

A NATURAL AREAS INVENTORY
OF LYCOMING COUNTY, PENNSYLVANIA
UPDATE—2000

Prepared by:

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Submitted to:

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The original Lycoming County Natural Areas Inventory (NAI) included descriptions, maps, and rankings of sites of ecological significance in the county. The emphasis of the report was upon locations of species listed as rare, threatened, or endangered in PA and exemplary natural communities. This NAI update is simply an addendum to the original report. It includes new information based on fieldwork done since the original NAI was completed. Those sites not visited since completion of the original NAI were not reevaluated. The two sites listed as the top priorities in the original report remain the most important sites for conservation in the county. The update includes changes in the rankings of sites listed in the original report, as well as new sites discovered since 1993. The rankings are based on the same criteria used in the original report. Table 1 from the original report has been updated to include all sites from the original NAI report and the update. For convenience, you may insert this table in place of Table 1 in the original report. Table 2 is unchanged.

There is also updated information about elements reported in the original document. In some cases the elements' state rarity rank (S rank), global rank (G rank), state and federal legal status, and /or quality has changed (see Appendix I of the original NAI report for additional information on species' ranking).

The results presented in the update follow the format of the original Lycoming County NAI. There are tables for each USGS quadrangle map listing all new or updated elements by their PA Natural Diversity Inventory code. The corresponding page number from the original NAI is given for each USGS quadrangle table. Each table provides the global and state rarity ranks, state legal status, site quality, and the date last observed for each element. Following the table is a brief narrative for each site, noting whether it is a NEW occurrence or an UPDATE.

Sections of USGS maps accompany the text, showing the location of the NEW site identified (e.g., Mill Creek Swamp) or sites whose boundaries have been changed to include a new species (e.g., Eiswert Cave/Glade). The maps for updated sites with unchanged boundaries are not included. The area outlined on a map represents the species' locations and the surrounding watershed or subwatershed. Proposed development activities within the encircled areas should be carefully assessed to determine the impact of the project on the species or communities before approval is granted. Consultation with the biologists of the Pennsylvania Science Office of The Nature Conservancy may be necessary to assess potential impacts. Questions about this supplement or the original NAI can be directed to either, Richard M. Ring, NAI coordinator, or, Aura Stauffer assistant ecologist, at the address on the title page.

Table 1. Sites of statewide significance for the protection of biological diversity in Lycoming County. This table replaces table 1 from the original NAI. Sites are listed in approximate order of priority from the most significant (rank=1) to the least (rank=5). The revised table includes sites from the original NAI; sites updated since the NAI, and newly identified sites.

County Rank ¹	Site Name and (municipality)	USGS Topo. Map	Date Last Observed, Ranks ² , Importance, and Recommendations
1	CRYSTAL LAKE CAMP WETLANDS (Plunketts Creek Twp.)	Picture Rocks	1988 & 1993 – This site contains PA-listed invertebrates (SA501, SA509, SA510, & SA511), wetlands and vernal ponds. The land is protected, but the species need to be monitored. To maintain the hydrology, the wetlands may need managing to control the beaver population.
1	SAND SPRING BARREN (Plunketts Creek Twp.)	Huntersville	1986 & 1992 - Fair to good quality Ridgetop Dwarf-tree Forest community (NC501) containing excellent populations of 4 PA-listed Lepidoptera species (SA503, SA504, SA505, & SA506). One globally rare (G2S2) species (SA506) is found in a site that lies mostly within the Tiadaghton State Forest. The use of pesticides or biocontrol for gypsy moth would be detrimental to the rare species.
2	CLAY MINE SWAMP (Brown Twp.)	Lee Fire Tower	1993 - Good populations of 2 rare invertebrates (SA508 & SA509) in shrub swamp in Tiadaghton State Forest. The habitat should be maintained & pesticide use should be discouraged in the immediate watershed.
2	EISWERT CAVE & GLADE (Limestone Twp.) UPDATE	Linden	<p>1996 - The PA Game Commission resurveyed the cave during March of 1996. A good-quality population of a G3, PA Threatened animal species (SA502) and a population of a G4 animal species of concern (SA503) still occur here. This cave continues to hold one of the largest concentrations in the state of SA502. Additional surveys are needed to assess the size and quality of the SA503 population. The Eiswert Cave is gated and continues to be managed by the PA Game Commission. No threats are currently evident.</p> <p>1994 & 1995 - A population of a PA shrub (SP510) species of concern was found in 1994 and again on 1995 growing at this site near Route 44. The glade is on an open, south - facing slope in limestone soils at the crest of a hill. Deer browse and cutting for maintenance activities are potential threats. Additional surveys are needed to adequately determine the size and quality of the shrub population. The boundary of this site was redrawn to include this new plant species of concern.</p>

