

Overview of Treatment Areas

Kudzu Treatments for 2013 Brief Summary of Site Information

Clopyralid will be the herbicide used at most sites and a glyphosate based product labeled for aquatics will be used in areas where surface water is an issue. Erosion prevention will be implemented when necessary. There may also be spot treatments of metsulfuron and/or triclopyr.

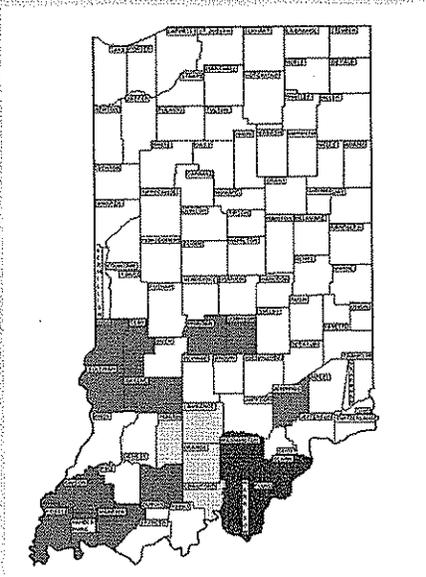
| Site | County | Location | GPS | Acres | Erosion Plan | Treatment Year |
|-------|----------|---------------------------------------|----------------------------|-------|--------------|--|
| Clk-2 | Clark | NE of Charlestown Botorff Road | N 38 29.711 W 85 38.503 | 0.14 | No | 2 Actually 90% gone from Cattle Spot treat only |
| Clk-3 | Clark | South of Borden | N 38.27.837 W 85.57.119 | 0.64 | No | 1 Glyphosate Only |
| Clk-4 | Clark | King Road | N 38 27.960 W 85 59.100 | 1.36 | Yes | 2 |
| Clk-5 | Clark | Jeffersonville RR Track Route 62 | N 38 17.720 W 85 43.650 | 0.32 | No | 2 |
| Clk-6 | Clark | Golf Course Blackwood Drive | N 38 18.700 W 85 43.980 | 0.02 | No | 2 |
| Clk-7 | Clark | Howard Hughes Road | N 38 30.380 W 85 41.680 | 0.37 | No | 2 |
| Cra-4 | Crawford | Mt. Pilot Road, South of Marengo area | N 38 17.990 W 86 19.740 | 0.17 | No | 3 |
| Cra-5 | Crawford | Zoo Road Area | N 38 23.290 W 86 23.150 | 0.83 | No | 2 |
| Cra-6 | Crawford | Allens Creek Road | N 38 21.270 W 86 36.980 | 0.23 | No | 1 |
| Cly-5 | Clay | Chinook FWA, Between I-70 and SR 42 | N 39 26.915 W 87 10.892 | 7 | No | 6 |
| Cly-6 | Clay | Mile Marker 18 I 70 East | N 39 26.710 W 87 12.770 | 0.56 | No | Spot Treatment Only |
| Dub-1 | Dubois | 5679 S County Road 825 W, Site A | N 38 16.760 W 87 03.468 | 1.20 | No | 5 |
| Dub-2 | Dubois | 5679 S County Road 825 W, Site B | N 38 16.870 W 87 03.336 | 2.41 | No | 5 |
| Dub-3 | Dubois | S County Road 825 West, Site C | N 38 16.860 W 87 03.250 | 0.05 | No | 3 |

| | | | | | | |
|--------|----------|--|----------------------------|------|-----|---------------------|
| Dub-4 | Dubois | S County Road 825 West, Site D | N 38 16.800 W 87 03.330 | 0.43 | No | 3 |
| Dub-5 | Dubois | County Road 900 Top of Hill | N 38 22.980 W86 44.140 | 0.10 | No | 1 |
| Dub-6 | Dubois | County Road 900 in Ravine | N 38 22.980 W86 44.190 | 0.03 | No | 1 |
| Flo-4 | Floyd | DNR Nature Preserve Property | N 38 15.430 W 85 55.570 | 1.02 | No | 1 |
| Gib-1 | Gibson | CR 300 S | N 38 18.711 W 87 37.122 | 1.66 | No | 2 |
| Gib-3 | Gibson | CR 825 W | N 38 18.470 W 87 43.833 | 0.44 | Yes | 2 |
| Gre-1 | Greene | NW of Switz City | N 39 04.275 W 87 05.459 | 0.14 | No | Spot Treatment Only |
| Gre-4 | Greene | East of Dugger | N 39 03.822 W 87 13.954 | 1.19 | No | Spot Treatment Only |
| Har-6 | Harrison | New Salisbury 668 Shady Lane | N 38 21.216 W 86 06.775 | 2.69 | No | 2 |
| Har-12 | Harrison | Mt. Tabor and Corydon-Ramsey Rd | N 38 21.462 W 86 09.310 | 0.02 | No | 1 |
| Jnn-1 | Jennings | Along US 50 between North Vernon and Seymour Western Part | N 38 58.831 W 85 42.350 | 1.01 | No | 5 |
| Jnn-2 | Jennings | Along US 50 between North Vernon and Seymour Eastern Part | N 38 58.826 W 85 42.257 | 0.5 | No | 5 |
| Jnn-5 | Jennings | CR 600 West | N 39 00.045 W 85 43.301 | 0.65 | No | Spot Treatment Only |
| Jnn-6 | Jennings | West of | N 39 03.342 | 1.57 | No | 4 |

| | | | | | | |
|--------|----------|--|----------------------------|------|-----|------------------------|
| | | Brush Creek Reservoir | W 85 32.952 | | | |
| Jnn-9 | Jennings | CR 700 | N 39 05.100 W 85 42.580 | 1.85 | No | 4 |
| Jnn-10 | Jennings | CR 700 # 2 close to creek | N 39 04.840 W 85 42.450 | 0.19 | No | 4 |
| Jnn-11 | Jennings | CR 700#3 | N 39 04.950 W 85 42.610 | 0.05 | No | 3 |
| Jnn-12 | Jennings | CR 250 West SW of North Vernon | N 38 56.670 W 85 39.480 | 0.38 | No | 3 |
| Joh-1 | Johnson | Princess Lakes Area | N 39 21.157 W 86 06.677 | 0.64 | No | Spot Treatment Only |
| Law-3 | Lawrence | East Lawrence Water Tank 5 | N 38 430.39 W 86 19.913 | 0.51 | No | Spot Treatment Only |
| Law-4 | Lawrence | NW of Mitchell, IN | N 38 44.516 W 86 30.773 | 0.36 | No | Spot Treatment Only |
| Law-8 | Lawrence | Trogdon Road | N 38 55.630 W 86 32.240 | 0.33 | No | 4 |
| Law-11 | Lawrence | Woodsferry Road | N 38 48.900 W 86 32.400 | 0.32 | No | 2 |
| Mrt-3 | Martin | Williams Area | N 38 50.040 W 86 41.471 | 1.61 | No | 6 |
| Mrt-4 | Martin | Along 50 near US Gypsum | N 38 40.690 W 86 45.100 | 0.68 | No | 4 |
| Mrt-5 | Martin | Gypsum Plant Near Water Tank | N 38 40.360 W 86 45.370 | 0.28 | No | 2 |
| Mrt-6 | Martin | SR 550, South of Logootee | N 38 40.260 W 86 54.230 | 0.14 | NO | 1 |
| Mor-3 | Morgan | East Gold Creek Road | N 39 32.920 W 86 25.390 | 1.45 | Yes | 3 |
| Org-3 | Orange | North Side of Marengo, Ross Road | N 38 23.920 W 86 19.920 | 1.55 | No | 2 |
| Pos-2 | Posey | Ford Road Area | N 37 57.280 W 87 45.210 | 0.65 | No | 2 |
| Sul-1 | Sullivan | CR 50 N Minnehaha | N 39 05.182 W 87 19.165 | 1.25 | No | 5 |

| | | | | | | |
|-------|-------------|--|----------------------------|------|----|---|
| | | FWS | | | | |
| Sul-2 | Sullivan | SW of Hymera, IN | N 39 10.620 W 87 18.510 | 4.64 | No | 3 |
| Van-4 | Vanderburgh | Stringtown and Petersburg Rd. Behind Jewelry Store | N 38 02.067 W 87 33.727 | 3.0 | No | 1 |
| Vig-2 | Vigo | West Terre Haute Area | N 39 28.210 W 87 27.842 | 1 | No | 6 |
| Wck-1 | Warrick | Near Angel Mounds State Park, Stacer RD. | N 37 56.932 W 87 26.790 | 1.67 | No | 5 |
| Wck-2 | Warrick | Lincoln State Park, Along US 231, North of Gentryville | N 38 07.128 W 87 01.656 | 7.92 | No | 5 |
| Wsh-3 | Washington | Along Martinsville Road, SE of Salem, IN | N 38 29.220 W 86 01.969 | 2.6 | No | 6 |

