

Appendix 5B

Priority Landscapes GIS Analysis Datasets

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Dataset: 2001 National Land Cover Dataset (NLCD)

Resolution: 30 m

Value Definitions: Land use classifications.

Value Codes: Range {11,21,22,23,24,31,41,42,43,52,71,81,82,90,95}

11 = open water

21 = perennial ice / snow

22 = developed low intensity

23 = developed med intensity

24 = developed high intensity

31 = barren land

41 = deciduous forest

42 = evergreen forest

43 = mixed forest

52 = scrub/shrub

71 = sedge / herbaceous

81 = pasture / hay

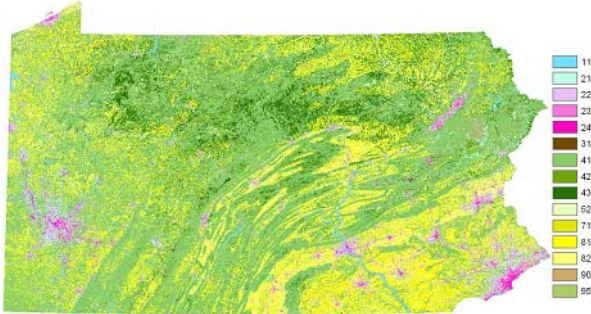
82 = cultivated crops

90 = woody wetlands

95 = estuarine scrub/shrub wetland

Data Transformation Notes: Land use values are extracted inside the models.

References: <http://www.epa.gov/mrlc/definitions.html#2001>



Dataset: Major Pennsylvania Roads

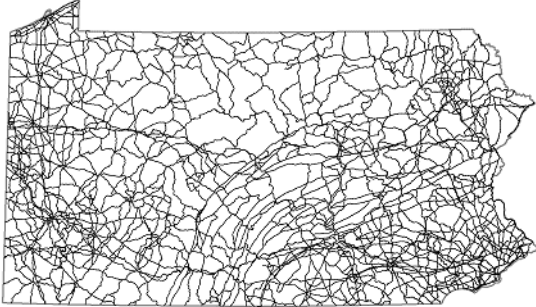
Resolution: Vector Data

Value Definitions: Major roadways in Pennsylvania

Value Codes: N/A

Data Transformation Notes: Buffered in the data model to split forest patches.

References: PA Bureau of Forestry



Dataset: Pennsylvania County Natural Area Inventories (CNAI)

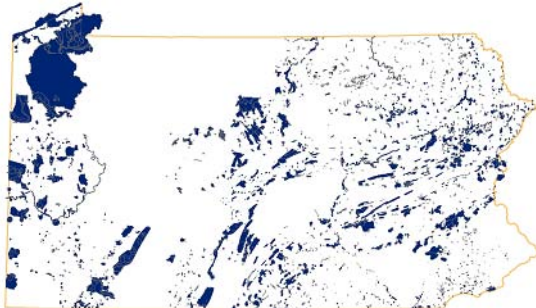
Resolution: Vector Data

Value Definitions: Designated biodiversity areas.

Value Codes: N/A

Data Transformation Notes: none

References: PA Natural Heritage Program (PNHP)



Dataset: Pennsylvania Environmental Review (ER) Layer

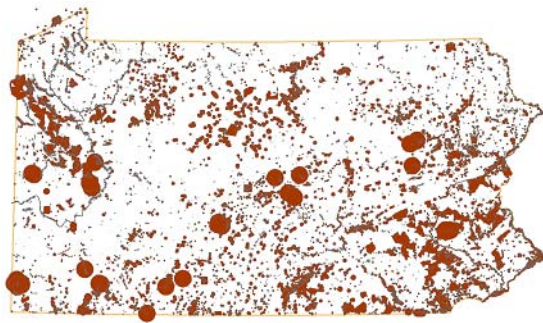
Resolution: Vector Data

Value Definitions: Buffers around known occurrences of species of special concern including those with state, federal, and global status ranks.

