know, where we botanize, and whether we would be available and willing to botanize with them at any point during the summer. We can share with them information on geographic targets and let them know about land ownership and management. We can discuss with them habitats in which we see particular species, to better define their search images. We can help them document communities; Jeff and Rocky have community forms that we can fill out, which might save them fieldwork. We can volunteer for fieldwork where needed – if interested, folks should call Jeff or Rocky.

Matt Sarver asked if there were any plans to put a PDF form on the web that people could fill out and send in. Jeff Wagner said that they've talked about that, and it would be a good thing. Lucy Boyce suggested a volunteer packet of information and forms. Jeff agreed that this was a good idea. Lucy asked if county inventory biologists work with PennDOT. Jeff said not routinely.

Tim Draude commented that he sometimes thinks that information is TOO accessible. Bog turtles, for example, are a "federally listed reptile," reported in Lebanon County, and everyone there knows not only what they are, but where they are. Rocky Gleason agreed that this is a concern, but said that large areas are indicated in the reports – whole watersheds, not specific sites that folks could go directly to and search. He observed that the other option is to leave the species out of the report completely, but then what protection do they have. Chris Firestone noted that the information released is based on guidelines and restrictions to protect species.

Use of native plants by PennDOT. Deanna Witman presented an example of a mitigation plan for a site in the Allentown area. She had wanted to use native vegetation, She had to take out 15 feet of fill in August. By October, she had the proper elevation. She added topsoil (saved from the site) and leaf mulch (from the county) and planted ca. 1,500 trees, along with lots of seeds from Ernst. (She remarked that she would love to see a more local seed supplier start up. She also remarked that usually plant material comes from neighboring states, but she was able to use Pennsylvania natives.) By June of 2003, seeds were coming up. Some other things showed up that weren't in the seed mix, including frogs and turtles. The cost of the project was 1.25 million dollars, mostly from acquiring the land.

Chris Firestone asked if there was ongoing monitoring of the vegetation. Deanna replied that the plan was to monitor the vegetation twice a year for five years, and then once yearly for ten years. They took out some multiflora rose at a time of year when birds were not using it, by applying a DuPont chemical. Jeff Wagner asked how much of the removal of invasives was done by volunteers. Deanna relied "none," and liability issues

of using volunteers were mentioned. Tim Draude noted that while volunteers might not work in this case, they can be used in lots of projects, such as collecting local seed genotypes. Steve Grund noted that native seeds cost a lot more than non-natives, from sources that folks usually used; but he added that in the long run, expenditures on seeds are a small part of the cost. Deanna added that using native seeds could also be more successful, such that one wouldn't need to replant.

Ginseng harvesting in Pennsylvania. Eric Burkhart, a doctoral student at Pennsylvania State University, is studying the ecological and biological characteristics of ginseng as well as its history, in a socioeconomic context. In this update to his presentation of last year, he began by noting that ginseng has been harvested in Pennsylvania since at least the late 1700s. It probably is not as finicky in its habitat requirements as we might think. It was more widespread in the past, and much of the collection of this plant occurred in the late 1700s and early 1800s. The level of collection now is appreciable but much less. The challenge now is to reconstruct the ecology of a species that has been so altered in distribution.

Ginseng is a native plant resource that we want to empower people to use with care. A useful book for this effort, dating back to the turn of the century, is *Cultivation of American Ginseng.* It is said that lots of people are out collecting and there is potential to relieve pressure on the wild populations with cultivation. From a magazine, *Special Crops,* that was published from roughly 1900 to 1935, Eric projected an ad for two million 1929 ginseng seeds as an example of the volume of seed sales occurring at that time. He noted that people were buying seed from Wisconsin and Canada as well as using Pennsylvania plants that they transplanted to gardens to use as a seed source. So it is hard to figure out what's wild and what's planted. Producing and selling seed was lucrative. Some folks grew the plants in artificially shaded gardens, and seeds from those places did get into local woods. Ginseng plants are still cultivated in big gardens. Eric projected a slide of a ginseng farm near Ohiopyle; the grower in this case is full time and lets the plants grow 25 to 30 years to get better, older roots.

One of Eric's goals is to sample populations and maintain plants for seed sources. He how has 5,000 plants from seven counties growing in an artificially shaded plot.

There is concern about Wisconsin seed getting into our woods. Are Wisconsin plants adapted? Do the seeds have pathenogenic fungus on them? So Eric is trying to get a handle on where local plants are from.