2013 Kudzu Treatment Areas



- Red: Area One**
- Green: Area Two**
- Yellow: Area Three**
- Blue: Area Four**
- Pink: Area Five**

Areas are designed to reduce travel and fuel consumption

Kudzu Treatments for 2013

Bidding Break Down

51 Sites, 20 Counties

**Total of estimated 59.82 Acres to treat
Kudzu Treatments for 2013**

Bidding Break Down

**Area One-Western Treatments: Includes Clay, Greene, Johnson, Morgan, Sullivan
and Vigo Counties (17.87 Acres)**

- A. Sites undergoing spot treatment after two years of fallow. (2.53 Acres)
 - 1. Clay-6
 - 2. Greene-1
 - 3. Greene-4
 - 4. Johnson-1

- B. Sites undergoing Sixth year of treatment (8.00 Acres)
 - 1. Clay-5
 - 2. Vigo-2

- C. Sites under going fifth year of treatment (1.25 Acres)
 - 1. Sullivan-1

- D. Sites under going Third year of treatment (6.09 Acres)
 - 1. Morgan-3
 - 2. Sullivan-2

**Area Two-Southwestern Treatments: Includes, Dubois, Gibson, Posey, and
Warrick counties (19.56 Acres)**

- A. Sites undergoing fifth year of treatment (13.20 Acres)
 - 1. Dubois-1
 - 2. Dubois-2
 - 3. Warrick-1
 - 4. Warrick-2

- B. Sites undergoing Third year of treatment (0.48 Acres)
 - 1. Dubois-3
 - 2. Dubois-4

- C. Sites undergoing Second year treatment (2.75 Acres)
 - 1. Gibson-1
 - 2. Gibson-3
 - 3. Posey-2

D. Sites undergoing First year treatment (3.13 Acres)

1. Dubois -5
2. Dubois-6
3. Vanderburgh-4

Area Three- Central Treatments: Crawford, Lawrence, Martin and Orange Counties. (7.01Acres)

A. Sites undergoing spot treatment after two years of fallow (0.87 Acres).

1. Lawrence-3
2. Lawrence-4

B. Sites undergoing Sixth year of treatment (1.61 Acres)

1. Martin-3

C. Sites undergoing Fourth year of treatment (1.01 Acres)

1. Lawrence-8
2. Martin-4

D. Sites undergoing Third year of treatment (0.17 Acres)

1. Crawford-4

E. Sites undergoing Second year of treatment (2.98 Acres)

1. Crawford-5
2. Lawrence-11
3. Martin-5
4. Orange-3

F. Sites undergoing first year of treatment (0.37 Acres)

1. Crawford-6
2. Martin-6

Area Four- Southeastern Treatments: Includes Clark, Floyd, Harrison and Washington Counties (9.18 Acres)

A. Areas receiving Sixth year of treatment (2.6 Acres)

1. Washington-3

B. Areas receiving Second year of treatment (4.9 Acres)

1. Clark-2
2. Clark-4
3. Clark-5
4. Clark-6
5. Clark-7
6. Harrison-6

C. Sites undergoing First year of treatment (1.68 Acres)

1. Clark-3
2. Floyd-4
3. Harrson-12

Area Five- Eastern Treatments: Include Jefferson and Jennings Counties. (6.2 Acres)

A. Sites undergoing spot treatment after two years of fallow (0.65Acres)

1. Jennings-5

B. Sites undergoing Third year of treatment (0.43 Acres)

1. Jennings-11
2. Jennings-12

C. Sites undergoing fourth year of treatment (3.91 Acres)

1. Jennings-6
2. Jennings-9
3. Jennings-10

D. Sites undergoing fifth year of treatment (1.21 Acres)

1. Jennings-1
2. Jennings -2

**Kudzu Sites Schedule For Treatment in 2013
General Site and Environmental Information
Questions, Call Ken Cote 812-332-2241**

Clopyralid will be the herbicide used at most sites and a glyphosate based product labeled for aquatics will be used in areas where surface water is an issue. Erosion prevention will be implemented when necessary. There may also be spot treatments of metsulfuron and/or triclopyr.

Sites Receiving Spot Treatment After 2 Years of Fallow

| Name | County | Location Description | GPS Coordinates | Size |
|-------|----------|-----------------------------|----------------------------|------|
| Cly-6 | Clay | Mile Marker 18 I 70 East | N 39 26.710 W 87 12.770 | 0.56 |
| Gre-1 | Greene | NW of Switz City | N 39 04.275 W 87 05.459 | 0.14 |
| Gre-4 | Greene | East of Dugger | N 39 03.822 W 87 13.954 | 1.19 |
| Jnn-5 | Jennings | CR 600 West | N 39 00.045 W 85 43.301 | 0.65 |
| Joh-1 | Johnson | Princess Lakes Area | N 39 21.157 W 86 06.677 | 0.64 |

| | | | | |
|-------|----------|-------------------------------|----------------------------|------|
| Law-3 | Lawrence | East Lawrence Water Tank 5 | N 38 430.39 W 86 19.913 | 0.51 |
| Law-4 | Lawrence | NW of Mitchell, IN | N 38 44.516 W 86 30.773 | 0.36 |

Cly-6. Along Route 70 East, near mile marker 18.

This site is visible from the interstate however accessibility from the interstate may be difficult due to traffic and an existing highway fence. The site may need to be accessed from the coal mine property to the south of the site. This is approximately 15 mile drive from the location next to the interstate. The coal mine property can be accessed easily from SR 42 is just south of the Chinook FWA.. Erosion will be a issue on the east side of the side. There are not any major bodies of water near the site, but water may flow through the bottom of the ditch in the middle of the site..

Endangered Species within one mile:

Soil Types:FcG Fairpoint shaly silty clay loam, 33-90 percent slopes. These soil types are considered well drained and are made up of coal extraction mine spoils. Water movement in the soil is high in the most restrictive layer and these soils are considered to have a severe erosion potential.

Legumes: None present

Other trees and understory plants.

- Elaeagnus umbellate*
- Fraxinus Americana*
- Juniperus virginiana*
- Lonicera japonica* Halliana
- Microstegium*
- Platanus occidentalis*
- Populus deltoides*
- Rosal multiflora*
- Solidago canadensis*

Gre-1: NW of Switz City

Comments: This site is easily accessible from the adjacent county road and there are not any bodies of water or trees in or immediately adjacent to the site. It is a small site that can be easily controlled by the land owner. There is little or no threat of erosion at this site and the landowner has the equipment and erosion control resources to eradicate and replace this site.

Soils:AvB2: Ava Silt Loam; This soil is more permeable than a clay soil, but is does not have the high leaching potential that a sandy soil has. It may be may have a slightly higher erosion potential than a tight clay soil, but it is not a sand

soil. The erosion potential is considered moderate when no vegetation is present.

Endangered Species Near Site: Nature preserves reports non near site.

Trees and understory plants: None, exist along road right of way

Gre- 4 East of Dugger

Comments: This site is spreading to adjacent properties and is divided into 3 sections. It is relatively flat and all three parts of the sites are easily accessible from roads in and around the site. There is a small pond adjacent to the NW side of the patch in a mine reclamation area and there is a small drainage ditch along the round. However, the proximity of water should not be of major importance for herbicide applications.. The erosion potential at this site is at a low to moderate risk. Some areas of the patch are steep, but there is a short fetch on these slopes and little surface area to drain above these slopes. The slopes appear to be old mine piles. Some silt fence may be needed, but erosion should not pose a major issue. No legumes were present at the time of inventory. There is kudzu growing on the utility poles at the site.

Soils: AvB2, Ava Silt Loam and FoC, Fairpoint Parachannery clay loam. Ava silt loam soils are more permeable than a clay soil, but they do not have the high leaching potential that a sandy soil has. The erosion potential of these soils is moderate to severe when vegetation is not present. Fairpoint parachannery clay loams are a result of coal mining activity. They are have a moderately high permeability and are well drained.

