



PRIVATE PROPERTY

NATURAL RESOURCE STEWARDSHIP FOR FUTURE GENERATIONS

DIVISION OF FOREST INDIANA DEPARTMENT OF NATURAL RESOURCES

CLASSIFIED FOREST & WILDLANDS PROGRAM 2008 PROGRAM SUMMARY

Program Enrollment*

Total Enrolled Acres: 619,400

Total Number of Parcels: 12,720

COUNTY	ACRES	PARCELS	COUNTY	ACRES	PARCELS	COUNTY	ACRES	PARCELS
ADAMS	1,327	58	HENDRICKS	1,422	38	PIKE	8,492	131
ALLEN	1,809	80	HENRY	2,121	105	PORTER	4,306	123
BARTHOLOMEW	3,082	84	HOWARD	760	34	POSEY	7,733	140
BENTON	170	5	HUNTINGTON	2,467	99	PULASKI	1,356	38
BLACKFORD	932	40	JACKSON	10,644	190	PUTNAM	15,571	286
BOONE	739	35	JASPER	1,701	24	RANDOLPH	1,705	65
BROWN	17,427	292	JAY	3,183	130	RIPLEY	9,069	262
CARROLL	3,147	95	JEFFERSON	12,901	228	RUSH	1,378	48
CASS	3,748	122	JENNINGS	13,133	267	SCOTT	5,185	125
CLARK	5,771	77	JOHNSON	1,164	35	SHELBY	614	23
CLAY	6,551	162	KNOX	4,176	100	SPENCER	11,625	282
CLINTON	587	25	KOSCIUSKO	8,944	273	ST. JOSEPH	6,855	277
CRAWFORD	20,040	278	LAGRANGE	1,658	47	STARKE	4,726	100
DAVIESS	3,752	72	LAKE	2,130	70	STEUBEN	2,516	77
DEARBORN	6,045	136	LAPORTE	8,141	188	SULLIVAN	8,786	169
DECATUR	3,336	95	LAWRENCE	19,773	277	SWITZERLAND	6,542	122
DEKALB	3,415	135	MADISON	746	30	TIPPECANOE	876	33
DELAWARE	2,362	85	MARION	677	32	TIPTON	249	10
DUBOIS	14,305	294	MARSHALL	8,948	295	UNION	2,225	48
ELKHART	3,800	134	MARTIN	18,462	224	VANDEBURGH	668	27
FAYETTE	6,360	138	MIAMI	3,444	123	VERMILLION	6,095	82
FLOYD	2,747	64	MONROE	14,731	241	VIGO	8,402	151
FOUNTAIN	5,782	110	MONTGOMERY	4,083	97	WABASH	3,435	117
FRANKLIN	11,590	196	MORGAN	10,631	194	WARREN	2,291	43
FULTON	4,068	126	NEWTON	791	14	WARRICK	7,184	154
GIBSON	10,524	200	NOBLE	4,843	154	WASHINGTON	20,849	241
GRANT	1,673	65	OHIO	2,499	40	WAYNE	7,744	232
GREENE	21,835	301	ORANGE	21,116	334	WELLS	1,608	62
HAMILTON	815	40	OWEN	23,563	450	WHITE	759	21
HANCOCK	876	38	PARKE	25,791	353	WHITLEY	2,349	90
HARRISON	30,020	405	PERRY	24,932	468	TOTAL:	619,400	12,720

*Enrollment as of December 31, 2008

“Other” that received a ranking of very important or important:

- Art: Painting/Photography
- Energy Production
- Leasing
- Maple syrup production
- Not farmable
- Outdoor education (children, school groups, youth groups)
- Oxygen
- Preservation
- Protect a cultural resource (home site, cemetery, etc)
- Research
- Set example for neighbors
- Soil conservation
- Solitude. Privacy.
- Specific recreation activity: hiking, walking, camping, horseback riding, bird watching, etc.
- Spiritual
- Stop urban sprawl / prevent development
- Stress relief, relaxation, sanity
- Tax savings
- To own my own land
- Water storage / retention
- Wildflowers
- Wind break

Question 4: Do you live on the land where the Classified Forest & Wildlands tract is located

38% of respondents live on the land where the Classified area is located.

Question 5: Are any buildings erected on the Classified area? Is there any livestock grazing on the Classified area? Are any crops, other than wildlife food plots, grown on the Classified area? During the past year, were any forest acres of this Classified area cleared?

3% of respondents reported buildings on the Classified land.

0.2% of respondents reported grazing on the Classified land.

0.7% of respondents reported crops on the Classified land.

0.8% of respondents reported forest clearing on the Classified land.

Question 6: A Classified Forest & Wildlands benefit and requirement is a five year reinspection. Do you wish to accompany the forester when your Classified tract is reinspected? If no, do you want to be notified before we visit the property?

64% of respondents would like to go on the reinspection with the forester. Of those who do not want to go on the reinspection, 56% would like to be notified before the forester visits the property.

Question 7: Place an “x” in the boxes in the table to indicate the management practices you have conducted on this tract in 2008. For practices complete in 2008, write in the quantity completed in the adjacent column.

33.2% of parcels had at least one type on management activity completed in 2008.

The five most frequently reported management activities were the following:

- 1) Timber stand improvement: grape vine control (15.2% of parcels)
- 2) Trail/Road work (11.0% of parcels)
- 3) Brush piles (10.1%of parcels)
- 4) Timber stand improvement: other than grape vine control (7.9 % of parcels)
- 5) Wildlife food plots (7.7% of parcels)

Activity Completed	Number Times Activity was Reported	% of Total Annual Reports Returned	Quantity Reported*	Average Accomplishment
<i>Timber harvest</i>	374	3.2%	9,407 acres on 229 parcels	41 acres
<i>Timber Stand Improvement : grape vine control</i>	1,748	15.2%	20,923 acres on 1,163 parcels	18 acres
<i>Timber Stand Improvement : other than grape vine control</i>	912	7.9%	12,388 acres on 637 parcels	19 acres
<i>Tree planting</i>	501	4.4%	1,695 acres on 306 parcels	6 acres
<i>Trail improvement / Roadwork</i>	1,269	11.0%	226.4 miles on 794 parcels	0.29 mile
<i>Prescribed burning</i>	167	1.5%	1,800 acres on 134 parcels	14 acres
<i>Boundary/Survey work</i>	463	4.0%	93.5 miles on 189 parcels	0.49 mile
<i>Exotic species control</i>	686	6.0%	5,075 acres on 479 parcels	11 acres
<i>Strip disking / Strip mowing</i>	575	5.0%	3,009 acres on 381 parcels	8 acres
<i>Brush pile construction</i>	1,167	10.1%	3,694 piles on 603 parcels	6 piles
<i>Wildlife food plots</i>	886	7.7%	2,702 acres on 647 parcels	4 acres
<i>Water hole development</i>	174	1.5%	196 waterholes on 105 parcels	1.8 waterholes
<i>Warm season (prairie) grass planting</i>	149	1.3%	1,065 acres on 104 parcels	10 acres

* Not all landowners report the quantity accomplished

Place an "x" in the boxes in the table to indicate the management practices plan to do in 2009 or 2010.

34.1% of parcels have least one type on management activity planned in 2009/2010.

Activity Planned 2009/2010	Number Times Activity was Reported	% of Total Annual Reports Returned
<i>Timber harvest</i>	336	2.9%
<i>Timber Stand Improvement : grape vine control</i>	2,160	18.8%
<i>Timber Stand Improvement : other than grape vine control</i>	1220	10.6%
<i>Tree planting</i>	626	5.4%
<i>Trail improvement / Roadwork</i>	1,287	11.2%
<i>Prescribed burning</i>	295	2.6%
<i>Boundary/Survey work</i>	466	4.0%
<i>Exotic species control</i>	839	7.3%
<i>Strip disking / Strip mowing</i>	598	5.2%
<i>Brush pile construction</i>	1,140	9.9%
<i>Wildlife food plots</i>	1,067	9.3%
<i>Water hole development</i>	260	2.3%
<i>Warm season (prairie) grass planting</i>	232	2.0%

Question 8: If you harvested timber in 2008, please answer the following: Number of trees harvested, Volume (footage) harvested, Name of timber buyer, Name of consultant or industry forester if used.