Eric showed two slides of gravestones with ginseng engraved on them, showing the passion of the people under the stones for this plant that they grew. He also noted that young people tend to have no idea how long to let ginseng plants grow nor how to harvest them conservatively. However, there is lots of landowner interest still in ginseng growing, and Eric will be releasing a survey on ginseng growing and collecting in PA, at

http://www.dcnr.state.pa.us/forestry/wildplant

Eric issued us a plea for information on sites that we know of, and showed us a map of sites he is currently studying, for demographic information or habitat information. His contact information is as follows:

Eric Burkhart
School of Forest Resources
7 Ferguson Building
University Park, PA 16802
814-863-0401
e-mail epb6@psu.edu

Rick Mellon asked if any genetic analysis has been done on Wisconsin vs. Pennsylvania plants. Eric replied that he doesn't know about differences between plants from the two states but one can tell populations apart, according to some studies going on in Kentucky and other states.

In response to another question, Eric noted that ginseng does have lots of fungal pathogens. In dense plantings, one has to spray weekly with fungicide.

Chris Firestone asked if there is Pennsylvania seed available for distribution. Eric replied that his first lot came off last year, of 5,000 seeds (three quarters of a pound), but some of them will be used back in the forests where he got the first plants, by agreement with the landowners.

Finally, Erik Burkhart noted that a PDF version of a ginseng guide will be available shortly on the DCNR website. One can also get a hardcopy from Eric.

***Chamaecyparis thyoides*, currently listed as PX, in Westmoreland Co.** Thad Yorks reported that he was looking at a bog in Westmoreland as a potential site for student field trips when he saw Atlantic white cedar there! The site was at one time planted with hemlock, but when they were harvested, transpiration was reduced and the area became bog. Hummocks are left from hemlock stumps and logs. He took data on the *Chamaecyparis thyoides* trees including counts and increment bores. Most stems are small, indicating regeneration. He judged that most of the regeneration is vegetative. There are 395 stems on 63 hummocks, and 264 of the 395 stems are less than 1 cm in diameter. He projected for us a graph of age vs. size. The population was probably originally planted, but it is regenerating, so he proposed that the species should be considered PE rather than PX. He is planning a genetic analysis to see how many genets there are on the 63 hummocks. There may even be just 63 or fewer, because it is a clonal species.

Steve Grund asked if there is any direct evidence of sexual reproduction. Thad replied that he saw female cones, but a seed bank study has yielded no seedlings; he would need to repeat that study to clarify the situation.

Autumn Sabo asked where the trees are planted from. Thad did not know but noted that sundew and pitcher plants were planted there too. Genetic analysis is the next step.

The new population was discussed further later in the day (see under Proposals for changes to species statuses on the POSCIP list).

Glacial Lakes Flora Project. Steve Grund reported that this is a project of the Western Pennsylvania Conservancy in collaboration with the Cleveland Museum of Natural History. (He noted that Jim Bissell of the Cleveland Museum kindly volunteered time when the WPC ran short on money.) They are about to start four years of data collection. There are only eight inland natural lakes in Pennsylvania. They are very important; two sevenths (nearly 30%) of Jeff Wagner's slides of important ecological areas were calcareous glacial lakes, and they can have lots of POSCIP species. Steve noted that at only one of these lakes are motorboats not allowed.

The objectives of the project are to develop a checklist of flora for each lake. They will start with Carnegie and Cleveland herbarium data, add collections from their own fieldwork, and ultimately combine results with Ann Rhoads and Tim Block (who are working on glacial lakes in the east) to develop a checklist for the whole state. Right now the divisions are large scale, e.g. fen vs. marsh, but they may do lists at a finer scale later. They are also documenting invasives. Submerged aquatics are difficult to census so they are using a plot-based methodology. Steve projected a slide of a botanist looking through a glass-bottomed bucket, as part of determining and recording all floating and submerged species within a three meter radius. Selection of sites for these samples was not random, because the goal was to map out the general localities of the plants. Later on, the researchers will design a monitoring study and will figure out how many plots are needed using the baseline study. Steve noted that one lake, Lake Pleasant, has water so clear that one could often see the plants without the bucket. Sometimes they use a grappling hook, and in some lakes they cannot see much through algae and have to rely heavily on the grappling hook. They record locations with GPS and will be producing maps with GIS, showing polygons for particular vegetation. Finally, they do general walking around, collecting specimens and making species lists.