Endangered Species: Nature preserves reports none near site

Near Trailer

Legumes: Non present

Other trees and understory plants:

Acer saccharum
Asters
Broom Sedge
Cornus florida
Liriodendron tulipifera
Lonicera japonica Halliana
Pinus resinosa
Pinus virginiana
Populus deltoids
Prunus serotina
Quercus rubra
Rubus
Setaria glauca
Ulmus americana

Along Tree Row

Legumes: None present

Other trees and understory plants:

Lonicera japonica Halliana
Platanus occidentalis
Rubus
Ulmus americana

Across Road:

Legumes: None present

Other trees and understory plants:

Acer rubrum
Betula nigra
Graminae
Liriodendron tulipifera
Lonicera japonica Halliana
Pinus resinosa
Pinus strobus
Pinus virginiana
Platanus occidentalis
Prunus serotina
Rosa multiflora
Setaria glauca
Ulmus americana

Jnn-5 CR 600 West

Comments: This site is just east of the county road and is easily accessible from the field. There is a moderate risk of erosion at one location, but overall the erosion risk is low. Most of the kudzu is located at the edge of the woods and is not growing very far into the woods.

Endangered Species: Information requested from Nature Preserves

Soil Types: NaaBw Nabb Silty Loam and HeeE2 Hickory Loam soils exist at this site. Nabb silty loams have a slight erosion potential and Hickory loams have a moderate erosion potential for off road trail ratings. Both of these soils are considered well drained. However water movement in the Hickory loam is may be quicker than the Nabb silty loam.

Legumes: none present

Other trees and understory Plants.

Acer rubrum
Acer saccharum
Aesculus
Allium vineale
Carya ovata
Celtis occidentalis
Fagus grandifolia
Fraxinus
Lindera benzoin
Liquidambar styraciflua
Liriodendron tulipifera
Lonicera japonica 'Halliana'
Platanus occidentalis
Quercus rubra
Rosa multiflora
Sasafrass albidum
Ulmus americana

Joh-1: Princess Lakes Area

Comments: This site is located between two lakes on the south side of the road. There is a risk of erosion at this site as well as a potential for run off to enter the nearby lake. Erosion has already occurred at the site. There are also utility poles running through the site. They are owned by the Morgan County REMC. The pole number is 300, 38 and/or 157-52-030. There is some seed production at the site. Water will be a major issue at this site. There is only one legume on the site and very few large trees. Accessibility to the site should not be an issue, however there may be need from signage and someone to direct traffic.

Endangered Species: None reported by Nature Preserves.

Soil Types: MnB2, Miami silt loam soils are found at this site. They are considered moderately well drained and water movement in the most restrictive layers is moderately low. They have a slight erosion potential however fill may exist at the site and the site is very steep and erosion may be an issue once kudzu is removed.

Legumes:

1 *Cercis canadensis* (Small)

Other Trees and understory plants:

Acer rubrum
Acer saccharum
Carya

Fagus americana

Glechoma hederacea

Grasses

Lonicera mackii

Lonicera japonica 'Halliana'

Platanus occidentalis

Law-3: Near Lawrence Water Tank 5

Comments: This site is easily accessible from the county road. It exist on a gently slope and there is a moderate risk of erosion at this site but it could be easily controlled with silt fencing. There are telephone and electric utility poles located on the NW side of the patch. The Lawrence County Water Tank 5 is situated at the top of the hill, west of the site. Very few trees exist at the site. Only a few redbud trees exist in the road right of way and they have already been mostly destroyed but cutting.

Endangered Species:

East Lawrence

Campbellsburg Quadrangle:

1

Fed: LE = federal endangered; LT = federal threatened; C = candidate

State: SE = state endangered; ST = state threatened; SR = state rare; WL = watch list; SX = state extirpated;

SSC = species of special concern SG = state significant

Grank: Heritage Global Rank: G1 = critically imperiled; G2 = imperiled; G3 = rare or uncommon; G4 = widespread but with long term

concerns; G5 = widespread and secure; GU = unranked

Srank: State Heritage Rank: S1 = critically imperiled; S2 = imperiled; S3 = rare or uncommon; S4 = widespread but with long term

concerns SNR = not ranked; B = breeding rank; SNA = not resident in state in non-breeding season

SPECIES COMMON NAME STATE LAST FED

12/2/2004 Endangered, threatened and rare species documented within one mile of reported kudzu sites, Indiana

TOWNRANGE SEC

Coragyps atratus Black Vulture 1988-06 003N002E 08 NWQ NWQ

SWQ

Lynx rufus Bobcat SE 1989 003N002E 06

Legumes:

Cercis canadensis: suckers from mowing down existing trees in road right of way.

Other trees and undrstory plants:

Allium vineale

Ferns

Fraxinus americana-seedlings

Juniperus virginiana

Liriodendron tulipifera

Lonicera japonica 'Halliana'

Quercus rubra

Rosa multiflora

Rubus

Sasafrass albidum

Setaria gluaca-Yellow foxtail

Smilax

Sorghum halpens-Johnson Grass

Thistle

Law-4: NW of Mitchell, IN

Comments: This site is relatively thin and should be easily controlled with some effort. The site is on relatively flat land. The west side of the site borders the Hoosier National Forest and the south side of the site is bordered by a cow pasture. The site can be accessed from the adjacent pasture land. There are a few legumes present at the site. Most of the kudzu growth is located in the tree canopies. This site would be a good candidate for basal cut stump applications of triclopyr. There are not any bodies of water close to the site, but the soil remains very wet during most of the year.

Endangered Species: None reported by Nature Preserves

Soil Types: HsaB2-Hosmer silt loams exist at this site. They are considered moderately well drained and water movement in the most restrictive layers is rated as low. The potential erosion rating for this soil type is slight.

Legumes: 3 *Cercis canadensis*

Other trees and understory plants:

Acer rubrum
Allium vineale
Cornus florida
Diospyros virginica
Fagus grandifolia
Fraxinus americana
Juniperus virginiana
Lindera benzoin
Liriodendron tulipifera
Lonicera japonica 'Halliana'
Platanus occidentalis
Rhus typhina
Rosa multiflora
Sasafrass albidum

Sites Requiring Sixth Treatment Follow up spot applications needed

| Name | County | Location Description | GPS Coordinates | Size |
|--------|--------|---|----------------------------|------|
| Clay-5 | Clay | Chinook FWA, Between I-70 and SR 42 | N 39 26.915 W 87 10.892 | 7 |
| Mrt-3 | Martin | Williams Area | N 38 50.040 | 1.61 |

| | | | | |
|--------------|------------|---------------------------------------|----------------------------|-----|
| | | | W 86 41.471 | |
| Vig-2 | Vigo | West Terre Haute Area | N 39 28.210 W 87 27.842 | 1 |
| Wsh-3 | Washington | Along Martinsville, Road SE of Salem, | N 38 29.220 W 86 01.969 | 2.6 |

Cly-5: Chinook Wildlife Area, between I-70 and SR 42, SE Corner

Comments: This site is extremely large and will pose a serious challenge to any eradication efforts. There are ponds located on the east and west side of the site. There is also a high threat of erosion because the area is covered with numerous 30 foot piles of soil and fill dirt. It is extremely steep and most of the area is only navigable by foot traffic and the piles of soil are closely oriented in a manner that will not allow equipment access. Beavers are present on the east side of the site and acid mine run off is located close to the site on the southeast side. Eradication efforts will involve cutting in access roads for equipment and extensive soil erosion prevention will be necessary. This site is very far north for its size, but fortunately there does not seem to be excessive seed production. Finally, there is a stand of pitch pine, *Pinus rigida*, on the east side of the site.

Soil Types: FcG: Fairpoint shaly silty clay loam, 33-90 percent slopes. These soils are classified as well drained and the water movement is rated as moderately high in the most restrictive layer. They have a severe erosion potential for both off trail and on trail ratings.

Endangered Species: None reported by Nature Preserves.

Legumes: None found

Other trees and understory plants:

- Acer negundo*
- Acer rubrum*
- Acer saccharinum*
- Celtis occidentalis*
- Christmas fern
- Cornus florida*
- Diospyros virginica*
- Fagus grandifolia.*
- Fraxinus americana*
- Juniperus virginiana*
- Liquidambar styraciflua*
- Liriodendron tulipifera*

Lonicera japonica 'Halliana'
Lonicera mackii
Phytolacca americana
Pinus rigida
Pinus virginiana
Platanus occidentalis
Populus deltoides
Prunus avium
Prunus serotina
Quercus palustris
Quercus prinus
Rosa multiflora
Sasafrass albidum
Scirpus (Bull Rush)
Snowberry?
Steallria media
Toxicodendron radicans
Ulmus americana
Vitis

Mrt-3: Near Williams

Comments: This site is located just west of the Lawrence-Martin county line. Roads to the area are gravel and extremely steep which will make travel to the site with equipment slow. Many of the roads in the area are also prone to flooding. The site it self is relatively easy to access from the county road. However, there are numerous fallen trees in the center of the patch which may make equipment access difficult. There are only a few legumes on the site and there are not any nearby bodies of water. The site is on a moderate slope and drains a large field to the north, therefore it will have a moderate to high erosion potential. Silt fence alone may not be enough to control the large volume of concentrated flow that occurs in the center of the patch.

