

<h1>Regulatory Analysis Form</h1> <p>(Completed by Promulgating Agency)</p> <p>(All Comments submitted on this regulation will appear on IRRC's website)</p>		<p>INDEPENDENT REGULATORY REVIEW COMMISSION</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);"> RECEIVED IRRC 2018 SEP 11 P 3:57 </p>	
<p>(1) Agency Department of Conservation and Natural Resources</p>		<p>IRRC Number: 3184</p>	
<p>(2) Agency Number: 7B Identification Number: 8</p>			
<p>(3) PA Code Cite: 17 Pa. Code Chapter 45</p>			
<p>(4) Short Title: Conservation of Pennsylvania Native Wild Plants</p>			
<p>(5) Agency Contacts (List Telephone Number and Email Address):</p> <p>Primary Contact: Rebecca H. Bowen, Chief, Ecological Services, Bureau of Forestry, Department of Conservation and Natural Resources, P.O. Box 8552, Harrisburg, PA 17105-8552; 717-787-3444; rebbowen@pa.gov, or contact RA-Ch45WildPlants@pa.gov</p> <p>Secondary Contact: Stephen Ekema-Agbaw, Assistant Counsel, Office of Chief Counsel, Department of Conservation and Natural Resources, P.O. Box 8767, Harrisburg, PA 17105; 717-772-4171; sekema@pa.gov</p>			
<p>(6) Type of Rulemaking (check applicable box):</p> <p> <input type="checkbox"/> Proposed Regulation <input checked="" type="checkbox"/> Final Regulation <input type="checkbox"/> Final Omitted Regulation </p>		<p> <input type="checkbox"/> Emergency Certification Regulation; <input type="checkbox"/> Certification by the Governor <input type="checkbox"/> Certification by the Attorney General </p>	
<p>(7) Briefly explain the regulation in clear and nontechnical language. (100 words or less)</p> <p>This rulemaking amends 17 Pa. Code Chapter 45 by doing the following: 1) updating the classification lists of native wild plants; 2) updating the scientific and common names of certain native wild plants; and 3) updating the reference source that the DCNR uses for the names of native wild plants.</p> <p>Regarding updates to the classification lists of native wild plants, this rulemaking amends the following classification lists: Pennsylvania Extirpated (§ 45.11); Pennsylvania Endangered (§ 45.12); Pennsylvania Threatened (§ 45.13); Pennsylvania Rare (§ 45.14); and Tentatively Undetermined (§ 45.21).</p> <p>This rulemaking amends the classification lists in the following ways: 1) adding plants that are currently unclassified, to a classification list; 2) reclassifying plants already on a classification list, to a new classification; and 3) removing plants from the classification lists altogether (declassifying them).</p>			

(8) State the statutory authority for the regulation. Include specific statutory citation.

This rulemaking is authorized by the following statutes:

Section 7 of the Wild Resource Conservation Act (WRCA) (32 P.S. § 5307);

Section 305(a)(9) of the Conservation and Natural Resources Act (71 P.S. § 1340.305(a)(9)); and

Section 313(g) of the Conservation and Natural Resources Act (CNRA) (71 P.S. § 1340.313(g)).

The WRCA provides “the Department of Environmental Resources shall...conduct investigations on wild plants in order to ascertain information relating to other biological and ecological data to classify plants and to determine management measures necessary for their continued ability to sustain themselves successfully.” (32 P.S. § 5307(a)). “On the basis of such determinations, the Environmental Quality Board shall issue regulations not later than two years from the effective date of this act” (referring to the WRCA). “The Environmental Quality Board may add or delete species as conditions change and may modify regulations to reflect the changing environment.” (32 P.S. § 5307(c)).

The CNRA transfers to the DCNR “the powers and duties vested in the [now abolished] Department of Environmental Resources” (the DCNR’s predecessor in interest), by the WRCA (71 P.S. § 1340.305(a)(9)), and “the powers and duties previously vested the Environmental Quality Board, by sections 7, 8, and 9” of the WRCA (71 P.S. § 1340.313(g)).

(9) Is the regulation mandated by any federal or state law or court order, or federal regulation? Are there any relevant state or federal court decisions? If yes, cite the specific law, case or regulation as well as, any deadlines for action.

This rulemaking is not mandated by any federal or state law; instead, Section 7 of the WRCA authorizes the DCNR to modify its native wild plant regulations to reflect the changing conditions of the environment (32 P.S. § 5307(c)).

The provisions of 17 Pa. Code Chapter 45 have been in effect and unchanged since 1988. In the intervening years, the Commonwealth’s native wild plant populations have experienced significant changes due to environmental and economic factors. Additionally, new technology has enhanced the Department’s ability to accurately research and classify the Commonwealth’s native wild plant species. For these reasons, the Department proposes to amend 17 Pa. Code Chapter 45.

The DCNR found no relevant state or federal court decisions concerning amendments to the Commonwealth’s native wild plant classifications.

(10) State why the regulation is needed. Explain the compelling public interest that justifies the regulation. Describe who will benefit from the regulation. Quantify the benefits as completely as possible and approximate the number of people who will benefit.

The Department needs to promulgate this rulemaking to update the classifications of Pennsylvania’s native wild plants.

The provisions of 17 Pa. Code Chapter 45 have been in effect and unchanged since 1988. In the intervening years, the Commonwealth’s native wild plant populations have experienced significant

changes due to environmental and economic factors. Additionally, new technology has enhanced the Department's ability to accurately research and classify the Commonwealth's native wild plant species. For these reasons the current classification lists of native wild plants are inaccurate and out-of-date, thereby leaving the Commonwealth's native wild plant populations more vulnerable.

The legislature enacted the WRCA to enhance the protection of native wild plants and non-game animals in Pennsylvania. The WRCA requires the DCNR to conduct investigations on native wild plants in order to ascertain information relating to population, distribution, habitat needs, limiting factors and other biological and ecological data. The DCNR then uses this data to classify native wild plants and determine how to best manage and protect them.

The DCNR has collected a plethora of data on native wild plant populations in Pennsylvania since 1988 and has prepared a list of plant species that need to be classified, reclassified or declassified, based on population size, distribution, and habitat needs, across the Commonwealth. The DCNR proposes this rulemaking to update the classifications of Pennsylvania's native wild plant species, pursuant to its new data.

There is a compelling public interest in maintaining accurate and up-to-date classifications of Pennsylvania's native wild plants, which justifies this rulemaking. The WRCA requires the DCNR to maintain an accurate list of Pennsylvania's native wild plants, classifying them based on rareness and their ability to sustain populations throughout the Commonwealth, thereby enhancing the protection of Pennsylvania's native wild plants. This rulemaking thus satisfies a legal duty to the citizens of Pennsylvania and helps to protect Pennsylvania's native wild plants by ensuring that the DCNR and other conservation groups are targeting the appropriate plant species in their conservation efforts.

State, county, and municipal conservation planning officials, conservation groups, and other organizations concerned with the welfare of the environment will benefit from this rulemaking, because it more accurately represents the plant species in need of the most protection. The updated plant classifications will better inform the assessment of planning, development, and conservation activities by these groups. For example, the Pennsylvania Department of Environmental Protection (DEP) issues approximately 16,000 environmental permits annually; the DEP relies on the plant species data being updated by this rulemaking as part of making each of its permitting decisions.

Finally, millions of citizens throughout the Commonwealth will benefit from this rulemaking by having access to a more accurate representation of native plant species that need protection. Moreover, this rulemaking supports the Commonwealth's constitutional mandate that public natural resources be conserved and maintained for the benefit of all people (Pa. Const. Art. I, § 27).

(11) Are there any provisions that are more stringent than federal standards? If yes, identify the specific provisions and the compelling Pennsylvania interest that demands stronger regulations.

This rulemaking is not more stringent than federal standards because it covers a smaller subject area than applicable federal standards, making any comparison incongruous.

At the federal level, the Endangered Species Act (ESA) is administered by the United States Fish and Wildlife Service (USFWS). Under the ESA, the USFWS reviews plant and animal populations and population distributions throughout the country (16 U.S.C. § 1531 *et seq.*). The USFWS lists and protects plant and animal species that are native to the United States, whereas the DCNR solely reviews and lists plants for protection that are native to Pennsylvania.

As a result, the USFWS may list native plants that are declining throughout the United States, but flourishing in, or otherwise not found in Pennsylvania. Conversely, plant species that are flourishing throughout the rest of the United States, but have declining populations in Pennsylvania, may be listed for state protection by the DCNR, but remain unlisted by the USFWS.

(12) How does this regulation compare with those of the other states? How will this affect Pennsylvania's ability to compete with other states?

This rulemaking is comparable to native wild plant regulations in surrounding states (such as Maryland, New Jersey, and Ohio), which also classify plants based on rarity.

This rulemaking will not affect Pennsylvania's ability to compete with other states because Pennsylvania's plant classification process is similar to that of other states.

(13) Will the regulation affect any other regulations of the promulgating agency or other state agencies? If yes, explain and provide specific citations.

No, this rulemaking will not affect any other regulations of the DCNR and will not require other departments or state agencies to update or change their regulations.

(14) Describe the communications with and solicitation of input from the public, any advisory council/group, small businesses and groups representing small businesses in the development and drafting of the regulation. List the specific persons and/or groups who were involved. ("Small business" is defined in Section 3 of the Regulatory Review Act, Act 76 of 2012.)

The DCNR sought input on this rulemaking from the following groups:

- The Pennsylvania Biological Survey (PABS)
- Vascular Plant Technical Committee (VPTC)
- Rare Plant Forum (RPF)
- The Pennsylvania Department of Environmental Protection (DEP)
- The Pennsylvania Fish and Boat Commission (PFBC)
- The Pennsylvania Game Commission (PGC)
- The Conservation and Natural Resources Advisory Council (CNRAC)
- The Ecosystem Management Advisory Committee (EMAC)

The Pennsylvania Biological Survey (PABS) was formed in 1979 and is a nonprofit organization whose mission is “to increase the knowledge of and foster the perpetuation of the natural biological diversity of the Commonwealth of Pennsylvania.” The VPTC and RPF are sub-groups within PABS.

The Vascular Plant Technical Committee (VPTC) is a steering committee of PABS that focuses specifically on vascular plants. The VPTC votes on recommendations about native wild plant species, then provides recommendations to the DCNR for further consideration. The DCNR discussed this rulemaking with the VPTC in detail in April 2012, November 2012, April 2013, October 2013, April 2014, November 2014, April 2015, November 2015, and April 2016.

The Rare Plant Forum (RPF) is a discussion group within PABS that is open to the public. Many members of the VPTC also attend the RPF, but it is a venue for any citizen in the Commonwealth who has an interest in plants to share information. Members of this group present scientific findings on plant species and population trends which the VPTC then reviews and considers. The DCNR briefed RPF on this rulemaking at RPF meetings in 2012, 2013, 2014, 2015 and 2016.

Pennsylvania Department of Environmental Protection (DEP):

The DCNR met with the DEP to discuss this rulemaking in 2014 and again in 2015. The DCNR presented this rulemaking to the DEP Chapter 102/105 Annual Training Conference on October 29, 2014, and to the DEP’s Citizen’s Advisory Committee on January 21, 2015

Pennsylvania Fish and Boat Commission (PFBC):

The DCNR discussed the rulemaking with natural diversity biologists at the PFBC to solicit their feedback and comments, in 2014.

Pennsylvania Game Commission (PGC):

The DCNR discussed the rulemaking with natural diversity biologists at the PGC to solicit their feedback and comments, in 2014.

DCNR Advisory Committees:

The DCNR presented this rulemaking to two advisory committees: the Conservation and Natural Resources Advisory Council (CNRAC) and the Ecosystem Management Advisory Committee (EMAC). The Department presented this rulemaking to CNRAC (made up of members appointed by the Governor and legislature) on July 23, 2014 and to EMAC (made up of forestry, biology, industry, and research professionals) on October 8 2014.

(15) Identify the types and number of persons, businesses, small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012) and organizations which will be affected by the regulation. How are they affected?

The Department cannot accurately determine the types and number of persons, businesses, small businesses and organizations that will be affected by this rulemaking; however, any effect this rulemaking may have on those entities will be through their use of the Pennsylvania Natural Diversity Inventory (PNDI).

PNDI is a database that incorporates the DCNR's native wild plant classifications, as well as native rare wildlife classifications from the PGC, the PFBC and the USFWS. The overwhelming majority of PNDI users utilize PNDI to screen their land use projects for impacts to threatened and endangered species as part of the DEP's permit application process (The DEP issues approximately 16,000 environmental permits annually). For example, if a real estate developer wants a DEP permit to conduct a new land use project in the Commonwealth, it must screen the details of its project through PNDI to determine whether its project might impact any threatened or endangered species and what mitigation it needs to do address these potential impacts.

Any potential effects of this rulemaking would be limited to PNDI users who conduct PNDI searches in areas with plants newly classified or declassified by this rulemaking. For example, *Elephantopus Carolinianus* Raeusch, commonly known as "Elephant's Foot," is a plant located in Chester County and currently classified as "Pennsylvania Endangered." This rulemaking proposes to declassify Elephant's Foot and remove it from the DCNR's regulated list of native wild plants. Thus, following this rulemaking, land developers and other PNDI users conducting PNDI searches in Chester County, will no longer have to address impacts to Elephant's Foot, to receive a DEP permit. The opposite is true of *Goodyera tessellata* Lodd, commonly known as "Checkered Rattlesnake-Plantain," which this rulemaking proposes to reclassify from "Tentatively Undetermined," to "Pennsylvania Endangered."

Despite the above examples, there are simply too many variables and considerations involved, for the Department to accurately identify the types and number of persons, businesses, small businesses, and organizations that might be affected by this rulemaking. The Department cannot predict who will run a PNDI search or where an entity might run its PNDI search. Even assuming the Department could make these predictions, it would then have to consider the projects in question.

Projects differ based on a myriad of variables: size, type, specific location of ground impact, presence of classified plants, specific classified plants in question, duration of project, etc. Each of these variables, either individually or in concert with one or more of the other variables, could alter whether a project impacts a particular plant species. For example, an entity may screen a project through PNDI with an area that is larger than the actual area of ground impact. The larger area might impact a plant species classified by this rulemaking, meaning that this rulemaking would affect the project and entity in question; however, the actual area of impact might not affect any classified plant species, meaning that this rulemaking would not affect the project and entity in question; (unless of course the reason that the smaller actual area of ground impact does not affect any classified plant species is because this rulemaking specifically declassified such species in that area, in which case this rulemaking would affect the project and entity in question, by reducing its regulatory burden).

These are the types of speculative considerations that make it impracticable for the Department to accurately determine the types and number of persons, businesses, small businesses and organizations that will be affected by this rulemaking. The Department would like to specifically note, however, that this rulemaking will **declassify more plants than it classifies**.

(16) List the persons, groups or entities, including small businesses that will be required to comply with the regulation. Approximate the number that will be required to comply.

This rulemaking does not require compliance by any group or entity, including small businesses. This rulemaking simply updates Pennsylvania's classified lists of native wild plants, updates the scientific

and common names of certain native wild plants and updates the reference source of the nomenclature that the Department uses for native wild plant species taxonomy. As discussed above, some groups or entities may be indirectly affected by this rulemaking to the extent that these groups or entities have to engage PNDI to obtain environmental permits.

(17) Identify the financial, economic and social impact of the regulation on individuals, small businesses, businesses and labor communities and other public and private organizations. Evaluate the benefits expected as a result of the regulation.

Financial/Economic Impact

There will be no financial or economic impact on individuals, small businesses, businesses and labor communities or other public and private organizations as a result of this rulemaking. As stated in the response to question 15, any potential effect of this rulemaking would be limited to PNDI users who are already subject to a financial impact when engaging PNDI to obtain a DEP permit. This rulemaking will not affect that financial impact, nor will it add any additional financial or economic impacts.

Expected Benefits

This rulemaking will make it easier for public and private organizations to care for the environment, by providing a more accurate and current list of the plants in need of the most protection.

Social Impact

This rulemaking will have a positive social impact on public and private organizations that are interested in protecting the Commonwealth's natural resources (e.g. environmental consultants, non-profits, conservation agencies, etc.).

(18) Explain how the benefits of the regulation outweigh any cost and adverse effects.

As stated in the response to question 10 above, this rulemaking benefits state, county and municipal planning officials, conservation groups, organizations concerned with the welfare of the environment, and millions of citizens across the Commonwealth. These groups benefit by having a more accurate representation of the Commonwealth's native wild plant species that need the most protection. Further, because there are no direct costs or adverse effects that will result from this rulemaking, its benefits outweigh any potential costs.

(19) Provide a specific estimate of the costs and/or savings to the regulated community associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

There is no regulated community associated with this rulemaking. This rulemaking regulates the Commonwealth's native wild plants.

(20) Provide a specific estimate of the costs and/or savings to the local governments associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

There are no direct costs or savings to local governments associated with this rulemaking. This rulemaking simply proposes to update the classifications of Pennsylvania's native wild plants; it does not prescribe or prohibit local governments from taking any specific actions. To the extent that local governments are indirectly affected by this rulemaking when screening land use projects through PNDI for the purpose of obtaining a DEP permit, this rulemaking has no direct effect on the costs to local government of going through the process to obtain a DEP permit.

(Please see the response to item (15) for more background on the DEP PNDI permitting process.)

(21) Provide a specific estimate of the costs and/or savings to the state government associated with the implementation of the regulation, including any legal, accounting, or consulting procedures which may be required. Explain how the dollar estimates were derived.

There are no direct costs or savings to state government associated with implementing this rulemaking. The purpose of this rulemaking is to update Pennsylvania's native wild plant classifications. By promulgating this rulemaking, the Department will be implementing it.

(22) For each of the groups and entities identified in items (19)-(21) above, submit a statement of legal, accounting or consulting procedures and additional reporting, recordkeeping or other paperwork, including copies of forms or reports, which will be required for implementation of the regulation and an explanation of measures which have been taken to minimize these requirements.

There will be no additional procedures, forms, or reports required for implementation of this rulemaking.

(22a) Are forms required for implementation of the regulation?

No.

(22b) If forms are required for implementation of the regulation, attach copies of the forms here. If your agency uses electronic forms, provide links to each form or a detailed description of the information required to be reported. Failure to attach forms, provide links, or provide a detailed description of the information to be reported will constitute a faulty delivery of the regulation.

Forms are not required for implementation of this regulation.

(23) In the table below, provide an estimate of the fiscal savings and costs associated with implementation and compliance for the regulated community, local government, and state government for the current year and five subsequent years.

	Current FY Year	FY +1 Year	FY +2 Year	FY +3 Year	FY +4 Year	FY +5 Year
SAVINGS:	\$	\$	\$	\$	\$	\$
Regulated Community						
Local Government						
State Government						
Total Savings	None	None	None	None	None	None
COSTS:						
Regulated Community						
Local Government						
State Government						
Total Costs	None	None	None	None	None	None
REVENUE LOSSES:						
Regulated Community						
Local Government						
State Government						
Total Revenue Losses	None	None	None	None	None	None

(23a) Provide the past three-year expenditure history for programs affected by the regulation.

*There is no designated funding source for the Wild Plant Program; instead several employees in the Department's Bureau of Forestry allocate a portion of their time to working in the program. The Department estimated the portion of time that its employees allocated to the Wild Plant Program, and calculated the commensurate portion of their salaries; these figures are listed in the first row below.

Program	FY -3 2015-2016	FY -2 2016-2017	FY -1 2017-2018	Current FY 2018-2019
Ecological Services Section Wild Plant Program	\$109,000	\$109,000	\$119,000	\$120,000
DCNR Contract cost for Natural Heritage Program Services for Wild Plant Program (data management, collection, environmental review)	\$518,000	\$539,000	\$559,000	\$576,000

(24) For any regulation that may have an adverse impact on small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012), provide an economic impact statement that includes the following:

- (a) An identification and estimate of the number of small businesses subject to the regulation.
- (b) The projected reporting, recordkeeping and other administrative costs required for compliance with the proposed regulation, including the type of professional skills necessary for preparation of the report or record.
- (c) A statement of probable effect on impacted small businesses.
- (d) A description of any less intrusive or less costly alternative methods of achieving the purpose of the proposed regulation.

This rulemaking will not have an adverse impact on small businesses. Please also see the response to item (15) above.

(25) List any special provisions which have been developed to meet the particular needs of affected groups or persons including, but not limited to, minorities, the elderly, small businesses, and farmers.

