

## RESULTS FOR SPECIES\*

### Modification to Standard Method

All G1-G3G4 and T1-T3 species known in the ecoregion were considered as potential targets. Other G4 and G5 species were nominated for discussion by each of the state programs. Several of these species were rejected as targets by the group based on questions about the taxonomic status of the species. Several species were removed as targets because they were considered to be more common throughout their range than reflected in the current global rank. The global rank for these species needs to be updated. One species was considered to be misidentified; several were not tracked in all three states and distribution information was considered to be inadequate. Several of these species were retained on a potential target list for future consideration.

### Target Selection Results

The HAL plant target list includes 22 vascular plants and 2 non vascular plants (Table P+AT1).

**Table P+AT1. Primary Plant Target Species List with Rangewide Distribution Categories**

PRIMARY VASCULAR PLANT TARGET SPECIES (22)				
GNAME (Global Name)	GCOMNAME (Global Common Name)	ELCODE	GRANK	DISTRIBUTION
ACONITUM NOVEBORACENSE	NORTHERN WILD MONKSHOOD	PDRAN01070	G3	Limited
ADOXA MOSCHATELLINA	MUSK-ROOT	PDADO01010	G5	Peripheral
CALAMAGROSTIS PERPLEXA	WOOD REED GRASS	PMPOA17180	G1Q	Restricted
CAREX LUPULIFORMIS	FALSE HOP SEDGE	PMCYP037T0	G4	Widespread
CAREX POLYMORPHA	VARIABLE SEDGE	PMCYP03AW0	G3	Limited
CAREX SCHWEINITZII	SCHWEINITZ'S SEDGE	PMCYP03C60	G3	Widespread
CAREX WIEGANDII	WIEGAND'S SEDGE	PMCYP03ES0	G3	Widespread
CHENOPODIUM FOGGII	FOGG'S GOOSEFOOT	PDCHE090J0	G3Q	Widespread
CLAYTONIA VIRGINICA VAR HAMMONDIAE	HAMMOND'S YELLOW SPRING BEAUTY	PDPOR030Q3	G5T1	Restricted
COREMA CONRADII	BROOM CROWBERRY	PDEMP02010	G4	Peripheral
DRYOPTERIS FRAGRANS	FRAGRANT CLIFF WOOD-FERN	PPDRY0A0C0	G5	Peripheral
ISOTRIA MEDEOLOIDES	SMALL WHORLED POGONIA	PMORC1F010	G2	Widespread
JUNCUS ENSIFOLIUS	THREE-STAMENED RUSH	PMJUN01130	G5	Peripheral
MONTIA CHAMISSOI	CHAMISSO'S MINER'S-LETTUCE	PDPOR05020	G5	Peripheral
PLATANThERA HOOKERI	HOOKER ORCHIS	PMORC1Y0A0	G5	Widespread
POA LANGUIDA	DROOPING BLUEGRASS	PMPOA4Z1C0	G3G4Q	Widespread
POA PALUDIGENA	BOG BLUEGRASS	PMPOA4Z1W0	G3	Widespread
POLEMONIUM VANBRUNTIAE	JACOB'S LADDER	PDPLM0E0L0	G3	Limited
SCIRPUS ANCISTROCHAETUS	NORTHEASTERN BULRUSH	PMCYP0Q030	G3	Widespread
SEDUM ROSEA	ROSEROOT STONECROP	PDCRA0A170	G5	Peripheral
TRIPHORA TRIANTHOPHORA	NODDING POGONIA	PMORC2F050	G3G4	Widespread
TROLLIUS LAXUS SSP LAXUS	SPREADING GLOBEFLOWER	PDRAN0P022	G4T3	Widespread

\* Anderson, M.G. and S.L. Bernstein (editors). 2003. Results for species. Based on Zaremba, R.E. 2002. High Allegheny Plateau Ecoregional Plan; First Iteration. The Nature Conservancy, Conservation Science Support, Northeast and Caribbean Division, Boston, MA.

<b>PRIMARY NON VASCULAR PLANT TARGET SPECIES (2)</b>				
<b>GNAME (Global Name)</b>	<b>GCOMNAME (Global Common Name)</b>	<b>ELCODE</b>	<b>GRANK</b>	<b>DISTRIBUTION</b>
SPHAGNUM ANDERSONIANUM		NBMUS6Z1Q0	G3?	Limited
SPHAGNUM ANGERMANICUM		NBMUS6Z010	G3G4	Limited

Sixteen of the plant species targets are globally rare and ranked G1-G3G4 (or T1-T3); eight are secure globally and ranked G4 or G5. Three plant target species are federally listed: *Aconitum noveboracense*, *Scirpus ancistrochaetus*, and *Isotria medeoloides*. Two targets: *Calamagrostis perplexa* and *Claytonia virginica* var. *hammondiae* are identified as restricted to HAL. Both are known from only one population. Five species (three vascular and two non vascular) are designated as Limited in distribution with HAL one of the important locations for these species. All other species are widespread in distribution or peripheral within HAL.