Endangered Species: Information requested from Nature Preserves

Soil Types: WhB-Wellston Silt Loam and FcG-Fairpoint shaly silty clay loam soil types exist at this site. They are considered well drained and moderately well drained respectively. Water movement in the most restrictive layers of both soils is rated very low. The erosion potential rating of these two soils is slight and moderate for each respectively.

Legumes: 2 *Cercis canadensis*

Other trees and understory plants:

Acer saccharum
Andropogo virginicus (Broom Sedge)
Asimina triloba
Carya species
Christmas fern
Cornus florida

Diospyros virginiana
Fagus grandifolia
Fraxinus Americana
Juniperus virginiana
Lindera benzoin
Liquidambar styraciflua
Liriodendron tulipifera
Lonicera japonica 'Halliana'
Pinus strobus
Quercus alba
Quercus rubra
Rhus typhina
Rosa multiflora
Sasafrass albidum
Setaria glauca
Solidago Canadensis
Vitis

Vig-2: West Terre Haute Area

Comments: This site is not located near any large bodies of water and is relatively flat therefore erosion will not be a major issue. However, accessibility will be an issue and at this time it is only accessible on foot. The site is located approximately 0.75 miles from the nearest road or trail and is located in a heavily wooded area. This area is thick with Amur honeysuckle and multiflora rose making equipment accessibility nearly impossible. There is also an abundance of fallen timber on the east side of the site.

Endangered Species: None reported

Soil Types: PaB2- Parke silt loams and AID3-Alford silt loams exist at this site. Both soil types are considered well drained with a water movement rating in the most restrictive layers is moderately high. The erosion potential rating is moderate for the Alfred silt loam and slight for the Parke silt loam.

Legumes:

Gleditsia triacanthos
Robinia psuedoacacacia- Numerous on the east side of the site

Other trees and understory plants

Acer negundo
Aesculus glabra
Allium vineale
Carpinus carolinianum
Celtis occidentalis
Elaegnus umbellate
Fraxinus Americana
Graminae
Juniperus virginiana

Liriodendron tulipifera
Lonicera japonica 'Halliana'
Lonicera macckii
Platanus occidentalis
Populus deltoids
Prunus serotina
Rosa multiflora
Rubus
Sasfrass albidum
Stellaria media
Toxicodendron radicans
Ulmus Americana
Vitis

Wsh-3: Martinsville Road, SE of Salem, IN

Comments: This site is easily accessible from the county road and there are not any bodies of water in close proximity to the sites. It has a very low erosion potential with little need for erosion control once the kudzu is removed. There is a fair amount of underbrush that may make site navigation and equipment access tricky, but the kudzu itself is not very dense. Very few legumes exist at this site, only a hand full of red bud trees.

Endangered Species: Request for info submitted to Nature Preserves.

Soils: **CoC2**-Crider silt loam and **HeD2**- Hagerstown-Caneyville silt loams exist at this site. Both of these soil types are considered well drained with a water movement rating in the most restrictive layer of moderately high. The erosion potential rating for Crider silt loam and moderate for Hagerstown-Caneyville silt loams.

Legumes:

Cercis canadensis

Other trees and understory plants:

Acer saccharum

Carya glabra

Carya ovata

Celtis occidentalis

Cercis Canadensis

Christmas fern

Diospyros virginiana

Fagus grandifolia

Fraxinus pensylvanica

Junieprus virginiana

Liriodendron tulipifera

Lonicera japonica 'Halliana'

Pinus virginiana
Quercus bicolor
Quercus imbricaria
Quercus velutina
Rosa multiflora
Toxicodendron radicans
Vitis

Sites Requiring Fifth Year Treatment

| Name | County | Location Description | GPS Coordinates | Size |
|-------|----------|---|----------------------------|------|
| Dub-1 | Dubois | 5679 S County Road 825 W, Site A | N 38 16.760 W 87 03.468 | 1.20 |
| Dub-2 | Dubois | 5679 S County Road 825 W, Site B | N 38 16.870 W 87 03.336 | 2.41 |
| Jnn-1 | Jennings | Along US 50 between North Vernon and Seymour Western Part | N 38 58.831 W 85 42.350 | 1.01 |
| Jnn-2 | Jennings | Along US 50 between North Vernon and Seymour Eastern Part | N 38 58.826 W 85 42.257 | 0.2 |
| Sul-1 | Sullivan | CR 50 N Minnehaha FWS | N 39 05.182 W 87 19.165 | 1.25 |
| Wck-1 | Warrick | Near Angel Mounds State Park, Stacer RD. | N 37 56.932 W 87 26.790 | 1.67 |
| Wck-2 | Warrick | Lincoln State Park, Along US 231, North of Gentryville | N 38 07.128 W 87 01.656 | 7.92 |

Dub-1: County Road 825 W, Near Holland, IN

Comments: Both sites are very difficult to navigate. They are located in a ravine with steep banks on each side. A dry stream runs through the center of the ravine and

numerous small fish were observed in the stream. Erosion will be a moderate concern, but the potential for water pollution will be very significant with this site. There are numerous spring ephemeral plants at this site including, *Trillium* and *Cypripedium*. No legumes were observed at the site during the initial inspection.

Site A, Close to the road

Soil Types: FcB Fairpoint shaly silt loam. 0-8 percent slope.

These soils are considered to be moderately well drained with a moderately high water movement potential in the most restrictive layer. They have a slight to moderate erosion potential.

Legumes: None found

Other trees and understory plants:

Allium vineale
Carya ovata
Cornus florida
Cypripedium
Diospyros virginiana
Ferns
Goodyera pubescens (Rattlesnake Orchid)
Juglans cineraria
Juniperus virginiana
Lindera benzoin
Lonicera japonica 'Halliana'
Orchids
Pinus virginiana
Platanus occidentalis
Podophyllum peltatum (May Apple)
Prunus serotina
Quercus palustris
Quercus rubra
Rosa multiflora
Rubus
Sasafrass albidum
Smilax
Stellaria media
Toxicodendron radicans
Trillium
Ulmus americana

Dub-2: Site B. Deeper in Ravine

Legumes: None Found

Soil Types: FcB Fairpoint shaly silt loam. 0-8 percent slope.

These soils are considered to be moderately well drained with a moderately high water movement potential in the most restrictive layer. They have a slight to moderate erosion potential.

Other Trees and understory plants:

Carya ovata
Celtis occidentalis
Cornus florida
Crataegus phaenopyrum
Cypripedium
Diospyros virginiana
Fragaria
Fraxinus pennsylvanica
Grasses
Juglans nigra
Lonicera japonica 'Halliana'
Malus
Platanus occidentalis
Prunus serotina
Quercus alba
Rubus
Smilax
Stellaria media
Trillium
Ulmus americana
Viola
Vitis

Jnn-1 and Jnn-2: Route 50 between Seymour and North Vernon

Comments: There are two small sites close to each other. The sites are primarily located on CSX property. Accessibility will be very difficult and it will be impossible to get large equipment to the site unless by rail. It may be possible for a Solo Back Pack Mist Blower sprayed to access the site. Special permits will be required to work at the site. The sites are adjacent to the railroad track and are on a steep slope that is part of a railroad cut. Unfortunately the site is located on the far side of the track from route 50 and there is a ravine separating the site from the fields immediately north of the site. There are not any natural water systems near the site. However, drainage system and culverts exist behind and adjacent to the site.

Endangered Species with in 1 mile: 1942 Eastern Sand Darter Fish (*Ammocrypta pellucida*), 1997 Bluebreast Darter Fish (*Etheostoma camurum*).

Soil Types for Both Locations: ClfA--Cobbsfork silt loam, 0 to 1 percent slopes. This poorly drained soil has a seasonal high watertable above the surface or within 1.0 ft. and is on flats on uplands. Slopes are 0 to 1 percent. The native vegetation is water tolerant grasses and hardwoods. The surface layer is silt loam and has moderately low or moderate organic matter content (1.0 to 3.0 percent).

Permeability is slow (.06 to 0.2 in/hr) in the most restrictive layer above 60 inches. Available water capacity is high (9.6 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 4.5 to 5.5. This soil is hydric. Wetness is a management concern for crop production.