The DCNR has not identified any affected groups or persons that might have particular needs relevant to this rulemaking.

(26) Include a description of any alternative regulatory provisions which have been considered and rejected and a statement that the least burdensome acceptable alternative has been selected.

Because of the statutory mandate of the WRCA, no other regulatory alternatives were considered.

(27) In conducting a regulatory flexibility analysis, explain whether regulatory methods were considered that will minimize any adverse impact on small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012), including:

- a) The establishment of less stringent compliance or reporting requirements for small businesses;
- b) The establishment of less stringent schedules or deadlines for compliance or reporting requirements for small businesses;
- c) The consolidation or simplification of compliance or reporting requirements for small businesses;
- d) The establishment of performance standards for small businesses to replace design or operational standards required in the regulation; and
- e) The exemption of small businesses from all or any part of the requirements contained in the regulation.

This rulemaking will not have an adverse impact on small businesses. Please also see the response to item (15) above.

28) If data is the basis for this regulation, please provide a description of the data, explain in detail how the data was obtained, and how it meets the acceptability standard for empirical, replicable and testable data that is supported by documentation, statistics, reports, studies or research. Please submit data or supporting materials with the regulatory package. If the material exceeds 50 pages, please provide it in a searchable electronic format or provide a list of citations and internet links that, where possible, can be accessed in a searchable format in lieu of the actual material. If other data was considered but not used, please explain why that data was determined not to be acceptable.

For detailed descriptions of the individual species, limiting factors, and other biological and ecological data used to classify the plants, please see the Department's Species Accounts, which may be found on the DCNR's wild plant program website:

http://www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_20033071.pdf.

The DCNR used the following data to make decisions about plant classifications: numbers of populations known in Pennsylvania, number of individuals within populations, the plant's range, threats such as pests and invasive species and habitat loss, decrease or increase in population numbers, and taxonomic information (note, this list is not exhaustive). Additionally, each year the VPTC makes classification recommendations for native wild plants, based on the research and expertise of the professional botanists that make up the committee.

An important piece of data that the DCNR uses to make classification decisions are referred to as "state ranks." In Pennsylvania, each plant species receives a state rank from the Pennsylvania Natural Heritage Program (PNHP). The PNHP assigns these ranks based on a methodology created by Nature Serve, an international network of natural heritage programs. The purpose of Nature Serve's methodology is to bring consistency to the biodiversity conservation efforts of individuals and organizations throughout the Western Hemisphere. The methodology is used across North, Central and South America. By using this standard tool, the DCNR ensures its evaluation methods are, at a minimum, equivalent to that of other states and countries in the Western Hemisphere and that its classification decisions are based on sound science.

The DCNR has assimilated and reviewed the VPTC's recommendations and other plant location, population and taxonomic data and has classified the native wild plants in this rulemaking, based on the definitions contained in 17 Pa. Code § 45.2.

(29) Include a schedule for review of the regulation including:

- | | |
|---|-------------|
| A. The length of the public comment period: | 30 days |
| B. The date or dates on which any public meetings or hearings will be held: | Summer 2018 |
| C. The expected date of delivery of the final-form regulation: | Summer 2018 |
| D. The expected effective date of the final-form regulation: | Fall 2018 |
| E. The expected date by which compliance with the final-form regulation will be required: | Fall 2018 |
| F. The expected date by which required permits, licenses or other approvals must be obtained: | N/A |

(30) Describe the plan developed for evaluating the continuing effectiveness of the regulations after its implementation.

The DCNR continues to meet with the VPTC bi-annually and maintains relationships with interested groups and botanical experts to stay abreast of new developments and advances regarding plant populations, trends, and taxonomic changes for native plant species across Pennsylvania. The DCNR plans to frequently update its native wild plant classification lists, to ensure and maintain the accuracy of plant classifications. Such updates may be necessary every few years.

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES**

COMMENT AND RESPONSE DOCUMENT

CONSERVATION OF PENNSYLVANIA NATIVE WILD PLANTS

**17 Pa. Code Chapter 45
47 Pa. B. 7210 (November 25, 2017)
Independent Regulatory Review Commission #3184**

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Introduction

The Department received the following 13 comments from 14 commenters (two commenters submitted the same comment), regarding its rulemaking #7B-8 (relating to Conservation of Pennsylvania Native Wild Plants). Each commenter has a number next to his or her name and each comment has at least one number following it. The number(s) following each comment correspond to the commenter who submitted the comment. The Department's responses follow each comment. The Department did not receive any comments from the Independent Regulatory Review Commission, or the House and Senate Environmental Resources and Energy Committees. The public comments to this rulemaking were overwhelmingly supportive.

Comments and Responses

1. **Comment:** I urge speedy approval of recommended changes. This update is long overdue. (1)

Response: The Department appreciates your support of this rulemaking. The Department is working expeditiously to complete the regulatory review process and promulgate this rulemaking.

2. **Comment:** I am strongly in favor of the Department's proposed reclassifications of 9 Native plants. (2)

Response: The Department appreciates your support of this rulemaking.

3. **Comment:** Thank you for considering an update to the endangered plant list established in 1993. Certainly, updating this valuable information is important for accurately describing vulnerable species to assure their survival. (3)

Response: The Department appreciates your support of this rulemaking. The Department is committed to protecting Pennsylvania's native wild plant species by ensuring they are properly classified based on the most current scientific data available.

4. **Comment:** After more than 2 decades, this plant conservation update is long overdue. The list has been improved by extensive review of scientific evidence. I encourage DCNR to approve this modification and move forward to best protect threatened flora. The program and improvement process are a good model for other states to emulate. (4)

Response: The Department appreciates your support of this rulemaking. The Department is working expeditiously to complete the regulatory review process and promulgate this rulemaking. The Department will continue to regularly monitor and update the classifications of Pennsylvania's native wild plant species, pursuant to the Wild Resource Conservation Act.

5. **Comment:** I approve of and urge adoption of a regulatory update to the list of plants with state conservation status. It appears that the update makes sure we are protecting the right things by updating the list of species and assigning their status according to the best available science. The list has not been updated since it was first published in the regulations in 1993, and our understanding of Pennsylvania's biodiversity has greatly increased since then; many species we once thought were at risk we now understand are secure, while there are other species we did not know were at risk, but we now do. (5)

Response: The Department appreciates your support of this rulemaking and is working expeditiously to complete the regulatory review process and promulgate this rulemaking. The Department will continue to regularly monitor and update the classifications of Pennsylvania's native wild plant species, pursuant to the Wild Resource Conservation Act. The Department is committed to protecting Pennsylvania's native wild plant species by ensuring they are properly classified based on the most current scientific data available.

6. **Comment:** As an individual, I am concerned about plant protection and I applaud the DCNR for targeting its protection list to plants that need it the most. If this list does not pass, I am concerned that important elements of Pennsylvania's biodiversity will not be receiving the protection they need. I would like to thank DCNR for bringing the best available science to update our plant protection list, and suggest they continue doing so. I support the change in plant protection regulations. (6) (7)

Response: The Department appreciates your support of this rulemaking. The purpose of classifying Pennsylvania's native wild plants, is to protect the Commonwealth's biodiversity. The Department is committed to protecting Pennsylvania's native wild plants by ensuring they are properly classified based on the most current scientific data available.

7. **Comment:** On behalf of the Board of Directors and membership of the Pennsylvania Native Plant Society I am writing to express our support of the DCNR and their efforts to protect plants as a critical part of our ecosystem. DCNR has used the best available science to update their plant protection list including data and recommendations from the Pennsylvania Biological Survey's (PABS) Vascular Plant Technical Committee (VPTC); comprised of professional botanists. DCNR also gathered input from a public forum of the VPTC—the Rare Plant Forum; attended by 50-80 amateur and professional botanists from across the state.

Their proposed status changes are based on recognized standards and methodology to assess plant conservation needs and have been extensively reviewed by botanical experts. We do not view this as an increase in regulation but as a fine-tuning, meant to increase efficiency and effectiveness. The proposed changes adjust the list to target protection

towards the plants that need it most. With 9 plants added to the list and 31 plants removed, this proposal will reduce the permit review burden providing more resources for the protection of the target plants. This update will improve protection for biodiversity while enabling better, more accurate and efficient permit review.

By updating this list, the DCNR is acting on its responsibility to classify wild plants as set forth in the Wild Resource Conservation Act. And as a trustee of public natural resources, it is acting to follow the directive of the Pennsylvania Constitution's Article 1, section 27: "the Commonwealth shall conserve and maintain public natural resources for the benefit of all the people."

If this list does not pass, we are concerned that important elements of Pennsylvania's biodiversity will not be receiving the protection they need. (8)

Response: The Department appreciates your support of this rulemaking. The Department worked diligently to review the data and recommendations from the Vascular Plant Technical Committee of the Pennsylvania Biological Survey. The Department relied on the most current scientific data available to ensure that the plant species in this rulemaking were accurately classified. These classifications help ensure that the most vulnerable plant species are accurately identified as needing protection. Additionally, the Department made sure not to impose any additional administrative burden on small businesses through this rulemaking.

8. **Comment:** I am writing to support proposed regulatory updates contained within 17 PA. CODE CH. 45 Conservation of Pennsylvania Native Wild Plants 47 Pa.B. 7210. As a professional botanist, I am concerned about plant protection and applaud the Pennsylvania Department of Conservation and Natural Resources (DCNR) for targeting its protection list to plants most in need. With these updates, DCNR is bringing the best available science to update the Pennsylvania plant protection list. This list is generated and updated from scientific data, extensive discussion and classification recommendations that DCNR receives from the Pennsylvania Biological Survey's (PABS) Vascular Plant Technical Committee (VPTC)—which is comprised of professional botanists.

DCNR also receives input from a public forum of the VPTC—the Rare Plant Forum. As a member of the VPTC, and a regular attendee of the RPF, I am especially aware that the proposed status changes are supported by scientific documentation using nationally recognized standards and methodology to assess plant conservation needs.

Importantly, these proposed changes represent neither an increase or decrease in regulations; rather, they fine-tune existing regulations to increase efficiency and effectiveness. The proposed regulations will not pose any additional permit review burden because there is no net increase in the number of species protected: nine are proposed to be added while thirty-one are proposed to be removed. Specifically, these

proposed updates (1) fix problems with the out-of-date list that are harmful to both conservation and permitting because the old list includes species that don't need protection and leaves out species that do need conservation assistance; (2) will make permit review more efficient by eliminating unnecessary reviews for species no longer deemed in need of conservation help; and (3) will allow the DCNR to come into compliance with a legal requirement to update such lists on a regular basis.

In closing, the DCNR is acting on its responsibility to classify wild plants as set forth in the Wild Resource Conservation Act and is acting to follow the directive of the Pennsylvania Constitution's Article 1, section 27: "the Commonwealth shall conserve and maintain them [public natural resources] for the benefit of all the people." I strongly urge that these much-needed regulatory updates be accepted and adopted by the state of Pennsylvania. (9)

Response: The Department appreciates your support of this rulemaking. The Department worked diligently to review the data and recommendations from the Vascular Plant Technical Committee of the Pennsylvania Biological Survey. The Department relied on the most current scientific data available to ensure that the plant species in this rulemaking were accurately classified. These classifications help ensure that the most vulnerable plant species are accurately identified as needing protection. The Department takes its responsibilities under the Wild Resource Conservation Act seriously, and will continue to regularly monitor and update the classifications of Pennsylvania's native wild plant species. Additionally, the Department made sure not to impose any additional administrative burden on small businesses through this rulemaking.

9. **Comment:** The Penn State (PAC) Herbarium supports DCNR's proposed regulatory update of the Plant Protection List. The Plant Protection List has not been updated for over 20 years and thus, in its present state, does not reflect current research and understanding of Pennsylvania's plant biodiversity. It is imperative that this list reflects the best available science so that plant conservation and the permit process will be more effective and efficient and these valuable natural resources of the Commonwealth will be fully protected.

The proposed changes are not meant to propose additional regulations, but to fine-tune existing regulations and are supported by extensive scientific documentation and review by botanical experts via the Pennsylvania Biological Survey (PABS) Vascular Technical Plant Committee (VPTC) and the Rare Plant Forum. These changes will help DCNR target protection toward the most vulnerable plant species, while enabling more accurate permit review.

Updating the Plant Protection List will also bring DCNR into compliance with their legal mandate to update the list on a regular basis.

The PAC Herbarium fully supports the proposed changes and urges their adoption so that plant biodiversity in the Commonwealth can be effectively managed and protected for future generations. (10)

Response: The Department appreciates your support of this rulemaking and will continue to regularly monitor and update the classifications of Pennsylvania's native wild plant species, pursuant to the Wild Resource Conservation Act. The Department worked diligently to review the data and recommendations from the Vascular Plant Technical Committee of the Pennsylvania Biological Survey and relied on the most current scientific data available to ensure that the plant species in this rulemaking were accurately classified. These classifications help ensure that the most vulnerable plant species are accurately identified as needing protection.

10. **Comment:** I am writing to provide my full support for the PA Department of Conservation and Natural Resources (DCNR) proposal to change its Chapter 45 regulation: Conservation of Pennsylvania Native Wild Plant (regulations). These changes will affect the status of 130 vascular plants on its rare plant list. The proposed changes are the result of careful deliberation by the Vascular Plants Technical Committee (VPTC), which meets twice a year. One of those meetings is the Rare Plant Forum, which is open to the public, and in which most of the changes are proposed and debated.

The VPTC, which I currently chair, has well-established, objective procedures for recommending changes in plant status - including decisions to add or remove plants to the rare plant list. The VPTC is populated by the Commonwealth's top botanists, who collectively have expertise over the range of species classified as vascular plants. Moreover, the committee has expertise in the areas of population biology, genetics, plant physiological ecology, and plant ecology - which is needed to help decide whether a particular species is in danger of extinction over the near or long term. On that basis, decisions made by the group are rendered using the best available science.

While members of the VPTC are committed to species conservation, they also understand the economic and personal implications of decisions to list various taxa. To that end, much of the group's discussion is aimed at conserving the truly rare species, and not conserving those species that are sufficiently common so as to warrant de-listing. As a case in point, of the 130 species under consideration, 9 are proposed for new classification, whereas 31 species are proposed to be de-listed.

Significantly, most (79) of the species under consideration are proposed because of changes in taxonomy. Thanks to advances in molecular genetics and other systematics approaches, the taxonomic status of some species has changed in the past decade or two. The changes proposed by DCNR recognizes those changes in taxonomy, which again highlights the scientific nature of the process.

In all, the changes in regulations proposed by the DCNR are very well thought out, and scientifically sound. They deserve to be approved by the Pennsylvania Legislature. (11)

Response: The Department appreciates your support of this rulemaking and is working expeditiously to complete the regulatory review process and promulgate this rulemaking. The Department worked diligently to review the data and recommendations from the Vascular Plant Technical Committee of the Pennsylvania Biological Survey and relied on the most current scientific data available to ensure that the plant species in this rulemaking were accurately classified. The Department takes its responsibilities under the Wild Resource Conservation Act seriously and to that end, focused not only on classifying plants most in need of protection, but also delisting plants that are thriving in the Commonwealth and no longer need protection. The Department will continue to regularly monitor and update the classifications of Pennsylvania's native wild plant species.

11. **Comment:** I would like to submit comments on the DCNR's proposed regulatory update to plant conservation statuses. I support the regulatory update proposed by DCNR to change the conservation status of some plant taxa to better reflect available scientific data on their needs in Pennsylvania. These status updates are well supported by scientific data and reviewed by botanical experts at the Vascular Plant Technical Committee and the Pennsylvania Natural Heritage Program. These status changes will enhance the efficiency and effectiveness of environmental review work by directing focus to those taxa that actually need conservation attention, while removing focus from those that do not need conservation attention. I commend the DCNR for this routine update to keep plant regulations current with the best available science.

I consider plant conservation to be a very important aspect of DCNR's mission, as plants are foundational to healthy ecosystems, which support human health through water and air quality, as well as through natural resources that enrich our lives in a variety of vital ways ranging from food and shelter to medicine. This regulatory update directly advances DCNR's mandate to classify and protect wild plants through the Wild Resources Conservation Act, and also supports the mandate of Article 1, section 27 of the Pennsylvania constitution that the Commonwealth shall conserve and maintain public natural resources for the benefit of all people. Thank you for these efforts to conserve our state's natural biodiversity richness so that future generations may continue to enjoy them and benefit from them. (12)

Response: The Department appreciates your support of this rulemaking. The Department worked diligently to review the data and recommendations from the Vascular Plant Technical Committee of the Pennsylvania Biological Survey and relied on the most current scientific data available to ensure that the plant species in this rulemaking were accurately classified. The Department takes its responsibilities under the Wild Resource

Conservation Act seriously and will continue to regularly monitor and update the classifications of Pennsylvania's native wild plant species.

12. **Comment:** Environmental regulations pertaining to rare, threatened or endangered (RTE) plants are consistent with the directive of the Pennsylvania Constitution's Article 1, section 27: "the Commonwealth shall conserve and maintain them [public natural resources] for the benefit of all the people." The proposed regulation seeks to revise an outdated list of RTE plants to ensure that current regulatory efforts are in sync with our present understanding of which plants deserve the most protection and which plants, based on new studies or surveys, no longer require such efforts. The regulation has no intent to increase additional permit review burden as there will be no net increase in the number of protected species: the addition of 9 species to the list will be offset by the removal of 31. This is science in action and proof that funding in support of surveys and inventories can benefit everyone (protection for imperiled species; reduced regulatory burden). As a highly fiscally conservative and center right-leaning ecologist I wholeheartedly support the proposed regulation and hope such support will be bipartisan. (13)

Response: The Department appreciates your support of this rulemaking and will continue its work to ensure that Pennsylvania's native wild plants are properly classified and protected. The Department relied on the most current scientific data available and made sure not impose any additional regulatory burden on the public.

13. **Comment:** Would you be kind enough to send me a copy of Native Wild Plant Species Account? (14)

Response: The Department appreciates your interest in this rulemaking and has provided the documents to you per your request.

CDL-1

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**FINAL RULEMAKING
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES**

**17 PA. CODE, CH. 45
CONSERVATION OF PENNSYLVANIA NATIVE WILD PLANTS**

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
[17 PA. CODE CH. 45]
Conservation of Pennsylvania Native Wild Plants

The Department of Conservation and Natural Resources (Department) amends Chapter 45 (relating to conservation of Pennsylvania native wild plants) to read as set forth in Annex A.

A. Effective Date

This rulemaking will go into effect upon final-form publication in the *Pennsylvania Bulletin*.

B. Contact Persons

The primary contact for questions regarding this rulemaking is Rebecca H. Bowen, Chief, Ecological Services, Bureau of Forestry, Department of Conservation and Natural Resources, P.O. Box 8552, Harrisburg, PA 17105-8552, (717) 787-3444, rebbowen@pa.gov. The secondary contact for questions regarding this rulemaking is Stephen Ekema-Agbaw, Assistant Counsel, Office of Chief Counsel, Department of Conservation and Natural Resources, P.O. Box 8767, Harrisburg, PA 17105, (717) 772-4171, sekema@pa.gov.

C. Statutory Authority

This rulemaking is authorized under section 7 of the Wild Resource Conservation Act (WRCA) (32 P.S. § 5307) and sections 305(a)(9) and 313(g) of the Conservation and Natural Resources Act (CNRA) (71 P.S. §§ 1340.305(a)(9) and 1340.313(g)).

Section 7(a) of the WRCA provides that "the [former] Department of Environmental Resources shall . . . conduct investigations on wild plants in order to ascertain information relating to . . . other biological and ecological data to classify plants and to determine management measures necessary for their continued ability to sustain themselves successfully." Under section 7(c) of the WRCA, "[o]n the basis of such determinations, the Environmental Quality Board shall issue regulations not later than two years from the effective date of" the WRCA. Under section 7(c) of the WRCA, "[t]he Environmental Quality Board may add or delete species as conditions change and may modify regulations to reflect the changing environment."

Section 305(a)(9) of the CNRA transferred to the Department "the powers and duties vested in the Department of Environmental Resources by the . . . Wild Resource Conservation Act." The former Department of Environmental Resources was the Department's predecessor in this interest. Section 313(g) of the CNRA transferred to the Department "the powers and duties previously vested the Environmental Quality Board by . . . [s]ections 7, 8 and 9" of the WRCA.

D. Purpose and Background

Purpose

This rulemaking amends Chapter 45 by updating: 1) the classification lists of native wild plants; 2) the scientific and common names of certain native wild plants; and 3) the reference source that the Department uses for the names of native wild plants.