¹ Sites are ranked from 1 to 5 with 1 being the highest priority sites for protection based on state or national significance, and 5 indicating the lowest priority for protection. Ranks take into account potential threats, management needs, and existing protection. Sites are grouped by rank, then listed alphabetically by quadrangle.

² See Appendix I of the original NAI for an explanation of Global and State vulnerability ranks.

County Rank ¹	Site Name and (municipality)	USGS Topo. Map	Date Last Observed, Ranks ² , Importance, and Recommendations
			1992 - Limestone glade natural community and cave complex with a good-fair population of 2 PA-listed plants (SP504 & SP506) and 2 PA-listed animal species (SA502 & SA 503). Cave protected by the PA Game Commission. The grassy openings should be maintained in the glade.
2	MOHN MILL PONDS (Lewis Twp., Union County & Washington Twp., Lycoming County) UPDATE	Carroll and Williamsport Southeast	1995 & 1996 - This vernal pond community consisting of approximately 28 ponds, which was last visited in 1992, was revisited in 1995 and 1996. A marginal to good population of a federally Endangered, G3, PA-Endangered plant (SP504) was once again found growing at the site on Bald Eagle State Forest during both visits. Many amphibian species were also observed using the vernal ponds. Deer browse appears to be the only current threat to the endangered plant. Management recommendations include additional visits to the site to monitor the existing plant species of concern and amphibian populations, to monitor water quality, and to search for more populations of the plant species of concern in other ponds. Any proposed logging activities in or near the site should be discouraged.
			1992 - 2 rare plant species (SP504 & SP508) and a good occurrence of a natural community (NC501) within Bald Eagle & Tiadaghton State Forests. The woodland buffer is essential for the protection of these rare elements.
3	ENGLE RUN SITE (Cascade & Plunketts Twps.)	Barbours	EV Stream; High-Gradient Clearwater Creek natural community (NC505). 1 TU plant (SP501) and a small population of a PA-Endangered (G5S1) plant (SP507). The wooded buffer should be maintained.
3	NIPPENOSE SPRINGS (Limestone Twp.)	Linden	1979 – Largest 2 nd magnitude spring in PA (GE505). The woodland at the site should be maintained and control of the exotic plants is recommended.
3	ALGERINE SWAMP (Brown Twp.)	Cedar Run	1988 & 1993 - Boreal conifer swamp community (NC504) and good populations of 3 PA-listed plants (SP509, SP510, & SP525) and 1 G4G5S2 animal (SA516). The majority of the site is protected within Algerine State Forest Natural Area and Tiadaghton State Forest.