Along with the maps and floras that they are producing, they are making their data available for conservation. One of the lakes, Conneaut Lake, had a problem with Eurasian milfoil in the 1980s. The Eurasian milfoil has been fairly effectively controlled with herbicide and mechanical harvesting, and the lake looks much better now, with more diverse, native vegetation coming in. Steve thinks that the herbicide is a good tool here because Eurasian milfoil is so invasive. But Steve wants them to know where the different plants are concentrated so that they can fight the invasives while avoiding rare species.

Steve Grund noted that a native fly has been attacking Eurasian milfoil somewhere in the region. They are wondering if it could be moved into these lakes or if it would threaten native milfoils.

They use a large number of volunteers on this project. They try to use people who live on these lakes, because the work helps those people learn and get interested in the ecology of the lakes so that they'll want to manage them wisely for natural resources as well as recreation.

Tim Draude asked how herbicide could work without killing all of the plant species. Steve explained that Diquat, a contact herbicide, is fast acting, has a short half life, and apparently can be used very specifically. Some folks are talking about switching to Sonar, a systemic herbicide that kills everything, arguing that the natives will come back from the seedbank. The idea is that the invasives tend to reproduce vegetatively, while the natives have relatively more reproduction from seeds. But Steve is opposed to the switch, and he wants to teach them that the Diquat procedure is better – they don't want to kill everything. Chris Firestone noted that the Bureau of Forestry also finds this attitude in people at recreational lakes. Jim Bissell expressed concern that at Conneaut Lake he has found a couple of rare species hanging on at some points in the lake, and he thinks that Sonar would kill them.

Proposals for changes to species statuses on the POSCIP list.

***"Phragmites australis,* native taxon" or "*Phragmites* sp. 1."** Not listed but proposed by Jim Bissell for PE status. Most *P. australis* that we see are an exotic, invasive strain, but recent studies and observations have confirmed the existence of a native strain, which is extremely rare in the state. The native form is easy to distinguish from the nonnative: it is noninvasive, and the nodes from the midstem down are bright purple-red. The best time to tell them apart is right now. Jim Bissell noted that the Game Commission is spraying on a nonnative population at Pymatuning where the whole east bay is covered. The nonnative form outcompetes the native form when they get together. A second population, in an interior pond, is the native form, and Jim talked the Game Commission manager out of spraying it because he taught him how to tell the forms apart.

By way of background, Steve Grund noted that people have suspected for a long time that the aggressive populations are nonnative. A study of a couple of years ago by Dr. Kristin Saltonstall settled this, and they figured out morphological differences. Then Steve and Bonnie sorted specimens and found the two historic populations of the native form in the northwest, at Pymatuning and Presque Isle where they still occur. There is also a historic site in southeastern Pennsylvania, which is probably no longer extant. Bonnie Isaac noted that the herbarium label says simply "Along Schuylkill River, Philadelphia, 1898". Jack Holt said that he suspects that location may be Pine Swamp (part of French Creek), because there is a written reference to *Phragmites* there. Pine Swamp is being overgrown with woody vegetation now.

Wesley Knapp reported that the native taxon is tracked in Delaware, where it occurs along the coastal plain, but not in Maryland.

Steve Grund said that he called Kristin Saltonstall the other day, and that she says that she can get us a correct name for the taxon, probably by fall.

Steve asked if anyone thinks the native taxon should not be tracked. The question was posed of whether the native plants in Pennsylvania were the only haplotype. Jim Bissell replied that there is a northern haplotype, found in the Lake Superior area, which is different from the haplotype in Pennsylvania and Ohio. Steve Grund noted that there is a coastal haplotype as well. Jack Holt noted that he is not sure if the haplotype of southeastern PA is the same as that in the northwest. James Macklin described the difficulty of characterizing some herbarium specimens. Bonnie Isaac expressed concern about listing it under the name *Phragmides australis,* because "people will think we're nuts." There was back and forth debate over what to list it as until we get the correct name, and we decided to list it temporarily as *Phragmites* sp. 1." (If it is but a variety, we can make that change later.) Because of its extreme rarity in the state, we agreed to propose it for PE status. **→ PE**

***Chamaecyparis thyoides,* Atlantic white cedar.** This species has been considered extirpated in Pennsylvania. Thad Yorks had earlier in the meeting (see above) described his location and study of a population of *Chamaecyparis thyoides* in Westmoreland County. He now remarked that this population is outside its extant range, but he would argue that there's no choice regarding moving it from PX to PE status because categories are based on statewide distribution and the population has become naturalized and is regenerating.