The average sale removed 230 trees (based on 448 reports with trees harvested information).

The average volume removed per sale was 76,194 BdFt (based on 448 reports with volume information).

The average sale removed 9.7 trees/acre (based on 184 reports with tree and area information).

The average sale removed 2,476 BdFt/acre (based on 161 reports with volume and area information).

Question 9: Please list any chemicals (pesticides, herbicides, etc.) and the quantity used on this Classified area in the past year.

The most commonly reported pesticides were glyphosate, picloram, 2,4-D, and triclopyr. There were several other pesticides reported on the annual report that are not included in the list below because the reference was not specific enough to determine the actual chemical used.

Chemical	Trade Name(s)
2,4 D	
2,4-D, 2-ethylhexyl ester	BrushBGone
2,4-D, 2-ethylhexyl ester, propionic acid, dicamba	BrushMaster
2,4-D, butoxyethanol ester, triclopyr	Crossbow
2,4-D, triisopropanolamine salt, clorpyralid	Curtail
2,4-D & picloram	Pathway, Tordon
Acetochlor	Harness Extra
Acid Blue 9, Acid yellow 23	Aquashade
Atrazine	
Bromacil	Weed B Gone
Carbaryl	Sevin
Chlorpyrifos	Dursban
Clethodim	CropSmart, Envoy, Select
Clopyralid	Stinger, Transline
Copper	Cutrine
Copper sulfate	
DDT	
Dicamba	Banvel
Dicamba, 3,4-D triisopropanolamine salt, & MCP-P	Triplet
Dried blood	PlantSkydd
Endothal	Aquathol
Fertilizer	12-12-12, horse manure, 20-20-20
Fluaziflo-P-butyl	Fusilade
Fluaziflo-P-butyl, Fenoxaprop	Fusion
Glyphosate	AquaNeat, Buccaneer Plus, Clearout, Hi Yield Kill Zall, RazorPro, Roundup
Glyphosate, Imazapic	Journey
Hexazinone	Velpar
Imazapic	Plateau
Imazapyr	Arsenal, Habitat, Stalker
Lime	
Malathion	
metsulfuron-methyl	Escort XP
Mineral oil, petroleum derivatives	GB1111-Clarke
Naled	Dibrom 8 emulsive
Pendimethalin	Aqua Cap, Pendulum
Picloram	
Pramitol	
Prometon	Honcho, Honcho Plus
Sethoxydim	Arrest, Poast
Simazine	Princep, Princep 4L, Sim Trol 4L
Sulfometuron methyl	Oust
Triclopyr	Element 4, Garlon 3A, Garlon 4, Pathfinder, Pathfinder 2, Renovate 3, Tahoe E4
Triisopropanolammonium salt of 2-pyridine carboxylic acid	Milestone

Question 10: It is our goal to provide quality assistance to Classified Forest & Wildlands owners. Tell us how we can improve our service to you.

Assistance and Information Requested

Program info on adding/removing/selling classified land
Marketing timber: how to, market information, timber prices
Contacts for professional foresters, biologists, & timber buyers
Timber Stand Improvement
Pine - markets
Storm damage
Wildlife plantings (species to use)
Pond/Wetland/Waterhole design and management
Beaver control
Deer management, control and promotion of
Rabbits, how to increase population
Lizard habitat
Boundary marking
Trespass control / Prevention of meth labs
Land trust information
Trail improvement
Carbon credits
Erosion control particularly along streams and ditches
Exotic species control (honeysuckle, multiflora rose, tree of heaven, garlic mustard, autumn olive, Russian olive, fescue, Japanese stilt grass, euonymus, barberry, johnson grass, emerald ash borer, substitutions of invasive species)

Program Administration Suggestions

Envelope for annual report
Put annual report online or e-mail
Use e-mail for program updates and communication
Request copies of reinspection reports
Allow small "management" buildings on classified area
Requests for additional signs
More advance notice (2-3 wks) for reinspections

Services Wanted from District Foresters

More frequent property visits
More field days and management classes (prescribed burning, pond & marsh management, boundary marking, wildlife wood plots, plantation management)
Cost share (prescribed burning, grass establishment, food plots, TSI, deer control)
Turkey, Quail, and Pheasant release
Prescribed burning assistance
Free trees/planting & food plat seeds
Property maps
Assistance for elderly landowners to do management
Marking culls, harvests, TSI
Stop neighboring stone company from blasting and clearing land
Check property occasionally and report back (open gates, trees down, etc)
Stop the rain.
Posting of CFW signs

General Suggestions

Hold training sessions on evening and weekends
Provide good pictures of invasive species

Tree Planting - Nurseries

Grow only native species
Grow prairie forbs and grasses
Offer larger trees 3'-4' at lower prices

Other

Ownership changes
Age a limiting factor for doing management
Pats on the back
Reporting storm damage

Rare, Threatened, and Endangered Species

Below is a list of rare, threatened, and endangered species that have been report on or near Classified Forest & Wildlands parcels based on Natural Heritage Database records. SR= state rare, ST= state threatened, SE=state endangered

PLANTS

SCIENTIFIC NAME	COMMON NAME	STATE PROTECTION STATUS
<i>Acalypha deamii</i>	Mercury	SR
<i>Actaea rubra</i>	Red Baneberry	SR
<i>Agalinis auriculata</i>	Earleaf Foxglove	ST
<i>Agalinis skinneriana</i>	Pale False Foxglove	ST
<i>Andromeda glaucophylla</i>	Bog Rosemary	SR
<i>Arabis missouriensis</i> var. <i>deamii</i>	Missouri Rockcress	SE
<i>Arabis patens</i>	Spreading Rockcress	SE
<i>Arctostaphylos uva-ursi</i>	Bearberry	SR
<i>Aristida intermedia</i>	Slim-spike Three-awn Grass	SR
<i>Armoracia aquatica</i>	Lake Cress	SE
<i>Asplenium bradleyi</i>	Bradley's Spleenwort	SE
<i>Asplenium montanum</i>	Mountain Spleenwort	SE
<i>Asplenium resiliens</i>	Black-stem Spleenwort	SE
<i>Asplenium ruta-muraria</i>	Wallrue Spleenwort	SR
<i>Aster borealis</i>	Rushlike Aster	SR
<i>Aster furcatus</i>	Forked Aster	SR
<i>Aster oblongifolius</i>	Aromatic Aster	SR
<i>Aster sericeus</i>	Western Silvery Aster	SR
<i>Bacopa rotundifolia</i>	Roundleaf Water-hyssop	ST
<i>Baptisia australis</i>	Wild False Indigo	SR
<i>Besseyia bullii</i>	Kitten Tails	SE
<i>Bidens beckii</i>	Beck Water-marigold	ST
<i>Botrychium matricariifolium</i>	Chamomile Grape-fern	SR
<i>Botrychium simplex</i>	Least Grape-fern	SE
<i>Bumelia lycioides</i>	Buckthorn	SE
<i>Calamagrostis porteri</i> ssp. <i>insperata</i>	Reed Bent Grass	ST
<i>Calla palustris</i>	Wild Calla	SE
<i>Carex alopecoidea</i>	Foxtail Sedge	SE
<i>Carex arctata</i>	Black Sedge	SE
<i>Carex atherodes</i>	Awned Sedge	SE
<i>Carex atlantica</i> ssp. <i>atlantica</i>	Atlantic Sedge	ST

