This deck contains the cards for all three sets of trees (and shrubs). However, in case you want to use all the flagged trees as a self-quiz, they are *not* in the same order as the flagged trees.

Majority of the photos by Jerry Jenkins and © the **Northern Forest Atlas Foundation** ([northernforestatlas.org](http://northernforestatlas.org))

Design, text and remaining photographs by the Hawthorne Valley Farmscape Ecology Program ([hvfarmscape.org](http://hvfarmscape.org))

Questions or suggestions, please contact Conrad Vispo, [conrad@hawthornevalleyfarm.org](mailto:conrad@hawthornevalleyfarm.org)
This index includes the trees from the first and second installments as well.

### INDEX

<table>
<thead>
<tr>
<th>Tree Type</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ash, White</td>
<td>6</td>
</tr>
<tr>
<td>Aspen, Big-tooth</td>
<td>16</td>
</tr>
<tr>
<td>Aspen, Quaking</td>
<td>15</td>
</tr>
<tr>
<td>Aspen, Trembling</td>
<td>15</td>
</tr>
<tr>
<td>Beech, American</td>
<td>19</td>
</tr>
<tr>
<td>Birch, Black</td>
<td>14</td>
</tr>
<tr>
<td>Birch, Grey</td>
<td>13</td>
</tr>
<tr>
<td>Birch, Paper</td>
<td>12</td>
</tr>
<tr>
<td>Birch, White</td>
<td>12</td>
</tr>
<tr>
<td>Buckthorn, European</td>
<td>27</td>
</tr>
<tr>
<td>Cedar, Eastern Red</td>
<td>3</td>
</tr>
<tr>
<td>Cherry, Black</td>
<td>18</td>
</tr>
<tr>
<td>Cottonwood, Eastern</td>
<td>17</td>
</tr>
<tr>
<td>Crabapple, Toringo</td>
<td>29</td>
</tr>
<tr>
<td>Dogwood, Grey</td>
<td>26</td>
</tr>
<tr>
<td>Elm, American</td>
<td>22</td>
</tr>
<tr>
<td>Elm, Slippery</td>
<td>23</td>
</tr>
<tr>
<td>Hemlock, Eastern</td>
<td>2</td>
</tr>
<tr>
<td>Hickory, Shagbark</td>
<td>21</td>
</tr>
<tr>
<td>Hop-Hornbeam</td>
<td>9</td>
</tr>
<tr>
<td>Maple, Red</td>
<td>5</td>
</tr>
<tr>
<td>Maple, Sugar</td>
<td>4</td>
</tr>
<tr>
<td>Mulberry, White</td>
<td>28</td>
</tr>
<tr>
<td>Musclewood</td>
<td>10</td>
</tr>
<tr>
<td>Oak, Red</td>
<td>7</td>
</tr>
<tr>
<td>Oak, White</td>
<td>8</td>
</tr>
<tr>
<td>Pine, Eastern White</td>
<td>1</td>
</tr>
<tr>
<td>Rose, Multiflora</td>
<td>30</td>
</tr>
<tr>
<td>Sumach, Staghorn</td>
<td>24</td>
</tr>
<tr>
<td>Sycamore, American</td>
<td>11</td>
</tr>
<tr>
<td>Willow</td>
<td>20</td>
</tr>
<tr>
<td>Witch-hazel</td>
<td>25</td>
</tr>
</tbody>
</table>
20. Willow
Willows
(Salix spp.)

**Habitat:** Almost always near water.

**Buds:** Alternate; lateral buds appressed and resembling the toes of small bedroom slippers.

**Bark:** Grey; deeply marked with twisted ridges on older trees.

**Leaves:** Rot medium quickly; tend to be long and skinny.

**Smell/Taste:** Not marked.

**Tree Size/Shape:** Tree-sized specimens tend to be sprawling and multi-trunked; twigs often reddish or yellowish.

**Other Tips:** There are numerous bush-like willows in our area; Black Willow is our primary tree-sized willow.

Photos by Northern Forest Atlas; http://northernforestatlas.org
21. Shagbark Hickory
21. **Shagbark Hickory**  
(*Carya ovata*)

**Habitat:** Often moister forests.

**Buds:** Alternate; large and bulbous with peeling bud scales.

**Bark:** Often flaking in large, prominent strips; can be easy to spot, but sometimes resembles old Sugar Maples.

**Leaves:** A compound leaf, and the mid rib sometimes remains on the tree after the leaflets have fallen.

**Smell/Taste:** The green nut husks can be sweet.

**Tree Size/Shape:** Tend to be single-trunked.

**Other Tips:** Nuts have markedly thick husks, which are easily found during mast years and resemble little, thick-hulled boats.

Photos by Northern Forest Atlas; http://northernforestatlas.org
American Elm  
(\textit{Ulmus americana})

\textbf{Habitat:} Moister forest, tree lines, stream edges.

\textbf{Buds:} Alternate; bent end buds and crooked lateral buds; globular flower buds frequently evident in winter; compared to Slippery Elm, buds are relatively smooth and glabrous.

\textbf{Bark:} Ragged and ridged; when viewed in cross section, note ‘Oreo Cookie’ layering of light/dark/light.

\textbf{Leaves:} Often rough, coarsely toothed; fall completely, rot at medium speed.

\textbf{Smell/Taste:} Unlike Slippery Elm, twigs do not become slimy when chewed.

\textbf{Tree Size/Shape:} Vase-shaped when open grown.

