

PENNSYLVANIA'S WILD SPECIES — THE BOX SCORE

GROUP OF ORGANISMS	SPECIES* OF IMMEDIATE CONCERN				TOTAL SPECIES (INCLUDING SUBSPECIES & VARIETIES)					
	PABS-RECOMMENDED ENDANGERED†	PABS-RECOMMENDED THREATENED†	DOWNLISTED SINCE 1990 DUE TO RECOVERY	PRESUMED EXTIRPATED FROM PENNSYLVANIA	EXTINCT (GLOBALLY)	REPRODUCING CURRENTLY IN PENNSYLVANIA			NON-BREEDING MIGRANTS OR WINTER RESIDENTS	PENNSYLVANIA RESPONSIBILITY SPECIES‡
						NATIVE	NONNATIVE	TOTAL		
PLANTS										
Vascular plants Rev. May 2010 — B. Isaac, S. Grund & T. Block	G 24 + P 300	G 4 + P 115	0	G 10 + P 97	2	2,075	931	3,006	—	?
Bryophytes Rev. Sep. 2007 — J. Lendemer	?	?	0	P 3	0	MOSESSES ~350 LIVERWORTS ~150	0 known	MOSESSES ~350 LIVERWORTS ~150	—	?
Other plant groups, whose status in Pennsylvania is less well known, are green algae (Chlorophyta) and stoneworts or pondweeds (Charophyta).										
ANIMALS — CHORDATES										
Birds Rev. June 2010 — M. Brittingham	G 1 + P 14	P 3	2	G 2 + P 4	2	184	5	189	196	9
Mammals Rev. June 2010 — M. Gannon	G 1 + P 3	G 2 + P 1	1	P 9	0	63	3	65	0	4
Reptiles To be rev. Aug. 2010 — T. Maret	G 2 + P 2	P 1	0	P 2	0	35	1	36	0	7
Amphibians To be rev. Aug. 2010 — T. Maret	P 4	P 1	0	P 1	0	37	0	37	0	3
Fishes Rev. June 2010 — R. Criswell	G 5 + P 23	G 2 + P 7	6	G 2 + P 14	1	165	18	183	26	13
ANIMALS — ARTHROPODS										
Butterflies Rev. July 2010 — B. Leppo	G 4 + P 7	G 1 + P 38	0	G 1 + P 5	0	122	2	124	20	2
Moths To be rev. Aug. 2010 — B. Leppo	G 4 + P 38	G 1 + P 13	0	P 1	0	?	?	?	?	?
Dragonflies & damselflies To be rev. Aug. 2010 — B. Leppo	G 2 + P 27	P 15	0	G 2 + P 2	0	177	0	177	0	?
Stoneflies Rev. Aug. 2010 — J. Earle	G 1 + P 2	G 6 + P 3	0	P 1	0	141	0	141	0	1
Crayfishes To be rev. Aug. 2010 — T. R. Nuttall	P 2	P 3	0	0	0	14	2	16	0	1
Other arthropod groups, whose status in Pennsylvania is less well known, include many thousands of species of beetles, ants, bees, wasps, caddisflies, mayflies, true flies, true bugs, grasshoppers, katydids, crickets, mantids, termites, lacewings, lice, booklice, thrips, springtails, centipedes, millipedes, spiders, daddy-long-legs, mites, ticks, amphipods, isopods, ostracods and numerous others.										

(Footnotes and endnotes on next page.)