The HAL animals target list includes 11 vertebrate species and 22 invertebrate species (Table P+AT2).

**Table P+AT2. Primary Animal Target Species List with Rangewide Distribution Categories**

<b>PRIMARY VERTEBRATE TARGET SPECIES (11)</b>				
<b>GNAME (Global Name)</b>	<b>GCOMNAME (Global Common Name)</b>	<b>ELCODE</b>	<b>GRANK</b>	<b>DISTRIBUTION</b>
CLEMMYS MUHLENBERGII	BOG TURTLE	ARAAD02040	G3	Widespread
ETHEOSTOMA MACULATUM	SPOTTED DARTER	AFCQC02420	G2	Limited
ETHEOSTOMA TIPPECANOE	TIPPECANOE DARTER	AFCQC02800	G3	Limited
ICHTHYOMYZON BDELLIUM	OHIO LAMPREY	AFBAA01010	G3G4	Peripheral
ICHTHYOMYZON GREELEYI	MOUNTAIN BROOK LAMPREY	AFBAA01050	G3G4	Peripheral
MYOTIS LEIBII	EASTERN SMALL-FOOTED MYOTIS	AMACC01130	G3	Widespread
MYOTIS SODALIS	INDIANA BAT	AMACC01100	G2	Widespread
NEOTOMA MAGISTER	ALLEGHENY WOODRAT	AMAFF08100	G3G4	Peripheral
NOTURUS STIGMOSUS	NORTHERN MADTOM	AFCKA02220	G3	Widespread
PERCINA MACROCEPHALA	LONGHEAD DARTER	AFCQC04120	G3	Widespread
SISTRURUS CATENATUS CATENATUS	EASTERN MASSASAUGA	ARADE03011	G3G4T 3	Peripheral
<b>PRIMARY INVERTEBRATE TARGET SPECIES (22)</b>				
<b>GNAME (Global Name)</b>	<b>GCOMNAME (Global Common Name)</b>	<b>ELCODE</b>	<b>GRANK</b>	<b>DISTRIBUTION</b>
ALASMIDONTA HETERODON	DWARF WEDGEMUSSEL	IMBIV02030	G1G2	Widespread
ALASMIDONTA VARICOSA	BROOK FLOATER	IMBIV02100	G3	Widespread
CHAETAGLAEA CERATA	A NOCTUID MOTH	IILEYFM010	G3G4	Widespread
CHEUMATOPSYCHE HELMA	HELMA'S NET-SPINNING CADDISFLY	IITRI22040	G1G3	Peripheral
CICINDELA ANCOCCONENSIS	A TIGER BEETLE	IICOL02070	G3	Widespread
CICINDELA MARGINIPENNIS	COBBLESTONE TIGER BEETLE	IICOL02060	G2G3	Widespread
ENALLAGMA LATERALE	NEW ENGLAND BLUET	IIODO71020	G3	Peripheral
EPIOBLASMA TORULOSA RANGIANA	NORTHERN RIFFLESHELL	IMBIV16184	G2T2	Limited

ERYNNIS PERSIUS PERSIUS	PERSIUS DUSKY WING	IILEP37171	G5T2T3	Widespread
FUSCONAIA SUBROTUNDA	LONGSOLID	IMBIV17120	G3	Widespread
GOMPHUS QUADRICOLOR	RAPIDS CLUBTAIL	IIODO08380	G3G4	Widespread
GOMPHUS SEPTIMA	SEPTIMA'S CLUBTAIL	IIODO08190	G2	Restricted
GOMPHUS VIRIDIFRONS	GREEN-FACED CLUBTAIL	IIODO08460	G3	Widespread
ITAME SP 1	BARRENS ITAME (c.f. I. INEXTRICATA)	IILEU09X10	G3	Widespread
LASMIGONA SUBVIRIDIS	GREEN FLOATER	IMBIV22060	G3	Widespread
OPHIOGOMPHUS ANOMALUS	EXTRA-STRIPED SNAKETAILED	IIODO12020	G3	Widespread
OPHIOGOMPHUS HOWEI	PYGMY SNAKEFAIL	IIODO12090	G3	Widespread
PAPAPEMA SP 1	FLYPOISON BORER MOTH	IILEYC0X10	G2G3	Limited
PLEUROBEMA CLAVA	CLUBSHELL	IMBIV35060	G4	Peripheral
PSECTRAGLAEA CARNOSA	PINK SALLOW	IILEYFN010	G3	Widespread
PYRGUS WYANDOT	SOUTHERN GRIZZLED SKIPPER	IILEP38090	G2	Limited
VILLOSA FABALIS	RAYED BEAN	IMBIV47050	G1G2	Widespread