PLANTS

SCIENTIFIC NAME	COMMON NAME	STATE PROTECTION STATUS
<i>Carex atlantica</i> ssp. <i>capillacea</i>	Howe Sedge	SE
<i>Carex aurea</i>	Golden-fruited Sedge	SR
<i>Carex bushii</i>	Bush's Sedge	ST
<i>Carex conoidea</i>	Prairie Gray Sedge	ST
<i>Carex crawei</i>	Crawe Sedge	ST
<i>Carex debilis</i> var. <i>rudgei</i>	White-edge Sedge	SR
<i>Carex decomposita</i>	Cypress-knee Sedge	ST
<i>Carex eburnea</i>	Ebony Sedge	SR
<i>Carex flava</i>	Yellow Sedge	ST
<i>Carex folliculata</i>	Long Sedge	SR
<i>Carex gigantea</i>	Large Sedge	ST
<i>Carex gravida</i>	Heavy Sedge	SE
<i>Carex lupuliformis</i>	False Hop Sedge	SR
<i>Carex pedunculata</i>	Longstalk Sedge	SR
<i>Carex scabrata</i>	Rough Sedge	SE
<i>Carex seorsa</i>	Weak Stellate Sedge	SR
<i>Carex socialis</i>	Social Sedge	SR
<i>Carya pallida</i>	Sand Hickory	SE
<i>Ceratophyllum echinatum</i>	Prickly Hornwort	SR
<i>Chamaelirium luteum</i>	Devil's-bit	SE
<i>Cheilanthes lanosa</i>	Hairy Lipfern	SR
<i>Chrysopsis villosa</i>	Hairy Golden-aster	ST
<i>Chrysosplenium americanum</i>	American Golden-saxifrage	ST
<i>Cimicifuga rubifolia</i>	Appalachian Bugbane	SE
<i>Clematis pitcheri</i>	Pitcher Leather-flower	SR
<i>Clintonia borealis</i>	Clinton Lily	SE
<i>Cornus rugosa</i>	Roundleaf Dogwood	SR
<i>Crotonopsis elliptica</i>	Elliptical Rushfoil	SE
<i>Cyperus dentatus</i>	Toothed Sedge	SE
<i>Cyperus houghtonii</i>	Houghton's Nutsedge	SE
<i>Cyperus pseudovegetus</i>	Green Flatsedge	SR
<i>Cypridium calceolus</i> var. <i>parviflorum</i>	Small Yellow Lady's-slipper	SR
<i>Deschampsia cespitosa</i>	Tufted Hairgrass	SR
<i>Dichanthelium sabulorum</i> var. <i>thinium</i>	Hemlock Panic-grass	SR
<i>Diervilla lonicera</i>	Northern Bush-honeysuckle	SR
<i>Dodecatheon frenchii</i>	French's Shootingstar	SR
<i>Drosera intermedia</i>	Spoon-leaved Sundew	SR
<i>Eleocharis microcarpa</i>	Small-fruited Spike-rush	SE
<i>Eleocharis robbinsii</i>	Robbins Spikerush	SR
<i>Eleocharis wolfii</i>	Wolf Spikerush	SR
<i>Eriophorum angustifolium</i>	Narrow-leaved Cotton-grass	SR
<i>Eriophorum gracile</i>	Slender Cotton-grass	ST
<i>Eriophorum viridicarinatum</i>	Green-keeled Cotton-grass	SR
<i>Eupatorium incarnatum</i>	Pink Thoroughwort	ST
<i>Euphorbia obtusata</i>	Bluntleaf Spurge	SE
<i>Festuca paradoxa</i>	Cluster Fescue	ST
<i>Fragaria vesca</i> var. <i>americana</i>	Woodland Strawberry	SE
<i>Fuirena pumila</i>	Dwarf Umbrella-sedge	ST
<i>Gaura filipes</i>	Slender-stalked Gaura	ST
<i>Gentiana puberulenta</i>	Downy Gentian	ST

PLANTS

SCIENTIFIC NAME	COMMON NAME	STATE PROTECTION STATUS
<i>Geranium robertianum</i>	Herb-robert	ST
<i>Gonolobus obliquus</i>	Angle Pod	SR
<i>Heliotropium tenellum</i>	Slender Heliotrope	ST
<i>Hexalectris spicata</i>	Crested Coralroot	SR
<i>Hottonia inflata</i>	Featherfoil	ST
<i>Houstonia nigricans</i>	Narrowleaf Summer Bluets	SR
<i>Hudsonia tomentosa</i>	Sand-heather	ST
<i>Hypericum adpressum</i>	Creeping St. John's-wort	SE
<i>Hypericum denticulatum</i>	Coppery St. John's-wort	ST
<i>Hypericum dolabriforme</i>	Straggling St. John's-wort	SR
<i>Iresine rhizomatosa</i>	Eastern Bloodleaf	SR
<i>Isoetes melanopoda</i>	Blackfoot Quillwort	ST
<i>Itea virginica</i>	Virginia Willow	SE
<i>Juncus articulatus</i>	Jointed Rush	SE
<i>Juncus balticus</i> var. <i>littoralis</i>	Baltic Rush	SR
<i>Juncus pelocarpus</i>	Brown-fruited Rush	SE
<i>Juncus scirpoides</i>	Scirpus-like Rush	ST
<i>Juniperus communis</i>	Ground Juniper	SR
<i>Lathyrus venosus</i>	Smooth Veiny Pea	ST
<i>Lechea racemulosa</i>	Illinois Pinweed	SE
<i>Lemna minima</i>	Least Duckweed	SE
<i>Lemna valdiviana</i>	Pale Duckweed	SE
<i>Leptochloa panicoides</i>	Amazon Sprangle-top	SE
<i>Ligusticum canadense</i>	Nondo Lovage	SE
<i>Lilium canadense</i>	Canada Lily	SR
<i>Linum sulcatum</i>	Grooved Yellow Flax	SR
<i>Lithospermum incisum</i>	Narrow-leaved Puccoon	SE
<i>Ludwigia glandulosa</i>	Cylindric-fruited Seedbox	ST
<i>Lycopodiella inundata</i>	Northern Bog Clubmoss	SE
<i>Lycopodium hickeyi</i>	Hickey's Clubmoss	SR
<i>Lycopodium obscurum</i>	Tree Clubmoss	SR
<i>Lycopodium tristachyum</i>	Deep-root Clubmoss	SR
<i>Magnolia tripetala</i>	Umbrella Magnolia	SE
<i>Matteuccia struthiopteris</i>	Ostrich Fern	SR
<i>Melampyrum lineare</i>	American Cow-wheat	SR
<i>Melica nitens</i>	Three-flower Melic Grass	ST
<i>Melothria pendula</i>	Creeping Cucumber	SE
<i>Milium effusum</i>	Tall Millet-grass	SR
<i>Myriophyllum pinnatum</i>	Cutleaf Water-milfoil	SE
<i>Myriophyllum verticillatum</i>	Whorled Water-milfoil	SR
<i>Najas gracillima</i>	Thread-like Naiad	ST
<i>Napaea dioica</i>	Glade Mallow	SR
<i>Nothoscordum bivalve</i>	Crow-poison	SR
<i>Oenothera perennis</i>	Small Sundrops	SR
<i>Oryzopsis racemosa</i>	Black-fruit Mountain-ricegrass	SR
<i>Oxydendrum arboreum</i>	Sourwood	SR
<i>Pachysandra procumbens</i>	Allegheny Spurge	SE
<i>Panicum boreale</i>	Northern Witchgrass	SR
<i>Panicum leibergii</i>	Leiberg's Witchgrass	ST
<i>Panicum scoparium</i>	Broom Panic-grass	SE
<i>Passiflora incarnata</i>	Purple Passion-flower	SR
<i>Penstemon canescens</i>	Gray Beardtongue	SE