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	PABS-RECOMMENDED ENDANGERED†	PABS-RECOMMENDED THREATENED†	DOWNLISTED SINCE 1990 DUE TO RECOVERY	PRESUMED EXTIRPATED FROM PENNSYLVANIA	EXTINCT (GLOBALLY)	REPRODUCING CURRENTLY IN PENNSYLVANIA			NON-BREEDING MIGRANTS OR WINTER RESIDENTS	PENNSYLVANIA RESPONSIBILITY SPECIES‡
						NATIVE	NONNATIVE	TOTAL		
ANIMALS — MOLLUSKS										
Mussels To be rev. Aug. 2010 — M. Walsh	G 8 + P 10	G 1 + P 2	0	G 6 + P 7	0	41	3	44	—	6
Other bivalves Rev. June 2010 — T. Pearce	0	0	0	0	0	18	4	22	—	0
Land snails Rev. June 2010 — T. Pearce	P 4	P 50	0	0	0	105	20	125	—	0
Freshwater snails Rev. June 2010 — T. Pearce	P 3	P 6	0	0	0	52	3	55	—	0
ANIMALS — OTHER GROUPS										
Status in Pennsylvania of most animal groups other than chordates, arthropods and mollusks is not well known. They include earthworms, leeches, bryozoans, tardigrades, planarians, tapeworms, flukes, thorny-headed worms, nematodes, horsehair worms, rotifers, hydras, sporozoans, freshwater sponges and others.										
FUNGI & LICHENS										
Fungi Rev. June 2010 — J. Plischke III	?	?	0	?	?	7,260 known (of >15,000?)	7 known	7,267 known (of >15,000?)	—	?
Lichens Rev. May 2010 — J. Lendemer	?	?	0	2 known	0	552 known (of ~1,000?)	0 known	552 known (of ~1,000?)	—	5
PROTISTS (EUKARYOTES OTHER THAN PLANTS, ANIMALS & FUNGI)										
Status of most protists in Pennsylvania is poorly understood. Major groups include slime molds (188 known species), ciliates, dinoflagellates, euglenids, cryptomonads, diplomonads, kinetoplasts, foraminifers, amebas, trichomonads, plasmodiophorids, diatoms, golden algae and yellow-green algae.										
BACTERIA & ARCHAEA (PROKARYOTES)										
Status in the wild in Pennsylvania of bacteria and archaea, which include many thousands of species and are of crucial ecological and economic importance, is virtually unknown.										

* Includes subspecies and varieties.

† Endangered and threatened species are the sums of two categories: **G**: globally imperiled or rare + **P**: imperiled in Pennsylvania because they are disjunct from or at the edge of the species' main range. Globally imperiled/rare taxa are those with Natural Heritage Network ranks G1, G2, G3, GH, T1, T2, T3 or TH (including -Q & excluding G3G4 or T3T4 and higher). State conservation status is determined by the PABS technical committees for vascular plants and vertebrate animals. Status of other organisms is derived from their Natural Heritage Network ranks: endangered — S1, S1?, S1S2 or SH; threatened — S1S3, S2 or S2S3; extirpated — SX.

‡ Pennsylvania responsibility species (includes subspecies and varieties) are those for which Pennsylvania plays an important role in sustaining their security range-wide, by hosting core populations or a significant proportion (~10% or more) of the total population.

Additional details:

VASCULAR PLANTS — Source: PABS Vascular Plants Technical Committee. **Suggested reading:** A. F. Rhoads & T. A. Block, 2007, *The Plants of Pennsylvania: an Illustrated Manual* (second edition), University of Pennsylvania Press, Philadelphia, 1,042 pp.; Pennsylvania Flora Project database, Botany Department, Morris Arboretum of the University of Pennsylvania (www.paflora.org).

BRYOPHYTES — Source: PABS Bryophytes & Lichens Technical Committee. **Suggested reading:** S. Munch, 2006, *Outstanding Mosses & Liverworts of Pennsylvania & Nearby States*, Sunbury Press, Camp Hill, Pennsylvania, 89 pp.; G. C. Manville, 2001, "An Annotated Checklist of Liverworts and Hornworts (Hepatics and Anthocerotales) of Pennsylvania," published by author, 40 pp.

(Continued on next page.)