All animal targets are ranked as globally rare, G1-G3G4 (or T1-T3). Three targets are Federally listed: *Clemmys muhlenbergii*, *Myotis leibii*, and *Alasmidonta heterodon*. Only one animal species is identified as “Restricted” to HAL: *Gomphus septima*. Four species (*Epioblasma torulosa rangiana*, *Papaipema* sp. 1, *Etheostoma maculatum*, and *Etheostoma tippecanoe*, ) are designated as having “Limited” distributions including HAL. All other species are “Widespread” or “Peripheral” in HAL. Two species (*Epioblasma triquetra* and *Quadrula cylindrica*) are globally rare and found in HAL, but were not included in this assessment because their occurrences are associated with French Creek which is primarily in Western Allegheny Plateau (WAP) Ecoregion and in the far western part of the ecoregion. These species and their HAL occurrences have been included in the WAP ecoregional plan.

A list of potential additional targets was developed during the assessment process for both plants and animals. These lists are made up of a broad range of species types including species needing more taxonomic work, species not well inventoried in the ecoregion, species of unknown global rarity, species tracked in one state but not in others, species which may be undergoing decline, and species which may be misidentified. The discussion concerning these taxa was recorded to assist in future assessments of HAL targets. The potential target list for plants in HAL includes 15 species and appears in Table P+AT3.

**Table P+AT3. Potential Plant Target Species (Listed alphabetically by Global Name)**

GNAME (GLOBAL NAME)	GCOMNAME (Global Common Name)	ELCODE	GRANK
AMELANCHIER BARTRAMIANA	BARTRAM SHADBUSH	PDROS05030	G5
CAREX COLLINSII	COLIN'S SEDGE	PMCYP032W0	G4
CHAMAECYPARIS THYOIDES	ATLANTIC WHITE CEDAR	PGCUP03030	G4
CHAMAELIRIUM LUTEUM	DEVIL'S-BIT	PMLIL0F010	G5
CRATAEGUS PENNSYLVANICA	A HAWTHORN	PDROS0H3V0	G3?Q
CRYPTOGRAMMA STELLERI	FRAGILE ROCKBRAKE	PPADI0B020	G5
FRASERA CAROLINIENSIS	CAROLINA GENTIAN	PDGEN05030	G5
GLYCERIA OBTUSA	BLUNT MANNA-GRASS	PMPOA2Y0C0	G5
HASTEOLA SUAVEOLENS	SWEET-SCENTED INDIAN-PLANTAIN	PDASTDX010	G3

HUPERZIA POROPHILA	ROCK CLUBMOSS	PPLYC02080	G4
JUNCUS MILITARIS	BAYONET RUSH	PMJUN011Y0	G4
POLYSTICHUM BRAUNII	BRAUN'S HOLLY-FERN	PPDRY0R040	G5
POTAMOGETON CONFERVOIDES	ALGAE-LIKE PONDWEED	PMPOT03050	G3G4
RIBES LACUSTRE	BRISTLY BLACK CURRANT	PDGRO020T0	G5
TRICHOMANES INTRICATUM	A FILMY-FERN	PPHYM020V0	G3G4

The potential targets list for animals includes 49 species (13 vertebrates and 36 invertebrates) and appears in Table P+AT4.