Value Codes: N/A

Data Transformation Notes: none

References: <http://www.naturalheritage.state.pa.us/>



Dataset: Important Bird Areas (IBAs)

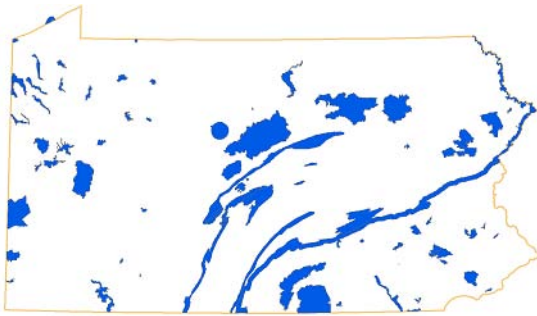
Resolution: Vector Data

Value Definitions: Designated Important Bird Areas in Pennsylvania

Value Codes: N/A

Data Transformation Notes: none

References: <http://pa.audubon.org/iba/>



Dataset: Important Mammal Areas (IMAs)

Resolution: Vector Data

Value Definitions: Designated Important Mammal Areas in Pennsylvania

Value Codes: N/A

Data Transformation Notes: none

References: <http://www.pawildlife.org/imap.htm>



Dataset: Private Ownership

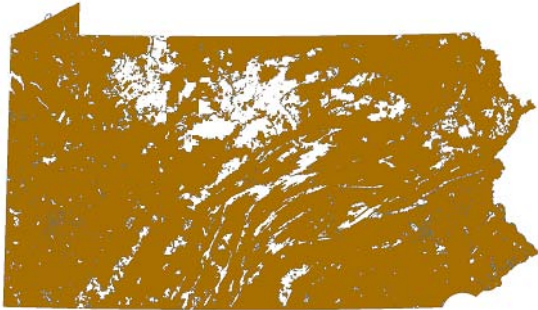
Resolution: Vector Data

Value Definitions: Pennsylvania boundary with state, federal, and county land ownerships removed.

Value Codes: N/A

Data Transformation Notes: none

References: none



Dataset: Percent Slope

Resolution: 30 m

Value Definitions: Grid representing the percent slope of the land.

Value Codes:

0 = zero percent slope

...

92 = ninety two percent slope

Data Transformation Notes: Slope values extracted inside the models.

References: PA Bureau of Topographic and Geologic Survey



Dataset: Woody Biomass

Resolution: 1 km

Value Definitions: Tons per acre of biomass.

Value Codes:

0 - 9 = no biomass

9 - 27 = least biomass

...

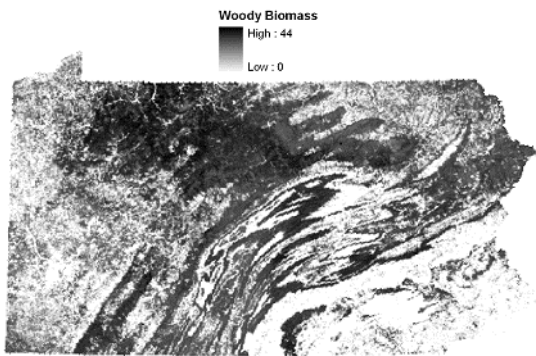
66 - 83 = moderate biomass

...

212 - 255 = greatest biomass

Data Transformation Notes: Re-sampled to 30 m resolution in the data models.

References: http://svinetfc4.fs.fed.us/clearinghouse/state_private/nationaldata.html%20



Dataset: State-Owned Protected Land

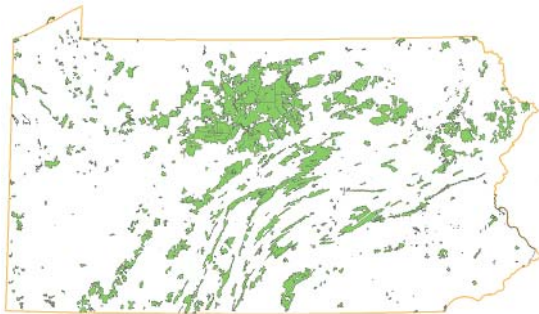
Resolution: Vector Data

Value Definitions: Protected lands under state ownership in Pennsylvania. Majority of this land is State Forest Land, State Gamelands, State Parks, or PA Fish and Boat Commission (PFBC) lands.

Value Codes: N/A

Data Transformation Notes: none

References: PA Bureau of Recreation and Conservation



Dataset: Federally-Owned Protected Land

Resolution: Vector Data

Value Definitions: Protected lands under federal ownership in Pennsylvania. Majority of this land is the U.S. Forest Service's Allegheny National Forest (ANF) or lands owned by the U.S. Army Corps of Engineers, National Park Service (NPS) lands or U.S. Fish and Wildlife Service.

Value Codes: N/A

Data Transformation Notes: none

References: 1998 PA GAP Analysis Program



Dataset: Privately-Owned Protected Land

Resolution: Vector Data

Value Definitions: Protected lands under private ownership in Pennsylvania. Majority of this land is owned by conservancies, museums, land trust associations, and private lands with easements.

Value Codes: N/A

Data Transformation Notes: none

References: 1998 PA GAP Analysis Program



Dataset: County-Owned Protected Land

Resolution: Vector Data

Value Definitions: Protected lands under county ownership in Pennsylvania. Majority of this land is county and local parks.