Regarding updates to the classification lists of native wild plants, this rulemaking amends the following classification lists: Pennsylvania Extirpated (§ 45.11); Pennsylvania Endangered (§ 45.12); Pennsylvania Threatened (§ 45.13); Pennsylvania Rare (§ 45.14); and Tentatively Undetermined (§ 45.21).

This rulemaking amends the classification lists by: 1) adding plants that are currently unclassified to a classification list; 2) reclassifying plants already on a classification list to a new classification; and 3) removing plants from the classification lists altogether (declassifying them).

Process of classifying native wild plants in Pennsylvania

Native wild plant species are those plant species that existed in this Commonwealth prior to European settlement. There are approximately 2,800 native wild plant species that currently exist or formerly existed in this Commonwealth. The Department classifies approximately 1/5 of these species because they are a conservation concern; the other 4/5 are considered secure and thus not classified.

The Department begins the process of classifying native wild plants by collecting and analyzing data on native wild plant species in this Commonwealth. The Department uses the following data to make its classification decisions: numbers of populations known in this Commonwealth; number of individuals within populations; the plant's range (amount of ground that it covers); threats such as pests, invasive species and habitat loss; decrease or increase in population numbers; and taxonomic information. The previous list is not exhaustive. The Department analyzes this data to determine the population, distribution, habitat needs, limiting factors, and other biological and ecological information about each plant species.

An important piece of data that the Department uses to make classification decisions are referred to as "State ranks." In this Commonwealth, each plant species receives a State rank from the Pennsylvania Natural Heritage Program (PNHP). The PNHP assigns these ranks based on a methodology created by Nature Serve, an international network of natural heritage programs. The purpose of Nature Serve's methodology is to bring consistency to the biodiversity conservation efforts of individuals and organizations throughout the Western Hemisphere. This methodology is used across North America, Central America and South America. By using this standard tool, the Department ensures its evaluation methods are, at a minimum, equivalent to that of other states and countries in the Western Hemisphere and that its classification decisions are based on sound science.

Throughout this process the Department also receives data, information and recommendations from the Pennsylvania Biological Survey's Vascular Plant Technical Committee (Committee). The Committee is composed of professional botanists working throughout this Commonwealth in academic, consulting, governmental and conservation organizations. Each year, the Committee makes classification recommendations for native wild plants based on the research and expertise of its professional botanists.

The Department assimilates and reviews all data and recommendations it collects and receives, and determines the appropriate classifications for each native wild plant species under the definitions in Chapter 45.

Native wild plant classifications

Under section 7(a) of the WRCA, how plants are classified determines the "management measures necessary for their continued ability to sustain themselves successfully." Native wild plant species that are at risk of extinction in this Commonwealth need greater protection than those less susceptible to this risk.

Chapter 45 designates the level of risk facing native wild plant species in this Commonwealth by classifying them as follows:

Pennsylvania Extirpated (§ 45.11)—A classification of plant species believed to be extinct in this Commonwealth. If a plant species classified as Pennsylvania Extirpated is later found to exist in this Commonwealth it will automatically be considered classified as Pennsylvania Endangered.

Pennsylvania Endangered (§ 45.12)—A classification of plant species that are in danger of extinction throughout most or all of their natural range in this Commonwealth if critical habitat is not maintained or if the species is greatly exploited by man. This classification also includes populations of plant species that have been classified as Pennsylvania Extirpated but are subsequently found to exist in this Commonwealth.

Pennsylvania Threatened (§ 45.13)—A classification of plant species that may become endangered throughout most or all of their natural range in this Commonwealth if critical habitat is not maintained to prevent their further decline, or if the species is greatly exploited by man.

Pennsylvania Rare (§ 45.14)—A classification of plant species that are uncommon in this Commonwealth because they have low population numbers or are only found in restricted geographic areas.

Pennsylvania Vulnerable (§ 45.15)—A classification of plant species that are in danger of population decline in this Commonwealth because of their beauty, economic value, use as a cultivar or other factors which indicate that persons may seek to remove these species from their native habitats.

Special Concern Population (§ 45.20)—A classification of plant species that the Department has determined to be a unique occurrence deserving protection. Among the factors used to classify a plant species as a Special Concern Population are the existence of unusual geographic locations, unisexual populations or extraordinarily diverse plant populations.

Tentatively Undetermined (§ 45.21)—A classification of plant species that are in danger of population decline but do not meet the criteria for any other classification due to taxonomic uncertainties, limited historical records or insufficient data.

Updating species nomenclature

This rulemaking updates the scientific and common names of certain native wild plant species to conform to the Department's new taxonomic source material.

The current nomenclature used to identify species taxonomy in Chapter 45 comes from John T. Kartesz's 1980 publication, *A Synonymized Checklist of the Vascular Flora of the United States, Canada and Greenland, Volume 2: The Biota of North America*. The Department now uses *The Plants of Pennsylvania Second Edition* (2007) by Ann Fowler Rhoads and Timothy A. Block as a reference. This rulemaking updates the reference to reflect the most up-to-date information on native wild plants in this Commonwealth. This necessitates an update to the scientific and common names in Chapter 45 to remain consistent with the new source material. Additionally, this rulemaking corrects minor grammatical errors and misspellings of species names.

Pennsylvania Natural Diversity Inventory

The amendments will be incorporated into the Pennsylvania Natural Diversity Inventory (PNDI).

The PNDI is a database that maintains the Department's list of native wild plant classifications, as well as native rare wildlife classifications from the Game Commission, the Fish and Boat Commission and the United States Fish and Wildlife Service. The PNDI provides the most current, reliable and objective scientific information about ecological resources in this Commonwealth and it is used to help inform environmental decisions in the Commonwealth. Most notably, the Department of Environmental Protection (DEP) uses the PNDI to inform its environmental permitting decisions.

The overwhelming majority of users use the PNDI as part of the process of obtaining a DEP permit. The DEP requires permit applicants to screen their land use projects through the PNDI for potential impacts to threatened or endangered species to receive a DEP permit; threatened and endangered plant species are thereby protected by the DEP's permitting process.

Although this rulemaking will result in updates to the plant data in the PNDI, this rulemaking will not affect the DEP's permitting process. The process of obtaining a DEP permit is beyond the scope of this rulemaking. Instead, the PNDI's connection to this rulemaking is limited to its use of the plant data that will result from the amendments. No person, business, small business or organization will be required to invest in additional administrative procedures as a direct result of this rulemaking.

Finally, because this rulemaking will remove more species from classifications than it adds, there may be fewer classified plant species for prospective DEP permit applicants to account for when applying to obtain DEP permits. Depending on the project type, location and classified plant species in question, prospective DEP permit applicants may see no change in the amount of mitigation required to address impacts to threatened and endangered species and fulfil permit requirements.

E. Response to Comments

The Department published notice of the proposed rulemaking at 47 Pa. B. 7210 (November 25, 2017), with a 30-day public comment period. The Department received 14 comments from the public, two of which were substantively identical. The Department did not receive any comments from the IRRC or the Senate and House Committees.

The public comments were overwhelmingly positive and praised the Department for updating Pennsylvania's native wild plant classifications. Commenters were generally concerned with ensuring that the Commonwealth's most vulnerable plants were properly identified for protection. Additionally, commenters commended the Department for relying on the most current scientific data in classifying the plants in this rulemaking.

The Department addressed the comments from the public in a comment and response document. To obtain a copy of this document, please contact Rebecca Bowen, via the contact information provided in section B.

F. Summary of this Rulemaking and Changes from Proposed to Final-Form Rulemaking

Subchapter A. General provisions

The definition of "unlisted" will be deleted from § 45.2 (relating to definitions) because it is not used in Chapter 45.

Amendments to § 45.3 (relating to classified plant taxonomy) update the taxonomic source material that the Department uses for the nomenclature of native wild plants from John T. Kartesz and Rosemarie Kartesz, *A Synonymized Checklist of the Vascular Flora of the United States, Canada and Greenland, Volume 2: The Biota of North America* (1980), to Ann Fowler Rhoads and Timothy A. Block, *The Plants of Pennsylvania An Illustrated Manual Second Edition* (2007), Philadelphia, Pennsylvania: University of Pennsylvania Press.

Subchapter B. Classified plants

There are 130 substantive amendments to Subchapter B (relating to classified plants), with 79 name changes and 51 classification changes. The substantive amendments include: 9 currently unclassified plant species to be newly classified; 11 currently classified plant species to be reclassified; 31 currently classified plant species to be unclassified; and 79 currently classified plant species with name changes.

For the purposes of this rulemaking, a substantive name change is one that changes the meaning of the plant name (see the following "plant name changes" section). This rulemaking makes minor grammatical corrections to plant names (that is, adding periods, deleting commas and fixing spelling errors) that do not change the meaning of the plant name and are therefore not substantive.

Changes from Proposed to Final-Form Rulemaking

The Department did not make any changes to the Annex from the proposed to the final-form rulemaking. The Department received overwhelming public support for this rulemaking during the public comment period.

Newly classified and reclassified plant species

<i>Scientific Name</i>	<i>Common Name</i>	<i>Current</i>	<i>Final</i>	<i>Reason for Change</i>	<i>Habitat/Identification Window</i>
<i>Asclepias variegata</i> L.	White Milkweed	TU	PE	Population decrease; habitat decline	Dry woods; flowers late May—July
<i>Baptisia australis</i> (L.) R. Br.	Blue False Indigo	N	PT	Population decrease; unique/rare habitat	River cobble bars and banks; flowers May—June, identifiable most months by leaf and seed pod
<i>Coeloglossum viride</i> (L.) Hartm.	Long-Bracted Green Orchis	TU	PE	Population decrease; vulnerable to exploitation	Rich woods; flowers May—August
<i>Cypripedium parviflorum</i> Salisb. var.	Northern Small Yellow Lady's-	N	PE	Taxon split into distinct subspecies; low numbers;	Moist woods, bogs; flowers April—June

<i>makasin</i> (Source: <i>Flora of North America</i>)	Slipper			unique/rare habitat; vulnerable to exploitation	
<i>Epilobium strictum</i> Muhl.	Downy Willow-Herb	PE	PR	Population increase; habitat decline; unique/rare habitat	Wet meadows, marshes, fens, thickets; flowers July—September
<i>Equisetum scirpoides</i> Michx. (Source: <i>Flora of North America</i>)	Dwarf Scouring-Rush	N	PE	Recent discovery in this Commonwealth; low numbers; unique/rare habitat	Wet woods and peaty openings; identifiable year-round
<i>Fraxinus profunda</i> (Bush) Bush	Pumpkin Ash	N	PE	Low numbers; unique/rare habitat; vulnerable to exotic pest	Wet bottomland forest, often in shallow water; identifiable year-round
<i>Goodyera tessellata</i> Lodd.	Checkered Rattlesnake-Plantain	TU	PE	Population decrease; habitat decline; vulnerable to exploitation	Moist coniferous and deciduous forest; flowers July—early September
<i>Lycopodiella margueritae</i> J. G. Bruce, W. H. Wagner & Beitel	Marguerite's Clubmoss	N	PE	Low numbers; global rarity; unique/rare habitat; vulnerable to exploitation	Moist sandy wetlands and shores; sporulates August—October
<i>Lysimachia quadriflora</i> Sims	Four-Flowered Loosestrife	TU	PX	Population extirpated	Wet meadows, fens; flowers July—August
<i>Malaxis bayardii</i> Fernald	Adder's-Mouth	PR	PE	Population decrease; global rarity; vulnerable to exploitation	Dry open upland forest, shale barrens; flowers July—September
<i>Platanthera aquilonis</i> Sheviak, Lindleyana (Source: <i>Flora of North America</i>)	Northern Green Orchid	N	PE	Taxon split into distinct species; low numbers; vulnerable to exploitation	Wet meadows, marshes, fens, stream banks, moist deciduous forest slopes; flowers June—August
<i>Platanthera huronensis</i> (Nutt.) Lindl.	Huron Green Orchid	N	PE	Taxon split into distinct species; low numbers; vulnerable to exploitation	Wet meadows, bogs, woods; flowers June—August
<i>Platanthera peramoena</i> (A. Gray) A. Gray	Purple Fringeless Orchid	TU	PT	Low numbers; unique/rare habitat; vulnerable to exploitation	Moist meadows, low wet woods, ditches; flowers July—August
<i>Potentilla anserina</i> L.	Silverweed	PT	PR	Unique/rare habitat; tolerant of disturbance	Moist sandy or gravelly shores, or ballast; flowers May—June, identifiable by leaf spring—fall
<i>Ratibida pinnata</i> (Vent.) Barnhart	Gray-Headed Prairie	TU	PE	Population decrease	Dry fields, limestone uplands, open road-

	Coneflower				sides; flowers June—August
<i>Rubus cuneifolius</i> Pursh	Sand Blackberry	TU	PE	Population decrease; habitat decline; unique/rare habitat	Sandy dry open thickets and roadsides; flowers May—June, fruits in July, identifiable by leaf spring—fall
<i>Solidago uliginosa</i> Nutt.	Bog Goldenrod	N	PT	Population decrease; unique/rare habitat	Bogs, swamps, wet meadows, fens; flowers August—October
<i>Vitis rupestris</i> Scheele	Sand Grape	PX	PE	Recent rediscovery in this Commonwealth; low numbers; global rarity; unique/rare habitat	River cobble bars and banks; flowers in May, fruits August—Novem- ber; identifiable by leaf spring—fall
<i>Zigadenus glaucus</i> (Nutt.) Nutt.	White Camas	N	PE	Recent discovery in this Commonwealth; low numbers; unique/rare habitat	Limestone ledges; flowers in August

Key: N—Currently Unclassified; PX—Pennsylvania Extirpated (§ 45.11); PE—Pennsylvania Endangered (§ 45.12); PT—Pennsylvania Threatened (§ 45.13); PR—Pennsylvania Rare (§ 45.14); PV—Pennsylvania Vulnerable (§ 45.15); TU—Tentatively Undetermined (§ 45.21)

Classified plant species being declassified

<i>Scientific Name</i>	<i>Common Name</i>	<i>Current</i>	<i>Final</i>	<i>Reason for Change</i>	<i>Habitat/Identification</i>
<i>Alopecurus carolinianus</i> Walt.	Tufted Foxtail	PE	DC	Determined to be nonnative to this Commonwealth; determined to be invasive; high numbers	Swamps, ditches, moist meadows; flowers late May—June
<i>Aster firmus</i> Nees	Firm Aster	TU	DC	Tolerant of disturbance; high numbers	Wet meadows, swamps, fens; flowers August— October
<i>Atriplex littoralis</i> L.	Seaside Orach	PX	DC	Recent rediscovery in this Commonwealth; determined to be nonnative to this Commonwealth	Coastal areas, beaches, salt-treated roadsides; flowers/fruits August— November
<i>Cynanchum laeve</i> (Michx.) Pers.	Smooth Swallow- Wort	PE	DC	Population increase; determined to be invasive; tolerant of disturbance	River banks, agri- cultural fields, road- sides; flowers July— August
<i>Elephantopus</i>	Elephant's-	PE	DC	Population increase;	Open woodlands,

<i>carolinianus</i> Raeusch.	Foot			tolerant of disturbance	woodland borders, serpentine barrens; flowers August—October
<i>Elodea canadensis</i> L. C. Rich.	Broad Waterweed (Male Plants)	TU	DC	High population numbers	Shallow water of rivers, creeks, lakes, ponds; flowers late June—early August
<i>Juncus gymnocarpus</i> Coville	Coville's Rush	PR	DC	Population increase; tolerant of disturbance	Swamps, seeps, springheads; flowers/fruits in summer
<i>Lemna obscura</i> (Austin) Daubs	Little Water Duckweed	PX	DC	Determined to be nonnative to this Commonwealth; tolerant of disturbance	Shallow water, often in disturbed areas; identifiable by leaf spring—fall
<i>Lycopodium selago</i> L.	Mountain Clubmoss	PX	DC	Misidentified; redetermination	Cool boreal cliffs, forests, meadows, shores; sporulates July—September
<i>Myriophyllum heterophyllum</i> (Michx.)	Broad-Leaved Water-Milfoil	PE	DC	Recent rediscovery in this Commonwealth; determined to be nonnative to this Commonwealth	Still water of ponds, lakes; flowers June—July
<i>Nelumbo lutea</i> (Willd.) Pers.	American Lotus	PE	DC	Determined to be nonnative to this Commonwealth; determined to be invasive	Ponds and other quiet water; flowers June—September
<i>Panicum bicknellii</i> Nash (Fernald, M. L., <i>Gray's Manual of Botany</i> , 1970, Eighth Edition)	Bicknell's Panic-Grass	TU	DC	Taxonomic uncertainties	Wet or moist sandy woods; flowers May—early July and late summer—early fall
<i>Panicum longiligulatum</i> Nash (Morris Arboretum, 1992, Pennsylvania Flora Database)	Long-Ligule Panic-Grass	TU	DC	Taxon lumped with another species	Dry woods, slopes, clearings; flowers May—early July and late summer—early fall
<i>Panicum recognitum</i> Fern. (Morris Arboretum, 1992, Pennsylvania Flora Database)	Fernald's Panic-Grass	TU	DC	Taxon lumped with another species	Moist sandy woods; flowers May—early July and late summer—early fall
<i>Paronychia fastigiata</i> (Raf.) Fern. var. <i>paleacea</i>	Chaffy Whitlow Wort	TU	DC	Taxon lumped with another species	Dry, rocky, sandy open woods and edges; flowers July—

Fern.					September
<i>Platanthera hyperborea</i> (L.) Lindl.	Leafy Northern Green Orchid	PE	DC	Misidentified; redetermination	Wet tundra, stream banks; flowers July—August
<i>Polygonum robustius</i> (Small) Fern.	Robust Smartweed	PT	DC	Population increase; disturbance tolerant	Swamps, lake shores, streams; flowers July—October
<i>Potamogeton illinoensis</i> Morong	Illinois Pondweed	TU	DC	High numbers; disturbance tolerant	Rivers, streams, lakes, ponds; flowers/fruits summer—fall
<i>Prenanthes crepidinea</i> Michx.	Crepis Rattlesnake-Root	PE	DC	Population increase	Open and forested floodplains, banks; flowers August—November
<i>Pycnanthemum pycnanthemoides</i> (Leavenw.) Fern.	Southern Mountain-Mint	PE	DC	Misidentified; redetermination	Open habitat; flowers July—September
<i>Solidago purshii</i> Porter	Pursh's Goldenrod	TU	DC	Taxon lumped with another species	Bogs, swamps, sedge meadows, fens; flowers August—October
<i>Spirodela punctata</i> (Mey.) C. H. Thompson	Eastern Water-Flaxseed	TU	DC	Determined to be nonnative to this Commonwealth	Ponds, lakes, swamps, sluggish streams; identifiable by leaf spring—fall
<i>Tradescantia ohioensis</i> Raf.	Ohio Spiderwort	TU	DC	High numbers; disturbance tolerant	Alluvial woods, waste ground; flowers May—July
<i>Trautvetteria caroliniensis</i> (Walt.) Vail	Carolina Tassel-Rue	PR	DC	High numbers; disturbance tolerant	Wooded seepage slopes, stream banks, bogs; June—July
<i>Utricularia inflata</i> Walt.	Floating Bladderwort	PX	DC	Determined to be nonnative to this Commonwealth; determined to be invasive	Lakes, ponds, standing water; flowers May—October
<i>Utricularia minor</i> L.	Lesser Bladderwort	PT	DC	Population increase; disturbance tolerant; determined to be invasive	Lakes, ponds, swamps, standing water; flowers June—August
<i>Utricularia purpurea</i> Walt.	Purple Bladderwort	PR	DC	Population increase; disturbance tolerant	Lakes, ponds, standing water; flowers July—early September
<i>Veronica catenata</i> Pennell	Pennell's Speedwell	TU	DC	Taxonomic uncertainties	Wet fields, ditches, stream edges in shallow water; flowers May—September
<i>Viola nephrophylla</i> Greene	Northern Bog Violet	TU	DC	Misidentified; redetermination	Bogs, wet meadows, ditches, stream banks;

					flowers May—July
<i>Viola pedatifida</i> G. Don	Prairie Violet	PE	DC	Misidentified; redetermination	Open prairies, savannas; flowers April—June
<i>Zannichellia palustris</i> L.	Horned Pondweed	TU	DC	Population increase; disturbance tolerant	Streams, ponds, lakes, springs, tidal mudflats; flowers May—October

Key: DC—Declassified; N—Currently Unclassified; PX—Pennsylvania Extirpated (§ 45.11); PE—Pennsylvania Endangered (§ 45.12); PT—Pennsylvania Threatened (§ 45.13); PR—Pennsylvania Rare (§ 45.14); PV—Pennsylvania Vulnerable (§ 45.15); TU—Tentatively Undetermined (§ 45.21)

Plant name changes

Pennsylvania Extirpated (§ 45.11)

The names of 16 native wild plant species classified as Pennsylvania Extirpated will be amended as follows:

Carex aenea Fern. to *Carex foenea* Willd.