Jnn-1: Western portion of US 50 Between North Vernon and Seymour

Legumes:

1 *Robinia psuedoacacia*

Other trees and understory plants:

Acer rubrum

Capsella bursa-pastoris-Sheppard's purse?

Fraxinus americana

Juniperus virginiana

Lactuca scariola-Prickly lettuce

Lonicera japonica 'Halliana'

Quercus rubra

Sassafras albidum (dominate tree)

Setaria glauca-Yellow Foxtail

Solidago canadensis-Golden Rod

Typha angustifolia-Cattail (In drainage immediately along tracks)

Verbascum thapsus-Common Mullein

Jnn-2: Eastern portion of site on US 50 between North Vernon and Seymour.

Legumes:

2 *Robinia psuedoacacia* (In state of decline)

Other trees and understory plants:

Acer rubrum

Eleocharis montivoidensis? Spike Rush (In drainage immediately along tracks)

Equisetum arvense (In drainage immediately along tracks)

Juniperus virginiana

Mustards

Sassafras albidum

Setaria glauca-Yellow Foxtail

Solidago canadensis-Golden Rod

Ulmus americana

Verbascum thapsus-Common Mullein

Sul-1: CR 50 N Minnehaha FWS

Comments: This site is nearly one mile from the DNR parking located along county road 50 N. However, it is easily accessible from the adjacent corn fields. There are not

any significant bodies of water in or near the site but a drainage ditch does traverse the site. There is a low to moderate risk of erosion and some minor erosion was present at the site during the first visit. The drainage from adjacent fields flows towards the site. There are a few legumes present on the site.

Soil Types: HkE-Hickory Silt Loam soils exist at this site. They are considered well drained and water movement in the most restrictive layer is rated as moderate. The erosion potential rating for this soil is moderate.

Legumes:

Gleditsia triacanthos (2)
Robinia pseudoacacia (1)

Other trees and understory plants:

Acer rubrum
Allium vineale
Carya
Carya ovata
Celtis occidentalis
Cornus florida
Diospyros virginiana
Fraxinus pennsylvanica
Fraxinus quadrangulata
Grasses
Juglan cinerara
Lamium amplexicaule
Liquidambar styraciflua
Lonicera japonica 'Halliana'
Phytolaca americana
Platanus occidentalis
Prunus serotina
Quercus rubra
Rosa multiflora
Sasafrass albidum
Solidago canadensis
Ulmus americana
Vitis

Wck-1: Angel Mounds State Historic Site

Comments: The kudzu growing at this site is adjacent to residents. The staff at Angel Mounds has a good working relationship with these individuals. Water is usually not a problem at this site and there are not any creeks or drainage ditches on the site. The site is flat and easily accessible from the road. There is a small area to park equipment off of the road. There are a few considerations with the site. Black locust trees and red bud seedlings exist on the edge of the site, but they can be avoided with care. Also, most people in the area have well water.

Endangered Species with in 1 mile: 1997 Timber Rattle Snake (*Crotalus horridus*)

Legumes:

- 1 *Cercis canadensis* (Seedling, Along roadway)
- 7 *Robinia psuedoacacia* (30 feet with at 8 inch DBH), many in state of decline

Other trees and understory plants:

- 1 Fern, Unknown species
- Acer rubrum*
- Acer saccharum*
- Acer saccharinum*
- Albizia julibrissin*
- Asimina triloba*- (At the edge of the site)
- Campsis radicans*
- Euonymus alatus*
- Euonymus fortunei* 'Ccoloratus'
- Fragaria virginiana*-Wild strawberry
- Glechoma hederacea*-Gound Ivy
- Ilex opaca* (Seedling)
- Lonicera japonica* 'Halliana'
- Morus alba*
- Oxalis*
- Phytolacca americana*-Poke weed
- Polygonum pennsylvanicum*- Smart Weed
- Prunus serotina*-Black Cherry
- Quercus rubra* (Seedlings)
- Rosa multiflora*
- Sasafrass albidum*
- Setaria glauca*-Yellow Foxtail
- Smilax rotundifolia*-Green brier
- Ulmus americana*
- Vitis*-Wild Grape

Wck-2: Lincoln State Park Area, Along US 231, North of Gentryville

Comments: The site is relatively flat with some drainage ditches located on the north side of the site. Water should not be a major factor with this site unless there is an old well near the abandon house located on the site. Accessibility will be a problem because the site extends nearly 0.5 miles into a wooded area. There are two large open areas in the patch, but a majority of the kudzu growth is occurring in the trees. A few red buds exist on the north side of the site, some of which are in a state of decline.

Endangered Species with in 1 mile: 1998 Timber Rattle Snake (*Crotalus horridus*)

Soils: ZaD3 Zanesville silt loam and TtBw Tilsit silt loam soils exist at this site. Zanesville soils have a moderate erosion potential for off trail ratings and Tilsit soils have a slight erosion potential rating. Both soil types are considered moderately well drained. The water movement in the most restrictive layer is low for Zanesville and very low for these soil types.

Legumes:

3 *Cercis canadensis*

Other trees and understory plants:

Acer platanoides

Acer rubrum

Allium vineale-Wild Garlic

Asimina triloba

Carya

Catalpa speciosa

Cornus florida

Diospyros virginiana (North Edge)

Fagus grandifolia

Ferns

Fraxinus americana

Fraxinus pennsylvanica

Grasses

Ilex opaca

Juglans nigra

Juniperus virginiana

Lindera benzoin

Liquidambar styraciflua

Liriodendron tulipifera

Lonicera japonica 'Halliana'

Microstegium vimineum-Japaense Stilt Grass

Morus alba

Phytolacca americana-Poke Weed

Pinus echinata

Pinus strobus

Pinus sylvestris

Pinus taeda

Pinus virginiana

Platanus occidentalis

Prunus serotina

Quercus alba

Quercus imbricaria

Quercus prinus

Rosa multiflora

Sasafrass albidum

Setaria glauca-Yellow Foxtail

Smilax rotundifolia-Greenbrier

Soldiigo canadensis-Golden Rod

Stellaria media-Common Chickweed

Symphoricarpos orbiculatus-Coralberry
Ulmus americana
Vitis-Wild Grape

Sites Requiring Fourth Year of Treatment

| Name | County | Location Description | GPS Coordinates | Size |
|--------|----------|-------------------------------|----------------------------|------|
| Jnn-6 | Jennings | West of Brush Creek Reservoir | N 39 03.342 W 85 32.952 | 1.57 |
| Jnn-9 | Jennings | CR 700 | N 39 05.100 W 85 42.580 | 1.85 |
| Jnn-10 | Jennings | CR 700 # 2 close to creek | N 39 04.840 W 85 42.450 | 0.19 |
| Law-8 | Lawrence | Trogon Road | N 38 55.630 W 86 32.240 | 0.33 |
| Mrt-4 | Martin | Along 50 near US Gypsum | N 38 40.690 W 86 45.100 | 0.68 |

Jnn-6 West of Brush Creek Reservoir

Comments: This site is extremely difficult to access. It is nearly one mile from paved road. A narrow road which is part of the county road extends to a creek. At this point the creek must be crossed with 4 wheel drive and high clearance and then the site is located another .75 miles crossing rough roads and a corn field. Pesticide loads will need to be mixed on the opposite side of the creek and water will need to be hauled to the site. It will also be difficult to turn around any type of trailer or tow equipment at the end of the county road. If flooding occurs, this site will not be accessible by any means other than a helicopter or by foot and will not be treated that year. The kudzu growth is relatively thin and exists primarily at the edge of the woods. It will take approximately 200 gallons of mix to cover the site. There is very minimal risk for erosion.

Endangered Species: Request for information submitted to Nature Preserves

Soil Types: CkIC2-Cincinnati-Nabb Silt Loams, Gxb-Udorthents soils, GmcD3-Grayford Silt Loams all exist at this site. Erosion ratings for these soils are slight, moderate and moderate respectively. Water movement within these soils is low, moderately high, and moderately high respectively. All three are considered well drained soils and may contain up to 50% sand.

Legumes: None present

Other Trees and understory plants:

Acer negundo
Acer rubrum
Allium vineale
Carya ovata
Cornus florida
Fraxinus pensylvanica
Juniperus virginiana
Pinus strobus
Prunus serotina
Quercus alba
Quercus muhlenbergii
Quercus palustris
Rosa multiflora
Rubus
Sassafras albidum
Ulmus Americana

Jnn-9 County Road 700

Comments: This site is easily accessible from the county road and erosion will not be an issue at this site. There are legumous tree speices present at this site, but the owner is not concerned about sacrificing those tree in order to eradicate the kudzu. There is a creek adjacent to the north side of the site and glyphosate will be necessary for treatment immediately along the creek. The patch of kudzu is not very dense and should be relatively easy to treat.