\textbf{Other Tips:} Dutch Elm Disease has killed many, but can still often be found, especially along creeks; seed tip notched, unlike in Slippery Elm.

Photos by Northern Forest Atlas; http://northernforestatlas.org
23. Slippery Elm
Slippery Elm  
(*Ulmus rubra*)

**Habitat:** Moister forest, stream edges.

**Buds:** Alternate; bent end buds and crooked lateral buds; globular flower buds frequently evident in winter; compared to American Elm buds, tend to have more brown fuzz.

**Bark:** Ragged and ridged; when viewed in cross section, note solid chocolate truffle with absence of distinct layers.

**Leaves:** Often rough (rougher than American?), coarsely toothed; fall completely, rot at medium speed.

**Smell/Taste:** Twigs become slimy when chewed.

**Tree Size/Shape:** Not distinctive.

**Other Tips:** Dutch Elm Disease has killed many, but can still often be found, especially along creeks; seed tip not notched, unlike in American Elm.

Photos by Northern Forest Atlas; http://northernforestatlas.org
**Staghorn Sumach**  
*(Rhus typhina)*

**Habitat:** A native of dryish, disturbed habitats and edges.

**Buds:** Alternate; low, scurfy.

**Bark:** Grey, with warty, oval, horizontal lenticels; twig tips fuzzy, like a deer antler in velvet.

**Leaves:** Large and compound, drop relatively early.

**Smell/Taste:** Not marked.

**Tree Size/Shape:** Low, easily broken, sometimes straggling.

**Other Tips:** Look for the clusters of red, fuzzy fruits on female plants, these often persist well into Winter; sometimes used as spice or to make a kind of lemonade.
25. Witch-hazel
Witch-Hazel  
(*Hamamelis virginiana*)

**Habitat:** Moderately rich woods.

**Buds:** Alternate and naked; on zig-zaggy twigs.

**Bark:** Grey and fairly smooth not distinctive.

**Leaves:** Drop and rot relatively quickly; unique coarse scalloping and asymmetric base.

**Smell/Taste:** Not marked.

**Tree Size/Shape:** An understory plant that often has a spreading form and multiple trunks.

**Other Tips:** Flowers late autumn; flower remains often seen in Winter; fruits are woody capsules whose husks sometimes also persist.

Bud photo by Northern Forest Atlas; http://northernforestatlas.org
26. Grey Dogwood
26.

**Grey Dogwood**

*(Cornus racemosa)*

**Habitat:** Edges, hedgerows, and old fields; tend to be in relatively dry areas.

**Buds:** Opposite; naked, quite narrow; almost appear wizened.

**Bark:** Grey, tinged with red especially closer to twig tips, but entirely red as in Silky and Red Osier.

**Leaves:** Drop fully; have dogwood-typical veins which follow leaf edges.

**Smell/Taste:** Not marked.

**Tree Size/Shape:** Usually a relatively small, low bush; can grow in thick clones.

**Other Tips:** Fruits borne on dendrites at end of the twig tips, these structures are evident even after berries are gone.

Berry photo by Northern Forest Atlas; http://northernforestatlas.org
27. European Buckthorn
27. **European Buckthorn**  
* (Rhamnus cathartica)*

**Habitat:** Non-native but widely naturalized along edges and in hedgerows.

**Buds:** BOTH opposite and alternate, unique amongst our woody plants in showing mix of bud configurations; buds dark, relatively small and tight.

**Bark:** Dark with lenticels; peeling and resembling Black Cherry on older specimens.

**Leaves:** Drop early.

**Smell/Taste:** Scratched twig with bitter green smell.

**Tree Size/Shape:** Spiny with thorns at branch tips and thorny tridents projecting from stems; large shrub, small tree.

**Other Tips:** Often grows in clumps around long-open farmland.
28. White Mulberry
White Mulberry  
(*Morus alba*)

**Habitat:** Fencerows, forest edges, and around farms.

**Buds:** Alternate; small, rounded and compact.

**Bark:** Grey, ridged with golden hue in ‘valleys’.

**Leaves:** Dropping early; irregularly shaped with varying number of lobes.

**Smell/Taste:** Not distinctive.

**Tree Size/Shape:** Small, spreading tree

**Other Tips:** Not very distinctive, but location, golden hue on bark, and small, rounded buds should get you there.
29. Toringo Crabapple
Habitat: Non-native; old fields, forest edges, and hedgerows; apparently invasive.

Buds: Alternate; small, reddish pointed; often with evident spur shoots.

Bark: Greyish with warty horizontal lenticels, becoming flakey with age.

Leaves: Falling completely; oval, entire to multi-lobed.

Smell/Taste: Not distinctive.

Tree Size/Shape: Spreading fruit tree.

Other Tips: Multiple clusters of small, reddish crabapples is distinctive; these are often golden when fresh but seem to dry to an orangey-red.

Please do not plant – can rapidly expand into open habitat.
30. Multiflora Rose
Multiflora Rose
*(Rosa multiflora)*

**Habitat:** Non-native; fencerows, old pastures, edges.

**Buds:** Alternate; small, reddish ‘bumps’.

**Bark:** Can be greenish or reddish on younger stems; greying with age; prominent, wide-based thorns, often different color from stem.

**Leaves:** Mostly dropping early, pinnately compound with large, feathery stipules.

**Smell/Taste:** Not distinctive.

**Tree Size/Shape:** Sprawling shrub.

**Other Tips:** During the past decade, has been widely killed by Rose Rosette virus, which causes deformed, reddish growth.