A background image of a forest with tall evergreen trees, partially obscured by a thick layer of fog or mist. The trees are dark green and stand against a light, hazy sky.

# Conifers for Urban & Community Forests: *The Good, the Bad, and the Underused*

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# Why conifers?

- Year-round interest
  - Evergreen
  - Bark
  - Cones
- Botanically interesting
- Often low maintenance
- Add unique form, texture, color to landscape

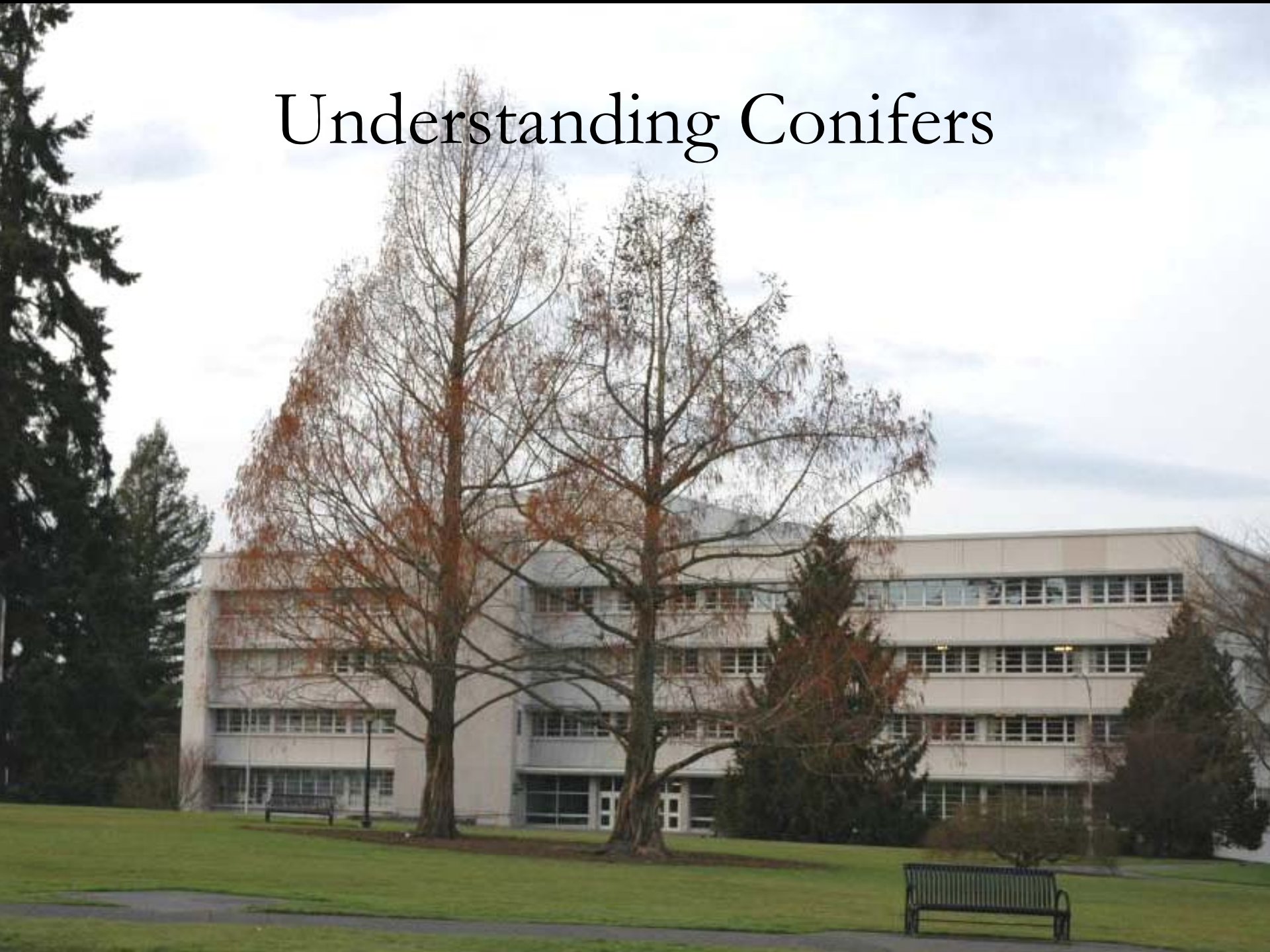
# Why conifers?