Soil Types;

Endangered Species with in one mile:

Legumes:

Acer rubrum
Acer saccharum
Aster
Broom sedge
Clover
Diospyros virginiana
Fraxinus
Gleditisa triacanthos
Hemerocalis
Juglans nigra
Juniperus virginiana
Liriodendron tulipifera
Other trees and understory plants:
Platnus occidentalis
Prunus serotina
Robinia pseudoacacia

Jnn-10 CR 700 along creek

Comments: A field must be crossed in order to access this site. The site is immediately adjacent to a creek with an unstable bank. Erosion may be an issue at this site and glyphosate will be need for treatment immediately along the creek bank. Measures to stabilize the stream bank may be necessary and it is recommended that this site be treated in stages in order to minimize destabilization of the stream bank. The soil at this site is also quite sandy. A few legumes in the form of black locust do exist at the site.

Soil Types;

Endangered Species within one mile:

Legumes:

Robinia pseudoacacia

Other trees and understory plants:

Allium vineale

Celtis occidentalis

Lonicera japonica Halliana

Platanus occidentalis

Prunus serotina

Quercus rubra

Rosa multiflora

Law-8: Trogodon Lane, Bedford, IN

Comments: This site is easily accessible from the county road and is located about a half mile east of state route 37. There are very few trees at this site. It is located adjacent to a house where children play, so notification will be essential. The landowner is more than willing to get rid of the kudzu. There are not any legumes present at this site or any bodies of water close to the site. Erosion will not be an issue at the site.

Endangered species with in one miles:

Legumes:

None present

Other trees and understory plants:

Cornus florida

Liriodendron

Quercus rubra

Mrt-4 Along US 50 Near US Gypsum Plant

Comments: This site is not visible from the road. It can only be accessed by crossing the body shop business and through a gate and a half mile logging road. 4 wheel

drive is 100% necessary. There are not any bodies of water close to this site and erosion will not be an issue during the treatment process. The site is growing into the trees. No legumes were found during the site inspection. This site is on US Gypsum property and contact must be made to unlock the gate to access the property.

Soil Types: Not sandy, Clay loam with lots of organic matter

Endangered species within one mile:

Legumes: None present

Other trees and understory plants:

Acer saccharum
Carya ovata
Celtis occidentalis
Cornus florida
Fagus grandifolia
Liriodendron tulipifera
Platanus occidentalis
Quercus rubra
Rosa multiflora
Solidago Canadensis

Site Requiring Third Year of Treatment

| Name | County | Location Description | GPS Coordinates | Size |
|--------|----------|---------------------------------------|----------------------------|------|
| Cra-4 | Crawford | Mt. Pilot Road, South of Marengo area | N 38 17.99 W 86 19.740 | 0.17 |
| Dub-3 | Dubois | S County Road 825 West, Site C | N 38 16.860 W 87 03.250 | 0.05 |
| Dub-4 | Dubois | S. County Road 825 W Site D | N 38 16.800 W 87 03.330 | 0.43 |
| Jnn-11 | Jennings | CR 700#3 | N 39 04.950 W 85 42.610 | 0.05 |
| Jnn-12 | Jennings | CR 250 West SW of North Vernon | N 38 56.670 W 85 39.480 | 0.38 |
| Mor-3 | Morgan | East Gold Creek Road | N 39 32.920 W 86 25.390 | 1.45 |
| Sul-2 | Sullivan | SW of Hymera, IN | N 39 10.620 W 87 18.510 | 4.64 |

Cra-4: South of Marengo, Pilot Knob Road

Comments: This site exists on the edge of a field. It is not very large nor very thick and is easily accessible from the adjacent field. 4 wheel drive vehicles could easily reach the site. There is a moderate risk of erosion at the site because a drainage ditch does exist in the middle of the site. This site can be easily treated with less than 50 gallons of herbicide mix. There are not any large bodies of water near the site, but water may exist in the drainage ditch during wet periods.

Soil Types: Not Sandy

Endangered Species: Contact Environmental Assessment and Early Coordination

Legumes: None present at the site.

Other Trees and understory plants:

Acer rubrum.
Fraxinus Americana
Prunus serotina
Rosa multiflora
Rubus

Dub-3 County Road 825 West, Site C

Comments: This is a small satellite population located south of the larger site to the north. It is very small and immediately adjacent to a field and is accessible from the field to the south. There are not any bodies of water close to the site and there are very few trees located at the site. There is runoff and a concentrated flow of water that runs under the kudzu during rain events. However, erosion will not be a major concern at this site.

Exotic or endangered species within one mile: Need to reference nature preserves database.

Legumes: None found

Other trees and understory plants:

Acer rubrum
Lonicera japonica 'Halliana'
Quercus rubra
Rosa multiflora

Dub-4: County Road 825 W, Site D

Comments: This is another satellite population of the larger site to the north. It is long and narrow is growing primary along an old erosion gully. It is not difficult to access, but may be difficult to traverse due to the depth of the gully. Water may be an issue during periods of wet weather and glyphosate may be necessary, but there are not any

large bodies of water close to the site. This site is also accessible from the field to the south and is just west of kudzu site Dub-3. There is existing severe erosion at the site. The concentrated flow that exists in the center of the site is eroded down to boulders and possibly bedrock. This dry run has obviously been there for years and since the kudzu has recently invaded this area, there is little concern for new erosion once the kudzu is removed.

Endangered species within one mile: Checked nature preserves database

Legumes: Some redbud exist near the site.

Other trees and understory plants;

Allium vineale
Carya ovata
Fraxinus Americana
Lonicera amuerense
Numerous Spring ephemerals,
Pinus echinata
Pinus virginiana
Platanus occidentalis
Quercus rubra
Rosa multiflora
Rubus

Jen-11: CR 700 # 3

Comments: This site is very small and easily accessible from the adjacent field. There are not any bodies of water close to the site and erosion will not be an issue because the site is flat. There are not any legumes present at the site.

Soil Type: Not sandy at this location.

Endangered Species: Contact Early Coordination and Environmental Assessment

Legumes: Not present

Other trees and understory plants:

Acer saccharinum
Prunus serotina
Quercus rubra

Jnn-12: CR 250 West, SW of North Vernon

Comments: This site is located in the middle of a field and is easily accessible from an access road located in the field. There is a moderate risk of erosion but multiflora rose and other undergrowth should reduce the risk enough not to have major erosion issues. There are not any bodies close to the site nor are there any trees located on the site.

Soil type: Not sandy

Endangered Species: Contact Early Coordination Environmental Assessment

Legumes: *Gleditsia triacanthos* seedlings are abundant and may affect accessibility

Other trees and understory plants:

Grasses
Rosa multiflora
Setaria glauca

Mor-3: Gold Creek Road Area

Comments: This site is not close to any county road. It is nearly a half mile from the nearest county road. However, logging roads exist on the property and lead directly to the site. There are not any bodies of water close to the site, but erosion will be a major concern on the south side of the site. The site will need to be treated in stages and erosion prevention work will most likely be necessary. The site is also difficult to access and traverse due to the presence of a large amount of multiflora rose and fallen trees

Soil Types: Not sandy but erosion obviously an issue

Endangered Species: Contact Early coordination Environmental Assessment

Legumes: *Robinia pseudoacacia* in low numbers

Other Trees and Understory Plants:

Acer saccharum
Carya ovata
Fagus grandifolia
Liriodendron tulipifera
Quercus rubra
Rosa multiflora
Rubus
Sassafras albidum
Smilax
Ulmus Americana

Sul-2: Southwest of Hymera, IN

Comments: This site is readily accessible from the pasture adjacent to the south of the site. There are not any bodies of water close to the site and the site exists

on an old mine reclamation area. There are a few legumes present at the site, but over all there are a limited number of tree species at this site. There is a low to moderate risk of erosion at this site with a concentrated flow towards the center of the patch immediately adjacent to the field. However, overall there should not be significant erosion issues associated with the removal of the kudzu. The property owner does have cattle that graze in the kudzu and we will need to work with him in regards to the timing of our herbicide applications. An electric fence also runs through the center of the patch.