**Table P+AT4. Potential Animal Target Species (Listed alphabetically by Global Name)**

<b>VERTEBRATE SPECIES (13)</b>			
<b>ELCODE</b>	<b>GNAME (Global Name)</b>	<b>GCOMNAME (Global Common Name)</b>	<b>GRANK</b>
ABNKC12060	ACCIPITER GENTILIS	NORTHERN GOSHAWK	G5
AFCKA06030	AMEIURUS MELAS	BLACK BULLHEAD	G5
ARADE02040	CROTALUS HORRIDUS	TIMBER RATTLESNAKE	G4
AMABA04010	CRYPTOTIS PARVA	LEAST SHREW	G5
ABPBX03230	DENDROICA STRIATA	BLACKPOLL WARBLER	G5
ABPAE33010	EMPIDONAX FLAVIVENTRIS	YELLOW-BELLIED FLYCATCHER	G5
AFCQB10030	ENNEACANTHUS OBESUS	BANDED SUNFISH	G5
AFCQB11080	LEPOMIS MEGALOTIS	LONGEAR SUNFISH	G5
AFCJB28310	NOTROPIS CHALYBAEUS	IRONCOLOR SHINER	G4
AFCJB31020	PHOXINUS EOS	NORTHERN REDBELLY DACE	G5
ABNME05020	RALLUS ELEGANS	KING RAIL	G4G5
ABNME05030	RALLUS LIMICOLA	VIRGINIA RAIL	G5
AMAEB01090	SYLVILAGUS OBSCURUS	APPALACHIAN COTTONTAIL	G4
<b>INVERTEBRATE SPECIES (36)</b>			
<b>ELCODE</b>	<b>GNAME (Global Name)</b>	<b>GCOMNAME (Global Common Name)</b>	<b>GRANK</b>
IILEYAQ180	ACRONICTA ALBARUFA	BARRENS DAGGER MOTH	G3G4
IIODO14110	AESHNA MUTATA	SPATTERDOCK DARNER	G3G4
IIODO15030	ANAX LONGIPES	COMET DARNER	G5
IMBIV04080	ANODONTA IMPLICATA	ALEWIFE FLOATER	G5
IILEYLP110	ANOMOGYNA ELIMATA	SOUTHERN VARIABLE DART MOTH	G5
IILEYBB010	APAMEA BURGESSI	A NOCTUID MOTH	G4
IILEYB9070	APAMEA CRISTATA	A NOCTUID MOTH	G4
IILEYGR010	APHARETRA DENTATA	A NOCTUID MOTH	G4
IILEYM1010	APLECTOIDES CONDITA	A NOCTUID MOTH	G4
IIODO68010	ARGIA BIPUNCTULATA	SEEPAGE DANCER	G4
IIODO68020	ARGIA TIBIALIS	BLUE-TIPPED DANCER	G5
IILEPJ9150	CHLOSZYNE HARRISII	HARRIS'S CHECKERSPOT	G4
IIODO70010	COENAGRION RESOLUTUM	TAIGA BLUET	G5
IILEPA8140	COLIAS INTERIOR	PINK-EDGED SULPHUR	G5
IILEY02100	DATANA RANAECEPS	A HAND-MAID MOTH	G3G4
IILEYLC020	DIARSIA RUBIFERA	RUBIFERA DART	G5
IILEP77030	EUPHYES DION	DION SKIPPER	G4
IILEU0S060	GLENA COGNATARIA	BLUEBERRY GRAY	G4
IIODO08410	GOMPHUS ABBREVIATUS	SPINE-CROWNED CLUBTAIL	G3G4

IILEW0M040	HEMILEUCA MAIA	THE BUCKMOTH	G5
IMBIV21050	LAMPSILIS CARIOSA	YELLOW LAMPMUSSEL	G3G4
IILEYFE440	LITHOPHANE THAXTERI	THAXTER'S PINION MOTH	G4
IILEU1S030	LYCIA RACHELAE	TWILIGHT MOTH	G4
IMBIV27030	MARGARITIFERA MARGARITIFERA	EASTERN PEARLSHELL	G4
IILEYFK030	METAXAGLAEA SEMITARIA	FOOTPATH SALLOW MOTH	G5
IIDO050010	NANNOTHEMIS BELLA	ELFIN SKIMMER	G4
IILEYAH070	PANTHEA SP 1	A MOTH	G4
IILEYHL040	SIDERIDIS MARYX	A MOTH	G4
IIDO032080	SOMATOCHLORA FORCIPATA	FORCIPATE EMERALD	G5
IIDO032130	SOMATOCHLORA INCURVATA	INCURVATE EMERALD	G4
IILEX0B170	SPHINX GORDIUS	GORDIAN SPHINX	G4
IILEY8T030	SYNGRAPHA EPIGAEA	A NOCTUID MOTH	G5
IILEY7P260	ZALE CUREMA	A NOCTUID MOTH	G3G4
IILEY7PX10	ZALE SP 1	PINE BARRENS ZALE	G3Q
IILEY7P190	ZALE SUBMEDIANA	A NOCTUID MOTH	G4
IILEY43110	ZANCLOGNATHA MARTHA	PINE BARRENS ZANCLOGNATHA	G4

### Portfolio Status for Plant Species in HAL

The Plant Working Group assessed a total of 121 (See Table P+AT7) occurrences for the 24 target plant species in HAL. Eighty-eight occurrences (73%) were selected for the HAL portfolio. Goals and portfolio status for plant targets in HAL are presented in Table P+AT7.