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County Rank ¹	Site Name and (municipality)	USGS Topo. Map	Date Last Observed, Ranks ² , Importance, and Recommendations
3	BEAVER LAKE AT BAD HILL (Penn Twp.) UPDATE	Sonnestown	<p>1994 - This lake, which was revisited in July of 1994, is a lake that is primarily used for recreation. A PA animal species (SA504) of concern was observed at the lake during the most recent field visit. Additional surveys are needed to determine the size and the quality of the population. Drawdown of the lake, development of the lakeshores, and poor water quality of the lake are threats to this animal species.</p> <p>1992 – Fair population of a G4S1 PA-Endangered aquatic plant (SP503). This is the only extant occurrence for the species in eastern PA. The population should be monitored and logging around the lake is not recommended.</p>
3	MAPLE HILL SINKS (Washington & Brady Twps.)	Montoursville South	1992 – Good to excellent population of a PA-Endangered plant (SP505) and the best statewide occurrence of an ephemeral/fluctuating limestone sinkhole pond community (NC501). The woodland buffer should be maintained and expanded if possible.
3	MORRIS RUN CLIFF (Brown Twp.)	Lee Fire Tower	1990 & 1992 – 2 PA-listed animals (SA506 & SA507) and the potential for a third in Tiadaghton State Forest. Logging of the site is not recommended.
4	CEDAR RUN OUTCROP (Brown Twp.) UPDATE	Cedar Run	<p>1993 - A survey for a PA-Threatened animal species (SA521) was conducted in June of 1993 at this site located in the Tioga State Forest. The previous survey for this animal occurred in 1990. Signs of the animal were once again seen at the site. Because of the extremely steep and hazardous nature of this scattered and loose sandstone outcrop, the surveyors were unable to accurately determine the population size. More extensive surveys that include trapping are needed before the quality of this population can be determined. Minimizing disturbance and maintaining a forested buffer would be beneficial to this species.</p> <p>1990 – A population of a PA-Threatened animal (SA521) exists at this site. The population should be monitored and logging of the site is not recommended.</p>
4	ROSS SIDING (McHenry Twp.)	Cammal	1992 - - A population of a PA-Threatened animal (SA508) located partly within Tiadaghton State Forest. The population should be monitored and logging at the site is not recommended

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County Rank¹	Site Name and (municipality)	USGS Topo. Map	Date Last Observed, Ranks², Importance, and Recommendations
4	WELLS MOUNTAIN (Gamble Twp.)	Montoursville North	1987 & 1993 – A population of PA-Threatened animal (SA504) and a natural community (NC505) in SGL #298. Protected by the PA Game Commission who restricts access to site.
5	MILL CREEK SWAMP (McNett & McIntyre Twps.) NEW	Barbours	1993 - A PA Rare plant (SP508) was found in a wetland in Tiadaghton State Forest during 1993. Two separate populations were identified. Additional surveys at this site are needed to assess the quality of the two populations, assess potential threats, and to make management recommendations.
5	SP504 (Brown Twp.)	Slate Run	1993 - Small population of a PA-Endangered plant in Tiadaghton State Forest. The wooded buffer should be maintained.
5	SA506 (McHenry Twp.)	Cammal	1985 - Good population of a PA-listed animal located in Tiadaghton State Forest along Trout Run, a HQ-CWF stream.
5	SP520 (Brown Twp.)	Cedar Run	1993 - Fair population of a G5S3S4 aquatic plant in Pine Creek. The water quality should be maintained.
5	WOODHOUSE LEDGES (Brown Twp.)	Cedar Run	1993 – A small population of a TU plant (SP527). The existing woodlands should be maintained on the steep ledges and along the base of the slope.
5	TORBERT WOODS (Watson Twp.)	Jersey Shore	1992 – A fair example of a Xeric Central Hardwood-Conifer Forest natural community (NC507).
5	OREGON HILL SWAMP (Pine Twp.)	Morris	1992 - A poor population of a PA-Rare plant (SP508) and the only known site for this species in the county. The forested remnant within the wetland should be maintained. A registry agreement would be beneficial for the protection of this site.

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² See Appendix I of the original NAI for an explanation of Global and State vulnerability ranks.