Erianthus giganteus (Walt.) Muhl. to *Saccharum giganteum* (Walter) Pers.

Eupatorium album L. to *Eupatorium album* L. var *album*

Gentianopsis procera (Holm) Ma. to *Gentianopsis virgata* (Raf.) Holub

Helianthus angustifolius L. to *Helianthus angustifolius* L.

Hypericum stans (Michx.) P. Adams & Robson to *Hypericum crux-andreae* (L.) Crantz

Koeleria cristata (L.) Pers. to *Koeleria macrantha* (Ledeb.) Schultes

Lycopodium sabinifolium Willd. to *Diphasiastrum sabinifolium* (Willd.) Holub.

Panicum leibergii (Vasey) Scribn. (Gleason, H. A. and A. Cronquist, *Manual of Vascular Plants of Northeastern United States and Adjacent Canada*, 1991, Second Edition) to *Dichanthelium leibergii* (Vasey) Freckmann

Panicum spretum Schultes (Gleason, H. A. and A. Cronquist, *Manual of Vascular Plants of Northeastern United States and Adjacent Canada*, 1991, Second Edition) to *Dichanthelium spretum* (Schult.) Freckmann

Phoradendron serotinum (Raf.) M. C. Johnston to *Phoradendron leucarpum* (Raf.) Reveal & M. C. Johnst.

Sagittaria stagnorum Small to *Sagittaria filiformis* J. G. Sm.

Scirpus heterochaetus Chase to *Schoenoplectus heterochaetus* Chase (Sojak)

Sisyrinchium arenicola E. P. Bickn. to *Sisyrinchium fuscatum* E. P. Bicknell

Sparganium minimum (Hartm.) Fries to *Sparganium natans* L.

Triglochin palustre L. to *Triglochin palustris* L.

Pennsylvania Endangered (§ 45.12)

The names of 28 native wild plant species classified as Pennsylvania Endangered will be amended as follows:

Alisma plantago-aquatica L. var. *americana* Schultes & Schultes to *Alisma triviale* Pursh

Aster borealis (Torr. & Gray) Prov. to *Symphyotrichum boreale* (Torr. & Gray) Á. Löve & D. Löve

Aster nemoralis Ait. to *Oclemena nemoralis* (Aiton) E. Greene

Aster solidagineus Michx. to *Sericocarpus linifolius* (L.) Britton, Stearns & Poggenb.

Aster spectabilis Ait. to *Eurybia spectabilis* (Aiton) Nesom

Cerastium arvense (L.) var. *villosissimum* Pennell to *Cerastium velutinum* Raf. var. *villosissimum* (Pennell) J. K. Morton

Cymophyllus fraseri (Andr.) Mackenzie to *Cymophyllus fraserianus* (Ker Gawl.) Kartesz & Gandhi

Cypripedium parviflorum Salisb. to *Cypripedium parviflorum* Salisb. var. *parviflorum* (Source: *Flora of North America*)

Frasera caroliniensis Walt. to *Swertia caroliniensis* (Walter) Kuntze

Hemicarpha micrantha (Vahl) Britt. to *Lipocarpha micrantha* (Vahl) G. C. Tucker

Lycopodium alopecuroides L. to *Lycopodiella alopecuroides* (L.) Cranfill

Lycopodium porophilum Lloyd & Underwood to *Huperzia porophila* (F. E. Lloyd & Underw.) Holub

Megalodonta beckii (Torr. ex Spreng.) Greene to *Bidens beckii* (Torr. ex Spreng.) Greene

Myriophyllum exalbescens Fern. to *Myriophyllum sibiricum* Komarov

Onosmodium hispidissimum Mackenzie to *Onosmodium molle* Michx. var. *hispidissimum* (Mack.) Cronquist

Oryzopsis pungens (Torr. ex Spreng.) A. S. Hitchc. to *Piptatherum pungens* (Torr. ex Spreng.) Dorn

Panicum scoparium (Lam.) Gould (Morris Arboretum, 1992, Pennsylvania Flora Database) to *Dichanthelium scoparium* (Lam.) Gould

Panicum xanthophysum (Gray) Freckmann (Morris Arboretum, 1992, Pennsylvania Flora Database) to
Dichanthelium xanthophysum (A. Gray) Freckmann

Polygonum careyi Olney to *Persicaria careyi* (Olney) Greene

Polygonum setaceum Baldw. ex Ell. var. *interjectum* Fern. to *Persicaria setacea* (Baldwin) Small

Sagittaria calycina Engelm. var. *spongiosa* Engelm. to *Sagittaria calycina* Engelm.

Scirpus acutus Muhl. ex Bigelow to *Schoenoplectus acutus* (Muhl. Ex Bigel.) Löve & Löve

Scirpus smithii Gray to *Schoenoplectus smithii* (A. Gray) Sojak

Scirpus torreyi Olney to *Schoenoplectus torreyi* (Olney) Palla

Scleria reticularis Michx. to *Scleria muhlenbergii* Steud.

Senecio antennariifolius Britt. to *Packera antennariifolia* (Britton) W. A. Weber & Á. Löve

Solidago spathula DC. spp. *randii* var. *racemosa* (Greene) Gleason to *Solidago simplex* Kunth ssp. *randii*
(Porter) Ringius var. *racemosa* (Greene) Ringius

Tomanthera auriculata (Michx.) Raf. to *Agalinis auriculata* (Michx.) S. F. Blake

Pennsylvania Threatened (§ 45.13)

The names of nine native wild plant species classified as Pennsylvania Threatened will be amended as follows:

Aster depauperatus (Porter) Fern. to *Symphyotrichum depauperatum* (Fernald) Nesom

Aster novi-belgii L. to *Symphyotrichum novi-belgii* (L.) Nesom var. *novi-belgii*

Cimicifuga americana Michx. to *Actaea podocarpa* DC

Euthamia tenuifolia (Pursh) Greene to *Euthamia caroliniana* (L.) Greene ex Porter & Britton

Juncus alpinus Vill. to *Juncus alpinoarticulatus* Chaix in Vill. ssp. *nodulosus* (Wahlenb.) Hamet-Ahti.

Juncus balticus Willd. to *Juncus arcticus* Willd. var. *littoralis* (Engelm.) Boivin.

Lycopodium appressum (Chapman) Lloyd & Underwood to *Lycopodiella appressa* (Chapm.) Cranfill

Spiraea betulifolia Pallas ssp. *corymbosa* (Raf.) Taylor & MacBryde to *Spiraea betulifolia* Pallas var. *corymbosa* (Raf.) Maxim.

Talinum teretifolium Pursh to *Phemeranthus teretifolius* (Pursh) Raf.

Pennsylvania Rare (§ 45.14)

The names of four native wild plant species classified as Pennsylvania Rare will be amended as follows:

Panicum commonsianum Ashe var. *euchlamydeum* (Skinner) Pohl (Morris Arboretum, 1992, Pennsylvania Flora Database) to *Dichanthelium commonsianum* (Ashe) Freckmann var. *euchlamydeum* (Skinner) Pohl

Prunus pumila L. to *Prunus pumila* L. var. *pumila*

Scirpus fluviatilis (Torr.) Gray to *Schoenoplectus fluviatilis* (Torr.) Strong

Senecio anonymus Wood to *Packera anonyma* (A. W. Wood) W. A. Weber & Á. Löve

Pennsylvania Vulnerable (§ 45.15)

The name of *Cypripedium pubescens* Willd. will be amended to *Cypripedium parviflorum* Salisb. var. *pubescens* (Willd.) Correll.

Tentatively Undetermined (§ 45.21)

The names of 21 native wild plant species classified as tentatively undetermined will be amended as follows:

Aristida curtissii (Gray) Nash to *Aristida dichotoma* Michx. var. *curtissii* A. Gray

Aster dumosus L. to *Symphyotrichum dumosum* (L.) Nesom

Aster ericoides L. to *Symphyotrichum ericoides* (L.) Nesom

Cassia marilandica L. to *Senna marilandica* (L.) Link

Hedyotis purpurea (L.) Torr. & Gray to *Houstonia purpurea* L. var. *purpurea*

Liatris scariosa (L.) Willd. var. *nieuwlandii* Lunell and *Liatris scariosa* (L.) Willd. var. *novae-angliae* Lunell combined *Liatris scariosa* (L.) Willd.

Malaxis brachypoda (Gray) Fern. to *Malaxis monophyllos* (L.) Swartz var. *brachypoda* (A. Gray) F. Morris & E. A. Eames

Nuphar lutea (L.) Sibthorp & Sm. ssp. *pumilum* (Timm) E. O. Beal to *Nuphar microphylla* (Pers.) Fernald

Panicum annulum Ashe (Morris Arboretum, 1992, Pennsylvania Flora Database) to *Dichanthelium annulum* (Ashe) LeBlond

Panicum boreale Nash (Gleason, H. A. and A. Cronquist, *Manual of Vascular Plants of Northeastern United States and Adjacent Canada*, 1991, Second Edition) to *Dichanthelium boreale* (Nash) Freckmann

Panicum commonsianum Ashe var. *commonsianum* (Morris Arboretum, 1992, Pennsylvania Flora Database) to *Dichanthelium commonsianum* (Ashe) Freckmann

Panicum lucidum Ashe (Fernald, M. L., *Gray's Manual of Botany*, 1970, Eighth Edition) to *Dichanthelium lucidum* (Ashe) LeBlond

Panicum villosissimum Nash (Gleason, H. A. and A. Cronquist, *Manual of Vascular Plants of Northeastern United States and Adjacent Canada*, 1991, Second Edition) to *Dichanthelium villosissimum* (Nash) Freckmann

Panicum yadkinense Ashe (Gleason, H. A. and A. Cronquist, *Manual of Vascular Plants of Northeastern United States and Adjacent Canada*, 1991, Second Edition) to *Dichanthelium yadkinense* (Ashe) Mohlenbr.

Potamogeton filiformis Pers. to *Potamogeton filiformis* Pers. var. *borealis* (Raf.) St. John

Pycnanthemum pilosum Nutt. to *Pycnanthemum verticillatum* (Michx.) Pers. var. *pilosum* (Nutt.) Cooperr.

Ranunculus trichophyllus Chaix (Gleason, H. A. and A. Cronquist, *Manual of Vascular Plants of Northeastern United States and Adjacent Canada*, 1991, Second Edition) to *Ranunculus aquatilis* L. var. *diffusus* With.

Rhynchospora globularis (Chapman) Small to *Rhynchospora recognita* (Gale) Kral

Senecio plattensis Nutt. to *Packera plattensis* (Nutt.) W. A. Weber & Á. Löve

Uvularia puberula Michx. to *Uvularia pudica* Michx.

G. Benefits, Costs and Compliance

Benefits

This rulemaking will benefit State, county and municipal conservation planning officials, conservation groups and other organizations concerned with the welfare of the environment because it more accurately represents the plants in this Commonwealth in need of the most protection. Additionally, this rulemaking benefits the citizens of this Commonwealth by protecting this Commonwealth's natural resources, which is a constitutional right. See Pa.Const. Art. I, § 27.

Keeping up-to-date classifications of native wild plants, ensures that the Department and other public and private conservation organizations are targeting the appropriate species in their conservation efforts. This will help maintain the biodiversity of ecological systems in this Commonwealth.

Compliance costs

This rulemaking does not prescribe anything for a group or entity to comply with. This rulemaking updates the Commonwealth's classified lists of native wild plants, updates the scientific and common names of certain native wild plant species, and updates the reference source of the nomenclature that the Department uses for native wild plant species taxonomy. There are no compliance costs associated with this rulemaking.

Paperwork requirements

There will be no increase in the amount of required paperwork associated with this rulemaking.

H. Sunset Review

The regulations will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulations effectively fulfill the goals for which they were intended.

I. Regulatory Review

Under section 5(a) of the Regulatory Review Act (71 P.S. § 745.5(a)), on November 6, 2017, the Department submitted a copy of the proposed rulemaking and a copy of a Regulatory Analysis Form to the Independent Regulatory Review Commission (IRRC) and to the Chairpersons of the Senate and House Environmental Resources and Energy Committees. A copy of this material is available to the public upon request.

Under section 5(c) of the Regulatory Review Act, the Department provided the IRRC and the Senate and House Committees with copies of the comments the Department received during the public comment period, as well as other documents when requested. The Department considered all comments from the IRRC and the public in preparing this final-form rulemaking.

Under section 5.1(j.2) of the Regulatory Review Act (71 P.S. § 745.5a(j.2)), on _____, 2018 the final-form rulemaking was deemed approved by the Senate and House Environmental Resources and Energy Committees. The IRRC did not comment on, make recommendations regarding, or object to any portion of the proposed rulemaking, and the Department did not make any changes to the proposed rulemaking. Thus, under section 5.1(e) of the Regulatory Review Act (71 P.S. § 745.5a(e)), the IRRC met on _____, 2018, and the final-form rulemaking was deemed approved pursuant to 5(g) of the Regulatory Review Act.

J. Findings

The Department finds that:

- (1) Public notice of the proposed rulemaking was given under sections 201 and 202 of the act of July 31, 1968 (P.L. 769, No. 240) (45 P.S. §§ 1201 and 1202) and regulations promulgated thereunder, 1 Pa. Code §§ 7.1 and 7.2.
- (2) At least a 30-day public comment period was provided as required by law and all comments were considered.
- (3) This final-form rulemaking does not enlarge the purpose of the proposed rulemaking published at 47 Pa. B. 7210.
- (4) These regulations are necessary and appropriate for administration and enforcement of the authorizing acts identified in section C of this preamble.

K. Order

The Department, acting under the authorizing statutes, orders that:

- (a) The regulations of the Department, 17 Pa. Code Ch. 45, are amended to read as set forth in Annex A.
- (b) The Department shall submit this final-form regulation to the Office of General Counsel and Office of Attorney General, as required by law, for approval as to form and legality.
- (c) The Department shall submit this final-form regulation to the IRRC and the Senate and House Environmental Resources and Energy Committees as required by law.
- (d) The Department shall certify this final-form regulation and deposit it with the Legislative Reference Bureau, as required by law.
- (e) The final-form rulemaking shall take effect upon publication in the *Pennsylvania Bulletin*.

CINDY ADAMS DUNN,
Secretary

Annex A
TITLE 17. CONSERVATION AND NATURAL RESOURCES
PART I. DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
Subpart D. RESOURCE CONSERVATION
CHAPTER 45. CONSERVATION OF PENNSYLVANIA NATIVE WILD PLANTS
Subchapter A. GENERAL PROVISIONS

§ 45.2. Definitions.

The following words and terms, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise:

* * * * *

Tentatively Undetermined—A classification of plant species which are believed to be in danger of population decline, but which cannot presently be included within another classification due to taxonomic uncertainties, limited evidence within historical records or insufficient data.

[*Unlisted*—Plant species which are native to this Commonwealth, presently capable of sustaining their populations successfully, not in need of protection currently and currently not included in classifications under this chapter.]

Wild plants—Naturally occurring native flora, except those commonly considered an agricultural commodity, including green and nongreen species or subspecies, variety or a part, product, seed or progeny thereof.

§ 45.3. Classified plant taxonomy.

Nomenclature used to identify species taxonomy [contained within Subchapter B is according to Kartesz, J. T. and Rosemarie Kartesz, 1980 *A Synonymized Checklist of the Flora of the U. S., Canada, and Greenland*] in Subchapter B (relating to classified plants) is according to Rhoads, A. F. and Block, T. A. (2007), *The Plants of Pennsylvania An Illustrated Manual Second Edition*, Philadelphia, Pennsylvania: University of Pennsylvania Press, unless a different taxonomic source is indicated immediately following the scientific name.

Subchapter B. CLASSIFIED PLANTS

§ 45.11. Pennsylvania Extirpated.

Plant species classified as Pennsylvania Extirpated are as follows:

<i>Scientific Name</i>	<i>Common Name</i>
<i>Aeschynomene virginica</i> (L.) [BSP.] <u>Britton, Stearns & Poggenb.</u>	Sensitive Joint-Vetch
<i>Agalinis decemloba</i> (Greene) Pennell	[Blue-Ridge False-Foxglove] <u>Blue Ridge False Foxglove</u>
<i>Agrostis altissima</i> [(Walt.) Tuckerman] <u>(Walter) Tuck.</u>	Tall Bentgrass
<i>Arctostaphylos uva-ursi</i> (L.) Spreng.	Bearberry Manzanita
<i>Asclepias rubra</i> L.	Red Milkweed
<i>Astragalus neglectus</i> (Torr. & <u>A. Gray</u>) Sheldon	Cooper's Milk-Vetch

[<i>Atriplex littoralis</i> L.	Seaside Orach]
<i>Berberis canadensis</i> P. Mill.	American Barberry
<i>Buchnera americana</i> L.	[Blue Hearts] <u>Bluehearts</u>
<i>Carex adusta</i> Boott	Crowded Sedge
[<i>Carex aenea</i> Fern.	Fernald's Hay Sedge]
<i>Carex alopecoidea</i> Tuckerman	Foxtail Sedge
<i>Carex backii</i> Boott	Rocky Mountain Sedge
<i>Carex barrattii</i> [Schwein] <u>Schwein.</u> & Torr.	Barratt's Sedge
<i>Carex chordorrhiza</i> [Ehrh. ex] L.f.	Creeping Sedge
<u>Carex foenea</u> Willd.	<u>Fernald's Hay Sedge</u>
<i>Carex hyalinolepis</i> Steud.	[Shore-Line] <u>Shoreline</u> Sedge
<i>Carex nigra</i> (L.) Reichard	Black Sedge
<i>Carex sartwellii</i> Dewey	Sartwell's Sedge
<i>Chamaecyparis thyoides</i> (L.) [BSP.] <u>Britton, Stearns & Poggenb.</u>	Atlantic [White Cedar] <u>White-Cedar</u>
<i>Commelina erecta</i> L.	Slender [Day-Flower] <u>Dayflower</u>
<i>Commelina virginica</i> L.	Virginia [Day-Flower] <u>Dayflower</u>
<i>Coreopsis rosea</i> Nutt.	Pink Tickseed
<i>Crassula aquatica</i> (L.) [Schoenl.] <u>Schönland</u>	[Water Pigmy-Weed] <u>Water-Pigmyweed</u>
<i>Crotonopsis elliptica</i> Willd.	Elliptical Rushfoil
<i>Cynoglossum boreale</i> [Fern.] <u>Fernald</u>	Northern Hound's Tongue
<i>Cyperus polystachyos</i> Rottb.	Many-Spiked Flatsedge
<i>Cypripedium candidum</i> Muhl. ex Willd.	Small White Lady's-Slipper
<i>Desmodium sessilifolium</i> (Torr.) Torr. [&] <u>and A. Gray</u>	Sessile-Leaved Tick Trefoil
<u>Dichanthelium leibergii</u> (Vasey) Freckmann	<u>Leiberg's Panic Grass</u>
<u>Dichanthelium spretum</u> (Schult.) Freckmann	<u>Eaton's Witchgrass</u>
<u>Diphasiastrum sabinifolium</u> (Willd.) Holub.	<u>Fir Clubmoss</u>
<i>Distichlis spicata</i> (L.) Greene	Sea-Shore Salt-Grass
<i>Draba reptans</i> (Lam.) [Fern.] <u>Fernald</u>	Carolina Whitlow-Grass
<i>Echinacea laevigata</i> (C. L. [Boynt.] <u>Boynton</u> & Beadle) <u>S. F. Blake</u>	Smooth <u>Purple</u> Coneflower
<i>Elatine americana</i> (Pursh) Arn.	[Long-Stemmed Water-Wort] <u>Long-Stem Waterwort</u>
<i>Eleocharis tricostata</i> Torr.	Three-Ribbed Spike-Rush
<i>Eleocharis tuberculosa</i> (Michx.) [Roemer & Schultes] <u>Roem. & Schult.</u>	Long-Tuberled Spike-Rush
<i>Elodea schweinitzii</i> [(Planch.) Caspary] <u>(Planch) Casp.</u>	Schweinitz's Waterweed
[<i>Erianthus giganteus</i> (Walt.) Muhl.	Sugar Cane Plumegrass]
<i>Eriocaulon decangulare</i> L.	[Ten-Angled] <u>Ten-Angle</u> Pipewort
<i>Eriocaulon parkeri</i> B. L. [Robins.] <u>Rob.</u>	Parker's Pipewort
<i>Eryngium aquaticum</i> L.	Marsh Eryngo
<i>Eupatorium album</i> L. <u>var album</u>	White Thoroughwort
<i>Eupatorium leucolepis</i> [(DC.) Torr] <u>(DC) Torr. & A. Gray</u>	White-Bracted Thoroughwort
<i>Euphorbia obtusata</i> Pursh	Blunt-Leaved Spurge