- Variety of design functions
  - Specimens
  - Contrast elements
  - Borders
  - Mass as background
- Increased interest in dwarf and unusual forms

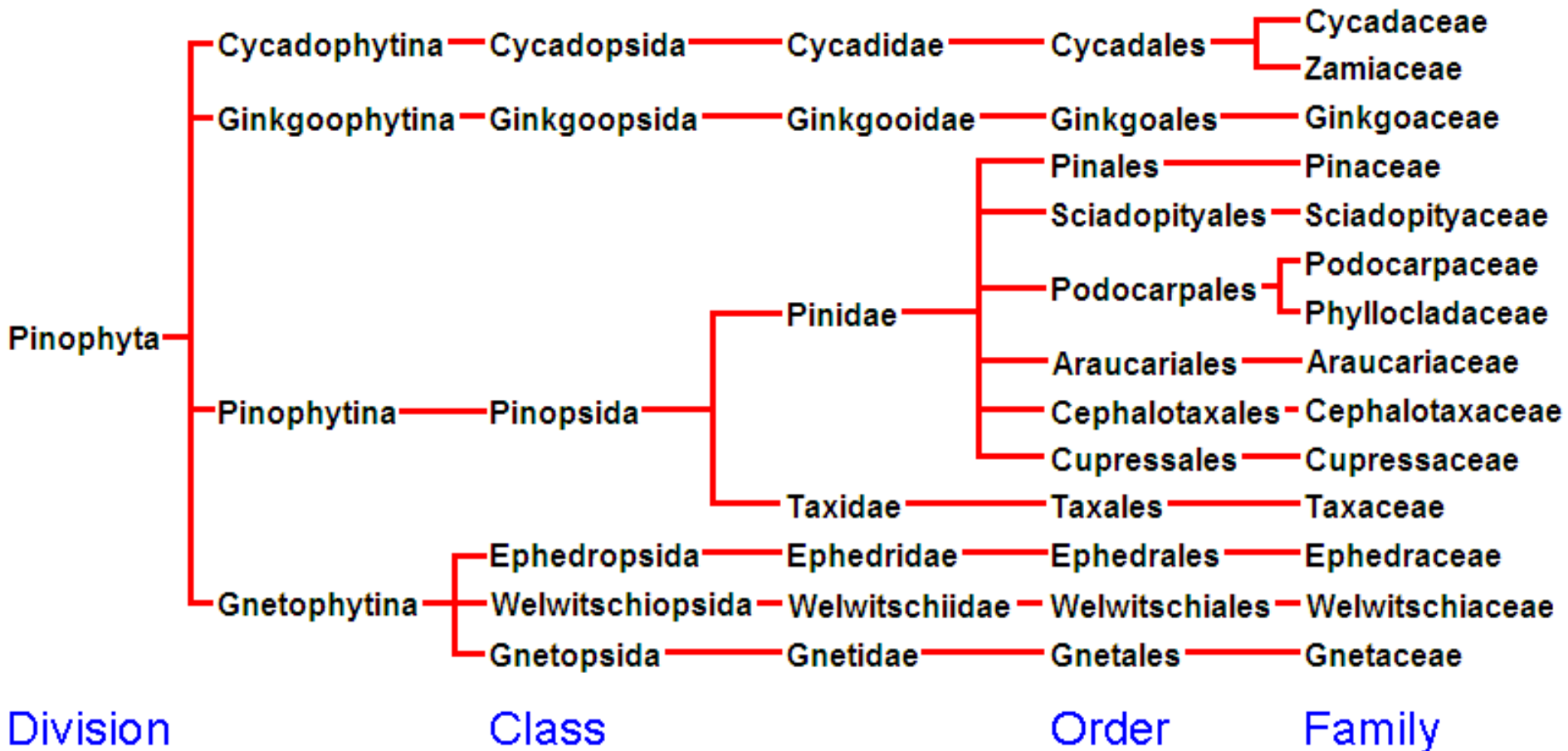




# Understanding Conifers



# What is a conifer ?



# What is a conifer ?

- Conifer - Latin for 'cone bearing'
- Male and female strobili rather than flowers
- Wind pollinated
- Some have fleshy cones
- Leaved needle-like or scale like
- Mostly evergreen



Ornamental conifer nurseries typically list conifers based on *American Conifer Society* specifications