County Rank¹	Site Name and (municipality)	USGS Topo. Map	Date Last Observed, Ranks², Importance, and Recommendations
5	BEAR HOLLOW PONDS (Pine Twp.)	English Center Morris	1992 – A fair example of an Ephemeral/Fluctuating Pool natural community (NC505 & NC507) within SGL #75 that provides breeding habitat for amphibians. The wooded buffer should be maintained.
5	MILLRUN (McHenry & Brown Twp.)	Cammal	1993 - High-Gradient Clearwater Creek; EV stream. The wooded buffer along the stream should be maintained.
5	NOON BRANCH (Plunketts & McNett Twps.)	Barbours	1993 - High-Gradient Clearwater Creek community; EV stream. The wooded buffer along the stream should be maintained.

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RESULTS

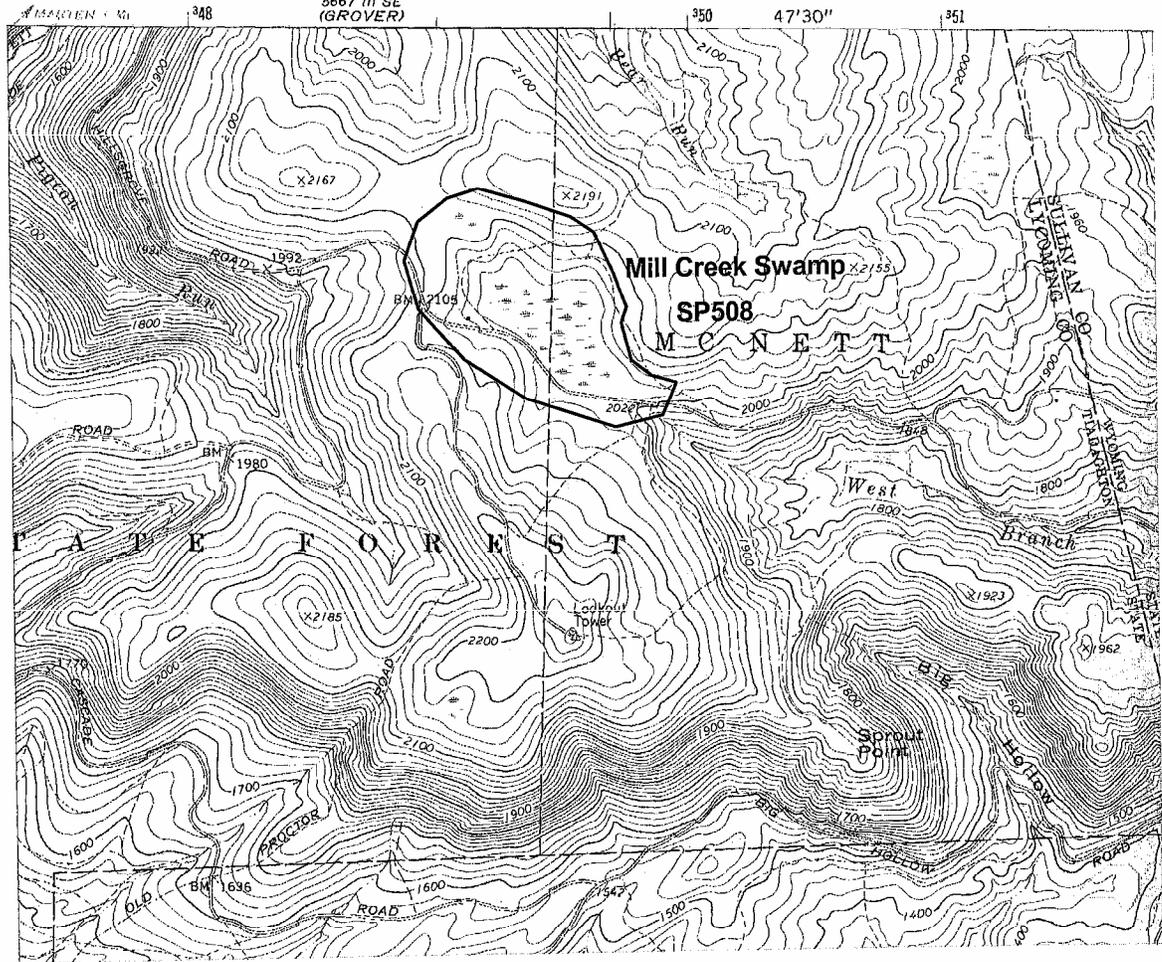
USGS QUADRANGLE MAP: Barbours (32)