<i>Fimbristylis puberula</i> (Michx.) Vahl	Hairy Fimbry
<i>Galactia regularis</i> (L.) [BSP.] Britton, Stearns & Poggenb.	Eastern Milk-Pea
<i>Galactia volubilis</i> (L.) [Britt.] Britton	[Downey] Downy Milk-Pea
<i>Gentiana catesbaei</i> [Walt.] Walter	Elliott's Gentian
[<i>Gentianopsis procera</i> (Holm) Ma.	Lesser Fringed-Gentian]
<i>Gentianopsis virgata</i> (Raf.) Holub	Narrow-Leaved Fringed Gentian
[<i>Helianthum</i>] <i>Helianthus angustifolius</i> L.	Swamp Sunflower
<i>Hordeum pusillum</i> Nutt. A. Löve	[Little Barley] Little-Barley
<i>Hottonia inflata</i> [Ell.] Elliott	American Featherfoil
<i>Hydrocotyle umbellata</i> L.	Many-Flowered Pennywort
<i>Hypericum adpressum</i> [Bart.] Raf. ex Barton	Creeping St. John's-Wort
<i>Hypericum crux-andreae</i> (L.) Crantz	St. Peter's-Wort
<i>Hypericum</i> [<i>denticulatum</i> Walt.] <i>denticulatum</i> Walter	Coppery St. John's-Wort
<i>Hypericum gymnanthum</i> Engelm. & A. Gray	Clasping-Leaved St. John's-Wort
[<i>Hypericum stans</i> (Michx.) P. Adams & Robson	St. Peter's-Wort
<i>Ilex glabra</i> (L.) Gray	Ink-Berry]
<i>Ilex glabra</i> (L.) A. Gray	Inkberry
<i>Itea virginica</i> L.	[Virginia Willow] Virginia-Willow
<i>Juncus greenei</i> Oakes & [Tuckerman] Tuck.	Greene's Rush
<i>Koeleria</i> [<i>crinata</i> (L.) Pers.] <i>macrantha</i> (Ledeb.) Schultes	Junegrass
<i>Leiophyllum buxifolium</i> (Berg.) [Ell.] Elliott	Sand-Myrtle
[<i>Lemna obscura</i> (Austin) Daubs	Little Water Duckweed]
<i>Lespedeza stuevei</i> Nutt.	Tall [Bush Clover] Bush-Clover
<i>Limosella australis</i> R. Br.	Awl-Shaped Mudwort
<i>Lobelia nuttallii</i> [Roemer & Schultes] Roem. & Schult.	Nuttall's Lobelia
<i>Ludwigia sphaerocarpa</i> [Ell.] Elliott	Spherical-Fruited Seedbox
[<i>Lycopodium sabinifolium</i> Willd.	Fir Clubmoss
<i>Lycopodium selago</i> L.	Mountain Clubmoss]
<i>Lysimachia quadriflora</i> Sims	Four-Flowered Loosestrife
<i>Matelea carolinensis</i> (Jacq.) Woods.	Carolina Milkvine
<i>Micranthemum micranthemoides</i> (Nutt.) Wettst.	Nuttall's Mud-Flower
<i>Muhlenbergia capillaris</i> (Lam.) Trin.	Short Muhly
<i>Myrica heterophylla</i> Raf.	Evergreen Bayberry
<i>Onosmodium virginianum</i> (L.) A. DC.	Virginia [False-Gromwell] False Gromwell
<i>Ophioglossum vulgatum</i> L. var. <i>pyncostichum</i> [Fern.] Fernald	Adders Tongue
[<i>Panicum leibergii</i> (Vasey) Scribn. (Gleason, H. A. and A. Cronquist, <i>Manual of Vascular Plants of Northeastern United States and Adjacent Canada</i> , 1991, (Second Edition)	Leiberg's Panic-grass
<i>Panicum spretum</i> Schultes (Gleason, H. A. and A. Cronquist, <i>Manual of Vascular Plants of Northeastern United States and Adjacent Canada</i> , 1991, Second Edition)	Spurred Panic-Grass]

<i>Phoradendron</i> [<i>serotinum</i> (Raf.) M. C. Johnston] <u><i>leucarpum</i> (Raf.) Reveal & M. C. Johnst.</u>	Christmas Mistletoe
<i>Phyllanthus caroliniensis</i> Walt.	Carolina Leaf-Flower
<i>Platanthera cristata</i> (Michx.) Lindl.	Crested Yellow Orchid
<i>Platanthera leucophaea</i> (Nutt.) Lindl.	Prairie White-Fringed Orchid
<i>Polygala lutea</i> L.	Yellow Milkwort
<i>Populus heterophylla</i> L.	Swamp Cottonwood
<i>Potamogeton alpinus</i> Balbis	Northern Pondweed
<i>Potamogeton praelongus</i> Wulfen	[White-Stemmed] <u>White-Stem</u> Pondweed
<i>Prenanthes racemosa</i> Michx.	Glaucous Rattlesnake-Root
<i>Proserpinaca pectinata</i> Lam.	Comb-Leaved Mermaid-Weed
<i>Ranunculus hederaceus</i> L.	Long-Stalked Crowfoot
<i>Rhododendron calendulaceum</i> (Michx.) Torr.	Flame Azalea
<i>Rhynchospora fusca</i> (L.) [Ait.] <u>Aiton</u> f.	Brown [<u>Beaked-Rush</u>] <u>Beak-Rush</u>
<i>Rhynchospora gracilentata</i> <u>A.</u> Gray	[<u>Beaked-Rush</u>] <u>Beak-Rush</u>
<i>Ruellia caroliniensis</i> [(Gmel.)] (<u>Walter ex J. F. Gmel.</u>) Steud.	Carolina Petunia
<i>Sabatia campanulata</i> (L.) Torr.	Slender [<u>Marsh Pink</u>] <u>Marsh-Pink</u>
<i>Sabatia stellaris</i> Pursh	Sea Pink
<u><i>Saccharum giganteum</i> (Walter) Pers.</u>	<u>Sugarcane-Plumegrass</u>
<i>Sagittaria</i> [<i>stagnorum</i> Small] <u><i>filiformis</i> J. G. Sm.</u>	Water Arrow-Head
[<u><i>Scirpus</i></u>] <u><i>Schoenoplectus heterochaetus</i> Chase (Sojak)</u>	Slender [<u>Bullrush</u>] <u>Bulrush</u>
<i>Scutellaria serrata</i> Andr.	Showy Skullcap
[<u><i>Sisyrinchium arenicola</i> Bickn.</u>] <u><i>Sisyrinchium fuscatum</i> E. P. Bicknell</u>	Sand Blue-Eyed Grass
<i>Smilax</i> [<i>pseudo-china</i>] <u><i>pseudochina</i> L.</u>	Long-Stalked Greenbrier
<i>Sparganium</i> [<i>minimum</i> (Hartm.) Fries] <u><i>natans</i> L.</u>	Small Bur-Reed
<i>Spiraea virginiana</i> [Britt.] <u>Britton</u>	Virginia Spiraea
<i>Spiranthes magnicamporum</i> Sheviak	Ladies'-Tresses
<i>Trifolium reflexum</i> L.	Buffalo Clover
<i>Triglochin</i> [<i>palustre</i>] <u><i>palustris</i> L.</u>	Marsh Arrowgrass
<i>Utricularia fibrosa</i> Walt.	Fibrous Bladderwort
[<u><i>Utricularia inflata</i> Walt.</u>	<u>Floating Bladderwort</u>
<i>Utricularia resupinata</i> B. D. Greene <u>ex Bigelow</u>	Northeastern Bladderwort
[<u><i>Vitis rupestris</i> Scheele</u>	<u>Sand Grape</u>

§ 45.12. Pennsylvania Endangered.

Plant species classified as Pennsylvania Endangered are as follows:

Scientific Name	Common Name
<i>Aconitum reclinatum</i> <u>A.</u> Gray	White Monkshood
<i>Acorus americanus</i> (Raf.) Raf.	Sweet Flag
<u><i>Agalinis auriculata</i> (Michx.) S. F. Blake</u>	<u>Eared False Foxglove</u>

<u>[<i>Agalinis paupercula</i> (Gray) Britt.] <i>Agalinis paupercula</i> (A. Gray) Britton</u>	Small-Flowered [False-Foxglove] False Foxglove
<u>[<i>Alisma plantago-aquatica</i> L. var. <i>americana</i> Schultes & Schultes] <i>Alisma triviale</i> Pursh</u>	Broad-Leaved Water-Plantain
<i>Alnus viridis</i> [(Chaix) DC.] (Vill.) DC	Mountain Alder
<u>[<i>Alopecurus carolinianus</i> Walt.</u>	Tufted Foxtail
<i>Amelanchier bartramiana</i> (Tausch) M. [Roemer] Roem.	Oblong-Fruited Serviceberry
<i>Ammania coccinea</i> Rottb.	Scarlet Ammannia
<i>Anemone cylindrica</i> A. Gray	[Long-Fruited] Long-Headed Anemone
<i>Arabis missouriensis</i> Greene	Missouri [Rock-Cress] Rockcress
<i>Arethusa bulbosa</i> L.	[Swamp-Pink] Dragon's-Mouth
<u><i>Arnica acaulis</i> [(Walt.) BSP.] (Walter) Britton, Stearns & Poggenb.</u>	Leopard's-Bane
<i>Artemisia campestris</i> L. ssp. <i>caudata</i> (Michx.) Hall & [Clements] Clements.	Beach Wormwood
<u><i>Asclepias variegata</i> L.</u>	White Milkweed
<i>Asplenium resiliens</i> Kunze	Black-Stemmed Spleenwort
<u>[<i>Aster borealis</i> (Torr. & Gray) Prov.</u>	Rush Aster
<i>Aster nemoralis</i> Ait.	Bog-Aster
<i>Aster solidagineus</i> Michx.	Narrow-Leaved White-Topped Aster
<i>Aster spectabilis</i> Ait.	Low Showy Aster]
<u><i>Bidens beckii</i> (Torr. ex Spreng.) Greene</u>	Beck's Water-Marigold
<i>Boltonia asteroides</i> (L.) [L'Her.] L'Hér.	Aster-Like Boltonia
<i>Cardamine pratensis</i> L. var. <i>palustris</i> Wimm. & Grab. (Gleason, H. A. and A. Cronquist, <i>Manual of Vascular Plants of Northeastern United States and Adjacent Canada</i> , 1991, Second Edition)	Cuckooflower
<i>Carex atherodes</i> Spreng.	Awned Sedge
<i>Carex aurea</i> Nutt.	Golden-Fruited Sedge
<i>Carex bebbii</i> (Bailey) Fern.	Bebb's Sedge
<i>Carex bicknellii</i> [Britt.] Britton	Bicknell's Sedge
<i>Carex bullata</i> [Schkuhr] Willd.	Bull Sedge
<i>Carex careyana</i> Dewey	Carey's Sedge
<i>Carex collinsii</i> Nutt.	Collin's Sedge
<i>Carex crinita</i> Lam. var. <i>brevicrinis</i> [Fern. (Gleason, H. A. and A. Cronquist, <i>Manual of Vascular Plants of Northeastern United States and Adjacent Canada</i> , 1991, Second Edition)] Fernald	[Short Hair] Short-Hair Sedge
<i>Carex eburnea</i> Boott	Ebony Sedge
<i>Carex formosa</i> Dewey	Handsome Sedge
<i>Carex garberi</i> [Fern.] Fernald	Elk Sedge
<i>Carex geyeri</i> Boott	Geyer's Sedge
<i>Carex gravida</i> Bailey	Heavy Sedge
<i>Carex mitchelliana</i> M. A. Curtis	Mitchell's Sedge
<i>Carex pauciflora</i> Lightf.	Few-Flowered Sedge

<i>Carex polymorpha</i> Muhl.	Variable Sedge
<i>Carex pseudocyperus</i> L.	Cyperus-Like Sedge
<i>Carex retrorsa</i> Schwein.	Backward Sedge
<i>Carex typhina</i> Michx.	Cat-Tail Sedge
<i>Carex viridula</i> Michx.	Green Sedge
[<i>Cerastium arvense</i> (L.) var. <i>villosissimum</i> Pennell	Mouse-Ear Chickweed]
<u><i>Cerastium velutinum</i> Raf. var. <i>villossissimum</i> (Pennell) J. K. Morton</u>	<u>Octoraro Creek Chickweed</u>
<i>Chasmanthium laxum</i> (L.) H. O. Yates	Slender [Sea-Oats] <u>Wild-Oats</u>
<i>Chenopodium foggii</i> [H. A.] Wahl	Fogg's Goosefoot
<i>Chrysogonum virginianum</i> L.	Green-and-Gold
<i>Cirsium horridulum</i> Michx.	Horrible Thistle
<i>Cladium mariscoides</i> (Muhl.) Torr.	[Twig Rush] <u>Twig-Rush</u>
<i>Clematis viorna</i> L.	[Vase-Vine] Leather-Flower
<i>Clethra acuminata</i> Michx.	Mountain [Pepper-Bush] <u>Pepperbush</u>
<i>Clitoria mariana</i> L.	[Butterfly-Pea] <u>Butterfly Pea</u>
<u><i>Coeloglossum viride</i> (L.) Hartm.</u>	<u>Long-Bracted Green Orchis</u>
<i>Conioselinum chinense</i> (L.) [BSP.] <u>Britton, Stearns & Poggenb.</u>	Hemlock-Parsley
<i>Cryptogramma stelleri</i> [(Gmel)] (Gmel.) Prantl	Slender [Rock-Brake] <u>Rockbrake</u>
[<i>Cymophyllus fraseri</i> (Andr.) Mackenzie] <u><i>Cymophyllus fraserianus</i> (Ker Gawl.) Kartesz & Gandhi</u>	Fraser's Sedge
[<i>Cynanchum laeve</i> (Michx.) Pers.	Smooth Swallow-Wort]
<i>Cyperus acuminatus</i> Torr. & Hook.	Short-Pointed Flatsedge
<i>Cyperus diandrus</i> Torr.	Umbrella [Flatsedge] <u>Sedge</u>
<i>Cyperus houghtonii</i> Torr.	Houghton's Flatsedge
<i>Cyperus refractus</i> Engelm. [ex Steud.]	Reflexed Flatsedge
<i>Cyperus retrorsus</i> Chapman	Retorse Flatsedge
[<i>Cypripedium parviflorum</i> Salisb.	Small Yellow Lady's-Slipper]
<u><i>Cypripedium parviflorum</i> Salisb. var. <i>makasin</i> (Source: <i>Flora of North America</i>)</u>	<u>Northern Small Yellow Lady's-Slipper</u>
<u><i>Cypripedium parviflorum</i> Salisb. var. <i>parviflorum</i> (Source: <i>Flora of North America</i>)</u>	<u>Southern Small Yellow Lady's-Slipper</u>
<i>Delphinium exaltatum</i> [Ait.] <u>Aiton</u>	Tall Larkspur
<i>Desmodium humifusum</i> (Muhl.) Beck	Trailing Tick-Trefoil
<i>Diarrhena obovata</i> (Gleason) Bradenburg [(Morris Arboretum, 1992 Pennsylvania Flora Database)]	[American Beakgrain] <u>Obovate Beakgrain</u>
<i>Dicentra eximia</i> [(Ker-Gwal.)] (Ker Gwal.) Torr.	Wild [Bleeding-Hearts] <u>Bleeding-Heart</u>
<u><i>Dichanthelium scoparium</i> (Lam.) Gould</u>	<u>Velvety Panic Grass</u>
<u><i>Dichanthelium xanthophysum</i> (A. Gray) Freckmann</u>	<u>Slender Panic Grass</u>
<i>Dodecatheon meadia</i> L.	[Common] Shooting-Star
<i>Dryopteris campyloptera</i> (Kunze) Clarkson	Mountain Wood Fern
<i>Echinochloa walteri</i> (Pursh) <u>A. Heller</u>	Walter's Barnyard-Grass
<i>Eleocharis caribaea</i> (Rottb.) <u>S. F. Blake</u>	Capitate Spike-Rush

<i>Eleocharis compressa</i> [Sullivant (Gleason, H. A. and A Cronquist, <i>Manual of Vascular Plants of Northeastern United States and Adjacent Canada</i> , 1991, Second Edition)] <u>Sull.</u>	Flat-Stemmed Spike-Rush
<i>Eleocharis elliptica</i> Kunth	Slender Spike-Rush
<i>Eleocharis obtusa</i> (Willd.) [Schultes] <u>Schult.</u> var. <i>peasei</i> Svenson [(Fernald, M. L., <i>Gray's Manual of Botany</i> , 1970, Eighth edition)]	Wright's Spike-Rush
<i>Eleocharis parvula</i> [(Roemer & Schultes) Link ex Buff.] (Roem. & Schult.) <u>Link ex Buffon & Fingerh.</u>	[Little-Spike] <u>Dwarf</u> Spike-Rush
<i>Eleocharis pauciflora</i> (Lightf.) Link var. <i>fernaldii</i> [Svens. (Fernald, M. L., <i>Gray's Manual of Botany</i> , 1970, Eighth edition)] <u>Swenson</u>	Few-Flowered Spike-Rush
<i>Eleocharis quadrangulata</i> (Michx.) [Roemer & Schultes] <u>Roem. & Schult.</u>	Four-Angled Spike-Rush
<i>Eleocharis rostellata</i> (Torr.) Torr.	Beaked Spike-Rush
<i>Eleocharis tenuis</i> (Willd.) [Schultes] <u>Schult.</u> var. <i>verrucosa</i> (Svenson) Svenson [(Gleason, H. A. and A. Cronquist, <i>Manual of Vascular Plants of Northeastern United States and Adjacent Canada</i> , 1991, Second Edition)]	Slender Spike-Rush
[<i>Elephantopus carolinianus</i> Raesch.	Elephant's-Foot
<i>Epilobium strictum</i> Muhl.	Downey Willow-Herb]
<i>Equisetum scirpoides</i> Michx. (Source: <i>Flora of North America</i>)	<u>Dwarf Scouring-Rush</u>
<i>Equisetum variegatum</i> Schleich. [ex Weber & C. Mohr]	Variiegated [Horsetail] <u>Scouring-Rush</u>
<i>Eriophorum gracile</i> [W. D. J.] Koch <u>ex Roth</u>	Slender [Cottongrass] <u>Cotton-Grass</u>
<i>Eriophorum tenellum</i> Nutt.	Rough [Cottongrass] <u>Cotton-Grass</u>
<i>Euphorbia ipecacuanhae</i> L.	Wild Ipecac
<i>Euphorbia purpurea</i> (Raf.) [Fern.] <u>Fernald</u>	Glade Spurge
<i>Eurybia spectabilis</i> (Aiton) Nesom	<u>Showy Aster</u>
<i>Festuca paradoxa</i> Desv.	Cluster Fescue
[<i>Frasera caroliniensis</i> Walt.	American Columbo]
<i>Fraxinus profunda</i> (Bush) <u>Bush</u>	<u>Pumpkin Ash</u>
<i>Galium labradoricum</i> [(Wieg.) Wieg.] <u>Wiegand</u>	[Labrador Marsh] <u>Bog</u> Bedstraw
<i>Gaylussacia dumosa</i> (Andr.) Torr. & <u>A. Gray</u>	Dwarf Huckleberry
<i>Geranium bicknellii</i> [Britt.] <u>Britton</u>	Cranesbill
<i>Glyceria borealis</i> (Nash) [Batchelder] <u>Batch.</u>	[Small-Floating Manna-Grass] <u>Small Floating Mannagrass</u>
<i>Glyceria obtusa</i> (Muhl.) Trin.	Blunt Manna-Grass
<i>Goodyera tessellata</i> <u>Lodd.</u>	<u>Checked Rattlesnake-Plantain</u>
<i>Gymnopogon ambiguus</i> (Michx.) [BSP.] <u>Britton, Stearns & Poggenb.</u>	Broad-Leaved Beardgrass
<i>Helianthemum bicknellii</i> [Fern.] <u>Fernald</u>	Bicknell's Hoary Rockrose
[<i>Hemicarpha micrantha</i> (Vahl) Britt.	Common Hemicarpha]
<i>Heteranthera multiflora</i> [(Griseb) Horn. (Gleason, H. A. and A Cronquist, <i>Manual of Vascular Plants of Northeastern United States and Adjacent Canada</i> , 1991, Second Edition)] (Griseb.)	Multi-Flowered Mud-Plantain