PLANTS

SCIENTIFIC NAME	COMMON NAME	STATE PROTECTION STATUS
<i>Penstemon deamii</i>	Deam Beardtongue	SR
<i>Perideridia americana</i>	Eastern Eulophus	SE
<i>Phacelia covillei</i>	Buttercup scorpionweed	SE
<i>Phlox amplifolia</i>	Large-leaved Phlox	SR
<i>Phlox bifida</i> ssp. <i>stellaria</i>	Cleft Phlox	SE
<i>Phlox pilosa</i> ssp. <i>deamii</i>		SE
<i>Pinus banksiana</i>	Jack Pine	SR
<i>Pinus strobus</i>	Eastern White Pine	SR
<i>Plantago cordata</i>	Heart-leaved Plantain	SE
<i>Platanthera flava</i> var. <i>flava</i>	Southern Rein Orchid	SE
<i>Platanthera hyperborea</i>	Leafy Northern Green Orchis	ST
<i>Platanthera leucophaea</i>	Prairie White-fringed Orchid	SE
<i>Platanthera psycodes</i>	Small Purple-fringe Orchis	SR
<i>Poa alsodes</i>	Grove Meadow Grass	SR
<i>Poa wolfii</i>	Wolf Bluegrass	SR
<i>Polygonum careyi</i>	Carey's Smartweed	ST
<i>Polygonum hydropiperoides</i> var. <i>opelousanum</i>	Northeastern Smartweed	ST
<i>Polypodium polypodioides</i>	Resurrection Fern	SR
<i>Polytaenia nuttallii</i>	Prairie Parsley	SE
<i>Potamogeton bicupulatus</i>	Snail-seed Pondweed	SE
<i>Potamogeton epihydrus</i>	Nuttall Pondweed	SE
<i>Potamogeton richardsonii</i>	Redheadgrass	SR
<i>Potamogeton strictifolius</i>	Straight-leaf Pondweed	ST
<i>Potamogeton vaseyi</i>	Vasey's Pondweed	SE
<i>Prenanthes aspera</i>	Rough Rattlesnake-root	SR
<i>Prunus pensylvanica</i>	Fire Cherry	SR
<i>Psilocarya scirpoides</i>	Long-beaked Baldrush	ST
<i>Pyrola asarifolia</i>	Pink Wintergreen	SE
<i>Pyrola rotundifolia</i> var. <i>americana</i>	American Wintergreen	SR
<i>Quercus prinoides</i>	Dwarf Chinquapin Oak	SE
<i>Ranunculus pusillus</i>	Pursh Buttercup	SE
<i>Rhus aromatica</i> var. <i>arenaria</i>	Beach Sumac	SR
<i>Rhynchospora corniculata</i> var. <i>interior</i>	Short-bristle Horned-rush	ST
<i>Rhynchospora macrostachya</i>	Tall Beaked-rush	SR
<i>Rhynchospora recognita</i>	Globe Beaked-rush	SE
<i>Rubus centralis</i>	Illinois Blackberry	SE
<i>Rudbeckia fulgida</i> var. <i>umbrosa</i>	Coneflower	SE
<i>Salix serissima</i>	Autumn Willow	ST
<i>Sanguisorba canadensis</i>	Canada Burnet	SE
<i>Sanicula smallii</i>	Small's Snakeroot	SR
<i>Saxifraga forbesii</i>	Forbes Saxifrage	SE
<i>Scirpus hallii</i>	Hall's Bulrush	SE
<i>Scirpus smithii</i>	Smith's Bulrush	SE
<i>Scirpus subterminalis</i>	Water Bulrush	SR
<i>Scleria reticularis</i>	Reticulated Nutrush	ST
<i>Sedum telephioides</i>	Allegheny Stonecrop	SR
<i>Selaginella rupestris</i>	Ledge Spike-moss	ST
<i>Solidago ptarmicoides</i>	Prairie Goldenrod	SR
<i>Spigelia marilandica</i>	Woodland Pinkroot	SE
<i>Spiranthes lucida</i>	Shining Ladies'-tresses	SR

PLANTS

SCIENTIFIC NAME	COMMON NAME	STATE PROTECTION STATUS
<i>Spiranthes magnicamporum</i>	Great Plains Ladies'-tresses	SE
<i>Spiranthes romanzoffiana</i>	Hooded Ladies'-tresses	ST
<i>Stenanthium gramineum</i>	Eastern Featherbells	ST
<i>Stipa avenacea</i>	Blackseed Needlegrass	SR
<i>Strophostyles leiosperma</i>	Slick-seed Wild-bean	ST
<i>Styrax grandifolius</i>	Large-leaf Snowbell	SE
<i>Sullivantia sullivantii</i>	Sullivantia	ST
<i>Taxodium distichum</i>	Bald Cypress	ST
<i>Thalictrum pubescens</i>	Tall Meadowrue	ST
<i>Thuja occidentalis</i>	Northern White Cedar	SE
<i>Tofieldia glutinosa</i>	False Asphodel	SR
<i>Trachelospermum difforme</i>	Climbing Dogbane	SR
<i>Trichostema dichotomum</i>	Forked Bluecurl	SR
<i>Trifolium stoloniferum</i>	Running Buffalo Clover	SE
<i>Triglochin palustris</i>	Marsh Arrow-grass	SR
<i>Utricularia cornuta</i>	Horned Bladderwort	ST
<i>Utricularia purpurea</i>	Purple Bladderwort	SR
<i>Utricularia subulata</i>	Zigzag Bladderwort	ST
<i>Uvularia perfoliata</i>	Bellwort	SE
<i>Vaccinium myrtilloides</i>	Velvetleaf Blueberry	SE
<i>Vaccinium oxycoccos</i>	Small Cranberry	ST
<i>Valeriana edulis</i>	Hairy Valerian	SE
<i>Valerianella chenopodiifolia</i>	Goose-foot Corn-salad	SE
<i>Viburnum molle</i>	Softleaf Arrow-wood	SR
<i>Viburnum opulus var. americanum</i>	Highbush-cranberry	SE
<i>Viola pedatifida</i>	Prairie Violet	ST
<i>Vitis palmata</i>	Catbird Grape	SR
<i>Vitis rupestris</i>	Sand Grape	SE
<i>Waldsteinia fragarioides</i>	Barren Strawberry	SR
<i>Wisteria macrostachya</i>	Kentucky Wisteria	SR
<i>Wolffiella gladiata</i>	Sword Bogmat	SE
<i>Woodwardia areolata</i>	Netted Chainfern	SR
<i>Xyris difformis</i>	Carolina Yellow-eyed Grass	ST
<i>Zannichellia palustris</i>	Horned Pondweed	SR
<i>Zigadenus elegans var. glaucus</i>	White Camas	SR
<i>Zizia aptera</i>	Golden Alexanders	SR

INVERTEBRATE ANIMALS

	SCIENTIFIC NAME	COMMON NAME	STATE PROTECTION STATUS
ARACHNIDS	<i>Erebomaster flavescens</i>	Golden Cave Harvestman	ST
	<i>Kleptochthonius packardi</i>	Packard's Cave Pseudoscorpion	SE
CRUSTACEANS	<i>Caecidotea jordani</i>	Jordan's groundwater isopod	SE
DIPLOPLODA	<i>Pseudotremia conservata</i>	Tnc Cave Milliped	SE