	<u>Code</u>	<u>TNC Ranks</u>		<u>State Status</u>	<u>Last Seen</u>	<u>Quality</u>
		<u>Global</u>	<u>State</u>			
SPECIAL PLANT:	SP508	G5	S3	PR	9/2/93	E



Barbours Quadrangle

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
TOPOGRAPHIC AND GEOLOGIC SURVEY



Scale: 1:22,000



Barbours Quadrangle:

SP508 – NEW - (McNett and McIntyre Twps.) “Mill Creek Swamp“ A PA Rare plant (SP508) was found in a wetland in Tiadaghton State Forest during 1993. Two separate populations were identified. Associated species include three-way sedge (*Dulichium arundinaceum*), highbush blueberry (*Vaccinium corymbosum*), halberd-leaved tearthumb (*Polygonum arifolium*), and beggar-tick (*Bidens sp.*). Additional surveys at this site are needed to assess the quality of the two populations, assess potential threats, and to make management recommendations.

USGS QUADRANGLE MAP: Carroll (46)

Code	TNC Ranks		Federal Status	State Status	Last Seen	Quality
	Global	State				
SPECIAL PLANT: SP504*	G3	S3	LE	PE	1996	BC

* Also on the Williamsport Southeast USGS Quadrangle

Carroll Quadrangle:

SP504 – UPDATE- (Lewis Twp., Union County & Washington Twp., Lycoming County) “Mohn Mill Ponds” This vernal pond community consisting of approximately 28 ponds was revisited in 1995 and 1996. A marginal to good population of a federally Endangered, G3, PA-Endangered plant (SP504) was once again found growing at the site in Bald Eagle State Forest during both visits. Since the 1993 report, the global rank of this species has changed from G2 to G3. The plant was identified in four ponds. Associated species include three-way sedge (*Dulichium arundinaceum*), Sphagnum moss (*Sphagnum sp.*), and cinnamon fern (*Osmunda cinnamomea*). Many amphibian species, including the wood frog (*Rana sylvatica*) and red-spotted newt (*Notophthalmus viridescens*) were also observed using the vernal ponds. Deer browse appears to be the only current threat to the endangered plant. Management recommendations include additional visits to the site to monitor the existing plant species of concern and amphibian populations, to monitor water quality, and to search for more populations of the plant species of concern in other ponds. Any proposed logging activities in or near the site should be discouraged.

USGS QUADRANGLE MAP: Cedar Run (50)

	Code	TNC Ranks		State Status	Last Seen	Quality
		Global	State			
SPECIAL ANIMAL:	SA521	G3G4	S3	PT	6/22/93	E