<u>Horn.</u>	
<i>Hieracium traillii</i> Greene	Maryland Hawkweed
<i>Hierochloe odorata</i> (L.) Beauv.	Vanilla Sweet-Grass
<u>Huperzia porophila</u> (F. E. Lloyd & Underw.) Holub	<u>Sandstone-Loving Firmoss</u>
<i>Hydrophyllum macrophyllum</i> Nutt.	Large-Leaved Water-Leaf
<i>Iodanthus pinnatifidus</i> (Michx.) Steud.	[Purple Rocket] <u>Purple-Rocket</u>
<i>Iris cristata</i> [Soland.] <u>Sol. ex Aiton</u>	[Crested Dwarf] <u>Dwarf Crested Iris</u>
<i>Iris prismatica</i> Pursh	Slender Blue [Iris] <u>Flag</u>
<i>Iris verna</i> L.	Dwarf Iris
<i>Isotria medeoloides</i> (Pursh) Raf.	Small-Whorled Pogonia
<i>Juncus brachycarpus</i> Engelm.	Short-Fruited Rush
<i>Juncus dichotomus</i> [Ell.] <u>Elliott</u>	Forked Rush
<i>Juncus longii</i> Fern.	Long's Rush
<i>Juncus militaris</i> Bigelow	Bayonet Rush
<i>Juncus scirpoides</i> Lam.	Scirpus-Like Rush
<i>Lespedeza angustifolia</i> (Pursh) [Ell.] <u>Elliott</u>	[Narrowleaf Bushclover] <u>Narrow-Leaved Bush-Clover</u>
<i>Ligusticum canadense</i> (L.) [Britt.] <u>Britton</u>	Nondo Lovage
<i>Linum intercursum</i> [Bickn.] <u>E. P. Bicknell</u>	Sandplain Wild Flax
<i>Linum sulcatum</i> Riddell	[Grooved-Yellow] <u>Grooved Yellow Flax</u>
<u>Lipocarpha micrantha</u> (Vahl) G. C. Tucker	<u>Common Hemicarpha</u>
<i>Listera australis</i> Lindl.	Southern Twayblade
<i>Listera cordata</i> (L.) R. Br.	[Heart-Leaved] <u>Heartleaf</u> Twayblade
<i>Listera smallii</i> [Wieg.] <u>Wiegand</u>	Kidney-Leaved Twayblade
<i>Lithospermum caroliniense</i> (J. F. Gmel.) [MacM.] <u>MacMill.</u>	Hispid Gromwell
<i>Lithospermum latifolium</i> Michx.	American Gromwell
<i>Lobelia kalmii</i> L.	Brook Lobelia
<i>Lobelia puberula</i> Michx.	Downy Lobelia
<i>Lonicera oblongifolia</i> (Goldie) Hook.	Swamp [Fly Honeysuckle] <u>Fly-Honeysuckle</u>
<i>Lonicera villosa</i> (Michx.) [Roemer & Schultes] <u>Roem. & Schult.</u>	Mountain [Fly Honeysuckle] <u>Fly-Honeysuckle</u>
<i>Ludwigia decurrens</i> [Walt.] <u>Walter</u>	Upright Primrose-Willow
<i>Ludwigia polycarpa</i> Short & Peter	False Loosestrife Seedbox
[<i>Lycopodium alopecuroides</i> L.	<u>Foxtail Clubmoss</u>
<i>Lycopodium porophilum</i> Lloyd & Underwood	<u>Rock Clubmoss]</u>
<u>Lycopodiella alopecuroides</u> (L.) Cranfill	<u>Foxtail Bog Clubmoss</u>
<u>Lycopodiella margueritae</u> J. G. Bruce, W. H. Wagner & Beitel	<u>Marguerite's Clubmoss</u>
<i>Lycopus rubellus</i> [Moench] <u>Moench.</u>	Taper-Leaved Bugle- Weed
<i>Lyonia mariana</i> (L.) D. Don	[Stagger-Bush] <u>Staggerbush</u>
<u>Malaxis bayardii</u> Fernald	<u>Adder's-Mouth</u>
<i>Marshallia grandiflora</i> Beadle & F. E. Boynton	Large-Flowered Marshallia

<i>Matelea obliqua</i> (Jacq.) [Woods.] <u>Woodson</u>	Oblique Milkvine
[<i>Megalodonta beckii</i> (Torr. ex Spreng.) Greene	Beck's Water-Marigold]
<i>Mitella nuda</i> L.	Naked Bishop's-Cap
<i>Monarda punctata</i> L.	Spotted Bee-Balm
<i>Montia chamissoi</i> (Ledeb. ex Spreng.) Greene	Chamisso's Miner's-Lettuce
<i>Muhlenbergia uniflora</i> (Muhl.) Fern.	Fall Dropseed Muhly
[<i>Myriophyllum exalbescens</i> Fern.	Northern Water-Milfoil]
<i>Myriophyllum farwellii</i> Morong	Farwell's Water-Milfoil
[<i>Myriophyllum heterophyllum</i> Michx.	Broad-Leaved Water-Milfoil]
<u><i>Myriophyllum sibiricum</i> Komarov</u>	<u>Northern Water-Milfoil</u>
<i>Myriophyllum verticillatum</i> L.	Whorled Water-Milfoil
<i>Najas marina</i> L.	Holly-Leaved Naiad
[<i>Nelumbo lutea</i> (Willd.) Pers.	American Lotus]
<u><i>Oclemena nemoralis</i> (Aiton) E. Greene</u>	<u>Leafy Bog Aster</u>
[<i>Onosmodium hispidissimum</i> Mackenzie] <u><i>Onosmodium molle</i></u> <u>Michx. var. hispidissimum (Mack.) Cronquist</u>	False Gromwell
<i>Ophioglossum engelmannii</i> Prantl	Limestone [Adder's Tongue] <u>Adder's-Tongue</u>
[<i>Oryzopsis pungens</i> (Torr. ex Spreng.) A. S. Hitchc.	Slender Mountain-Ricegrass
<i>Panicum amarum</i> Ell. var. <i>amarulum</i> (A. S. Hitchc. & Chase) P. G. Palmer (Morris Arboretum, 1992, Pennsylvania Flora Database)	Southern Sea-Beach Panic-Grass
<i>Panicum scoparium</i> (Lam.) Gould (Morris Arboretum, 1992, Pennsylvania Flora Database)	Velvety Panic-Grass
<i>Panicum xanthophysum</i> (Gray) Freckmann (Morris Arboretum, 1992, Pennsylvania Flora Database)	Slender Panic-Grass]
<u><i>Packera antennariifolia</i> (Britton) W. A. Weber & Á. Löve</u>	<u>Cat's-Paw Ragwort</u>
<u><i>Panicum amarum</i> Elliott var. <i>amarulum</i> (A. Hitchc. & Chase) P. G. Palmer</u>	<u>Beachgrass</u>
<i>Parnassia glauca</i> Raf.	[Carolina] Grass-of-Parnassus
<i>Passiflora lutea</i> L.	Passion-Flower
<i>Paxistima canbyi</i> A. Gray	Canby's Mountain-Lover
<u><i>Persicaria careyi</i> (Olney) Greene</u>	<u>Carey's Smartweed</u>
<u><i>Persicaria setacea</i> (Baldwin) Small</u>	<u>Swamp Smartweed</u>
<i>Phlox ovata</i> L.	Mountain Phlox
<i>Phlox subulata</i> L. ssp. <i>brittonii</i> (Small) Wherry	Moss Pink
<u><i>Piptatherum pungens</i> (Torr. ex Spreng.) Dorn</u>	<u>Slender Mountain Ricegrass</u>
<u><i>Platanthera aquilonis</i> Sheviak, <i>Lindleyana</i> (Source: <i>Flora of North America</i>)</u>	<u>Northern Green Orchid</u>
<i>Platanthera dilatata</i> (Pursh) Lindl. ex Beck	[Leafy White Orchid] <u>Tall White Bog- Orchid</u>
[<i>Platanthera hyperborea</i> (L.) Lindl.	Leafy Northern Green Orchid]
<u><i>Platanthera huronensis</i> (Nutt.) Lindl.</u>	<u>Huron Green Orchid</u>
<i>Poa autumnalis</i> Muhl. ex [Ell.] <u>Elliott</u>	Autumn Bluegrass

[<i>Polemonium vanbruntiae</i> Britt.] <i>Polemonium van-bruntiae</i> Britton	Jacob's-Ladder
<i>Polygala cruciata</i> L.	Cross-Leaved Milkwort
<i>Polygala curtissii</i> <u>A.</u> Gray	Curtis' Milkwort
<i>Polygala incarnata</i> L.	Pink Milkwort
[<i>Polygonum careyi</i> Olney	Carey's Smartweed
<i>Polygonum setaceum</i> Baldw. ex Ell. var. <i>interjectum</i> Fern.	Swamp Smartweed]
<i>Polystichum braunii</i> [(Spenner)] (<u>Spenn.</u>) Fee	Braun's Holly Fern
<i>Populus balsamifera</i> L.	Balsam Poplar
<i>Potamogeton friesii</i> Rupr.	Fries' Pondweed
<i>Potamogeton gramineus</i> L.	Grassy Pondweed
<i>Potamogeton hillii</i> Morong	Hill's Pondweed
<i>Potamogeton obtusifolius</i> Mert. & Koch	Blunt-Leaved Pondweed
<i>Potamogeton pulcher</i> [Tuckerman] <u>Tuck.</u>	Spotted Pondweed
<i>Potamogeton strictifolius</i> <u>A.</u> Benn.	Narrow-Leaved Pondweed
<i>Potamogeton tennesseensis</i> [Fern.] <u>Fernald</u>	Tennessee Pondweed
<i>Potamogeton vaseyi</i> J. W. Robbins	Vasey's Pondweed
<i>Potentilla fruticosa</i> L.	Shrubby Cinquefoil
<i>Potentilla paradoxa</i> Nutt. [ex Torr. & Gray]	Bushy Cinquefoil
<i>Potentilla tridentata</i> [(Soland) Ait.] <u>Aiton</u>	Three-Toothed Cinquefoil
[<i>Prenanthes crepidinea</i> Michx.	Crepis Rattlesnake-Root]
<i>Prunus maritima</i> [Marsh.] <u>Marshall</u>	Beach Plum
<i>Prunus nigra</i> Ait.	Canada Plum
<i>Ptilimnium capillaceum</i> (Michx.) Raf.	Mock Bishop-Weed
[<i>Pycnanthemum pycnanthemoides</i> (Leavenw.) Fern.	Southern Mountain-Mint]
<i>Pycnanthemum torrei</i> Benth.	Torrey's Mountain-Mint
<i>Quercus falcata</i> Michx.	[Spanish] Southern Red Oak
<i>Quercus phellos</i> L.	Willow Oak
<i>Quercus shumardii</i> [Buckl.] <u>Buckley</u>	[Shumard's] <u>Shumard</u> Oak
<i>Ranunculus fascicularis</i> Muhl. ex <u>J. M.</u> Bigelow	Tufted Buttercup
<i>Ratibida pinnata</i> (Vent.) Barnhart	Gray-Headed Prairie Coneflower
<i>Rhamnus lanceolata</i> Pursh	Lanceolate Buckthorn
<i>Rhexia mariana</i> L.	Maryland Meadow-Beauty
<i>Rhododendron atlanticum</i> (Ashe) [Rehd.] <u>Rehder</u>	Dwarf Azalea
<i>Rhynchospora capillacea</i> Torr.	Capillary [Beaked-Rush] <u>Beak-Rush</u>
<i>Ribes missouriense</i> Nutt. ex Torr. & <u>A.</u> Gray	Missouri Gooseberry
<i>Rubus cuneifolius</i> Pursh	Sand Blackberry
<i>Ruellia humilis</i> Nutt.	Fringed-Leaved Petunia
<i>Sagittaria calycina</i> Engelm. [var. <i>spongiosa</i> Engelm.]	Long-Lobed [Arrow-Head] <u>Arrowhead</u>
<i>Scheuchzeria palustris</i> L.	Pod-Grass
[<i>Scirpus acutus</i> Muhl. ex Bigelow	Hard-Stemmed Bullrush]

<u><i>Schoenoplectus acutus</i> (Muhl. ex Bigel.) Löve & Löve</u>	<u>Hard-Stemmed Bulrush</u>
<u><i>Schoenoplectus smithii</i> (A. Gray) Sojak</u>	<u>Smith's Bulrush</u>
<u><i>Schoenoplectus torreyi</i> (Olney) Palla</u>	<u>Torrey's Bulrush</u>
<i>Scirpus ancistrochaetus</i> Schuyler	Northeastern [<u>Bullrush</u>] <u>Bulrush</u>
[<i>Scirpus smithii</i> Gray	<u>Smith's Bullrush</u>
<i>Scirpus torreyi</i> Olney	<u>Torrey's Bullrush</u>]
<i>Scleria minor</i> [(Britt.) W.] (<u>Britton</u>) Stone	[<u>Minor Nutrush</u>] <u>Small Nut-Rush</u>
[<i>Scleria reticularis</i> Michx.	<u>Reticulated Nutrush</u>]
<u><i>Scleria muhlenbergii</i> Steud.</u>	<u>Reticulated Nut-Rush</u>
<i>Scleria verticillata</i> Muhl. ex Willd.	Whorled [<u>Nutrush</u>] <u>Nut-Rush</u>
<i>Sedum rosea</i> (L.) Scop.	Roseroot Stonecrop
[<i>Senecio antennariifolius</i> Britt.	<u>Cat's-Paw Ragwort</u>]
<u><i>Sericocarpus linifolius</i> (L.) Britton, Stearns & Poggenb.</u>	<u>Narrow-Leaved White-Topped Aster</u>
<i>Shepherdia canadensis</i> (L.) Nutt.	Canada Buffalo-Berry
<i>Sida hermaphrodita</i> (L.) Rusby	[<i>Sida</i>] <u>Virginia Mallow</u>
<i>Sisyrinchium atlanticum</i> [Bickn.] <u>E. P. Bicknell</u>	Eastern [<u>Blue-Eyed Grass</u>] <u>Blue-Eyed-Grass</u>
<i>Solidago arguta</i> [Ait. var. <i>harrissii</i> (Steele) Cronq.] <u>Aiton var. harrissii</u> (E. S. Steele) Cronquist	Harris' Goldenrod
<i>Solidago curtissii</i> Torr. & <u>A.</u> Gray	Curtis' Goldenrod
<i>Solidago erecta</i> <u>Banks ex</u> Pursh	Slender Goldenrod
[<i>Solidago spathulata</i> DC. ssp. <i>randii</i> var. <i>racemosa</i> (Greene) Gleason] <u><i>Solidago simplex</i> Kunth ssp. <i>randii</i> (Porter) Ringius var. <i>racemosa</i> (Greene) Ringius</u>	Sticky Goldenrod
<i>Sorbus decora</i> (Sarg.) Schneid.	Showy Mountain-Ash
<i>Sparganium androcladum</i> (Engelm.) Morong	Branching Bur-Reed
<i>Spiranthes casei</i> Catling & Cruise	Case's Ladies'-Tresses
<i>Spiranthes ovalis</i> Lindl.	October Ladies'-Tresses
<i>Spiranthes romanzoffiana</i> Cham.	Hooded Ladies'-Tresses
<i>Spiranthes vernalis</i> Engelm. & <u>A.</u> Gray	Spring Ladies'-Tresses
<i>Sporobolus clandestinus</i> (Biehler) A. [S.] Hitchc.	Rough Dropseed
<i>Sporobolus cryptandrus</i> (Torr.) <u>A.</u> Gray	Sand Dropseed
<i>Sporobolus heterolepis</i> (<u>A.</u> Gray) <u>A.</u> Gray	Prairie Dropseed
<i>Stachys nuttallii</i> [Shuttlw.] <u>Shuttlew.</u> ex Benth.	Nuttall's Hedge-Nettle
<u><i>Swertia caroliniensis</i> (Walter) Kuntze</u>	<u>American Columbo</u>
<u><i>Symphotrichum boreale</i> (Torr. & Gray) A. Löve & D. Löve</u>	<u>Northern Bog Aster</u>
<i>Taenidia montana</i> [(Mackenzie) Cronq. (Gleason, H. A. and A. Cronquist, <i>Manual of Vascular Plants of Northeastern United States and Adjacent Canada</i> , 1991, Second Edition)] (<u>Mack.</u>) Cronquist	Mountain Pimpernel
<i>Thalictrum coriaceum</i> (Britt.) Small	Thick-Leaved Meadow-Rue
[<i>Tomanthera auriculata</i> (Michx.) Raf.	<u>Eared False-Foxglove</u>]
<i>Trichostema setaceum</i> Houtt.	<u>Narrow-Leaved Blue-Curls</u>

<i>Trifolium virginicum</i> Small	[Kate's Mountain] <u>Kate's-Mountain Clover</u>
<i>Triphora trianthophora</i> [(Sw.)] (Swartz) Rydb.	Nodding Pogonia
<i>Triplasis purpurea</i> [(Walt.) Chapman] (Walter) Chapm.	Purple Sandgrass
<i>Trollius laxus</i> Salisb. [ssp. <i>laxus</i>]	Spreading Globe-Flower
<i>Veronia glauca</i> (L.) Willd.	Tawny Ironweed
<i>Viburnum nudum</i> L.	Possum Haw Viburnum
<i>Viola brittoniana</i> Pollard	Coast Violet
[<i>Viola pedatifida</i> G. Don	<u>Prairie Violet</u>]
<i>Vitis novae-angliae</i> [Fern.] <u>Fernald</u>	New England Grape
<i>Vitis rupestris</i> Scheele	<u>Sand Grape</u>
<i>Zigadenus glaucus</i> (Nutt.) Nutt.	<u>White Camas</u>

§ 45.13. Pennsylvania Threatened.