- Size class
- Form class



# Conifer sizes

Miniature <1" per year



# Conifer sizes

## Dwarf 1-6" per year



# Conifer sizes

Intermediate 6"-12" per year



# Conifer sizes

Large  $>1'$  per year



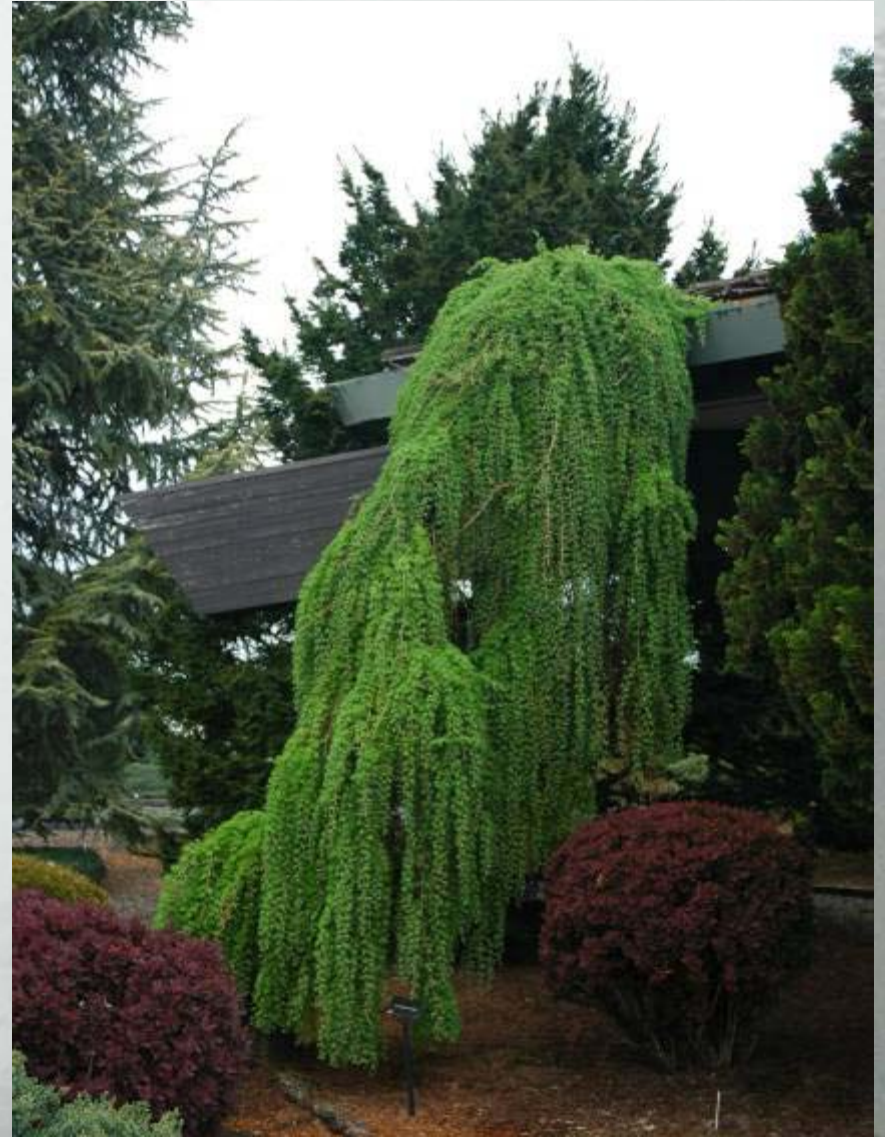
# Conifer forms

- Globose: globe-like or rounded in general outline.



# Conifer forms

- Pendulous: upright or mounding with varying degrees of weeping branches.



# Conifer forms

- Narrow upright: much taller than broad; includes plants referred to as fastigiate, columnar, narrowly pyramidal or narrowly conical.





# Conifer forms

- Prostrate: ground-hugging, carpeting plants without an inclination to grow upward.



# Conifer forms

- Broad upright: includes all other upright plants with do not fit into categories 1-3.



# Conifer forms

- Spreading: wider than tall.