Steve Grund said that one thing to consider if we recommend PE status is that we are implying that this population is of conservation concern, even though it was originally planted. We could instead simply recommend to the Bureau of Forestry that they protect this population because the species is in danger of extirpation from PA. Chris Firestone remarked that this case raised the same issue as the case of *Nelumbo lutea,* which has been planted. Others cited the cases of *Magnolia tripetala* and *Filipendula rubra,* although Steve Grund observed that *Filipendula rubra's* case is different because we're not sure if it is native or not. Ann Rhoads noted that there is actually no herbarium specimen documenting that *Chamaecyparis thyoides* occurred in Pennsylvania, although there is lots of written evidence. It was used for shingles in Philadelphia. Jack Holt objected to the idea of listing an introduced species as PE; someone countered that it once existed in Pennsylvania; but Chris Frye continued Jack's argument by noting that one could just plant a whole bunch of them (and then argue for protection of the planting). Steve Grund said that planted populations aren't given conservation status, bringing this paragraph back to its starting point.

Ann Rhoads noted another example: northern white cedar, with plenty of naturalized populations in Pennsylvania, does occur as a native north and south of Pennsylvania but there is no documentation that it occurred as a native *in* Pennsylvania.

Thad Yorks said that he appreciated what was being said but that if the listing is left at PX, then we are arguing against restoration ecology. Steve Grund replied that if this was a restored population on the coastal plain with evidence that the species was there historically, and if problems had been addressed and the site restored, then he would argue for PE status for the species. But Thad's population is hundreds of miles from its native range. Bonnie Isaac noted that in 1979, Paul Wiegman published an opinion that a PX species should remain PX when a new population was introduced.

It was noted that *Chamaecyparis thyoides* is a G4 species, globally secure. Rick Mellon commented that the species typically occurs within 100-150 miles of the Atlantic. In New Jersey it grows in incredibly nutrient-poor areas, such as areas with streams carrying less nutrients than rainwater. So it is definitely out of its geographic range in western Pennsylvania.

Steve Grund remarked that he would try an argument for PE listing on us, based on an e-mail from Rick Mellon: if we live in a time when we're having profound impact, we may need to think about moving species. Rick replied that his e-mail was motivated by global climate change, and that the difference between the natural range and the western Pennsylvania site is not a climatic difference, but rather a nutrient difference.

Thad Yorks said that maybe at a minimum, the verbiage in the regulations should be revisited. Also, he would not be surprised if *Chamaecyparis thyoides* did occur historically in southeastern Pennsylvania. Ann Rhoads and Rick Mellon agreed that again, we think it probably did. Chris Firestone said that the wording in the regulations is "naturally occurring native flora," and this put the lid on the exchanges. We agreed not to change the listing. **Remains PX**

***Baccharis halimifolia,* groundsel tree.** Currently listed as PR, and proposed for deletion by Rick Mellon. Rick explained that he keeps seeing this species all along turnpikes, which of course are salted. He doesn't think that it is native to Pennsylvania. Steve Grund noted that the form submitting the proposed change contains an observation that this species can only compete in salty habitat. John Kunsman said that he's not sure that it's not native, but it is weedy, which is another issue. Seeds from New Jersey may have blown in.

Someone objected that we are always blaming New Jersey for everything, so John Kunsman remarked that the seeds could also have come from Delaware.

Jack Holt suggested that we might designate Special Populations right along the Delaware River but consider the species adventive elsewhere. Steve Grund posed a question: when we have species that are native but expanding their range or density due to artificial disturbance, what does it say about conservation of the natural sites, and about these habitats? Jack Holt replied that *Alopecuris carolinianus* is a good prior example. Sue Thompson fought to list it because it may have been native in Delaware

County. Then Rick Mellon and Jack Holt fought for years to get it off the list, and one year succeeded.

Rick Mellon suggested that *Baccharis halimifolia* could be native in the intertidal. Robert Coxe observed that in North Carolina, the species was coastal ,but in the 1980s and 1990s it started invading the Piedmont, becoming part of oldfield succession. No one is sure why, he said. Discussion continued with speculation of a hurricane role.