Value Codes: N/A

Data Transformation Notes: none

References: 1998 PA GAP Analysis Program



Dataset: Development Risk

Resolution: 1 km

Value Definitions: Risk of development.

Value Codes: Range {0,1,2,3}

0 = No Development Risk

1 = Low Development Risk

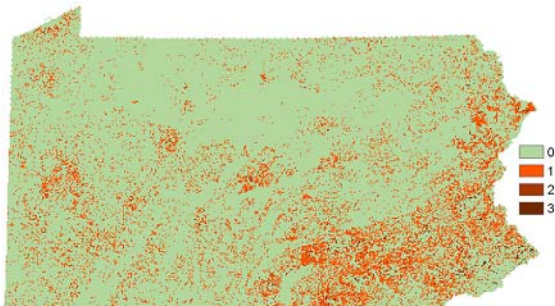
2 = Moderate Development Risk

3 = High Development Risk

4 = Very High Development Risk

Data Transformation Notes: Re-sampled to 30 m resolution in the models.

References: http://svinetfc4.fs.fed.us/clearinghouse/state_private/nationaldata.html%20



Dataset: Pennsylvania Streams

Resolution: vector data

Value Definitions: Stream classifications.

Value Codes:

S1 = exceptional value waters

S2 = high quality waters

S3 = perennial cold water streams

S4 = wilderness trout streams

S5 = warm water streams

S6 = wild rivers

S7 = scenic rivers

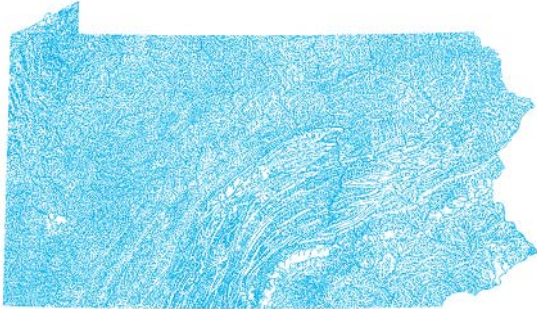
S8 = recreational rivers

S9 = modified recreational rivers

S0 = pastoral rivers

Data Transformation Notes: Designated streams extracted in the model.

References: PA Bureau of Forestry



Dataset: 2006 Public Ground Water Supply Points

Resolution: vector data

Value Definitions: Location and owner of ground water sources serving Pennsylvania public water systems from the Pennsylvania Drinking Water Information System (PADWIS) database.

Value Codes:

A = authority

F = federal

S = state

W = water authority

M = municipal

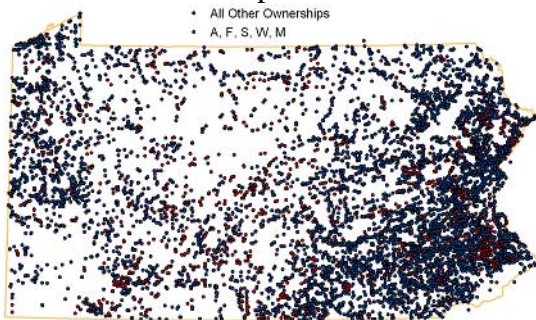
P = private individual

I = investor

O = other

Data Transformation Notes: Designated public ownerships extracted in the model.

References: PA Department of Environmental Protection



Dataset: 2006 Public Surface Water Supply Points

Resolution: vector data

Value Definitions: Location and owner of surface water sources serving Pennsylvania public water systems from the Pennsylvania Drinking Water Information System (PADWIS) database.

Value Codes:

A = authority

F = federal

S = state

W = water authority

M = municipal

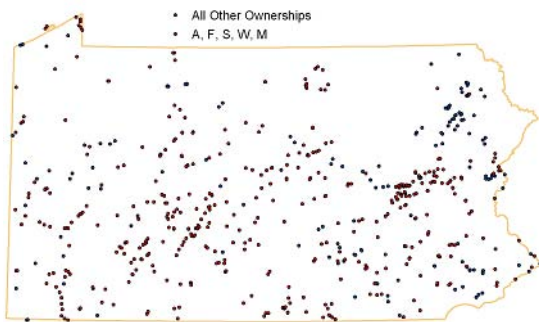
P = private individual

I = investor

O = other

Data Transformation Notes: Designated public ownerships extracted in the model.

