Open Space Mapping of the Sourlands Region
Sourland Conservancy
Kevin Burkman, GIS Specialist
July, 2014
Purpose
The Sourlands of central New Jersey, a 90-square mile region encompassing the junction of Mercer, Hunterdon and Somerset counties, includes a complex matrix of forests, wetlands, grasslands, and features of historic and cultural value. The Sourlands include one of the largest contiguous forests in New Jersey, which provides a refuge to rare and threatened animals and plants. It is also a critical stopover area for birds migrating between South/Central America and Arctic Regions.

In January, 2013, the Sourland Planning Council (SPC), a non-profit organization that promotes the, ecological integrity, historical resources and special character of this region, initiated this mapping project, as a tool for open space planning. It will assist open space stakeholders in taking a coordinated and strategic approach to land preservation.

In support of the overall goals stated above, data regarding land preservation status was obtained from various public and private entities. This data was used to determine:

- Land that is preserved, through public parkland and preserves, and privately owned land, with open space and farmland easements. It is categorized as “Preserved”.
- Land that cannot be further developed or preserved, or is considered to be “built-out” (urban, retail, industrial areas). It is categorized as “Developed”.
- Land that is currently not preserved but can be subdivided/developed or preserved. It is categorized as “Not Preserved I”.
- Land that is not preserved and cannot be subdivided, but may be developed or preserved. It is categorized as “Not Preserved II”.

Using these four categories, a series of maps was created that quantify the preservation status of all parcels of land within the Sourlands region.

Methodology

MOD-IV Dataset: The New Jersey Division of Taxation’s MOD-IV dataset was used as the foundation for the project. The dataset is generally used for storage and maintenance of property tax data, and contains important tabular attribute and spatial data used in the project. It was also modified to facilitate the preservation status of all parcels of land within the Sourlands region border, as prescribed by the Sourland Conservancy.

Data Acquisition: Open space and parcel data obtained in the form of GIS datasets (shapefiles & attribute tables), paper maps, and block/lot data, from the state of New Jersey and all municipalities and preservation/open space organizations in the Sourlands region.

These data were used to determine the preservation status of all parcels as of January, 2013. The sources for these data include:
• The State of New Jersey
  o Green Acres Program
  o NJ Farmland Protection Program
  o NJ Department of Environmental Protection
  o NJ Geographic Information Network

• County
  o Hunterdon
  o Mercer
  o Somerset

• Municipalities
  o East Amwell Township
  o Delaware Township
  o Hillsborough Township
  o Hopewell Township
  o Lambertville Borough
  o Montgomery Township
  o West Amwell Township

• Preservation Organizations
  o D&R Greenway Land Trust
  o Friends of Hopewell Valley Open Space
  o Montgomery Friends of Open Space
Preservation Status Determination:

- **Preserved** - Any parcel of land that was identified in the source data as a public park/preserve, preserved owned by preservation organizations, private land with open space easements, and preserved farmland were categorized as Preserved, and were removed from any further analysis.

- **Developed** - If any of the remaining parcels of land were less than two times the minimum zoning requirement, a visual inspection of the parcel with high resolution aerial imagery is used. If development is observed the parcel was categorized as Developed, and removed from any further analysis.

- **Not Preserved** - The remaining parcels are inspected for zoning type and minimum lot size requirement for subdivision in that zone. Since a parcel cannot be subdivided unless it is at least twice the size of the minimum zoning requirement, the following procedure is used to determine Not Preserved status:

Every parcel of land within the Sourland region boundary has now been assigned a preservation status. Map creation and analysis for each preservation status followed.
Maps and Analysis- Preserved Status

Total acreage in the Sourlands region: 53,992
Total Preserved acreage in Sourlands region: 22,076 (41%)

Total acreage of Delaware Township: 17
Total Preserved acreage in Delaware Township: 0 (0%)

Total acreage of East Amwell Township: 9,709
Total Preserved acreage in East Amwell Township: 4,327 (45%)

Total acreage in Hillsborough Township: 8,087
Total Preserved acreage in Hillsborough Township: 4,273 (53%)

Total acreage in Hopewell Township: 18,105
Total Preserved acreage in Hopewell Township: 7,085 (39%)

Total Acreage in Lambertville Borough: 351
Total Preserved acreage in Lambertville Borough: 49 (14%)

Total acreage in Montgomery Township: 4,881
Total Preserved acreage in Montgomery Township: 1,830 (37%)