**Table P+AT7 Primary Plant Target Species: Goals, Portfolio Status, And Goals Met**

PRIMARY VASCULAR PLANT TARGET SPECIES (22)						
GNAME (Global Name)	GCOMNAME (Global Common Name)	Rangewide Distribution	# of EORs in HAL	Minimum Needed for Goals	# of EORs Accepted	Goal Met
ACONITUM NOVEBORACENSE	NORTHERN WILD MONKSHOOD	Limited	8	10	8	N
ADOXA MOSCHATELLINA	MUSK-ROOT	Peripheral	5	5	3	N
CALAMAGROSTIS PERPLEXA	WOOD REED GRASS	Restricted	1	20	1	N
CAREX LUPULIFORMIS	FALSE HOP SEDGE	Widespread	2	5	1	N
CAREX POLYMORPHA	VARIABLE SEDGE	Limited	6	10	6	N
CAREX SCHWEINITZII	SCHWEINITZ'S SEDGE	Widespread	6	5	4	N
CAREX WIEGANDII	WIEGAND'S SEDGE	Widespread	2	5	2	N
CHENOPODIUM FOGGII	FOGG'S GOOSEFOOT	Widespread	1	5	0	N
CLAYTONIA VIRGINICA VAR HAMMONDIAE	HAMMOND'S YELLOW SPRING BEAUTY	Restricted	1	20	1	N
COREMA CONRADII	BROOM CROWBERRY	Peripheral	2	5	2	N
DRYOPTERIS FRAGRANS	FRAGRANT CLIFF WOOD- FERN	Peripheral	3	5	3	N
ISOTRIA MEDEOLOIDES	SMALL WHORLED POGONIA	Widespread	2	5	2	N
JUNCUS ENSIFOLIUS	THREE-STAMENED RUSH	Peripheral	2	5	1	N
MONTIA CHAMISSOI	CHAMISSO'S MINER'S- LETTUCE	Peripheral	3	5	2	N
PLATANThERA HOOKERI	HOOKER ORCHIS	Widespread	3	5	0	N
POA LANGUIDA	DROOPING BLUEGRASS	Widespread	1	5	0	N
POA PALUDIGENA	BOG BLUEGRASS	Widespread	6	5	5	Y
POLEMONIUM VANBRUNTIAE	JACOB'S LADDER	Limited	25	10	13	Y

SCIRPUS ANCISTROCHAETUS	NORTHEASTERN BULRUSH	Widespread	1	5	4	N
SEDUM ROSEA	ROSEROOT STONECROP	Peripheral	4	5	3	N
TRIPHORA TRIANTHOPHORA	NODDING POGONIA	Widespread	6	5	6	Y
TROLLIUS LAXUS SSP LAXUS	SPREADING GLOBEFLOWER	Widespread	24	5	14	Y
<b>SUBTOTAL</b>			<b>114</b>	<b>155</b>	<b>81</b>	<b>--</b>
<b>PRIMARY NON VASCULAR PLANT TARGET SPECIES (2)</b>						
<b>GNAME (Global Name)</b>	<b>GCOMNAME (Global Common Name)</b>	<b>Rangewide Distribution</b>	<b># of EORs in HAL</b>	<b>Minimum Needed for Goals</b>	<b># of EORs Accepted</b>	<b>Goal Met</b>
SPHAGNUM ANDERSONIANUM		Limited	4	10	4	N
SPHAGNUM ANGERMANICUM		Limited	3	10	3	N
<b>SUBTOTAL</b>			<b>7</b>	<b>20</b>	<b>7</b>	<b>--</b>
<b>GRAND TOTAL</b>			<b>121</b>	<b>175</b>	<b>88</b>	<b>--</b>

Only four species met their goal: *Poa paludigena*, *Polemonium vanbruntiae*, *Triphora trianthophora*, and *Trollius laxus* spp *laxus*. New York is the center of distribution for *Trollius laxus* spp *laxus*. Of the 22 occurrences assessed as viable in HAL, only 14 were selected for the portfolio. Eight occurrences located in marginal habitat were not selected. Likewise, New York is the center of distribution for *Polemonium vanbruntiae*. Two viable occurrences for *Polemonium* in marginal habitat were not selected for the portfolio. For all other species, all viable occurrences were selected for the HAL portfolio.

The overall goal for plants in HAL was to locate and identify 175 populations (see Table P+AT7). Half of the goal (88 of 175 or 50%) for plant targets was met in this first iteration of the HAL plan.

### Comments on the HAL plant portfolio

The plant data used in the development of the HAL portfolio were in overall good condition and easy to evaluate. The HAL botanists knew the species tracked well and had a good sense of what remains left to document their states.

Goals for the two species “Restricted” to HAL are currently unattainable. Both species (*Calamagrostis perplexa* and *Claytonia virginica* var. *hammondiae*) appear to be good taxa, but are only known from one population. The goal for these species in HAL is 20 populations. It is expected that no other populations will be found. Thus these targets are unlikely to persist over centuries without restoration work.