BIRDS — Accidentals (species recorded in 3 or fewer of the last 10 years) are not included. **Source:** PABS Ornithology Technical Committee. **State endangered:** migrant loggerhead shrike (globally rare), short-eared owl, American bittern, great egret, black tern, sedge wren, blackpoll warbler, yellow-bellied flycatcher, peregrine falcon, least bittern, yellow-crowned night-heron, black-crowned night-heron, king rail, dickcissel, common tern. **State threatened:** upland sandpiper, bald eagle, osprey. **Downlisted:** osprey, 1997, from E to T; bald eagle, 2006, from E to T. **Extirpated:** greater prairie chicken, Bachman's sparrow (both globally rare) brown-headed nuthatch, Eskimo curlew. **Extirpated as breeding species:** Bewick's wren, olive-sided flycatcher. **Extinct:** passenger pigeon, Carolina parakeet. **Non-native & reproducing:** mute swan, ring-necked pheasant, rock pigeon, European starling, house sparrow. **Pennsylvania responsibility:** wood thrush, cerulean warbler, worm-eating warbler, Louisiana waterthrush, golden-winged warbler, blue-winged warbler, scarlet tanager, Henslow's sparrow, tundra swan (migrant only). **Suggested reading:** 2nd Pennsylvania Breeding Bird Atlas, 2010, Carnegie Museum of Natural History & Pennsylvania Game Commission (www.carnegiemnh.org/atlas); G. M. McWilliams & D. W. Brauning, 2006, *The Birds of Pennsylvania*, Cornell University Press, Ithaca, New York, 479 pp.

MAMMALS — **Source:** PABS Mammals Technical Committee. **State endangered:** Indiana myotis (globally imperiled), least shrew, northern flying squirrel, eastern spotted skunk. **State threatened:** southern water shrew, eastern small-footed myotis (both globally rare), Allegheny woodrat. **Downlisted:** fisher, 2006, from E to "special concern". **Extirpated:** marten, mountain lion, lynx, gray wolf, wolverine, moose, bison, rice rat, Delmarva fox squirrel. **Nonnative & reproducing:** thirteen-lined ground squirrel, Norway rat, house mouse. **Pennsylvania responsibility:** eastern small-footed bat, northern long-eared bat, Allegheny woodrat, Appalachian cottontail. **Suggested reading:** J. F. Merritt, 1987, *Guide to the Mammals of Pennsylvania*, University of Pittsburgh Press, Pittsburgh, 448 pp.

REPTILES — **Source:** PABS Amphibians & Reptiles Technical Committee. **State endangered:** bog turtle (globally rare), Kirtland's snake (globally imperiled), rough green snake, eastern massasauga. **State threatened:** redbelly turtle. **Extirpated:** smooth softshell, eastern mud turtle. **Nonnative & reproducing:** red-eared slider (turtle). **Pennsylvania responsibility:** spotted turtle, bog turtle, wood turtle, timber rattlesnake, northern coal skink, shorthead garter snake, mountain earth snake. **Suggested reading:** A. C. Hulse, C. J. McCoy & E. J. Censky, 2001, *Amphibians and Reptiles of Pennsylvania and the Northeast*, Cornell University Press, Ithaca, New York, 419 pp.

AMPHIBIANS — **Source:** PABS Amphibians & Reptiles Technical Committee. **State endangered:** mud salamander, New Jersey chorus frog, coastal plain leopard frog, eastern spadefoot. **State threatened:** green salamander. **Extirpated:** tiger salamander. **Pennsylvania responsibility:** Jefferson salamander, hellbender, mountain chorus frog. **Suggested reading:** A. C. Hulse, C. J. McCoy & E. J. Censky, 2001, *Amphibians and Reptiles of Pennsylvania and the Northeast*, Cornell University Press, Ithaca, New York, 419 pp.