Total acreage in West Amwell Township: 12,438
Total Preserved acreage in West Amwell Township: 4,451 (36%)

Please note that all township acreage figures reflect township land within the Sourlands region boundary, and not the township as a whole. Additionally, percent calculations for preservation status in each township represent the percentage for that particular township, and not for the entire Sourlands region.
SOURLANDS REGION OPEN SPACE ANALYSIS MAP

Legend
Preservation Status
- Developed
- Municipal Boundaries

Preservation Status Definitions
Developed: Land that cannot be further developed or preserved (urban, retail, industrial areas)

Please consult the Sourland Conservancy for all source data

Produced by Kevin Burkman, GIS Analyst, 2014
Maps and Analysis - Developed Status

Total acreage in the Sourlands region: 53,992
Total Developed acreage in Sourlands region: 14,814 (27%)

Total acreage of Delaware Township: 17
Total Developed acreage in Delaware Township: 17 (100%)

Total acreage of East Amwell Township: 9,709
Total Developed acreage in East Amwell Township: 2,634 (27%)

Total acreage in Hillsborough Township: 8,087
Total Developed acreage in Hillsborough Township: 2,589 (32%)

Total acreage in Hopewell Township: 18,105
Total Developed acreage in Hopewell Township: 4,878 (27%)

Total acreage in Lambertville Borough: 351
Total Developed acreage in Lambertville Borough: 209 (59%)

Total acreage in Montgomery Township: 4,881
Total Developed acreage in Montgomery Township: 1,755 (36%)

Total acreage in West Amwell Township: 12,438
Total Developed acreage in West Amwell Township: 2,411 (19%)

Please note that all township acreage figures reflect township land within the Sourlands region boundary, and not the township as a whole. Additionally, percent calculations for preservation status in each township represent the percentage for that particular township, and not for the entire Sourlands region.
Maps and Analysis- Not Preserved I

<table>
<thead>
<tr>
<th>Township</th>
<th>Total Acreage</th>
<th>Total Not Preserved I Acreage</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delaware Township</td>
<td>17</td>
<td>0 (0%)</td>
<td></td>
</tr>
<tr>
<td>East Amwell Township</td>
<td>9,709</td>
<td>1,787 (18%)</td>
<td></td>
</tr>
<tr>
<td>Hillsborough Township</td>
<td>8,087</td>
<td>858 (11%)</td>
<td></td>
</tr>
<tr>
<td>Hopewell Township</td>
<td>18,105</td>
<td>5,131 (28%)</td>
<td></td>
</tr>
<tr>
<td>Lambertville Borough</td>
<td>351</td>
<td>93 (27%)</td>
<td></td>
</tr>
<tr>
<td>Montgomery Township</td>
<td>4,881</td>
<td>1,053 (22%)</td>
<td></td>
</tr>
<tr>
<td>West Amwell Township</td>
<td>12,438</td>
<td>4,989 (40%)</td>
<td></td>
</tr>
</tbody>
</table>

Please note that all township acreage figures reflect township land within the Sourlands region boundary, and not the township as a whole. Additionally, percent calculations for preservation status in each township represent the percentage for that particular township, and not for the entire Sourlands region.
Maps and Analysis- Not Preserved II

Total acreage in the Sourlands region: 53,992
Total Not Preserved II acreage in Sourlands region: 2,527 (5%)

Total acreage of Delaware Township: 17
Total Not Preserved II acreage in Delaware Township: 0 (0%)

Total acreage of East Amwell Township: 9,709
Total Not Preserved II acreage in East Amwell Township: 961 (10%)

Total acreage in Hillsborough Township: 8,087
Total Not Preserved II acreage in Hillsborough Township: 367 (5%)

Total acreage in Hopewell Township: 18,105
Total Not Preserved II acreage in Hopewell Township: 1,011 (6%)

Total acreage of Lambertville Borough: 351
Total Not Preserved II acreage in Lambertville Borough: 0 (0%)

Total acreage in Montgomery Township: 4,881
Total Not Preserved II acreage in Montgomery Township: 243 (5%)

Total acreage in West Amwell Township: 12,438
Total Not Preserved II acreage in West Amwell Township: 587 (5%)

Please note that all township acreage figures reflect township land within the Sourlands region boundary, and not the township as a whole. Additionally, percent calculations for preservation status in each township represent the percentage for that particular township, and not for the entire Sourlands region.
The Sourlands of central New Jersey, a 968-square mile region encompassing the junctions of Mercer, Hunterdon, and Somerset counties, includes a complex matrix of forests, wetlands, grasslands, and features of historic and cultural value. The Sourlands include one of the largest contiguous forests in New Jersey, which provides a refuge to rare and threatened animals and plants. It is also a critical stopover area for birds migrating between South/Central America and Arctic Regions.