# Conifer forms

- Irregular: erratic growth pattern.



# Conifer forms

- Culturally altered:  
pruned or trained into  
formal or imaginative  
shapes, such as high  
grafts or standards.











# The Criteria

- The Good
  - Well adapted to local climate and soil
  - Relatively pest free
  - Good form & growth rate
  - Low maintenance

Concolor fir *Abies concolor*





*Abies concolor* 'Conica'



*Abies concolor* 'Blue cloak'



*Abies concolor* 'Candicans'

# Deodar cedar *Cedrus deodora*



# Cryptomeria *Cryptomeria japonica*



Alaska false cypress *Cupressus nootkatensis*





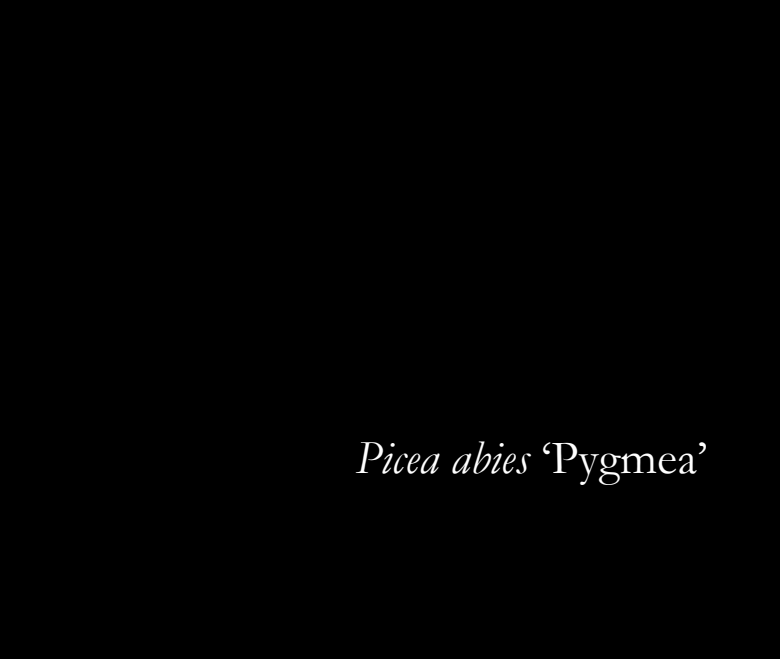
Norway spruce  
*Picea abies*







*Picea abies* 'Inversa'



*Picea abies* 'Pygmea'





White spruce  
*Picea glauca*



*Picea glauca* 'Pendula'



*Picea glauca* 'Fort Ann'