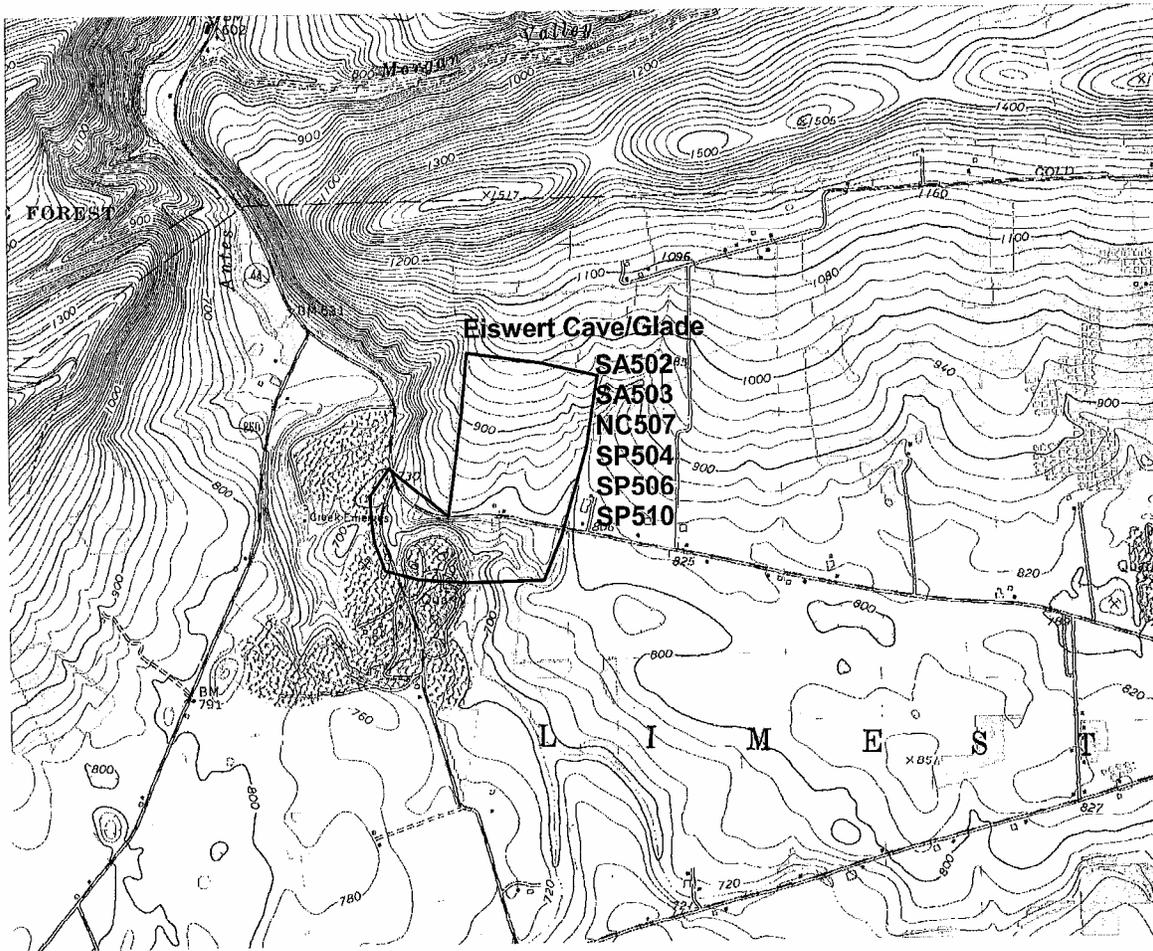
Cedar Run Quadrangle:

SA521 – UPDATE - (Brown Twp.) “Cedar Run Outcrop” A survey for a PA-Threatened animal species (SA521) was conducted in June of 1993 at this site located in the Tioga State Forest. Since the 1993, the global rank of this species was changed from G5T4Q to G3G4. The previous survey for this animal occurred in 1990. Signs of the animal were once again seen at the site. Because of the extremely steep and hazardous nature of this scattered and loose sandstone outcrop, the surveyors were unable to accurately determine the population size. More extensive surveys that include trapping are needed before the quality of this animal population can be determined. Minimizing disturbance and maintaining a forested buffer would be beneficial to this species.