Plant species classified as Pennsylvania Threatened are as follows:

<i>Scientific Name</i>	<i>Common Name</i>
<i>Aconitum uncinatum</i> L.	Blue Monkshood
<u><i>Actaea podocarpa</i> DC</u>	<u>American Bugbane</u>
<i>Ammophila breviligulata</i> [Fern.] <u>Fernald</u>	American Beachgrass
<i>Arceuthobium pusillum</i> [M. E.] Peck	Dwarf Mistletoe
<i>Aristida purpurascens</i> Poir.	Arrow-Feather Three-Awned Grass
<i>Asplenium bradleyi</i> D. C. [Eat.] <u>Eaton</u>	Bradley's Spleenwort
[<i>Aster depauperatus</i> (Porter) Fern.	Serpentine Aster
<i>Aster novi-belgii</i> L.	Long-Leaved Aster]
<u><i>Baptisia australis</i> (L.) R. Br.</u>	<u>Blue False Indigo</u>
<i>Bidens bidentoides</i> (Nutt.) Britt.	Swamp Beggar-Ticks
<i>Bouteloua curtipendula</i> (Michx.) Torr.	Tall Gramma
<i>Camassia scilloides</i> (Raf.) Cory	Wild Hyacinth
<i>Carex alata</i> Torr.	Broad-Winged Sedge
<i>Carex aquatilis</i> Wahlenb.	Water Sedge
<i>Carex cryptolepis</i> [Mackenzie] <u>Mack.</u>	Northeastern Sedge
<i>Carex diandra</i> Schrank	Lesser Panicked Sedge
<i>Carex flava</i> L.	Yellow Sedge
<i>Carex oligosperma</i> Michx.	Few-Seeded Sedge
<i>Carex paupercula</i> Michx.	Bog Sedge
<i>Carex prairea</i> Dewey	Prairie Sedge
<i>Carex schweinitzii</i> [Dewey ex] Schwein.	Schweinitz's Sedge
<i>Carex sterilis</i> Willd.	Atlantic Sedge
<i>Carex tetanica</i> Schkuhr	Wood's Sedge
<i>Carex wiegandii</i> [Mackenzie] <u>Mack.</u>	Wiegand's Sedge
<i>Chamaesyce polygonifolia</i> (L.) Small	[Small Sea-Side] <u>Seaside Spurge</u>

<i>Chrysopsis mariana</i> (L.) [Ell.] <u>Elliott</u>	Maryland Golden-Aster
[<i>Cimicifuga americana</i> Michx.	Mountain Bugbane]
<i>Cypripedium reginae</i> [Walt.] <u>Walter</u>	Showy Lady's-Slipper
<i>Digitaria cognatum</i> (Schultes) Pilger	Fall Witch-Grass
<i>Dodecatheon amethystinum</i> (Fassett) Fassett	Jeweled Shooting-Star
<i>Eleocharis intermedia</i> [Schultes] (<u>Muhl.</u>) <u>Schult.</u>	Matted Spike-Rush
<i>Eleocharis robbinsii</i> Oakes	Robbins' Spike-Rush
<i>Ellisia nyctelea</i> L.	Ellisia
<i>Erigenia bulbosa</i> (Michx.) Nutt.	Harbinger-of-Spring
<i>Eriophorum viridicarinatum</i> (Engelm.) [Fern.] <u>Fernald</u>	Thin-Leaved Cottongrass
[<i>Euthamia tenuifolia</i> (Pursh) Greene] <u><i>Euthamia caroliniana</i> (L.) Greene ex Porter & Britton</u>	Grass-Leaved Goldenrod
<i>Fimbristylis annua</i> (All.) [Roemer & Schultes] <u>Roem. & Schult.</u>	Annual Fimbry
<i>Gaylussacia brachycera</i> (Michx.) <u>A. Gray</u>	Box Huckleberry
<i>Hypericum densiflorum</i> Pursh	Bushy St. John's-Wort
<i>Hypericum majus</i> (<u>A. Gray</u>) [Britt.] <u>Britton</u>	[Larger] Canadian St. John's-Wort
<i>Ilex opaca</i> [Ait.] <u>Aiton</u>	American Holly
[<i>Juncus alpinus</i> Vill.] <u><i>Juncus alpinoarticulatus</i> Chaix in Vill. ssp. nodulosus</u> (Wahlenb.) Hämet-Ahti.	Richardson's Rush
[<i>Juncus balticus</i> Willd.] <u><i>Juncus arcticus</i> Willd. var. littoralis</u> (Engelm.) <u>Boivin.</u>	Baltic Rush
<i>Juncus brachycephalus</i> (Engelm.) <u>L. Buch.</u>	Small-Headed Rush
<i>Juncus torreyi</i> Coville	Torrey's Rush
<i>Lathyrus japonicus</i> Willd.	Beach [Peavine] <u>Pea</u>
<i>Lathyrus ochroleucus</i> Hook.	Wild Pea
<i>Linnaea borealis</i> L.	Twinflower
<i>Lobelia dortmanna</i> L.	Water Lobelia
[<i>Lycopodium appressum</i> (Chapman) Lloyd & Underwood	Southern Bog Clubmoss]
<u><i>Lycopodiella appressa</i> (Chapm.) Cranfill</u>	Appressed Bog Clubmoss
<i>Magnolia tripetala</i> (L.) L.	Umbrella Magnolia
<i>Magnolia virginiana</i> L.	[Sweet Bay] <u>Sweetbay</u> Magnolia
<i>Melica nitens</i> [(Scribn.) Nutt. ex Piper] <u>Nutt.</u>	Three-Flowered Melic Grass
<i>Minuartia glabra</i> (Michx.) Mattf.	Appalachian Sandwort
<i>Myrica gale</i> L.	[Sweet Bayberry] <u>Sweet-gale</u>
<i>Myriophyllum tenellum</i> Bigelow	Slender Water-Milfoil
<i>Najas gracillima</i> (A. Braun) Magnus	Bushy Naiad
<i>Nymphoides cordata</i> [(Ell.) Fern.] (<u>Elliott</u>) <u>Fernald</u>	Floating-Heart
<i>Oenothera argillicola</i> [Mackenzie] <u>Mack.</u>	Shale-Barren Evening-Primrose
<i>Panicum tuckermanii</i> [Fern. (Fernald, M. L., <i>Gray's Manual of Botany</i> , 1970, Eighth edition)] <u>Fernald</u>	Tuckerman's Panic-Grass
<u><i>Phemeranthus teretifolius</i> (Pursh) Raf.</u>	Round-Leaved Fameflower
<u><i>Platanthera peramoena</i> (A. Gray) A. Gray</u>	Purple Fringeless Orchid
<i>Poa paludigena</i> [Fern. & Wieg.] <u>Fernald & Wiegand</u>	Bog Bluegrass

[<i>Polygonum robustius</i> (Small) Fern.]	Robust Smartweed]
<i>Potamogeton confervoides</i> Reichenb.	Tuckerman's Pondweed
<i>Potamogeton richardsonii</i> (Benn.) Rydb.	Red-Head Pondweed
[<i>Potentilla anserina</i> L.]	Silverweed]
<i>Ptelea trifoliata</i> L.	[Common Hop-Tree] <u>Hoptree</u>
[<i>Ranunculus longirostre</i> Godr.] <u><i>Ranunculus longirostris</i> Godron</u>	Eastern White Water-Crowfoot
<i>Ribes triste</i> Pallas	<u>Wild</u> Red Currant
<i>Ruellia strepens</i> L.	Limestone Petunia
<i>Salix candida</i> Flugge ex Willd.	Hoary Willow
<i>Salix serissima</i> (Bailey) [Fern.] <u>Fernald</u>	Autumn Willow
<i>Scirpus pedicellatus</i> [Fern.] <u>Fernald</u>	Stalked [<u>Bullrush</u>] <u>Bulrush</u>
<i>Scleria pauciflora</i> Muhl. ex Willd.	Few-Flowered Nutrush
<u><i>Solidago uliginosa</i> Nutt.</u>	<u>Bog Goldenrod</u>
<i>Spiraea betulifolia</i> Pallas [ssp.] <u>var. corymbosa</u> (Raf.) [Taylor & MacBryde] <u>Maxim.</u>	Dwarf Spiraea
<i>Streptopus amplexifolius</i> (L.) [DC.] <u>DC</u>	[White] Twisted-Stalk
[<i>Talinum teretifolium</i> Pursh	Round-Leaved Fame-Flower]
<u><i>Symphotrichum depauperatum</i> (Fernald) Nesom</u>	<u>Serpentine Aster</u>
<u><i>Symphotrichum novi-belgii</i> (L.) Nesom var. <i>novi-belgii</i></u>	<u>New York Aster</u>
<i>Utricularia intermedia</i> [Hayne.] <u>Hayne</u>	Flat-Leaved Bladderwort
[<i>Utricularia minor</i> L.]	<u>Lesser Bladderwort]</u>
<i>Viola appalachensis</i> <u>L. K.</u> Henry	Appalachian Blue Violet
<i>Vittaria appalachiana</i> Farrar & Mickel [(Morris Arboretum, 1992, Pennsylvania Flora Database)]	Appalachian Grass-Fern

§ 45.14. Pennsylvania Rare.

Plant species classified as Pennsylvania Rare are as follows:

Scientific Name	Common Name
<i>Amaranthus cannabinus</i> (L.) Sauer	[Waterhemp] <u>Water-Hemp</u> Ragweed
<i>Andromeda polifolia</i> L.	Bog-Rosemary
<i>Aplectrum hyemale</i> (Muhl. ex Willd.) Nutt.	Puttyroot
<i>Baccharis halimifolia</i> L.	Eastern Baccharis
<i>Cakile edentula</i> [(Bigel.)] (Bigelow) Hook.	American Sea-Rocket
<i>Carex disperma</i> Dewey	Soft-Leaved Sedge
<i>Carex lasiocarpa</i> Ehrh.	[Slender] <u>Many-Fruited</u> Sedge
<i>Collinsia verna</i> Nutt.	Spring Blue-Eyed Mary
<i>Cyperus engelmannii</i> Steud.	Engelmann's Flatsedge
<i>Cyperus schweinitzii</i> Torr.	Schweinitz's Flatsedge
<u><i>Dichantherium commonsianum</i> (Ashe) Freckmann var. <i>euchlamydeum</i> (Shinners) Pohl</u>	<u>Cloaked Panic Grass</u>
<i>Eleocharis olivacea</i> Torr.	Capitate Spike-Rush

<u><i>Epilobium strictum</i> Muhl.</u>	<u>Downy Willow-Herb</u>
<i>Gaultheria hispidula</i> (L.) Muhl. ex Bigelow	Creeping Snowberry
<i>Juncus filiformis</i> L.	Thread Rush
[<i>Juncus gymnocarpus</i> Coville	Coville's Rush]
<i>Ledum groenlandicum</i> Oeder	Common Labrador-Tea
<i>Lupinus perennis</i> L.	<u>Blue</u> Lupine
<i>Lygodium palmatum</i> (Bernh.) Sw.	Hartford Fern
[<i>Malaxis bayardii</i> Fern. (Fernald, M. L., <i>Gray's Manual of Botany</i> , 1970, Eighth edition)	Bayard's Malaxis]
<i>Menziesia pilosa</i> (Michx.) Juss.	Minniebush
<i>Opuntia humifusa</i> (Raf.) Raf.	<u>Eastern</u> Prickly-Pear Cactus
<i>Orontium aquaticum</i> L.	Golden Club
[<i>Panicum commonsianum</i> Ashe var. <i>euchlamydeum</i> (Skinner) Pohl (Morris Arboretum, 1992, Pennsylvania Flora Database)	Cloaked Panic-Grass]
<u><i>Packera anonyma</i> (A. W. Wood) W. A. Weber & Á. Löve</u>	<u>Appalachian Groundsel</u>
<i>Potamogeton robbinsii</i> Oakes	Flat-Leaved Pondweed
<i>Potamogeton zosteriformis</i> [Fern.] <u>Fernald</u>	Flat-Stemmed Pondweed
<u><i>Potentilla anserina</i> L.</u>	<u>Silverweed</u>
<i>Prunus pumila</i> L. <u>var pumila</u>	Sand Cherry
<i>Pyrularia pubera</i> Michx.	Buffalo-Nut
<i>Ranunculus micranthus</i> (Gray) Nutt. ex Torr. & Gray	Small-Flowered Crowfoot
<i>Rotala ramosior</i> (L.) Koehne	[Tooth-Cup] <u>Toothcup</u>
<i>Sagittaria subulata</i> (L.) <u>L. Buch.</u>	[Subulata Arrow-Head] <u>Subulate Arrowhead</u>
<i>Schizachyrium scoparium</i> (Michx.) Nash var. <i>littorale</i> (Nash) Gould	Seaside Bluestem
[<i>Scirpus fluviatilis</i> (Torr.) Gray	River Bullrush]
<u><i>Schoenoplectus fluviatilis</i> (Torr.) Strong</u>	<u>River Bulrush</u>
<i>Sedum telephioides</i> Michx.	Allegheny Stonecrop
[<i>Senecio anonymus</i> Wood	Plain Ragwort]
<i>Solidago roanensis</i> Porter	Tennessee Golden-Rod
<i>Tipularia discolor</i> (Pursh) Nutt.	Cranefly Orchid
[<i>Trautvetteria caroliniensis</i> (Walt.) Vail	Carolina Tassel-Rue]
<i>Trillium nivale</i> Riddell	Snow Trillium
[<i>Utricularia purpurea</i> Walt.	Purple Bladderwort]
<i>Wolffiella gladiata</i> (Hegelm.) Hegelm.	Bog-mat
<i>Xyris montana</i> Ries.	Yellow Eyed Grass
<i>Zizania aquatica</i> L.	Indian Wild Rice

§ 45.15. Pennsylvania Vulnerable.

Plant species classified as Pennsylvania Vulnerable are as follows:

<i>Scientific Name</i>	<i>Common Name</i>
[<i>Cypripedium pubescens</i> Willd.] <u><i>Cypripedium parviflorum</i></u> <u>Salisb. var. pubescens (Willd.) Correll</u>	<u>Large Yellow Lady's-Slipper</u>
<i>Hydrastis canadensis</i> L.	[<u>Golden-Seal</u>] <u>Goldenseal</u>
<i>Panax quinquefolius</i> L.	Ginseng

§ 45.21. Tentatively Undetermined.

Plant species classified as Tentatively Undetermined are as follows:

<i>Scientific Name</i>	<i>Common Name</i>
<i>Adiantum pedatum</i> L. ssp. <i>caulderi</i> Cody	Northern Maidenhair Fern
<i>Agalinis obtusifolia</i> Raf.	False-Foxglove
<i>Aletris farinosa</i> L.	Colic-Root
<i>Ambrosia psilostachya</i> DC.	Naked-Spiked Ambrosia
<i>Amelanchier humilis</i> [Wieg.] <u>Wiegand</u>	Low Serviceberry
<i>Amelanchier obovalis</i> (Michx.) Ashe	Coastal Juneberry
<i>Amelanchier sanguinea</i> (Pursh) DC.	Roundleaf [<u>Serviceberry</u>] <u>Juneberry</u>
<i>Andropogon glomeratus</i> [(Walt.) BSP.] (<u>Walter</u>) <u>Britton, Stearns & Poggenb.</u>	Bushy Bluestem
<i>Antennaria solitaria</i> Rydb.	Single-Headed Pussy-Toes
<i>Arabis hirsuta</i> (L.) Scop.	Western Hairy Rock-Cress
[<i>Aristida curtissii</i> (Gray) Nash] <u><i>Aristida dichotoma</i></u> <u>Michx. var. curtissii A. Gray</u>	Poverty Grass
<i>Aristida longespica</i> Poir. var. <i>geniculata</i> (Raf.) [Fern.] <u>Fernald</u>	Long-Spike Three-Awned Grass
<i>Aristolochia macrophylla</i> Lam.	Pipevine
[<i>Asclepias variegata</i> L.	<u>White Milkweed</u>
<i>Aster dumosus</i> L.	<u>Bushy Aster</u>
<i>Aster ericoides</i> L.	<u>White Heath Aster</u>
<i>Aster firmus</i> Nees	<u>Firm Aster</u>
<i>Carex buxbaumii</i> Wahlenb.	Brown Sedge
<i>Carex crawfordii</i> [Fern.] <u>Fernald</u>	Crawford's Sedge
<i>Carex haydenii</i> Dewey	Cloud Sedge
<i>Carex limosa</i> L.	Mud Sedge
<i>Carex longii</i> [Mackenzie] <u>Mack.</u>	Long's Sedge
<i>Carex lupuliformis</i> Sartwell [ex Dewey]	False Hop Sedge
<i>Carex meadii</i> Dewey	Mead's Sedge
<i>Carex mesochorea</i> [Mackenzie] <u>Mack.</u>	Midland Sedge
[<i>Cassia marilandica</i> L.	<u>Wild Senna</u>
<i>Castilleja coccinea</i> (L.) Spreng.	Scarlet Indian Paintbrush
<i>Chasmanthium latifolium</i> (Michx.) <u>H. O. Yates</u>	[<u>Wild Oat</u>] <u>Wild-Oats</u>
<i>Chenopodium capitatum</i> (L.) [Aschers.] <u>Asch.</u>	Strawberry Goosefoot

[<i>Coeloglossum viride</i> (L.) Hartman	Long-Bracted Green Orchid]
<i>Corallorrhiza wisteriana</i> Conrad	Spring Coral-Root
<i>Crataegus brainerdii</i> Sarg.	Brainerd's Hawthorne
<i>Crataegus mollis</i> (Torr. & A. Gray) Scheele	Downy Hawthorne
<i>Cuscuta cephalanthi</i> Engelm.	[Button-Bush] <u>Buttonbush</u> Dodder
<i>Cuscuta corylii</i> Engelm.	Hazel Dodder
<i>Cuscuta polygonorum</i> Engelm.	Smartweed Dodder
<i>Cyperus odoratus</i> L.	Rusty Flatsedge
<i>Cyperus tenuifolius</i> (Steud.) Dandy	Thin-Leaved Flatsedge
<i>Cystopteris laurentiana</i> [(Weatherby)] (<u>Weath.</u>) Blasdell	Laurentian Bladder-Fern
<i>Desmodium glabellum</i> (Michx.) [DC.] <u>Kuntze</u>	Tall Tick-Trefoil
<i>Desmodium nuttallii</i> (Schindl.) Schub.	Nuttall's Tick-Trefoil
<u><i>Dichanthelium annulum</i> (Ashe) LeBlond</u>	<u>Annulus Panic Grass</u>
<u><i>Dichanthelium boreale</i> (Nash) Freckmann</u>	<u>Northern Panic Grass</u>
<u><i>Dichanthelium commonsianum</i> (Ashe) Freckmann</u>	<u>Cloaked Panic Grass</u>
<u><i>Dichanthelium lucidum</i> (Ashe) LeBlond</u>	<u>Shining Panic Grass</u>
<u><i>Dichanthelium villosissimum</i> (Nash) Freckmann</u>	<u>Long-Haired Panic Grass</u>
<u><i>Dichanthelium yadkinense</i> (Ashe) Mohlenbr.</u>	<u>Yadkin River Panic Grass</u>
<i>Dracocephalum parviflorum</i> Nutt.	American Dragonhead
<i>Elatine minima</i> (Nutt.) Fisch. & C. A. Mey	Small [Water-Wort] <u>Waterwort</u>
[<i>Elodea canadensis</i> L. C. Rich.	Broad Waterweed (Male Plants)]
<i>Elymus virginicus</i> L. var. <i>submuticus</i> Hook.	Wild Rye
<i>Epilobium palustre</i> L.	Marsh Willow-Herb
<i>Eupatorium rotundifolium</i> L.	Round-Leaved Thoroughwort
<i>Filipendula rubra</i> (Hill) B. L. [Robins.] <u>Rob.</u>	Queen-of-the-Prairie
<i>Gentiana alba</i> Muhl. <u>ex Nutt.</u>	Yellow Gentian
<i>Gentiana saponaria</i> L.	Soapwort Gentian
<i>Gentiana villosa</i> L.	Striped Gentian
<i>Glyceria acutiflora</i> Torr.	Sharp-Flowered Manna-Grass
[<i>Goodyera tessellata</i> Lodd.	Checkered Rattlesnake-Plantain]
<i>Gratiola aurea</i> <u>Muhl. ex Pursh</u>	Golden Hedge-Hyssop
<i>Gymnocarpium appalachianum</i> [Pryer & Windham (Morris Arboretum, 1992, Pennsylvania Flora Database)] <u>K. M. Pryer & Haufler</u>	Appalachian Oak Fern
[<i>Hedyotis purpurea</i> (L.) Torr. & Gray] <u>Houstonia purpurea</u> L. var. <u>purpurea</u>	Purple [Bluet] <u>Bluets</u>
<i>Hypericum drummondii</i> (Grev. & Hook) Torr. & A. Gray	Nits-and-Lice
<i>Juncus biflorus</i> Elliott [(Gleason, H. A. and A. Cronquist,, <i>Manual of Vascular Plants of Northeastern United States and Adjacent Canada</i> , 1991, Second Edition)]	Grass-Leaved Rush
<i>Lathyrus palustris</i> L.	Vetchling
<i>Lemma turionifera</i> Landolt [(Morris Arboretum, 1992, Pennsylvania Flora Database)]	Winter Duckweed