**INVERTEBRATE
ANIMALS**

	SCIENTIFIC NAME	COMMON NAME	STATE PROTECTION STATUS
ELLIPLURA	<i>Arrhopalites ater</i>	Black Medusa Cave Springtail	ST
	<i>Arrhopalites lewisi</i>	Lewis' Cave Springtail	ST
	<i>Hypogastrura lucifuga</i>	Wyandotte Cave Springtail	SE
	<i>Pseudosinella fonsa</i>	Fountain Cave Springtail	ST
	<i>Sinella barri</i>	Barr's Cave Springtail	SE
INSECTS	<i>Achalarus lyciades</i>	The Hoary Edge Skipper	SR
	<i>Acronicta dactylina</i>		SR
	<i>Aeshna mutata</i>	Spatterdock Darner	ST
	<i>Aethes patricia</i>		SE
	<i>Agrotis stigmata</i>		ST
	<i>Agrotis vetusta</i>	A Moth	SR
	<i>Amblyscirtes hegon</i>	Salt-and-pepper Skipper	SR
	<i>Amblyscirtes vialis</i>	Common Roadside-skipper	SR
	<i>Ancylis semiovana</i>		SR
	<i>Anepia capsularis</i>	The Starry Champion Capsule Moth	SR
	<i>Apamea burgessi</i>	A Noctuid Moth	ST
	<i>Apamea lignicolora</i>	The Wood-colored Apamea	ST
	<i>Apamea lutosa</i>	Opalescent Apamea	SE
	<i>Apamea nigrior</i>	Black-dashed Apamea	SR
	<i>Atrytonopsis hianna</i>	Dusted Skipper	ST
	<i>Boloria selene myrina</i>	Silver-bordered Fritillary	ST
	<i>Boloria selene nebraskensis</i>	The Nebraska Silver Bordered Fritillary	SE
	<i>Bruchomorpha dorsata</i>		SR
	<i>Bruchomorpha extensa</i>	The Long-nosed Elephant Hopper	SR
	<i>Bruchomorpha oculata</i>		SR
	<i>Callophrys irus</i>	Frosted Elfin	SE
	<i>Calycopis cecrops</i>	Red-banded Hairstreak	SR
	<i>Capis curvata</i>	A Noctuid Moth	ST
	<i>Catocala flebilis</i>	The Black-dashed Underwing Moth	SR
	<i>Catocala gracilis</i>	Graceful Underwing	SR
	<i>Catocala praeclara</i>	Praeclara Underwing	SR
	<i>Chloealtis conspersa</i>	Sprinkled Locust	SR
	<i>Chlorotettix fallax</i>	A Leafhopper	SR
	<i>Chortodes enervata</i>	The Many-lined Cordgrass Moth	ST
	<i>Chrysanympa formosa</i>	The Huckleberry Looper Moth	SR
	<i>Cicadula straminea</i>		ST
	<i>Cicindela marginipennis</i>	Cobblestone Tiger Beetle	SE
	<i>Coenochroa bipunctella</i>	Sand Dune Panic Grass Moth	SR
	<i>Coenochroa illibella</i>	Dune Panic Grass Moth	SR
	<i>Conocephalus saltans</i>	Prairie Meadow Katydid	SR
	<i>Cosmotettix bilineatus</i>	Two-lined cosmotettix	ST
	<i>Crambus bidens</i>		SR
	<i>Crambus girardellus</i>	Orange-striped Sedge Moth	SR
	<i>Crambus murellus</i>	Prairie Sedge Moth	ST
	<i>Croesia curvalana</i>		SR
	<i>Croesia semipurpurana</i>		SR

**INVERTEBRATE
ANIMALS**

	SCIENTIFIC NAME	COMMON NAME	STATE PROTECTION STATUS	
INSECTS	<i>Cyclophora penduliniaria</i>	Sweetfern Geometer	SR	
	<i>Cycnia inopinatus</i>	The Unexpected Milkweed Moth	SR	
	<i>Cyllopsis gemma</i>	Gemmed Satyr	SR	
	<i>Epipaschia zelleri</i>		SR	
	<i>Erynnis martialis</i>	Mottled Duskywing	ST	
	<i>Erynnis persius persius</i>	Persius Dusky Wing	SE	
	<i>Eubaphe meridiana</i>	AMoth	SR	
	<i>Euchloe olympia</i>	Olympia Marble	ST	
	<i>Eucoptocnemis fimbriaris</i>	A Noctuid Moth	ST	
	<i>Eucosma bilineana</i>		SR	
	<i>Eucosma bipunctella</i>	A Moth	SR	
	<i>Eucosma fulminana</i>		SR	
	<i>Eucosma giganteana</i>		SR	
	<i>Euphydryas phaeton</i>	Baltimore	SR	
	<i>Euphyes bimacula</i>	Two-spotted Skipper	ST	
	<i>Euphyes dion</i>	Sedge Skipper	SR	
	<i>Euphyes dukesi</i>	Scarce Swamp Skipper	ST	
	<i>Euxoa albipennis</i>	White-striped Dart	SR	
	<i>Fagitana littera</i>	The Marsh Fern Moth	ST	
	<i>Faronta rubripennis</i>	The Pine Streak	ST	
		<i>Flexamia pyrops</i>	The Long-nose Three-awn Leafhopper	SR
		<i>Flexamia reflexus</i>	Indiangrass Flexamia	ST
		<i>Gabara subnivosella</i>	A Noctuid Moth	SR
		<i>Graminella mohri</i>		SR
		<i>Grammia anna</i>	Anna's tiger moth	SR
		<i>Grammia figurata</i>	The Figured Grammia	SR
		<i>Grammia phyllira</i>	The Sand Barrens Grammia	SR
		<i>Grammia virguncula</i>		SR
		<i>Hagenius brevistylus</i>	Dragonhunter	SR
		<i>Hemaris gracilis</i>	The Blueberry Clearwing Sphinx	SR
		<i>Hermeuptychia sosybius</i>	Carolina Satyr	SR
		<i>Herpetogramma thestealis</i>		SR
		<i>Hesperia leonardus</i>	Leonard's Skipper	SR
		<i>Hesperia metea</i>	Cobweb Skipper	ST
		<i>Hesperotettix viridis pratensis</i>	A Grasshopper	SR
		<i>Holomelina opella</i>	The Smokey Holomelina	SR
		<i>Homophoberia cristata</i>	A Noctuid Moth	SR
		<i>Hypenodes caducus</i>	Large Hypenodes	SR
		<i>Laevicephalus acus</i>		SR
		<i>Lesmone detrahens</i>	A Moth	SR
		<i>Leucania inermis</i>	A Moth	SR
		<i>Leucania linita</i>	Salt Marsh Wainscot	SR
		<i>Leucania multilinea</i>		SR
		<i>Limotettix divaricatus</i>		ST
	<i>Loxagrotis acclivis</i>	A Noctuid Moth	ST	
	<i>Lycaeides melissa samuelis</i>	Karner Blue	SE	
	<i>Lycaena dorcas dorcas</i>	Dorcas Copper	SR	
	<i>Lycaena helloides</i>	Purplish Copper	SR	