Endangered Species Nearby: Will need to check with Environmental Assessment and Early Coordination

Legumes: *Robinia pseudoacia* in low numbers

Other trees and understory plants:

Acer rubrum
Acer saccharum
Liquidambar styraciflua
Platanus occidentalis
Populus deltoids
Prunus serotina
Rosa multiflora
Salix alba
Sasfrass albidum
Setaria glauca

Sites Requiring Second Year of Treatment

| Name | County | Location Description | GPS Coordinates | Size |
|-------|----------|-----------------------------------|----------------------------|------|
| Clk-2 | Clark | NE of Charlestown, Tunnel Hill Rd | N 38 29.711 W 85 38.503 | 0.14 |
| Clk-4 | Clark | King Road | N 38 27.960 W 85 59.100 | 1.36 |
| Clk-5 | Clark | Jeffersonville RR Track Route 62 | N 38 17.720 W 85 43.650 | 0.32 |
| Clk-6 | Clark | Golf Course Blackwood Drive | N 38 18.700 W 85 43.980 | 0.02 |
| Clk-7 | Clark | Howard Hughes Road | N 38 30.380 W 85 41.680 | 0.37 |
| Cra-5 | Crawford | Zoo Road Area | N 38 23.290 W 86 23.150 | 0.83 |
| Gib-1 | Gibson | CR 300 S | N 38 18.711 W 87 37.122 | 0.97 |
| Gib-3 | Gibson | CR 825 W | N 38 18.470 | 0.17 |

| | | | | |
|---------------|----------|---|----------------------------|------|
| | | | W 87 43.833 | |
| Har-6 | Harrison | New Salisbury 668 Shady Lane | N 38 21.216 W 86 06.775 | 0.91 |
| Law-11 | Lawrence | Woodsferry Road | N 38 48.900 W 86 32.400 | 0.32 |
| Mrt-5 | Martin | Behind Gypsum Plant Near Water Tank | N 38 40.360 W 86 45.370 | 0.28 |
| Org-3 | Orange | North Side of Marengo, Ross Road | N 38 23.920 W 86 19.920 | 0.91 |
| Pos-2 | Posey | Ford Road Area | N 37 57.280 W 87 45.210 | 0.65 |

Clk-2: NE of Charlestown, Tunnel Mill Rd.

Comments: This site is located approximately 0.75 miles from the road. You must walk across a cow pasture and accessibility to the site with vehicles will be limited due to muddy conditions. Cattle are very close to the site, which will restrict the type of herbicides used. There are not any legumes at the site and the patch is fairly young. There is a gentle slope, but erosion will not be a major concern. A creek exist about 0.25 southwest of the site.

Legumes: no legumes were found

Other trees and understory plants:

Acer saccharum
Allium vineale
Cornus florida
Fagus grandifolia
Fraxinus americana
Fraxinus pennsylvanica
Juniperus virginiana
Liquidambar styraciflua
Liriodendron tulipifera
Lonicera japonica 'Halliana'
Pinus virginiana
Platanus occidentalis
Prunus serotina
Quercus
Rosa multiflora
Smilax rotundifolia

Clk-4 King Road Area

Comments: This site is easily accessible from the county road and there are not

any bodies of water close to the site. However, erosion will be a major issue at this site. The entire field to the south of the site drains through the site in a concentrated flow. Erosion prevention measure will be needed during control efforts. Very few trees exist at the site and there were not any legumes present at the time of site inspection.

Soil Types:

Endangered Species:

Legumes: None present

Other trees and understory plants:

Acer saccharum
Allium vineale
Asimina triloba
Cornus florida
Fagus grandifolia
Fraxinus
Juniperus virginiana
Liriodendron tulipifera
Lonicera japonica 'Halliana'
Prunus serotina
Quercus alba
Quercus rubra
Rubus
Sasafrass albidum
Vitis

Clk-5: Jeffersonville, RRTrack Route 62

Comments: This site is easily accessible from the adjacent abandon convenience store located on the property. The entire property is currently owned by the convenience store corporation, but the property is abandon. There are not any bodies of water close to the site and there will not be any concerns with erosion because the site is essentially flat. There is a concern regarding herbicide applications because a trailer park exists just north of the site. Additional notification and signage may need to be placed before, during and after applications. There are relatively few trees on the property and some kudzu may exist on the railroad right of way.

Soil Types: Not Sandy

Endangered Species: Contact Early Coordination Environmental Assesment.

Legumes: none present at time of inspection.

Other trees and understory plants:

Acer saccharinum
Lonicear speices

Lonicera japonica Halliana
Rosa multiflora

Clk-6: Golf Course, Blackwood Court

Comments: This site exists on a property adjacent to the golf course. During the time of inspection it will grow only on the ground and did not climb into any trees. There are not any bodies of water close to the site and erosion will not be a concern. The site is easily accessible from city streets.

Soil: Not Sandy

Endangered Species: Contact Early Coordination Environmental Assessment

Legumes: *Cercis canadensis* on property

Other trees and understory plants:

Liquidambar styraciflua
Platanus occidentalis

Clk-7: Howard Hughes Road.

Comments: This site is very easy to access and has a trail that lead up to the immediate western edge of the kudzu patch. The site itself is rather thin, but there are numerous fallen pine trees in the site that may make traverse the site difficult. There are not any bodies of water that are close to the site and erosion will not be a concern at this site.

Legumes: No Legumes were found at the site.

Other trees and understory plants:

Acer saccharum
Celastrus scandens
Christmas fern.
Cornus florida
Fagus grandifolia
Juglans nigra
Lonicera japonica 'Halliana'
Pinus virginiana
Quercus imbricaria
Rosa multiflora
Rubus
Symphoricarpos
Ulmus Americana

Cra-5: Zoo Road, English, IN

Comments: This site is quite a distance from the county road however, good field access available from both sides of the site. There are not any bodies of water close to the site

and erosion will not be an issue at this site. The site is fairly large but the kudzu growth in the forest is fairly thin. There is not a dense mat of kudzu on the forest floor and growth exists primarily in the trees.

Soil Type: Not a sandy soil

Legumes: None found at time of inspection

Other trees and understory plants:

Acer rubrum
Christmas fern
Cornus florida
Diospyros virginiana
Fraxinus Americana
Juniperus virginiana
Liriodendron tulipifera
Lonicera japonica 'Halliana'
Pinus virginiana
Platanus occidentalis
Rhus typhina
Rosa multiflora
Rubus
Sasafrass albidum
Smilax
Solidago canadensis

Gib-1: County Road 300 South

Comments: This site is easily accessible from the county road and field. It is relatively flat except for a steep bank located immediately adjacent to the county road. Minimal erosion control will be needed at this site. There are not any bodies of water close to the site, however the site is immediately adjacent to soybean fields.

Endangered Species: None reported on state records

Legumes:

2 Large *Gleditsia triacanthos*
Some small *Robinia psuedoacacia*

Other trees and understory plants:

Celtis occidentalis
Fraxinus
Glechoma hederacea
Juglans nigra
Lonicera japonica 'Halliana'
Lonicera mackii
Prunus serotina

Rubus
Setaria glauca

Gib-3: County Raod 825 West

Comments: This site is located along the county road. There is a high risk of erosion and parts of the site are extremely steep. The site is easily accessible from the road and there are not any bodies of water close to the site.

Endangered Species: None reported near site.

Gibson County, Kudzu - Charles and Lois Alvis property

Tree Inventory

Legumes:

Gleditsia spp. (thornless)

Other trees and understory plants:

Acer saccharum

Carya spp.

Fraxinus pennsylvanica

Juglans nigra

Ulmus Americana

Har-6: New Salisbury, 668 Shady Lane NE

Comments: This site is located just west of SR 135 south of Palmyra, IN. The kudzu is located approximately ¼ of a mile behind the house on the property. It is easily accessible from the soybean field, but 4 wheel drive will be necessary to access the site. Erosion should not be a major concern at the site and there are not any bodies of water near the site. However, water contamination may still pose a problem because of the karst topography and numerous sink holes.

Endangered Species

New Salisbury 668 Shady Lane

Crandall Quadrangle:

Barrens - chert Chert Barrens SG 1984-06 002S004E 17 NEQ SWQ

Legumes: No legumes were found at the site

Other trees and understory plants:

Acer rubrum

Acer saccharum

Ailanthus altissima

Allium vineale

Carya

Celtis occidentalis

Cornus florida
Juniperus virginiana
Lamium amplexicaule-Henbit
Liriodendron tulipifera
Platanus occidentalis
Prunus serotina
Quercus prinus
Quercus rubra
Rosa multiflora
Sasafrass albidum
Smilax rotundifolia
Stellaria media-Common Chickweed

Law-11: Woodsferry Road

Comments: This site is easily accessible from the neighbor driveway. There are not many trees in the site itself but there are trees located on the edge of the site. The site is close to the river but not adjacent to the river. The river is a few hundred yards away and the site exists on a bluff above the river. The site is relatively flat and erosion will not be a concern at this site.