<i>Leucothoe racemosa</i> (L.) <u>A. Gray</u>	Swamp Dog-Hobble
[<i>Liatris scariosa</i> (L.) Willd. var. <i>novae-angliae</i> Lunell	New England Gay-Feather
<i>Liatris scariosa</i> (L.) Willd. var. <i>nieuwlandii</i> Lunell	Nieuwland's Gay-Feather]
<u><i>Liatris scariosa</i> (L.) Willd.</u>	<u>Northern Blazing-Star</u>
<i>Lonicera hirsuta</i> [Eat.] <u>Eaton</u>	Hairy Honeysuckle
<i>Luzula bulbosa</i> (A. W. Wood) Rybd.	[Common] Wood-Rush
[<i>Lysimachia quadriflora</i> Sims.	Four-Flowered Loosestrife]
<i>Lythrum alatum</i> Pursh	Winged Loosestrife
[<i>Malaxis brachypoda</i> (Gray) Fern.	White Adder's Mouth]
<u><i>Malaxis monophyllos</i> (L.) Swartz var. <i>brachypoda</i> (A. Gray) F. Morris & E. A. Eames</u>	<u>White Adder's-Mouth</u>
<i>Meehania cordata</i> (Nutt.) [Britt.] <u>Britton</u>	[Heartleaf] <u>Heart-Leafed</u> Meehania
<i>Muhlenbergia cuspidata</i> [(Nutt.)] (<u>Torr.</u>) Rydb.	Sharp-Pointed Muhly
[<i>Nuphar lutea</i> (L.) Sibthorp & Sm. ssp. <i>pumilum</i> (Timm) E. O. Beal	Yellow Cowlily]
<u><i>Nuphar microphylla</i> (Pers.) Fernald</u>	<u>Small Yellow Pond-Lily</u>
<i>Oenothera pilosella</i> Raf.	Evening-Primrose
<i>Oxydendrum arboreum</i> (L.) DC.	Sourwood
<i>Oxypolis rigidior</i> (L.) Raf.	Stiff Cowbane
[<i>Panicum annulum</i> Ashe (Morris Arboretum, 1992, Pennsylvania Flora Database)	Annulus Panic-Grass
<i>Panicum bicknellii</i> Nash (Fernald, M. L., <i>Gray's Manual of Botany</i> , 1970, Eighth edition)	Bicknell's Panic-Grass
<i>Panicum boreale</i> Nash (Gleason, H. A. and A. Cronquist, <i>Manual of Vascular Plants of Northeastern United States and Adjacent Canada</i> , 1991, Second Edition)	Northern Witchgrass
<i>Panicum commonsianum</i> Ashe var. <i>commonsianum</i> (Morris Arboretum, 1992, Pennsylvania Flora Database)	Commons' Panic-Grass]
<u><i>Packera plattensis</i> (Nutt.) W. A. Weber & A. Löve</u>	<u>Prairie Ragwort</u>
<i>Panicum flexile</i> [(Gattinger) Scribn. (Gleason, H. A. and A. Cronquist, <i>Manual of Vascular Plants of Northeastern United States and Adjacent Canada</i> , 1991, Second Edition)] (<u>Gatt.</u>) Scribn.	Wiry Witchgrass
<i>Panicum longifolium</i> Torr. [(Gleason, H. A. and A. Cronquist, <i>Manual of Vascular Plants of Northeastern United States and Adjacent Canada</i> , 1991, Second Edition)]	[Long-Leaf Panic-Grass] <u>Long-Leaved Panic Grass</u>
[<i>Panicum longiligulatum</i> Nash (Morris Arboretum, 1992, Pennsylvania Flora Database)	Long-Ligule Panic-Grass
<i>Panicum lucidum</i> Ashe (Fernald, M. L., <i>Gray's Manual of Botany</i> , 1970, Eighth Edition)	Shining Panic-Grass
<i>Panicum recognitum</i> Fern. (Morris Arboretum, 1992. Pennsylvania Flora Database)	Fernald's Panic-Grass
<i>Panicum villosissimum</i> Nash (Gleason, H. A. and A. Cronquist, <i>Manual of Vascular Plants of Northeastern United States and Adjacent Canada</i> , 1991, Second	Long-Haired Panic-Grass

Edition)	
<i>Panicum yadkinense</i> Ashe (Gleason, H. A. and A. Cronquist, <i>Manual of Vascular Plants of Northeastern United States and Adjacent Canada</i> , 1991, Second Edition)	Yadkin River Panic-Grass]
<i>Paronychia fastigiata</i> (Raf.) [Fern.] <u>Fernald</u> var. <i>nuttallii</i> (Small) [Fern.] <u>Fernald</u>	Whitlow Wort
[<i>Paronychia fastigiata</i> (Raf.) Fern. var. <i>paleacea</i> Fern.]	Chaffy Whitlow Wort]
<i>Parthenium intergrifolium</i> L.	American Fever-Few
<i>Paspalum floridanum</i> (Michx.) var. <i>glabratum</i> Engelm. ex Vasey	Florida Beadgrass
<i>Paspalum laeve</i> (Michx.) var. <i>pilosum</i> Scribn.	Field Beadgrass
<i>Paspalum setaceum</i> Michx.	Slender Beadgrass
<i>Phlox pilosa</i> L.	Downy Phlox
<i>Phyla lanceolata</i> (Michx.) Greene	Lance Fog-Fruit
<i>Physalis virginiana</i> [P.] Mill.	Virginia Ground-Cherry
<i>Platanthera ciliaris</i> (L.) Lindl.	Yellow Fringed Orchid
<i>Platanthera hookeri</i> (Torr. ex Gray) Lindl.	Hooker's Orchid
[<i>Platanthera peramoena</i> (Gray) Gray]	Purple-Fringeless Orchid]
<i>Pluchea odorata</i> (L.) Cass.	Shrubby Camphor-Weed
<i>Poa languida</i> A. [S.] Hitchc.	Drooping Bluegrass
<i>Podostemum ceratophyllum</i> Michx.	Riverweed
<i>Polygala polygama</i> [Walt.] <u>Walter</u>	Racemed Milkwort
<i>Polygonella articulata</i> (L.) Meisn.	Eastern Jointweed
<i>Polygonum amphibium</i> L. var. <i>stipulaceum</i> (Coleman) Fern.	Stipuled Water-Smartweed
<i>Polygonum ramosissimum</i> Michx.	Bushy Knotweed
<i>Potamogeton filiformis</i> Pers. var. <i>borealis</i> (Raf.) <u>St. John</u>	Slender Pondweed
[<i>Potamogeton illinoensis</i> Morong]	Illinois Pondweed]
<i>Potamogeton oakesianus</i> J. W. Robbins	Oakes' Pondweed
<i>Potamogeton perfoliatus</i> L.	Clasping-Stemmed Pondweed
[<i>Pycnanthemum pilosum</i> Nutt.] <i>Pycnanthemum verticillatum</i> (Michx.) Pers. var. <i>pilosum</i> (Nutt.) Cooperr.	Hairy Mountain-Mint
<i>Ranunculus aquatilis</i> L. var. <i>diffusus</i> With.	<u>White Water-Crowfoot</u>
<i>Ranunculus flammula</i> L.	Lesser Spearwort
[<i>Ranunculus trichophyllus</i> Chaix (Gleason, H. A. and A. Cronquist, <i>Manual of Vascular Plants of Northeastern United States and Adjacent Canada</i> , 1991, Second Edition)	Northeastern White Water-Crowfoot
<i>Ratibida pinnata</i> (Vent.) Barnh.	Gray-Headed Prairie Coneflower]
<i>Rhamnus alnifolia</i> [L'Her] <u>L' Hér</u>	Alder-Leaved Buckthorn
[<i>Rhynchospora globularis</i> (Chapman) Small]	Small Globe Beak-Rush
<i>Rhynchospora recognita</i> (Gale) Kral	
<i>Ribes lacustre</i> (Pers.) Poir.	Swamp Currant
<i>Rorippa palustris</i> (L.) Besser var. <i>palustris</i> (Gleason, H. A.)	Yellow Cress

and A Cronquist, <i>Manual of Vascular Plants of Northeastern United States and Adjacent Canada</i> , 1991, Second Edition)	
<i>Rosa virginiana</i> P. Mill.	Virginia Rose
[<i>Rubus cuneifolius</i> Pursh	Sand Blackberry]
<i>Rubus setosus</i> Bigelow	Small Bristleberry
<i>Rumex hastatulus</i> [Baldw. ex Ell.] <u>Baldwin ex Elliott</u>	[Heart-Winged] <u>Heart Sorrell</u>
<i>Salix petiolaris</i> Sm.	Meadow Willow
<i>Salvia reflexa</i> Hornem.	Lance-Leaved Sage
<i>Samolus parviflorus</i> Raf. [(Fernald, M. L., <i>Gray's Manual of Botany</i> , 1970, Eighth edition)]	Pineland Pimpernel
<i>Saxifraga micranthidifolia</i> (Haw.) Steud.	Lettuce Saxifrage
<i>Scleria triglomerata</i> Michx.	Whip Nut-Rush
<i>Scutellaria saxatilis</i> Riddell	Rock Skullcap
[<i>Senecio plattensis</i> Nutt.	Prairie Ragwort]
<u><i>Senna marilandica</i> (L.) Link</u>	<u>Wild Senna</u>
<i>Sisyrinchium albidum</i> Raf.	[Blue-Eyed Grass] <u>Blue-Eyed-Grass</u>
[<i>Solidago purshii</i> Porter	Pursh's Goldenrod]
<i>Solidago rigida</i> L.	Hard-Leaved Goldenrod
<i>Spiranthes tuberosa</i> Raf.	[Little] <u>Slender Ladies'-Tresses</u>
[<i>Spirodela punctata</i> (Mey.) C. H. Thompson	Eastern Water-Flaxseed]
<i>Stachys hyssopifolia</i> Michx.	Hyssop Hedge-Nettle
<i>Stylosanthes biflora</i> (L.) [BSP.] <u>Britton, Stearns & Poggenb.</u>	Pencil-Flower
<u><i>Symphotrichum dumosum</i> (L.) Nesom</u>	<u>Bushy Aster</u>
<u><i>Symphotrichum ericoides</i> (L.) Nesom</u>	<u>White Heath Aster</u>
<i>Taxus canadensis</i> Marsh.	American Yew
[<i>Tradescantia ohioensis</i> Raf.	Ohio Spiderwort]
<i>Trillium flexipes</i> Raf.	Declined Trillium
<i>Triosteum angustifolium</i> L.	[Yellow-Leaved Tinker's-Weed] <u>Horse Gentian</u>
<i>Tripsacum dactyloides</i> (L.) L.	Eastern [Gamma-Grass] <u>Gammagrass</u>
<i>Uvularia</i> [<i>puberula</i>] <i>pubida</i> Michx.	Mountain Bellwort
[<i>Veronica catenata</i> Pennell	Pennell's Speedwell]
<i>Viburnum trilobum</i> [Marsh.] <u>Marshall</u>	[Highbush Cranberry] <u>Highbush-Cranberry</u>
[<i>Viola nephrophylla</i> Greene	Northern Bog Violet]
<i>Viola renifolia</i> A. Gray	Kidney-Leaved [White] Violet
<i>Viola tripartita</i> [Ell.] <u>Elliott</u>	Three-parted Violet
<i>Vitis cinerea</i> [var. <i>baileyana</i> Munson] (<u>Englem. in A. Gray</u>) <u>Englem. ex Millardet var. baileyana (Munson) Comeaux</u>	Possum-Grape
<i>Wolffia borealis</i> (Engelm.) Landolt [(Morris Arboretum, 1992, <i>Atlas of the Flora of Pennsylvania</i>)]	Dotted [Water-Meal] <u>Dotted Watermeal</u>
[<i>Zanichellia palustris</i> L.	Horned Pondweed]



September 11, 2018

Mr. David Sumner
Executive Director
Independent Regulatory Review Commission
333 Market Street, 4th Floor
Harrisburg, PA 17101

Re: Final-Form Rulemaking: 17 Pa. Code Chapter 45, Conservation of Pennsylvania Native Wild Plants

Dear Mr. Sumner:

Pursuant to Section 5(a) of the Regulatory Review Act, please find enclosed copy of the final-form rulemaking amending 17 Pa. Code Chapter 45.

Purposes of Rulemaking

This rulemaking amends Chapter 45 by updating: 1) the classification lists of native wild plants; 2) the scientific and common names of certain native wild plants; and 3) the reference source that the Department uses for the names of native wild plants.

Regarding updates to the classification lists of native wild plants, this rulemaking amends the following classification lists: Pennsylvania Extirpated (§ 45.11); Pennsylvania Endangered (§ 45.12); Pennsylvania Threatened (§ 45.13); Pennsylvania Rare (§ 45.14); and Tentatively Undetermined (§ 45.21).

This rulemaking amends the classification lists by: 1) adding plants that are currently unclassified to a classification list; 2) reclassifying plants already on a classification list to a new classification; and 3) removing plants from the classification lists altogether (declassifying them).

The Process of Classifying Native Wild Plants in Pennsylvania

Native wild plant species are those plant species that existed in this Commonwealth prior to European settlement. There are approximately 2,800 native wild plant species that currently exist or formerly existed in this Commonwealth. The Department classifies approximately 1/5 of these species because they are a conservation concern; the other 4/5 are considered secure and thus not classified.

The Department begins the process of classifying native wild plants by collecting and analyzing data on native wild plant species in this Commonwealth. The Department uses the following data to make its classification decisions: numbers of populations known in this Commonwealth; number of individuals within populations; the plant's range (amount of ground that it covers);



threats such as pests, invasive species and habitat loss; decrease or increase in population numbers; and taxonomic information. The previous list is not exhaustive. The Department analyzes this data to determine the population, distribution, habitat needs, limiting factors, and other biological and ecological information about each plant species.

An important piece of data that the Department uses to make classification decisions are referred to as "State ranks." In this Commonwealth, each plant species receives a State rank from the Pennsylvania Natural Heritage Program (PNHP). The PNHP assigns these ranks based on a methodology created by Nature Serve, an international network of natural heritage programs. The purpose of Nature Serve's methodology is to bring consistency to the biodiversity conservation efforts of individuals and organizations throughout the Western Hemisphere. This methodology is used across North America, Central America and South America. By using this standard tool, the Department ensures its evaluation methods are, at a minimum, equivalent to that of other states and countries in the Western Hemisphere and that its classification decisions are based on sound science.

Throughout this process the Department also receives data, information and recommendations from the Pennsylvania Biological Survey's Vascular Plant Technical Committee (Committee). The Committee is composed of professional botanists working throughout this Commonwealth in academic, consulting, governmental and conservation organizations. Each year, the Committee makes classification recommendations for native wild plants based on the research and expertise of its professional botanists.

The Department assimilates and reviews all data and recommendations it collects and receives, and determines the appropriate classifications for each native wild plant species under the definitions in Chapter 45.

Native Wild Plant Classifications

Under section 7(a) of the WRCA, how plants are classified determines the "management measures necessary for their continued ability to sustain themselves successfully." Native wild plant species that are at risk of extinction in this Commonwealth need greater protection than those less susceptible to this risk. Chapter 45 designates the level of risk facing native wild plant species in this Commonwealth by classifying them as follows:

Pennsylvania Extirpated (§ 45.11)—A classification of plant species believed to be extinct in this Commonwealth. If a plant species classified as Pennsylvania Extirpated is later found to exist in this Commonwealth it will automatically be considered classified as Pennsylvania Endangered.

Pennsylvania Endangered (§ 45.12)—A classification of plant species that are in danger of extinction throughout most or all of their natural range in this Commonwealth if critical habitat is not maintained or if the species is greatly exploited by man. This classification also includes



populations of plant species that have been classified as Pennsylvania Extirpated but are subsequently found to exist in this Commonwealth.

Pennsylvania Threatened (§ 45.13)—A classification of plant species that may become endangered throughout most or all of their natural range in this Commonwealth if critical habitat is not maintained to prevent their further decline, or if the species is greatly exploited by man.

Pennsylvania Rare (§ 45.14)—A classification of plant species that are uncommon in this Commonwealth because they have low population numbers or are only found in restricted geographic areas.

Pennsylvania Vulnerable (§ 45.15)—A classification of plant species that are in danger of population decline in this Commonwealth because of their beauty, economic value, use as a cultivar or other factors which indicate that persons may seek to remove these species from their native habitats.

Special Concern Population (§ 45.20)—A classification of plant species that the Department has determined to be a unique occurrence deserving protection. Among the factors used to classify a plant species as a Special Concern Population are the existence of unusual geographic locations, unisexual populations or extraordinarily diverse plant populations.

Tentatively Undetermined (§ 45.21)—A classification of plant species that are in danger of population decline but do not meet the criteria for any other classification due to taxonomic uncertainties, limited historical records or insufficient data.

Updating Species Nomenclature

This rulemaking updates the scientific and common names of certain native wild plant species, in order to conform to the Department's new taxonomic source material.

The nomenclature used to identify species taxonomy in Chapter 45, comes from John T. Kartesz's 1980 publication, *A Synonymized Checklist of the Vascular Flora of the United States, Canada and Greenland, Volume 2: The Biota of North America*. The DCNR, however, now uses *The Plants of Pennsylvania Second Edition (2007)* by Ann Fowler Rhoads and Timothy A. Block as a reference. The Department made this change to reflect the most up-to-date information on native wild plants in Pennsylvania thus necessitating an update to the scientific and common names in Chapter 45 to remain consistent with the new source material. Additionally, this rulemaking will correct minor grammatical errors and misspellings of species names.

Pennsylvania Natural Diversity Inventory (PNDI)

This rulemaking updates the scientific and common names of certain native wild plant species to conform to the Department's new taxonomic source material.



The current nomenclature used to identify species taxonomy in Chapter 45 comes from John T. Kartesz's 1980 publication, *A Synonymized Checklist of the Vascular Flora of the United States, Canada and Greenland, Volume 2: The Biota of North America*. The Department now uses *The Plants of Pennsylvania Second Edition* (2007) by Ann Fowler Rhoads and Timothy A. Block as a reference. This rulemaking updates the reference to reflect the most up-to-date information on native wild plants in this Commonwealth. This necessitates an update to the scientific and common names in Chapter 45 to remain consistent with the new source material. Additionally, this rulemaking corrects minor grammatical errors and misspellings of species names.

Pennsylvania Natural Diversity Inventory

The amendments will be incorporated into the Pennsylvania Natural Diversity Inventory (PNDI).

The PNDI is a database that maintains the Department's list of native wild plant classifications, as well as native rare wildlife classifications from the Game Commission, the Fish and Boat Commission and the United States Fish and Wildlife Service. The PNDI provides the most current, reliable and objective scientific information about ecological resources in this Commonwealth and it is used to help inform environmental decisions in the Commonwealth. Most notably, the Department of Environmental Protection (DEP) uses the PNDI to inform its environmental permitting decisions.

The overwhelming majority of users use the PNDI as part of the process of obtaining a DEP permit. The DEP requires permit applicants to screen their land use projects through the PNDI for potential impacts to threatened or endangered species to receive a DEP permit; threatened and endangered plant species are thereby protected by the DEP's permitting process.

Finally, because this rulemaking will remove more species from classifications than it adds, there may be fewer classified plant species for prospective DEP permit applicants to account for when applying to obtain DEP permits. Depending on the project type, location and classified plant species in question, prospective DEP permit applicants may see no change in the amount of mitigation required to address impacts to threatened and endangered species and fulfil permit requirements.

Any questions concerning the regulation should be directed to Rebecca Bowen, Ecological Services, at (717) 787-3444 or rebbowen@pa.gov.

Sincerely,

A handwritten signature in blue ink that reads "Katie Woodbury". The signature is fluid and cursive, with a long, sweeping underline that extends to the right.

Katie Woodbury
Executive Policy Specialist

**TRANSMITTAL SHEET FOR REGULATIONS SUBJECT TO THE
REGULATORY REVIEW ACT**

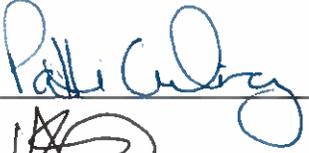
I.D. NUMBER: 7B-8
SUBJECT: Conservation of Pennsylvania Native Wild Plants
AGENCY: Department of Conservation & Natural Resources

TYPE OF REGULATION

RECEIVED
IRRC
2018 SEP 11 P 3:58

- Proposed Regulation
- X Final Regulation
- Final Regulation with Notice of Proposed Rulemaking Omitted
- 120-day Emergency Certification of the Attorney General
- 120-day Emergency Certification of the Governor
- Delivery of Tolled Regulation
 - a. With Revisions
 - b. Without Revisions

FILING OF REGULATION

<u>DATE</u>	<u>SIGNATURE</u>	<u>DESIGNATION</u>
		<i>HOUSE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY</i>
9/11/18		MAJORITY CHAIR <u>John Maher</u>
9/11/18		MINORITY CHAIR <u>Mike Carroll</u>
		<i>SENATE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY</i>
9/11/18		MAJORITY CHAIR <u>Gene Yaw</u>
9/11/18		MINORITY CHAIR <u>John Yudichak</u>
9/11/18		<i>INDEPENDENT REGULATORY REVIEW COMMISSION</i>
_____	_____	<i>ATTORNEY GENERAL</i> (for Final Omitted only)
_____	_____	<i>LEGISLATIVE REFERENCE BUREAU</i> (for Proposed only)