It is the opinion of the HAL botanists that several species designated as targets will be found at new sites with continued inventories. These species include: *Scirpus ancistrochaetus*, *Triphora trianthophora*, *Chenopodium foggii*, and *Juncus ensifolius*. Many of the other species are well known and have been the subject of detailed searches.

Plant occurrences for targets are concentrated in the calcareous region in New York, the Catskills, along the Kittatinny ridge and vicinity, and in the Poconos. There are large sections of western Pennsylvania and the New York/Pennsylvania border counties where there have been few surveys. These areas should receive additional attention.

## Portfolio Status for Animals in HAL

The HAL Animal Working Group assessed 158 occurrences including metapopulations for the 33 target species. Seventy-four occurrences for 27 species were selected for the portfolio. Goals for animals targets in HAL are presented in Table P+AT8.

**Table P+AT8. HAL Primary Animal Target Species: Goals and Goals Met**

PRIMARY VERTEBRATE TARGET SPECIES (11)												
GNAME (Global Name)	GCOMNAME (Global Common Name)	ELCODE	RANGEWIDE	GRANK	GOAL minimum	# OF EORS	# OF EORS (converted to include)	Explanation of Conversion	# of EORS ACCEPTED	COMMENTS for EORS ACCEPTED	NUMERICAL GOAL MET?	DISTRIBUTION GOAL
CLEMMYS MUHLENBERGII	BOG TURTLE	ARAAD02040	W	G3	5	38	24	22 eors + 2 metapops of 6 and 10 eors	2	Both Metapops incl.	N	N
ETHEOSTOMA MACULATUM	SPOTTED DARTER	AFCQC02420	L	G2	10	2	1	1 metapopulation of 2 eors	1	Metapop. included	N	Y
ETHEOSTOMA TIPPECANOE	TIPPECANOE DARTER	AFCQC02800	L	G3	10	5	1	1 metapopulation of 5 eors	1	Metapop. included	N	Y
ICHTHYOMYZON BDELLIUM	OHIO LAMPREY	AFBAA01010	P	G3G4	5	15	14	13 eor + 1 metapop of 2 eors	8	Metapop. included	Y	Y
ICHTHYOMYZON GREELEYI	MOUNTAIN BROOK LAMPREY	AFBAA01050	P	G3G4	5	5	5	---	0	---	N	N
MYOTIS LEIBII	EASTERN SMALL-FOOTED MYOTIS	AMACC01130	W	G3	5	4	4	---	1	---	N	N
MYOTIS SODALIS	INDIANA BAT	AMACC01100	W	G2	5	1	1	---	0	---	N	N
NEOTOMA MAGISTER	ALLEGHENY WOODRAT	AMAFF08100	P	G3G4	5	17	17	---	5	---	Y	N
NOTURUS STIGMOSUS	NORTHERN MADTOM	AFCKA02220	W	G3	5	1	1	---	1	---	N	Y
PERCINA MACROCEPHALA	LONGHEAD DARTER	AFCQC04120	W	G3	5	10	5	4 eors + 1 metapop. of 4 eors	5	Metapop. included	Y	Y
SISTRURUS CATENATUS	EASTERN MASSAUGA	ARADE03011	P	G3G4T3	5	6	6	---	0	---	N	N
SUBOTAL					65	104	79	---	24			

  

PRIMARY INVERTEBRATE TARGET SPECIES (22)													
GNAME (Global Name)	GCOMNAME (Global Common Name)	ELCODE	RANGEWIDE	DISTRIBUTION	GRANK	GOAL minimum	# OF EORS	# OF EORS (converted to include)	Explanation of Conversion	# of EORS ACCEPTED	COMMENTS for EORS ACCEPTED	NUMERICAL GOAL MET?	DISTRIBUTION GOAL
ALASMIDONTA HETERODON	DWARF WEDGEMUSSEL	IMBIV02030	W	G1G2	5	8	2	1 + 1 metapopulation of 7 eors	2	Metapop. included	N	Y	
ALASMIDONTA VARICOSA	BROOK FLOATER	IMBIV02100	W	G3	5	8	8	---	7	---	Y	N	
CHAETAGLAEA CERATA	A NOCTUID MOTH	IILEYFM010	W	G3G4	5	3	3	---	3	---	N	Y	
CHEUMATOPSYCHE HELMA	HELMA'S NET-SPINNING CADDISFLY	IITRI22040	P	G1G3	5	1	1	---	1	---	N	Y	
CICINDELA ANCOCISCONENSIS	A TIGER BEETLE	IICOL02070	W	G3	5	3	3	---	3	---	N	Y	
CICINDELA MARGINIPENNIS	COBBLESTONE TIGER BEETLE	IICOL02060	W	G2G3	5	3	3	---	3	---	N	Y	
ENALLAGMA LATERALE	NEW ENGLAND BLUET	IIODO71020	P	G3	5	3	2	1 + 1 metapopulation of 2 eors	1	Metapop. included	N	N	
EPIOBLASMA TORULOSA RANGIANA	NORTHERN RIFFLESHELL	IMBIV16184	L	G2T2	10	3	1	1 metapopulation of 3 eors	1	Metapop. included	N	Y	
ERYNNIS PERSIUS PERSIUS	PERSIUS DUSKY WING	IILEP37171	W	G5T2T3	5	2	2	---	1	---	N	N	
FUSCONAIA SUBROTUNDA	LONGSOLID	IMBIV17120	W	G3	5	2	2	---	0	---	N	N	
GOMPHUS QUADRICOLOR	RAPIDS CLUBTAIL	IIODO08380	W	G3G4	5	7	2	1st metapop. 2 eors, 2nd metapop. of 5 eors	2	Both metapops. included	N	Y	