**INVERTEBRATE
ANIMALS**

	SCIENTIFIC NAME	COMMON NAME	STATE PROTECTION STATUS
INSECTS	<i>Lytrosis permagnaria</i>	A Lytrosis Moth	ST
	<i>Macrochilo absorptalis</i>	A Moth	SR
	<i>Macrochilo hypocriticalis</i>	A Noctuid Moth	SR
	<i>Macrochilo louisiana</i>		ST
	<i>Melanomma auricinctaria</i>	Huckleberry Eye-spot Moth	SR
	<i>Melanoplus gracilis</i>	Graceful Spur-throated Grasshopper	SR
	<i>Melanoplus tepidus</i>	The Fearful Barrens Locust	SR
	<i>Melanoplus viridipes viridipes</i>	Green-legged Spur-throated Grasshopper	SR
	<i>Merope tuber</i>	Earwig Scorpionfly	SE
	<i>Meropleon ambifuscum</i>	Newman's Brocade	ST
	<i>Meropleon diversicolor</i>	A Noctuid Moth	SR
	<i>Mesamia nigradorsum</i>	A Leafhopper	SR
	<i>Mesamia stramineus</i>	Helianthus Leafhopper	SE
	<i>Mesapamea stipata</i>	The Four-lined Cordgrass Borer	SE
	<i>Metanema determinata</i>	Dark Metanema	SR
	<i>Metanema inatomaria</i>	Pale Metanema	SR
	<i>Mydas tibialis</i>	Golden Legged Mydas Fly	ST
	<i>Nectopsyche pavidia</i>	A Longhorned Casemaker Caddisfly	SR
	<i>Neoconocephalus exiliscanorus</i>	A Katydid	SR
	<i>Neoconocephalus nebrascensis</i>	A Katydid	SR
	<i>Neonympha mitchellii mitchellii</i>	Mitchell's Satyr	SE
	<i>Nephopterix dammersi</i>	Leadplant Leafwebber Moth	SE
	<i>Nola cilicoides</i>		SR
	<i>Nola pustulata</i>	Sharp-blotched Nola	SR
	<i>Odontosia elegans</i>	Elegant Prominent	SR
	<i>Oligia obtusa</i>	A Noctuid Moth	SE
	<i>Orphulella pelidna</i>	Green Desert Grasshopper	SR
	<i>Paectes abrostolella</i>	The Barrens Paectes Moth	SR
	<i>Pagara simplex</i>	A Moth	SR
	<i>Pangrapta decoralis</i>	The Multicolored Huckleberry Moth	ST
	<i>Papaipema cerina</i>	Golden Borer Moth	ST
	<i>Papaipema harrisii</i>	Heracleum Stem Borer Moth	SR
	<i>Papaipema leucostigma</i>	Columbine Borer	ST
	<i>Papaipema lysimachiae</i>	The St. John'Swort Borer Moth	SR
	<i>Papaipema maritima</i>	The Giant Sunflower Borer Moth	ST
	<i>Papaipema rigida</i>	A Borer Moth	SR
	<i>Papaipema rutila</i>	The Mayapple Borer Moth	SR
	<i>Papaipema sciata</i>	The Culver's Root Borer	ST
	<i>Papaipema silphii</i>	Silphium Borer Moth	ST
	<i>Papaipema speciosissima</i>	The Royal Fern Borer Moth	ST
	<i>Paraphlepsius lobatus</i>		ST
	<i>Parasa indetermina</i>	A Moth	SR
	<i>Peoria gemmatella</i>	Gemmed Cordgrass Borer	SR
	<i>Peoria tetradella</i>		SR
	<i>Phaneta ochroterminana</i>		SR
	<i>Phaneta olivaceana</i>		SR
	<i>Phaneta ornatula</i>		SR
	<i>Phaneta raracana</i>		SR

**INVERTEBRATE
ANIMALS**

	SCIENTIFIC NAME	COMMON NAME	STATE PROTECTION STATUS
INSECTS	<i>Phaneta striatana</i>		SR
	<i>Phaneta umbrastriana</i>		SR
	<i>Philaenarcys killa</i>	Great Lakes dune spittlebug	SR
	<i>Pieris oleracea</i>	Eastern Veined White	SE
	<i>Platyperigea meralis</i>	The Rare Sand Quaker	ST
	<i>Poanes massasoit</i>	Mulberry Wing Skipper	SR
	<i>Poanes viator viator</i>	Big Broad-winged Skipper	ST
	<i>Polites mystic</i>	Long Dash Skipper	SR
	<i>Polyamia caperata</i>	Little Bluestem Polyamia	SR
		The Short-winged Panic Grass Leafhop- per	SE
	<i>Polyamia dilata</i>	The Prairie Panic Grass Leafhopper	ST
	<i>Polyamia herbida</i>	Sand Panic Grass Leafhopper	SR
	<i>Polyamia obtectus</i>	Gray Comma	SR
	<i>Polygonia progne</i>	The Kansas Prairie Leafhopper	SE
	<i>Prairiana kansana</i>	Bunchgrass Skipper	ST
	<i>Problema byssus</i>	Red-legged Spittle Bug	SR
	<i>Protorthodes incincta</i>	Saturn quaker	SR
	<i>Pseudanophthalmus youngi</i>	Young's cave ground beetle	SR
	<i>Pseudopomala brachyptera</i>	Bunch Grass Locust	ST
	<i>Psinidia fenestralis</i>	Sand Locust	SR
	<i>Pycnopsyche rossi</i>	A Northern Casemaker Caddisfly	SE
	<i>Pygartia spraguei</i>	Sprague's Pygartic	SR
	<i>Pyrausta laticlavata</i>	The Southern Purple Mint Moth	SR
	<i>Satyrodes appalachia appalachia</i>	Appalachian Eyed Brown	SE
	<i>Satyrodes eurydice fumosa</i>	Smoky-eyed Brown	ST
	<i>Scaphoideus ochraceus</i>		SR
	<i>Schinia indiana</i>	Phlox Moth	SE
	<i>Schinia septentrionalis</i>	A Noctuid Moth	SR
	<i>Scirpophaga perstrialis</i>		SR
	<i>Semiothisa eremiata</i>	The Goat's Rue Looper	SR
	<i>Semiothisa mellistrigata</i>	A Geometrid Moth	SR
	<i>Semiothisa multilineata</i>		SR
	<i>Sitochroa dasconalis</i>	Pearly Indigo Borer	ST
	<i>Spartiniphaga inops</i>	Spartina Borer Moth	SR
	<i>Sphinx luscitiosa</i>	The Luscious Willow Sphinx	SR
	<i>Spilosoma latipennis</i>	The Red-legged Tussock Moth	SR
	<i>Stylogomphus sigmastylus</i>	Least Clubtail	SE
	<i>Tachopteryx thoreyi</i>	Gray Petaltail	SR
	<i>Tampa dimediatella</i>	Red-striped Panic Grass Moth	ST
	<i>Thorybes pylades</i>	Northern Cloudywing	SR
	<i>Tricholita notata</i>	Marked Noctuid	ST
	<i>Trichosilia manifesta</i>	The Record Keeper Moth	SR
	<i>Trimerotropis maritima</i>	The Dune Locust	ST
	<i>Zomaria interruptolinea</i>		SR

**INVERTEBRATE
ANIMALS**

	SCIENTIFIC NAME	COMMON NAME	STATE PROTECTION STATUS	
MOLLUSKS	<i>Antroselatus spiralis</i>	Shaggy Cave Snail	SR	
	<i>Cyrogenia stegaria</i>	Eastern Fanshell Pearlymussel	SE	
	<i>Epioblasma obliquata perobliqua</i>	White Cat's Paw Pearlymussel	SE	
	<i>Epioblasma torulosa rangiana</i>	Northern Riffleshell	SE	
	<i>Epioblasma torulosa torulosa</i>	Tubercled Blossom	SE	
	<i>Epioblasma triquetra</i>	Snuffbox	SE	
	<i>Fontigens cryptica</i>	Hidden Springs Snail	SE	
	<i>Fusconaia subrotunda</i>	Longsolid	SE	
	<i>Lampsilis abrupta</i>	Pink Mucket	SE	
	<i>Plethobasus cicatricosus</i>	White Wartyback	SE	
	<i>Plethobasus cooperianus</i>	Orangefoot Pimpleback	SE	
	<i>Plethobasus cyphus</i>	Sheepnose	SE	
	<i>Pleurobema clava</i>	Clubshell	SE	
	<i>Pleurobema plenum</i>	Rough Pigtoe	SE	
	<i>Pleurobema rubrum</i>	Pyramid Pigtoe	SE	
	<i>Potamilus capax</i>	Fat Pocketbook	SE	
	<i>Quadrula cylindrica cylindrica</i>	Rabbitsfoot	SE	
	PLATYHELMIN- THES	<i>Sphalloplana chandleri</i>	Chandler's Cave Flatworm	SE