References: PA Department of Environmental Protection



Dataset: Small Watersheds

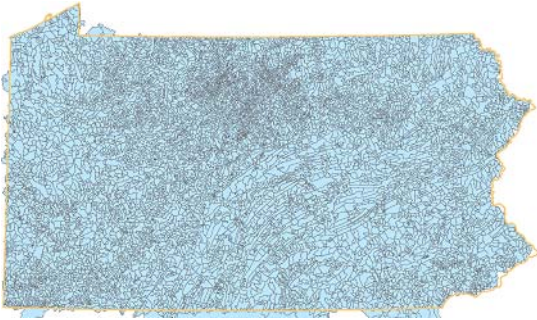
Resolution: vector data

Value Definitions: N/A

Value Codes: N/A

Data Transformation Notes: Small watersheds in Pennsylvania indicated in the Pennsylvania gazeteer of streams.

References: none



Dataset: 2006 National Insect and Disease Risk Map (NIDRM)

Resolution: 1 km

Value Definition: Predicted basal area (BA) loss (%) within the next 15 years

Value Codes: Range {0,1,...,85}

0 = zero percent of BA predicted to be lost within the next 15 years

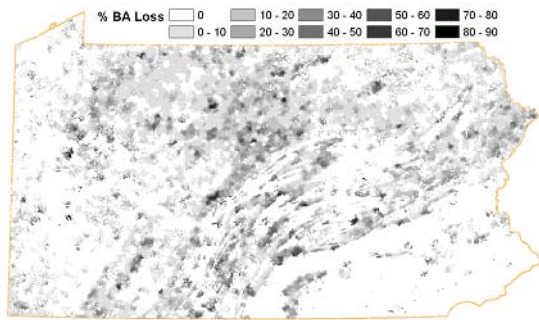
1 = one percent of BA predicted to be lost within the next 15 years

...

85 = eighty-five percent of BA predicted to be lost within the next 15 years

Data Transformation Notes: Percent BA loss values are extracted and standardized inside the model. Re-sampled to 30 m resolution in the models.

References: <http://www.fs.fed.us/foresthealth/technology/nidrm.shtml>



Dataset: 2006 LANDFIRE

Resolution: 30 m

Value Definition: Fire Behavior Fuel Model

Value Codes: Range {1,2,...,11,91,93,98,99}

1 = Fuel Model 1

2 = Fuel Model 2

...

11 = Fuel Model 11

91 = Urban

93 = Agriculture

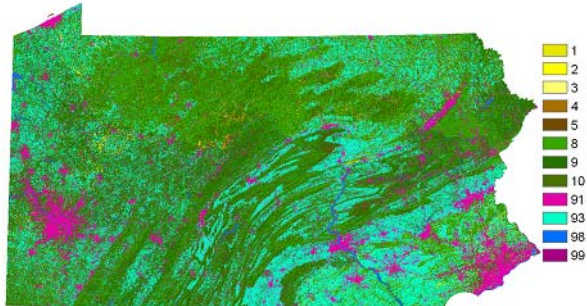
98 = Water

99 = Barren

Data Transformation Notes: Transformed into binary values...land classified as a one of the 13 fuel models is reclassified to 1; all other values (urban, agriculture, water, barren, NoData) calculated to 0 inside the model.

References: <http://www.landfire.gov/>

Anderson, H. 1982. Aids to determining fuel models for estimating fire behavior. USDA Forest Service General Technical Report INT-122.



Dataset: 2002 Wildland Urban Interface (WUI)

Resolution: 30 m

Value Definition: Wildland Urban Interface Value

Value Codes: Range {25,35,45,23,33,43,24,34,44,41,51,52,90}

23 = Low density interface

24 = Medium density interface

25 = High density interface

33 = Low density intermix

34 = Medium density intermix

35 = High density intermix

41 = Uninhabited no vegetation

42 = Very low density no vegetation

43 = Low density no vegetation

44 = Medium density no vegetation

45 = High density no vegetation

51 = Uninhabited vegetation

52 = Very low density vegetation

90 = Water

Data Transformation Notes: The following transformations classified WUI codes into a scale of four categories (3 being the highest valued WUI codes; 0 being the lowest valued WUI codes):

25, 35.....3 (highest value)

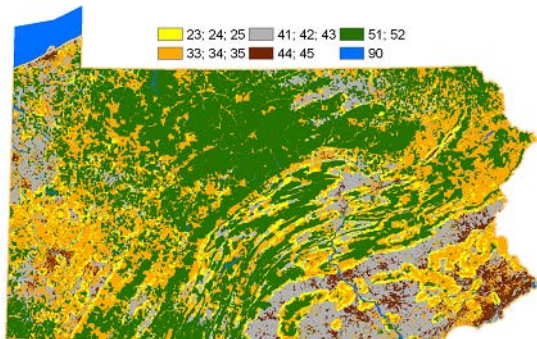
24, 34.....2

23, 33, 51, 52.....1

45, 43, 44, 41, 42, 90.....0 (lowest value)