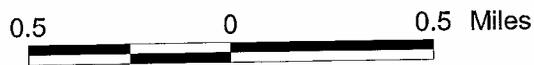
USGS QUADRANGLE MAP: Linden (94)

	Code	<u>TNC Ranks</u>		State Status	Last Seen	Quality
		Global	State			
SPECIAL PLANT:	SP510	G5	S1	TU	5/6/95	E
SPECIAL ANIMALS:	SA502	G3	S1B,S1N	PT	3/3/96	B
	SA503	G4	S3B,S3N	N/A	3/3/96	E

Linden Quadrangle



Scale: 1:18,000



Linden Quadrangle:

SP510, SA502, and SA503 – UPDATE - (Limestone Twp.) “Eiswert Cave & Glade:” The cave at this site was resurveyed by the PA Game Commission during March of 1996. A good-quality population of a G3, PA Threatened animal species (SA502) and a population of a G4 animal species of concern (SA503) still occur here. This cave continues to hold one of the largest concentrations in the state of SA502. Additional surveys are needed to assess the size and quality of the SA503 population. The Eiswert Cave is gated and continues to be managed by the PA Game Commission. Therefore, no threats are currently evident.

A population of a PA shrub (SP510) species of concern was found in 1994 and again in 1995 growing at this site near Route 44. The glade is an open, south - facing slope in limestone soils at the crest of a hill. Associated species include gray dogwood (*Cornus foemina*), red cedar (*Juniperus virginiana*), yellow sweet clover (*Melilotus officinalis*), pignut hickory (*Carya glabra*), white ash (*Fraxinus americana*), and slippery elm (*Ulmus rubra*). Deer browse and cutting for maintenance activities are potential threats to the shrub. Additional surveys are needed to adequately determine the size and quality of the shrub population. The boundary of this site was redrawn to include this new plant species of concern.

USGS QUADRANGLE MAP: Sonnestown (128)

	Code	TNC Ranks		State Status	Last Seen	Quality
		Global	State			
SPECIAL ANIMAL:	SA504	G5	S2	N/A	7/19/94	E

Sonnestown Quadrangle:

SA504 – UPDATE – (Penn Twp.) “Beaver Lake at Bad Hill” This lake, which was revisited in July of 1994, is primarily used for recreation. A portion of the lake shoreline is developed with seasonal and permanent residences. Aquatic vegetation is abundant and includes spatterdock (*Nuphar lutea*), water lily (*Nymphaea odorata*), pondweed (*Potamogeton sp.*), bladderwort (*Utricularia sp.*), and duckweed (*Lemna sp.*). A PA animal species (SA504) of concern was observed at the lake during the most recent field visit. Additional surveys are needed to determine the size and the quality of the population. Drawdown of the lake, development of the lakeshore, and poor water quality of the lake are threats to this animal species.

USGS QUADRANGLE MAP: Williamsport Southeast (142)

	Code	TNC Ranks		Federal Status	State Status	Last Seen	Quality
		Global	State				
SPECIAL PLANT:	SP505*	G3	S3	LE	PE	1996	BC

*Also on the Carroll USGS Quadrangle

Williamsport Southeast Quadrangle:

SP505 – UPDATE- (Lewis Twp., Union County & Washington Twp., Lycoming County) “Mohn Mill Ponds” This vernal pond community consisting of approximately 28 ponds was revisited in 1995 and 1996. A marginal to good population of a federally endangered, G3, PA-Endangered plant (SP505) was once again found growing at the site on Bald Eagle State Forest during both visits. Since the 1993, the global rank of this species had changed from G3 to G2. The plant was identified in four ponds. Associated species include three-way sedge (*Dulichium arundinaceum*), sphagnum moss (*Sphagnum sp.*), and cinnamon fern (*Osmunda cinnamomea*). Many amphibian species, including the wood frog (*Rana sylvatica*) and red-spotted newt (*Notophthalmus viridescens*) were also observed using the vernal ponds. Deer browse appears to be the only current threat to the endangered plant. Management recommendations include additional visits to the site to monitor the existing plant species of concern and amphibian populations, to monitor water quality, and to search for more populations of the plant species of concern in other ponds. Any proposed logging activities in or near the site should be discouraged.