FISHES — **Source:** PABS Fishes Technical Committee. Several known hybrids are excluded. "Non-breeding migrants" are estuarine species, some of whose reproducing status in the state is unknown. **Extinct:** blue pike. **Pennsylvania responsibility:** shortnose sturgeon, Atlantic sturgeon, eastern sand darter, longnose sucker, checkered sculpin, streamline chub, spotted darter, tongue-tied minnow, Ohio lamprey, mountain brook lamprey, northern madtom, cheat minnow, Chesapeake logperch (Susquehanna River population only), longhead darter. **Suggested reading:** E. L. Cooper, 1983, *Fishes of Pennsylvania and the Northeastern United States*, Pennsylvania State University Press, University Park, 183 pp.; L. Steiner, 2000, *Pennsylvania Fishes*, Pennsylvania Fish and Boat Commission, Harrisburg, 170 pp.

BUTTERFLIES — **Source:** Betsy Leppo & PABS Terrestrial Arthropods Technical Committee. **State endangered:** grizzled skipper, Persius duskywing (both globally imperiled), regal fritillary, mottled duskywing (both globally rare), columbine duskywing, Olympia marble, silvery blue, gold-banded skipper, salt marsh skipper, pink-edged sulphur, green comma. **State threatened:** frosted elfin (globally rare), 38 other species. **Extirpated:** arogos skipper (globally imperiled). **Pennsylvania responsibility:** grizzled skipper, regal fritillary.

MOTHS — **Source:** Betsy Leppo & PABS Terrestrial Arthropods Technical Committee.

DRAGONFLIES & DAMSELFLIES — **Source:** Betsy Leppo, PABS Terrestrial Arthropods Technical Committee & Aquatic Arthropods Technical Committee

STONEFLIES — **Source:** Jane Earle & PABS Aquatic Arthropods Technical Committee. **Pennsylvania responsibility:** *Soyedina merritti* (endemic to PA & globally imperiled). **Suggested reading:** J. I. Earle, 2004, New records and clarifications of the Pennsylvania stonefly (Plecoptera) fauna, with an annotated list of the stoneflies of Pennsylvania, *Entomological News* 115: 191-200; J. I. Earle, 2009, New state stonefly (Plecoptera) records for Pennsylvania, with additional records and information on rare species, *Illiesia* 5: 169-181.

CRAYFISHES — **Source:** Ted Nuttall & PABS Aquatic Arthropods Technical Committee. **Pennsylvania responsibility:** *Cambarus monongalensis*.

MUSSELS — **Source:** PABS Mollusks Technical Committee. **Pennsylvania responsibility:** dwarf wedgemussel, northern riffleshell, yellow lampmussel, eastern pearlshell, clubshell, rayed bean.

FUNGI — **Source:** Compiled by John Plischke III from Pennsylvania records in the Mycological Herbarium of Penn State University (PACMA) & data provided by Western Pennsylvania Mushroom Club, Eastern Pennsylvania Mushroomers, Susquehanna Valley Mycological Society, PABS bioblitzes in Erie County, North American Mycological Association, Mycological Society of America, Northeast Mycological Federation, Charles Horton Peck Annual New York State Mushroom Foray & New Jersey Mycological Association. Rarity ranking & determination of conservation status is complicated by uncertainty about the synonymy of many old records whose names are not found in global searches of current fungus taxonomy, comprising perhaps half of all species records from Pennsylvania.

LICHENS — **Source:** James Lendemer & PABS Bryophytes & Lichens Technical Committee. Figures are based only on examined vouchers; additional collecting as well as revision of herbarium specimens upon which historical reports have been based is expected to greatly increase the number of species. **Pennsylvania responsibility:** *Bacidia phyllopsoropsis*, *Chrysothrix susquehannensis*, *Opegrapha bicolor*, *Parmelia neodiscordans*, *Peltigera hydrothryia*. **Recommended reading:** Lichens & Lichenicolous Fungi of Pennsylvania, New York Botanical Garden (sciweb.nybg.org/science2/hcoll/lena/index.asp & click on the Pennsylvania link).

PROTISTS — **Source:** Slime molds information compiled by John Plischke III (see FUNGI, above).