References: <http://silvis.forest.wisc.edu/library/WUILibrary.asp>

University of Wisconsin



Dataset: 2002 – 2008 Wildfire Point Origin Occurrences

Resolution: vector data

Value Definition: Wildfire Size Class

Value Codes: Range {1,2,...,6}

1 = less than 0.25 acres

2 = 0.26 – 9.99 acres

3 = 10 – 99.9 acres

4 = 100 – 299.99 acres

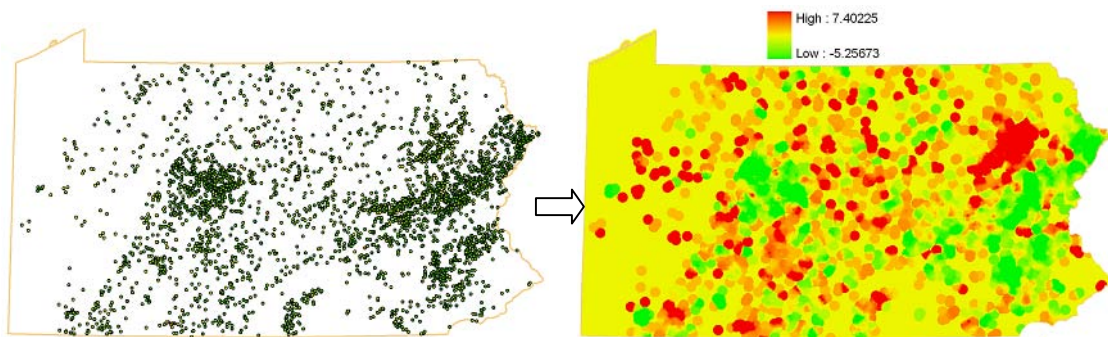
5 = 300 – 999.99 acres

6 = greater than 1,000 acres

Data Transformation Notes: Getis Ord Gi hotspot analysis runs inside the fire model using the [SIZECLASS] attribute. This calculates an index identifying spatial clusters of large and small wildfire occurrences. A score near zero indicated no spatial clustering of wildfires by size. High scores represent spatial clustering of large wildfire outbreaks. Low (negative) scores represent spatial clustering of small wildfire occurrences.

Minimum score was -5.26396 and maximum score was 7.40016.

References: PA Bureau of Forestry Fire Bills Reporting System



Dataset: 2009 Local Wildfire Assessment of Values, Risks, Hazards

Resolution: Vector Data

Value Definition: Total points for a municipality's values, risks, & hazards. Value, risk, or hazard is calculated on a scale of 1 to 3 (with 1 being lowest value and 3 being highest value). Total points simply adds the values, risks, and hazard points together to produce a total points value between 3 and 9.

Value Codes: Total Points Range {0,3,...,9}

0 = no data

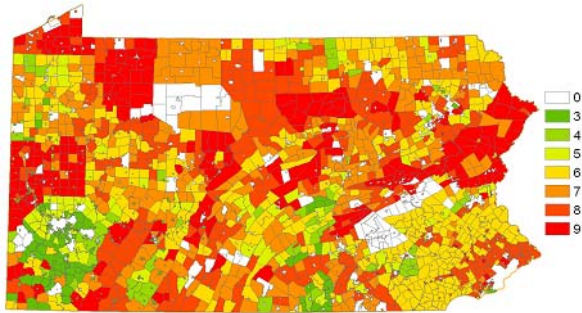
3 = Lowest value

...

9 = Highest value

Data Transformation Notes: none

References: PA Bureau of Forestry



Dataset: Pennsylvania Urban Places (Maryland Method)

Resolution: Vector Data

Value Definition: Population Density, Percent Tree Canopy, and Percent Urban Imperviousness

Value Codes:

Population Density: Range {0 – 13750.365}

Percent Tree Canopy: Range {0 – 0.8616}

Percent Urban Imperviousness: Range {0.0008 – 0.7976}

Data Transformation Notes: The three attribute values are standardized and weighted separately inside the model.

References: Northeastern Area GIS Team...

<http://www.northeasternforests.org/FRPC/files/1238445508Geospatial%20Resource%20Guide%20for%20Urban%20Component%20of%20State%20Assessments.pdf>

ftp://ftp2.fs.fed.us/incoming/nagis/Assessments/Urban/Maryland_Method/