GOMPHUS SEPTIMA	SEPTIMA'S CLUBTAIL	IIDO08190	R	G2	20	0	0	---	0		N	N
GOMPHUS VIRIDIFRONS	GREEN-FACED CLUBTAIL	IIDO08460	W	G3	5	11	6	5 eors + 1 metapop. of 6 eors	6	Metapop. included	Y	Y
ITAME SP 1	BARRENS ITAME (c.f. I. INEXTRICATA)	IILEU09X10	W	G3	5	4	4	---	2		N	N
LASMIGONA SUBVIRIDIS	GREEN FLOATER	IMBIV22060	W	G3	5	27	27	---	7		Y	Y
OPHIOGOMPHUS ANOMALUS	EXTRA-STRIPED SNAKETAILED	IIDO12020	W	G3	5	3	3	---	3		N	Y
OPHIOGOMPHUS HOWEI	PYGMY SNAKEFAIL	IIDO12090	W	G3	5	1	1	---	1		N	Y
PAPAPEMA SP 1	FLYPOISON BORER MOTH	IILEYC0X10	L	G2G3	10	6	5	4 eors + 1 metapop. of 2 eors	3	Metapop. included	N	N
PLEUROBEMA CLAVA	CLUBSHELL	IMBIV35060	P	G4	5	3	1	1 metapop. of 3 eors	1	Metapop. included	N	Y
PSECTRAGLAEA CARNOSA	PINK SALLOW	IILEYFN010	W	G3	5	4	2	2 eors + 1 metapop. of 2 eors	2	Metapop. included	N	N
PYRGUS WYANDOT	SOUTHERN GRIZZLED SKIPPER	IILEP38090	L	G2	10	0	0	---	0		N	Y
VILLOSA FABALIS	RAYED BEAN	IMBIV47050	W	G1G2	5	1	1	---	1		N	Y
SUBTOTAL					140	103	79	---	50			
GRAND TOTAL					205	207	158		74			

\* Rangewide Distribution Symbols: L Limited; P Peripheral, R Restricted, W Widespread

Six species known to have occurred in HAL within the last 30 years did not have any occurrences selected (*Ichthyomyzon greeleyi*, *Myotis sodalis*, *Sistrurus catenatus catenatus*, *Fusconaia subrotunda*, *Gomphus septima*, and *Pyrgus wyandot*). Four species (*Ichthyomyzon bdellium*, *Percina macrocephala*, *Gomphus viridifrons*, and *Lasmigona subviridis*) met both numerical and distributional goals for the ecoregion. Two other species (*Neotoma magister* and *Alasmidonta varicosa*) met numerical goals, but failed to meet the distributional goal. Fifteen species met the distributional goal, but failed to meet the numerical goal.

The overall goal for animals in HAL was 205 occurrences. The HAL first iteration portfolio identifies 33% of the viable animal populations to meet the plan goals, 68 of 205 occurrences. Six occurrences were included in the portfolio that were beyond the goals set for four species.

### Comments on the HAL animal portfolio

The data used in the development of the HAL portfolio were variable in detail and difficult to evaluate. Data were collected by a wide variety of surveyors. Some occurrence information was old; some was very sketchy. It was often hard to evaluate an occurrence beyond that a collection had been made at a specific site. Much of these type of data were set aside and occurrences were not included in the portfolio. Comments were collected that reflect needed additional information for future assessment.