**VERTEBRATE
ANIMALS**

	SCIENTIFIC NAME	COMMON NAME	STATE PROTECTION STATUS
AMPHIBIANS	<i>Cryptobranchus alleganiensis alleganiensis</i>	Eastern Hellbender	SE
	<i>Hemidactylium scutatum</i>	Four-toed Salamander	SE
	<i>Rana areolata circulosa</i>	Northern Crawfish Frog	SE
BIRDS	<i>Ammodramus henslowii</i>	Henslow's Sparrow	SE
	<i>Bartramia longicauda</i>	Upland Sandpiper	SE
	<i>Botaurus lentiginosus</i>	American Bittern	SE
	<i>Chlidonias niger</i>	Black Tern	SE
	<i>Circus cyaneus</i>	Northern Harrier	SE
	<i>Cistothorus palustris</i>	Marsh Wren	SE
	<i>Cistothorus platensis</i>	Sedge Wren	SE
	<i>Dendroica cerulea</i>	Cerulean Warbler	SE
	<i>Gallinula chloropus</i>	Common Moorhen	SE
	<i>Haliaeetus leucocephalus</i>	Bald Eagle	SE
	<i>Ixobrychus exilis</i>	Least Bittern	SE
	<i>Lanius ludovicianus</i>	Loggerhead Shrike	SE
	<i>Nyctanassa violacea</i>	Yellow-crowned Night-heron	SE
	<i>Nycticorax nycticorax</i>	Black-crowned Night-heron	SE
	<i>Rallus elegans</i>	King Rail	SE
<i>Rallus limicola</i>	Virginia Rail	SE	

**IVERTEBRATE
ANIMALS**

	SCIENTIFIC NAME	COMMON NAME	STATE PROTECTION STATUS
FISH	<i>Acipenser fulvescens</i>	Lake Sturgeon	SE
	<i>Amblyopsis spelaea</i>	Northern Cavefish	SE
	<i>Clinostomus elongatus</i>	Redside Dace	SE
	<i>Etheostoma variatum</i>	Variagate Darter	SE
	<i>Moxostoma valenciennesi</i>	Greater Redhorse	SE
	<i>Percina evides</i>	Gilt Darter	SE
MAMMALS	<i>Myotis grisescens</i>	Gray Bat	SE
	<i>Myotis sodalis</i>	Indiana Bat or Social Myotis	SE
	<i>Neotoma magister</i>	Eastern Woodrat	SE
	<i>Nycticeius humeralis</i>	Evening Bat	SE
	<i>Spermophilus franklinii</i>	Franklin's Ground Squirrel	SE
	<i>Sylvilagus aquaticus</i>	Swamp Rabbit	SE
REPTILES	<i>Clemmys guttata</i>	Spotted Turtle	SE
	<i>Clonophis kirtlandii</i>	Kirtland's Snake	SE
	<i>Crotalus horridus</i>	Timber Rattlesnake	SE
	<i>Emydoidea blandingii</i>	Blanding's Turtle	SE
	<i>Liochlorophis vernalis</i>	Smooth Green Snake	SE
	<i>Nerodia erythrogaster neglecta</i>	Copperbelly Water Snake	SE
	<i>Pseudemys concinna concinna</i>	Eastern River Cooter	SE
	<i>Sistrurus catenatus catenatus</i>	Eastern Massasauga	SE
	<i>Terrapene ornata ornata</i>	Ornate Box Turtle	SE
	<i>Thamnophis butleri</i>	Butler's Garter Snake	SE

High Quality Natural Communities

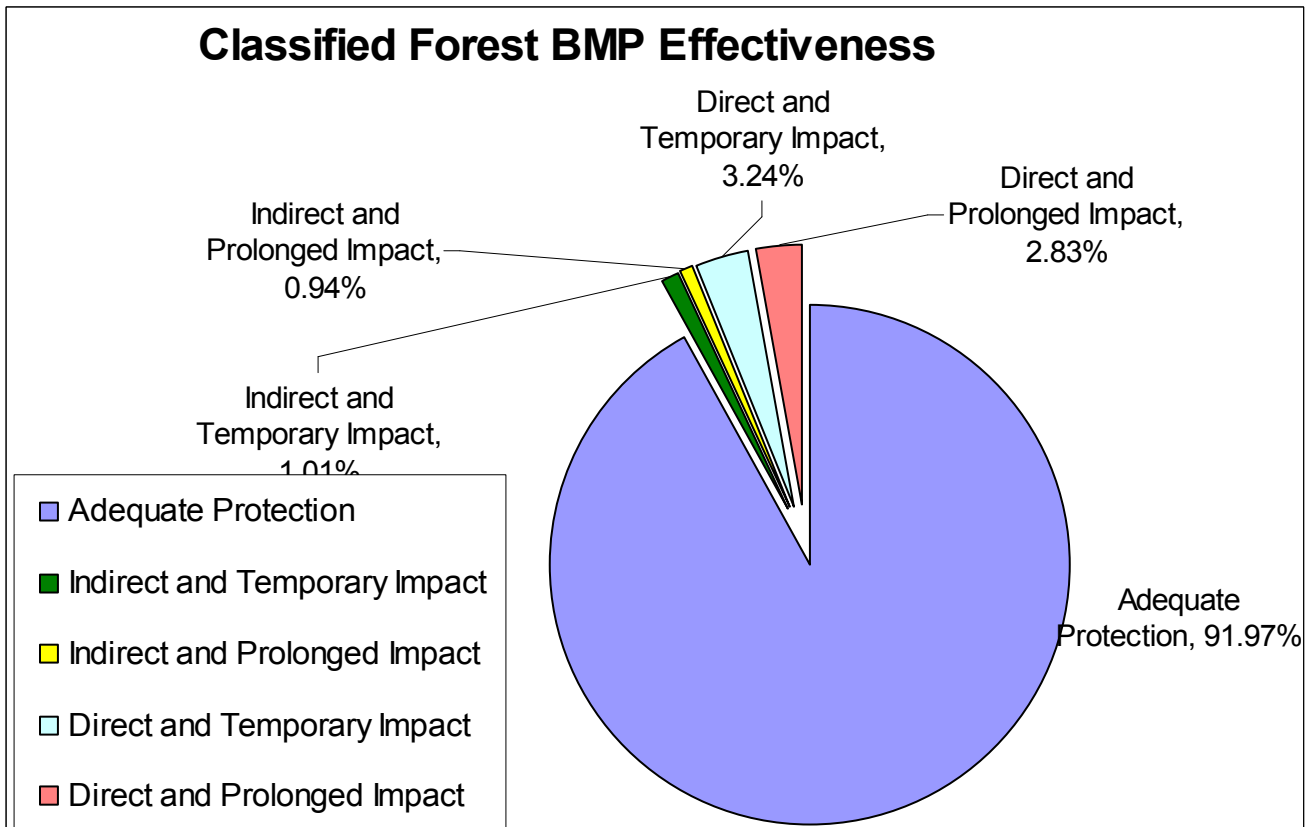
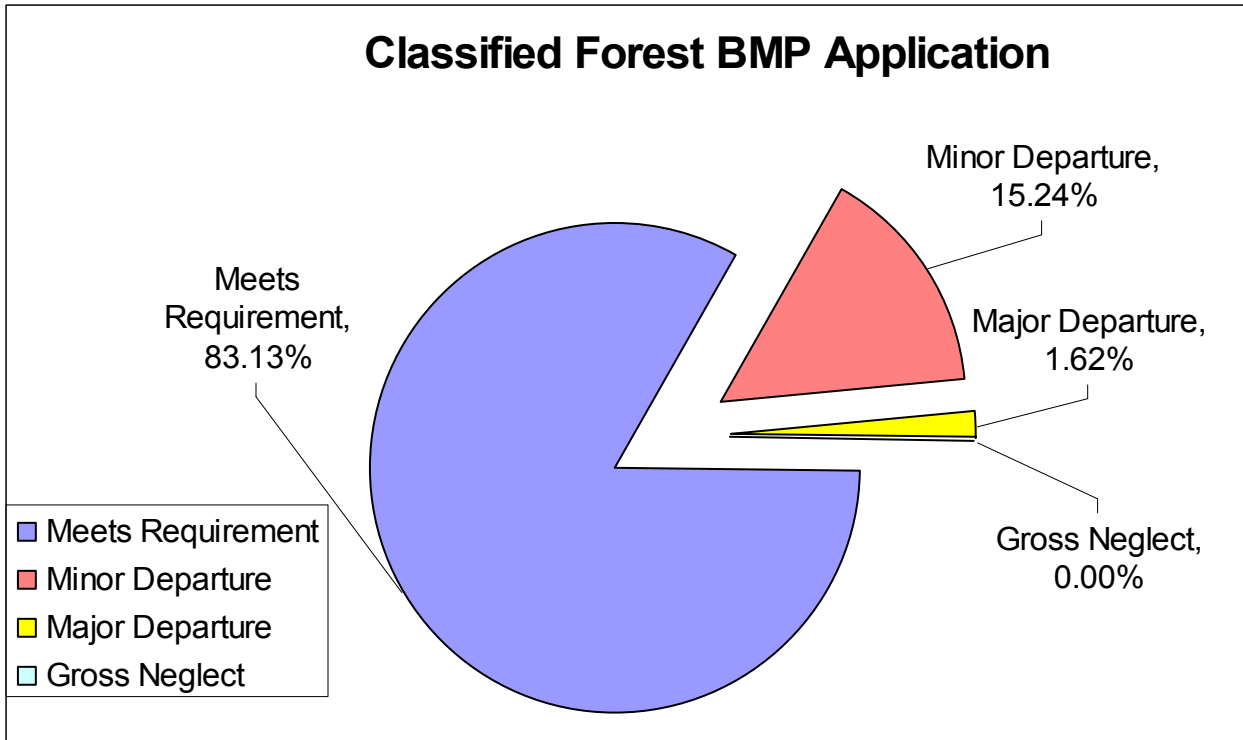
Below is a list high quality natural communities or based on Natural Heritage Database records.