In January, 2013, the Sourland Conservancy (SC), a non-profit organization that promotes the ecological integrity, historical resources and special character of this region, initiated this mapping project, as a tool for open space planning. It will assist open space stakeholders in taking a coordinated and strategic approach to land preservation.

In support of the overall goals stated above, data regarding land preservation status was obtained from various public and private entities. This data was used to quantify the preservation status of all parcels of land within the Sourlands region.

Legend

Preservation Status Definitions

Preserved: Land that is permanently preserved (public and private)

Developed: Land that cannot be further developed or preserved

Not Preserved I: Land that is not preserved; can be subdivided; can be developed or preserved

Not Preserved II: Land is not preserved; cannot be subdivided; can be developed or preserved

Scale: 1:40,000
### Maps and Analysis - Summary

<table>
<thead>
<tr>
<th>Township</th>
<th>Total Acreage</th>
<th>Preserved Acreage/%</th>
<th>Developed Acreage/%</th>
<th>Not Preserved I Acreage/%</th>
<th>Not Preserved II Acreage/%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sourlands Region</td>
<td>53,992</td>
<td>22,076 (41%)</td>
<td>14,814 (27%)</td>
<td>13,931 (26%)</td>
<td>2,527 (5%)</td>
</tr>
<tr>
<td>Delaware Township</td>
<td>17</td>
<td>0 (0%)</td>
<td>17 (100%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>East Amwell Township</td>
<td>9,709</td>
<td>4,327 (45%)</td>
<td>2,634 (27%)</td>
<td>1,787 (18%)</td>
<td>961 (10%)</td>
</tr>
<tr>
<td>Hillsborough Township</td>
<td>8,087</td>
<td>4,273 (53%)</td>
<td>2,589 (32%)</td>
<td>858 (11%)</td>
<td>367 (5%)</td>
</tr>
<tr>
<td>Hopewell Township</td>
<td>18,105</td>
<td>7,085 (39%)</td>
<td>4,878 (27%)</td>
<td>5,131 (28%)</td>
<td>1,011 (6%)</td>
</tr>
<tr>
<td>Lambertville Borough</td>
<td>351</td>
<td>49 (14%)</td>
<td>209 (59%)</td>
<td>93 (27%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Montgomery Township</td>
<td>4,881</td>
<td>1,830 (37%)</td>
<td>1,755 (36%)</td>
<td>1,053 (22%)</td>
<td>243 (5%)</td>
</tr>
<tr>
<td>West Amwell Township</td>
<td>12,436</td>
<td>4,451 (36%)</td>
<td>2,411 (19%)</td>
<td>4,989 (40%)</td>
<td>587 (5%)</td>
</tr>
</tbody>
</table>

Please note that all township acreage figures reflect township land within the Sourlands region boundary, and not the township as a whole. Additionally, percent calculations for preservation status in each township represent the percentage for that particular township, and not for the entire Sourlands region.
Acknowledgements

Special thanks to the following individuals who provide data and input for this project:

Jim Amon- D&R Greenway Land Trust  
Ken Bogen- Hunterdon County  
Galina Chernikova- Somerset County  
Judy Conrad- East Amwell Township  
Sharon Cost- Green Acres Program  
Galina Chernikova- Somerset County  
Laurette Kratina- Somerset County  
Rachel Mackow –Hopewell Valley Friends of Open Space  
Mary Penney- Montgomery Friends of Open Space  
Tanya Rohrbach- D&R Greenway Land Trust  
Kathleen Sar- Mercer County  
John Thomas-Green Acres Program

Kevin Burkman is a geographic information specialist from Skillman, NJ. In addition to this project for the Sourland Conservancy, he has performed GIS analysis for Verizon Wireless, and Civil Solutions. He is currently a graduate student earning a Masters degree in City and Regional Planning at Rutgers University’s Edward J. Bloustein School of Planning and Public Policy.

Contact Information:
kevinburkman@gmail.com