For 13 of the species identified as targets, some individual occurrences were grouped into metapopulation concepts. For example, 16 bog turtle occurrences from the New Jersey and Pennsylvania databases were grouped into two populations. Species whose viable occurrences were in some way grouped into metapopulations during this assessment include:

*Clemmys muhlenbergii*  
*Etheostoma maculatum*  
*Etheostoma tippecanoe*  
*Ichthyomyzon bdellium*  
*Percina macrocephala*  
*Alasmidonta heterodon*  
*Enallagma laterale*  
*Epioblasma torulosa rangiana*  
*Gomphus quadricolor*  
*Gomphus viridifrons*

*Papaipema* sp. 1  
*Pleurobema clava*  
*Psectraglaea carnosa*

For six species, no occurrences appear in the portfolio at all. For *Pyrgus wyandot* there are no currently known populations. Data for *Gomphus septima* have been collected, but have not yet been processed by New York Heritage and have not been included in this plan. Four other species: *Ichthyomyzon greeleyi*, *Myotis leibei*, *Fusconaia subrotunda*, and *Sistrurus catenatus* are believed to still be extant in HAL, but additional field work is needed to confirm locations and population viability, before portfolio sites can be chosen.

The animal occurrences in the HAL portfolio are concentrated along the major rivers: the Delaware, the Susquehanna, and the Allegheny, along the Clarion River in Western Pennsylvania, and Olean Creek in New York, and in the eastern parts of the ecoregion.

Additional field work for most species is needed to confirm the continued existence of many species and individual populations and to improve an understanding of viability for these occurrences. There are likely more occurrences for many of these species, particularly those associated with aquatic systems.

Assessing and integrating the appropriate bird target species is not complete. A list of PIF priority species for HAL is shown in Table BT1.

**TABLE BT-1. Draft Bird Target List Based on Allegheny Plateau PIF Report**

<b>High Continental Priority- High Regional Responsibility</b>
Henslow's sparrow
Bicknell's thrush
Wood thrush
Canada warbler
American woodcock
Black-billed cuckoo
Black-throated blue warbler
Field sparrow
Louisiana waterthrush
Scarlet tanager
<b>High Continental Priority- Low Regional Responsibility</b>
Golden-winged warbler
Cerulean warbler
Worm-eating warbler
<b>High Regional Concern</b>
Eastern wood-pewee
American kestrel
Eastern towhee
Least flycatcher
Sharp-shinned hawk
<b>High Regional Responsibility</b>
Blue-winged warbler
Bobolink
Rose-breasted grosbeak
<b>High Regional Threats</b>
American black duck
Red-headed woodpecker
Sedge wren
Yellow-bellied flycatcher
Upland sandpiper
Northern harrier
Short-eared owl

<b>Arranged by habitat with priority set by PIF plan</b> (species differ some from the first part of this list-only species with high PIF scores are included)
<b>Agricultural grasslands</b>
Henslow's sparrow
Upland sandpiper
American kestrel
Bobolink
<b>Shrub-early succession</b>
Golden-winged warbler
American woodcock
Field sparrow
<b>Boreal mountaintop and bog</b>
Bicknell's thrush
Yellow-bellied flycatcher
<b>Riparian-deciduous forest</b>
Cerulean warbler
Worm-eating warbler
Wood thrush
Louisiana waterthrush
Canada warbler
Black-throated blue warbler
<b>Freshwater wetlands</b>
American black duck
King rail
American bittern
Black tern

### Next Steps for HAL Species Assessment

1. Data collected during this assessment were returned to the Heritage Programs. Element occurrences should be updated to reflect any new information obtained during development of this plan about viability and occurrences grouped into metapopulations.
2. Species targets lists should be assembled for all Northeastern ecoregions and evaluated to make sure that the globally-rare species are addressed in all ecoregions and that globally-secure species are appropriately included. Comments concerning taxonomic and identification problems, inadequate inventories, and aging surveys should be collected and addressed.
3. Numerical and distributional goals for species should be reevaluated and coordinated across ecoregional boundaries. For most species, goals should be tailored to known extant and suspected populations, as well as available habitat. Information should be collected to address minimum viable populations size. For some species which may be highly sensitive to global warming, sites should be selected to allow movement of populations over time.
4. For select species, particularly those that are globally rare, restoration should be considered. At a minimum, for Federally-listed species, introductions and reintroduction sites should be identified. All goals should be adjusted to reflect any detailed information included in Federal recovery plans, as they are developed.
5. Viability assessments should be reevaluated as more information becomes available. The basis of the viability assessment for species in this plan was the judgment of the Heritage ecologists. While this was the best information currently available, many occurrences were documented with very sketchy data and the ecologists were not personally familiar with specific populations, During the Site conservation planning process, population viability should be reassessed and new information added to the Heritage databases.

6. Field work should continue for all species to update current occurrence data and locate new populations. Particular attention should be focused on aquatic species, animals targets that have not been seen in many years, and species which occupy large areas for which only presence/absence information is currently available.
7. Those sections of the ecoregion that have not been subject to detailed surveys should be assessed. These areas include all rivers and streams, the large forested areas in central and western Pennsylvania, and the counties along the New York/Pennsylvania border.