Serbian spruce  
*Picea omorika*



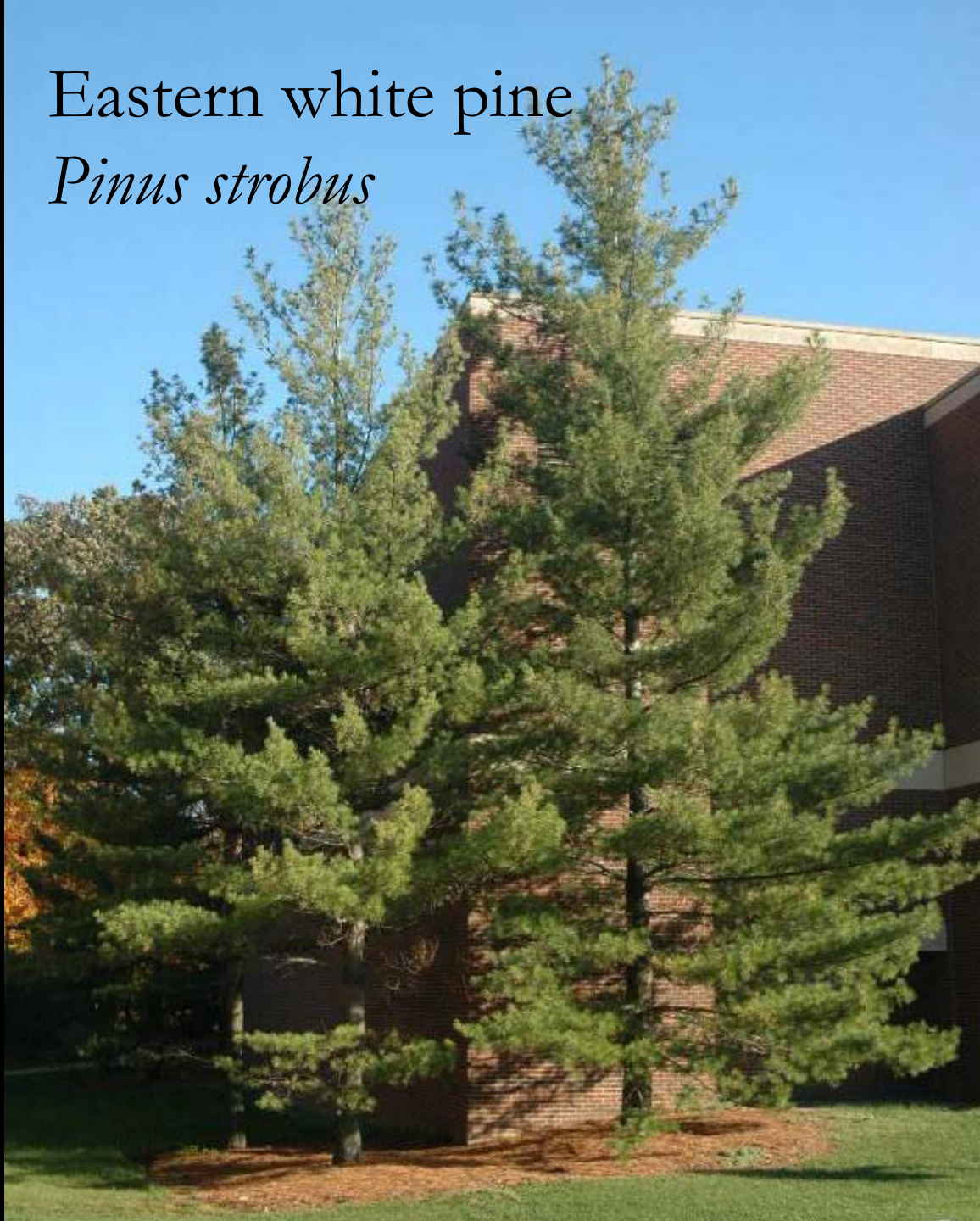


# Shortleaf pine *Pinus echinata*



Eastern white pine

*Pinus strobus*







Eastern hemlock *Tsuga canadensis*



# The Criteria

- The Bad
  - Poorly adapted to typical environmental conditions
  - One or more chronic pest issues
  - Poor form or other characteristic requiring maintenance
  - Overused

