The Natural Diversity of the Hudson Valley

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Hudson River Estuary Program and Cornell Department of Natural Resources
At Home in the Hudson Valley - December 1, 2015
The Hudson Valley has Vertebrate Diversity of Statewide Significance

- 73% of Reptiles
- 85% of Amphibians
- 87% of Breeding birds
- 92% of Mammals

- Box Turtle, L. Heady
- Wood Frog, L. Heady
- BW Warbler, Ed Lam
- Bobcat, M. Kalin
The Hudson Valley has Dragonfly diversity of Nationwide Significance

Photos: Ed Lam
The Hudson Valley has turtle diversity of Worldwide Significance

Snapping Turtle, NYSDEC

Map Turtle, S. Stanne

Box Turtle, Ed Lam
Diverse wildlife live in Diverse Habitats

R. Gill

P. Novak

S. Cuppett

NYNHP

NYNHP
The Hudson Valley is a rich blend of natural and cultural landscapes.

<table>
<thead>
<tr>
<th>Land cover type</th>
<th>% of HRV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest/woodland</td>
<td>75%</td>
</tr>
<tr>
<td>Urban/roads</td>
<td>11%</td>
</tr>
<tr>
<td>Cropland</td>
<td>7%</td>
</tr>
<tr>
<td>Water</td>
<td>5%</td>
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<tr>
<td>Other Open</td>
<td>2%</td>
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</tbody>
</table>

Smith et al., 2001. HRV GAP report
Landscape Change in the Hudson Valley

21,500 ya – 10,000 feet of ice over Capital Region
14,000 ya – tundra, glacial lakes, no people
12,000 ya – oak hickory, first hunter/gatherers
2,000 ya – development of agriculture, first native American “permanent” settlements (~18 years)
300 – 500 ya – European settlers arrive and clear forest for timber, tanning, crops and pasture
The landscape has changed dramatically since the mid-1800s

William M Hart. *Albany from the East Side of the River*. 1844

Albany Riverfront 2012
The changes are more subtle in other places.

Thomas Doughty ca. 1839
Denning’s Point, Hudson River, (looking toward Storm King Mountain)

S. Stanne, 2005
View toward Denning’s Point
Changes in Hudson Valley Forests

Hawthorne Valley Farmscape Ecology Program
Changes in Hudson Valley Streams

Mill Creek Dam (Rensselaer County), A. Meyer

Hudson River near Castleton, NYSDEC
Changes in Hudson Valley Wetlands

National Park Service

S. Cuppett
Landscape changes affect animals differently

Habitat specialists are declining

Habitat generalists are increasing
Significant Biodiversity Areas of the Hudson Valley
Rensselaer Plateau
Shawangunk Kill

Wood Turtle, Cornell

Swollen Wedge Mussel, USGS

Shawangunk Kill, P. Jensen
Dutchess County Wetlands

Dmazeo

Swamp Cottonwood, S. Young

M. Klemens

L. Heady

Floodplain Forest, T. Howard
Hudson Valley Biodiversity References
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For high school students: Changing Hudson Project (landscape change) http://www.caryinstitute.org/educators/teaching-materials/changing-hudson-project

Thank You

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