Steve Grund said that it sounds as if *Baccharis halimifolia* doesn't need our help. But was there any particular area in which it should be protected? Jack Holt suggested only along the Delaware River, where it is already protected by wetland laws. Deanna Witman disagreed, saying that it is not really protected by those laws. Someone asked if anyone had seen it in the intertidal. Ann Rhoads replied that she had only seen it in the intertidal near I95, above the inundation zone, not in other intertidal areas. Most intertidal habitat south of Philadelphia is gone. Chris Firestone asked if there are any naturally occurring populations. Ann said that they don't really know. Chris Frye wondered if it should be listed as TU. Lucy Boyce asked what plant species grow with it. Rick Mellon said that the intersection of Rt. 322 and I95 is the "epicenter" and that it grows with *Solidago sempervirens* and the like. Regarding its native status, Ann Rhoads said that we need more information and need to look at sites off the highways to determine if it is native.

Steve Grund now asked if we should table the proposal until more research is done, or if we should change its status from PR to TU. Jack opted for TU status, because we don't really know enough. Steve Grund noted that the Bureau of Forestry has some discretion if the plant species is either PR or TU, so do we want to change it to TU to be up-to-date or do we want to leave it PR and leave it under discussion? Someone suggested that a TU designation would be a good reminder that research is needed, but Deanna Witman responded why should we keep changing it, and don't PR species get a little more attention than TU species.

Bonnie Isaac, looking at her laptop, now weighed in with the historical perspective. This species was discussed in 1986 and 1990, and was each time tabled until we knew more about it. In 1991 Ed Dix proposed PE status, but that was shot down.

Steve Grund asked again if we should flag the species as TU. Jeff Wagner pointed out that we don't want to protect roadsides so we may need to look at it numerically or by site, and TU might be appropriate. Rick Mellon said that at best it is an opportunistic waif, not PR, and it may be worth listing as TU if "waifness" justifies looking into it. Along the Delaware River, it should have PE or Special Populations status if anything. He supported either TU or DL.

We reached consensus to call it TU and needing fieldwork to look at population number, sizes, and habitat. Native status also needs to be resolved. **→ UENF**

***Nelumbo lutea,* yellow water lily.** Currently PE but proposed for deletion by Steve Grund. This species may be native in southeastern Pennsylvania, but only if it was moved into southeastern Pennsylvania by Native Americans. (The *Flora of North America* says it probably was carried northward and eastward by Native Americans.) Jim Bissell said that he thinks it is nonnative in the northwestern part of the state. Ann Rhoads remarked that a Lehigh River population is in an old amusement park and was probably planted. Chris Firestone observed that a woman applied for a permit to collect it for genetic analysis last year. Steve Grund said that he spoke with Bill Edinger who agrees it's probably not native. The oldest record for Wildwood Lake is from about 1957, on the east edge of the lake. Steve found an account in a newspaper saying that before the lake was flooded, that area was reported as "an area of exotic plants," which is the evidence used that it is not native here. Steve noted however that "exotic" could be read different ways. He added that it would be interesting to see if anyone collected it before the area was flooded to form the lake. Steve also noted that he had a WRCF grant to study this plant and filed a report in 1987.

Steve Grund reported further that Bill Edinger had told him that *Nelumbo lutea* was collected in a lake in New Jersey in the 1880s, and that it was recently down in population size probably because of herbicide use to control *Myriophyllum.* So, Steve said, he thinks that it should stay on the list but he did not have a strong opinion, because it would be hard to extirpate the species if one tried. Chris Firestone noted that the whole lake here in Pennsylvania (Wildwood) gets solid with it.

At this point, because time had run out, we considered tabling the proposal. Steve Grund asked if we could make a quick decision on *Nelumbo.* Chris Firestone noted that there are signs at Wildwood saying that *Nelumbo lutea* is endangered, but the folks here want to manage it. She has given permission for it to be managed at Pymatuning. Jeff Wagner asked how many populations there are. Steve Grund said that there are five, but he thinks that none of them are native. The argument rests on nativeness. Chris Firestone and Bonnie Isaac both opined that we need more time to consider that possibility. The consensus was to table. → **Tabled**

Potomogeton illinoisensis. Currently with a VPTC status of PR with a proposal for deletion by Jim Bissell, but tabled at this meeting for lack of time. → **Tabled**

The meeting adjourned at 3:56 PM.

Respectfully submitted,
Carol Loeffler