Leyland cypress *Cupressus × leylandii*



Dwarf Alberta spruce *Picea glauca* 'Conica'



Reversion on dwarf  
Alberta spruce



Blue spruce

*Picea pungens*



UGA5031053

Cytospora canker of spruce (*Valsa kunzei*) on blue spruce (*Picea pungens*)



UGA5028098

cooley spruce gall adelgid (*Adelges cooleyi*) on blue spruce (*Picea pungens*)



542254



# Austrian pine *Pinus nigra*



Photo: Univ. Illinois Extension

Scots pine *Pinus sylvestris*



UGA1218055



Zimmerman pine moth (*Dioryctria zimmermani*) on Scots pine (*Pinus sylvestris*)



UGA1199012

pine needle cast (*Lophodermium pinastri*) on Scots pine (*Pinus sylvestris*)



Petr Kapitola, State Phytosanitary Administration, Bugwood.org



Douglas-fir  
*Pseudotsuga*  
*menziesii*

Douglas-fir needlecast (*Rhabdocline pseudotsugae*) on Douglas-fir (*Pseudotsuga menziesii*)

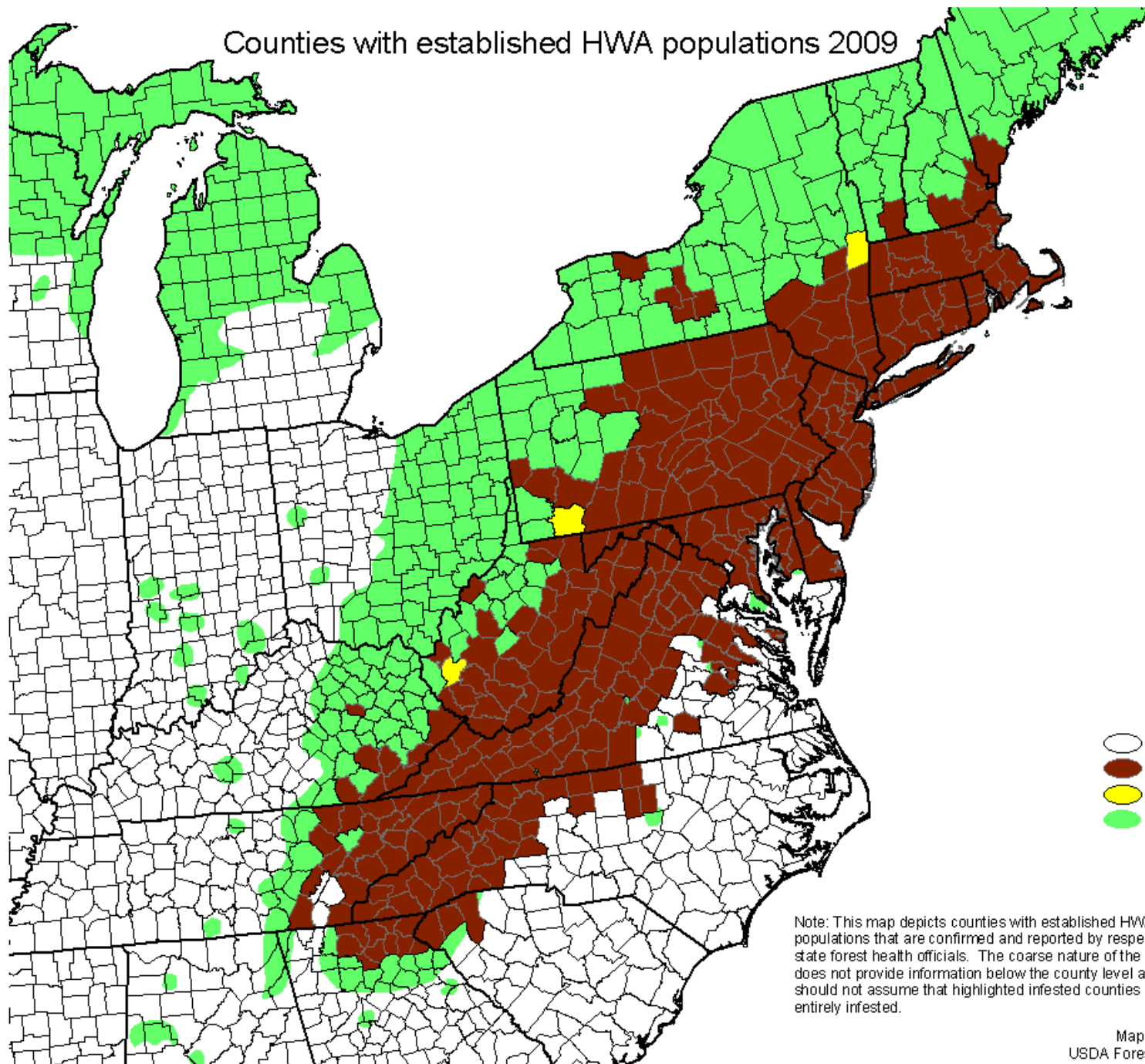


UGA2251039

Eastern hemlock *Tsuga canadensis*



# Counties with established HWA populations 2009



- Uninfested Counties
- Infested Counties
- Newly Infested in 2009
- Native Range of Hemlock

Note: This map depicts counties with established HWA populations that are confirmed and reported by respective state forest health officials. The coarse nature of the map does not provide information below the county level and users should not assume that highlighted infested counties are entirely infested.



# The Criteria

- The Underused
  - Fit the criteria for ‘The good’ (well adapted, good form. Few pests)
  - Not widely planted