HIGH QUALITY NATURAL COMMUNITIES

Limestone Glade	Pond	Dry-mesic Sand Savanna
Siltstone Glade	Dry-mesic Prairie	Marl Beach
Sand Barrens	Mesic Prairie	Acid Bog
Bluegrass Till Plain Flatwoods	Dry Sand Prairie	Circumneutral Bog
Boreal Flatwoods	Dry-mesic Sand Prairie	Fen
Central Till Plain Flatwoods	Mesic Sand Prairie	Forested Fen
Dry Flatwoods	Wet Sand Prairie	Muck Flat
Sand Flatwoods	Wet-mesic Sand Prairie	Sand Flat
Mesic Southwestern Lowland Flatwoods	Terrestrial Cave	Marsh
Mesic Floodplain Forest	Eroding Cliff	Sedge Meadow
Wet Floodplain Forest	Limestone Cliff	Acid Seep
Wet-mesic Floodplain Forest	Sandstone Overhang	Circumneutral Seep
Dry Upland Forest	Sandstone Cliff	Forested Swamp
Dry-mesic Upland Forest	Gravel Wash	Shrub Swamp
Mesic Upland Forest	Inland Coastal Plain Marsh	Sinkhole Swamp
Lake	Dry Sand Savanna	

Best Management Practices (BMP) Monitoring

Best management practices are techniques to protect water quality while conducting forest management activities. Example of forestry related BMPs include installing erosion control structures, minimizing stream crossings, and proper disposal of waste products. In the fall of 2009, the Division of Forestry looked at the use of BMPs on Classified Forests that reported having a timber harvest in 2008. Ten percent of the harvest areas were visited and BMP use was evaluated.



Volume and Growth of Classified Forests

The approximately 450,000 acres of forest in the Classified Forest and Wildlands Program (CFWP) throughout Indiana contain approximately 108 Forest Inventory Analysis (FIA) plots. These plots are measured on a continuous basis, with 1 panel or one-fifth of the plots measured each year. FIA plots in Indiana were most recently measured during the 2003 – 2007 period. The total number of plots found within the CFWP system is 108.

The Division of Forestry forwarded a shapefile outlining the CFWP lands to the USFS FIA unit. The USFS produced a list of FIA plots to be included in the analysis. The 108 plots provide excellent information on volume and growth across the system. For attributes such as total acreage and gross volume, all 108 plots were used. For change data, such as growth, mortality, removals, etc, only the plots visited during the current cycle (4 panels, 2004-2007) were used, resulting in approximately 86 plots.

We used the USFS EVALIDator tool to interpret the data from the 108 plots. Some interesting information:

Total acres of forest land: According to FIA, 452,449 acres plus or minus 10.04 percent. FIA expansion of plots would indicate total acreage involved in this query to be between 407,023 and 497,874 acres, a range within which the GIS acreage would fall. The shapefile contained a total of 413,932 acres, a figure that is within the error range of the FIA expansion. DoF staff is currently updating the CFWP shapefile; we will send an updated CFWP shapefile to the USFS for a new plot list when it becomes available.

Total volume of sawtimber on CFWP lands is 3,749,135,572 board feet, Int. $\frac{1}{4}$ scale, $\pm 11.48\%$. When converted to Doyle using USFS conversion factors by dbh class, the Doyle volume is 2,424,264,162 board feet, Doyle.

Net growth of sawtimber on forestland is 110,346,482 board feet, Int. $\frac{1}{4} \pm 16.17\%$, resulting in a range of 91,951,723 to 128,189,508 bd ft. Net growth is that growth above mortality but includes removals. Converted to Doyle scale, the total annual net growth is 63,386,689 board feet, Doyle. If removals equal net growth, a reasonable interpretation would be that we are harvesting (or removing) 100% of growth. Net growth is a positive number for all species groups except Elm-Ash-Cottonwood which is -664,580 Int. $\frac{1}{4}$ scale $\pm 374.45\%$ (range is -3,153,100 to +1,823,939 bd ft per year).

Sawtimber mortality is 24,240,360 bd. ft per year, Int. $\frac{1}{4}$ scale, $\pm 33.39\%$. Sawtimber mortality is 0.65% of total standing volume

Removals of sawtimber is 47,440,232 board feet Int. $\frac{1}{4}$ per year $\pm 48.75\%$, resulting in a range of 24,313,117 bd ft to 70,567,345 bd feet annually. Converting these values to Doyle, the total is 30,674,854 board feet Doyle with a range of 15,720,861 bd ft Doyle to 45,628,845 bd ft Doyle. Comparing the upper limit of this range (45.6 mmbf Doyle) to the lower end of the range of net annual growth (59.5 mmbf) it should be a safe interpretation that **sawtimber growth exceeds harvest**. The higher sample error here (48.75%) is because of the lower number of plots in the sample that had trees removed between cycles. The average annual harvest reported by CFWP landowners of around 30 mmbf, Doyle, which falls within the range error range (15.7 mmbf to 45.6 mmbf).

Conclusion

Average annual net growth of CFWP lands is estimated to be 63.4 mmbf Doyle scale. This growth exceeds the FIA estimated annual removal of 30.7 mmbf Doyle and the CFWP landowner reported harvest level of 30 mmbf.