Soils: Not sandy

Legumes:

Robinia pseudoacacia

Other trees and understory plants:

Quercus rubra
Fraxinus Americana
Platanus Americana
Craya glabra
Acer saccharrum
Christmas fern
Rubus
Rosa multiflora

Mrt-5: National Gypsum, Near Water Tower

Comments: This site is easily accessible from the existing roads on the property. The site is moderately steep but there is little risk of erosion. The growth is moderately thick. There are not any bodies of water close to the site.

Soil Type: Not sandy

Legumes

Cercis canadensis
Robinia pseudoacacia

Other trees and understory plants:

Liquidambar styraciflua
Platanus occidentalis
Rosa multiflora
Rubus

Org-3: North Side of Marengo, Ross Road

Comments: This site is relatively large and exists on the back side of a field. Accessibility may be an issue depending on the crop planted in the field during the time of application. There are a fair amount of trees on the site, but the site is not close to any bodies of water. There is a moderate to moderately severe risk of erosion at the site because the site exist on a steep hill. The amount of erosion control will depend on the native seed bank under the kudzu.

Soil Type: Not Sandy

Endangered Species: Contact Environmental Assesment and Early Coordination

Legumes: No found at time of inspection

Other trees and understory plants:

Acer rubrum
Acer saccharum
Cornus florida
Christmas fern
Fraxinus Americana
Juniperus virginiana
Quercus rubra

Pos-2: Ford Road

Comments: This site is located in a creek ravine behind a residence. There is a moderate risk of erosion at this site and the creek will require the use of glyphosate based products for adjacent treatment. All of the site is in a steep area, the landowner has existing trails that will make it easy to reach the site. The matt is very thick at this site and traversing the site will be difficult. The SE site of the site has an abundance of briars and multiflora rose, but the west side of the site is easily accessible. Clopyralid can be used at most of the site and stump treating will likely be necessary.

Soils: Not Sandy

Legumes: None found during inspection

Other trees and understory plants:

Christmas fern
Cornus florida
Diospyros virginiana
Elaegnus angustifolia

Fraxinus Americana
Liquidambar styraciflua
Lonicera japonica 'Halliana'
Phytolacca Americana
Platanus occidentalis
Populus deltoides
Prunus serotina
Prunus serotina
Quercus alba
Quercus rubra
Rosa multiflora
Sasafrass albidum
Smilax
Ulmus Americana

Site Receiving First Year of Treatment in 2013

| Name | County | Location Description | GPS Coordinates | Size |
|--------|-------------|--|----------------------------|------|
| Clk-3 | Clark | South of Borden | N 38.27.837 W 85.57.119 | 0.64 |
| Cra-6 | Crawford | Allens Creek Road | N 38 21.270 W86 36.980 | 0.23 |
| Dub-5 | Dubois | County Road 900 Top of Hill | N 38 22.980 W86 44.140 | 0.10 |
| Dub-6 | Dubois | County Road 900 in Ravince | N 38 22.980 W86 44.190 | 0.03 |
| Flo-4 | Floyd | DNR Nature Preserve Property | N 38 15.430 W 85 55.570 | 1.02 |
| Har-12 | Harrison | Mt. Tabor and Corydon-Ramsey Rd | N 38 21.462 W 86 09.310 | 0.02 |
| Mrt-6 | Martin | SR 550, South of Logootee | N 38 40.260 W 86 54.230 | 0.14 |
| Van-4 | Vanderburgh | Stringtown and Peterburgh Rd. Behind Jewlery Store | N 38 02.067 W 87 33.727 | 3.00 |

Clk-3: South of Borden, IN

Comments: This site is located along a stream bank south of Borden, IN. It is accessible from the resident located at 20414. However the access to this property is from a small bridge that is no greater than 8 feet wide and it will not handle heavy equipment. There is a ford on the creek that can provide access when the creek is low.

Water will be a major issue at this site because much of the kudzu is growing on the flood plain. I would recommend that only glyphosate be used to control this site. Erosion will not be a major problem except immediately along the stream bank

Soil Types:

Endangered Species:

Vascular Plant *Lechea racemulosa* (Illinois Pinweed) SE 184-10-17

Legumes: None present

Other trees and understory plants:

Acer saccharum
Juglans nigra
Lonicera japonica 'Halliana'
Pinus strobus
Platanus occidentalis
Prunus serotina
Rosa multiflora
Ulmus Americana

Cra-6 Allens Creek Road

Comments: This site is close to Patoka Lake. It is easily accessible from the county road. There is a slight risk of erosion at the site, but most of the kudzu exists on top of the slope. There is surface water across the road from the sites. Soils are very rocky in the area because this site was once a quarry. The soil type in the area will need to be investigated to make sure that use of clopyralid will be safe at this site. The site is relatively thin and very few trees exist at the site. Control should be relatively easy.

Legumes:

Cercis canadensis

Other trees and understory plants:

Fraxinus Americana
Grasses, general
Juniperus virginiana
Setaria glauca
Solidago canadensis

Dub 5 and Dub-6 County Road 900

Comments: A timber harvest was recently conducted in this site and very little kudzu is left on the site. This site is easy to access from the state road, but it exists on a very steep slope. Much of the native vegetation had been removed in 2012 and bare soil existed at the site in late fall of 2012. However, there are still pockets of kudzu that will rapidly

spread if left untreated. Control should be relative easy and the kudzu is only growing up a few small trees. There is not any surface water close to this site.

Legumes: No present at time of inspection

Other trees and understory plants:

Acer rubrum
Acer saccharum
Carya ovate
Fagus grandifolia
Fraxinus Americana
Liriodendron tulipifera
Platanus occidentalis
Quercus alba
Quercus rubra
Sasafrass albidum

Flo-4: DNR Nature Preserve Property:

Comments: An access road has been made to this site. However, two creeks must be crossed with an RTV to reach the site. Large vehicles will not be able to reach the site. Although erosion will not be a concern at the site there are two bodies of water near the site. A small pond exists on the north side of the site and a creek runs along the west side of the site.

Soil Types: Somewhat silty, but not a true sand.

Endangered Species: Contact Early Coordination Environmental Assessment.

Legume: *Cercis canadensis* and some *Robinia psuedoacacia* at site.

Other trees and Understory plants

Cornus florida
Grasses
Liriodendron tulipifera
Lonicera
Plantanus occidentalis
Quercus rubra
Rosa multiflora

Har-12: Mt. Tabor and Corydon-Ramsey Road

Comments; This site is extremely small and is located on a telephone pole east of this intersection. There are not any bodies of water near the site and there is not risk of erosion.

Endangered Species:

Mt. Tabor And Corydon-Ramsey Road

Vascular Plant *Ophioglossum engelmannii*, Limestone Adder's-tongue
SR 002S003E 02
SEQ NWQ SWQ
1989-07-18

Soil Type:

Legumes: none

Trees and understory Plants: Field grasses. No trees present.

Mrt-6 SR 550 South of Logoottee

Comments: This site is easily accessible from the road and exists on a residential property among trees in the middle of a lawn area. There are only a few trees at this site. The site is flat and surface water is not present in or near the site. It should be relatively easy to control.

Legumes: None present at time of inspection

Other trees and understory plants:

Cornus florida

Pinus strobus

Prunus serotina

Van-4: Stringtown and Peterburgh Rd. Behind Jewlery Store

Comments: This site is difficult to access and there are numerous residences and businesses near the site. A church and daycare center is located on the west side of the site. Water will also be an issue at this site. The area is full of springs and a stream runs along the east side of the site. There is also a fence along part of the eastern border of the site. Erosion will be a major concern on the south side of the site.

Legumes: No legumes could be found at the site.

Other trees and understory plants:

Acer rubrum

Acer sccharinium

Allium vineale

Celastrus scandens

Celtis occidentalis

Crocus

Diospyros virginiana

Hemerocalis

Ilex opaca

Juglans nigra

Juniperus virginiana

Lamium amplexicaule
Ligustrum
Liquidambar styraciflua
Lonicera macckii
Narcissus
Phytolaca americana
Platanus occidentalis
Quercus imbricaria
Quercus palustris
Rosa multiflora
Rubus
Sasafrass albidum
Setaria glauca
Smilax rotundifolia
Sorghum halpense (Johsongrass)
Vitis