Korean fir *Abies koreana*





*Abies koreana* 'Silberlocke'

*Abies koreana* 'Blue cones'





Nordmann fir  
*Abies nordmanniana*

Taiwanese  
incense-cedar  
*Calocedrus formosa*



*Keteleeria Keteleeria davidiana*



Dawn redwood *Metasequoia glyptostroboides*







*Metasequoia glyptostroboides* 'Gold rush'



# Oriental spruce *Picea orientalis*



Swiss stone pine

*Pinus cembra*





*Pinus cembra* 'Chalet'

Korean pine  
*Pinus koraiensis*



Baldcypress *Taxodium distichum*









# The Good

- Concolor fir *Abies concolor*
- Deodar cedar *Cedrus deodara*
- Cryptomeria *Cryptomeria japonica*
- Alaska false cypress *Cupressus nootkatensis*  
(*Callitropsis nootkatensis*)  
(*Chamaecyparis nootkatensis*)  
(*Xanthocyparis nootkatensis*)
- Norway spruce *Picea abies*
- White spruce *Picea glauca*
- Serbian spruce *Picea omorika*
- Shortleaf pine *Pinus echinata*
- Eastern white pine *Pinus strobus*
- Eastern hemlock *Tsuga canadensis*

# The Bad

- Leyland cypress *Cupressus ×leylandii*
- Dwarf Alberta spruce *Picea glauca* ‘Conica’
- Blue spruce *Picea pungens*
- Austrian pine *Pinus nigra*
- Scots pine *Pinus sylvestris*
- Douglas-fir *Pseudotsuga menziesii*
- Eastern hemlock *Tsuga canadensis*

# The Under-used

- Korean fir *Abies koreana*
- Nordmann fir *Abies nordmanniana*
- Taiwanese incense-cedar *Calocedrus formosa*
- Keteleeria *Keteleeria davidiana*
- Dawn redwood *Metasequoia glyptostroboides*
- Oriental spruce *Picea orientalis*
- Swiss stone pine *Pinus cembra*
- Korean pine *Pinus koraiensis*
- Baldcypress *Taxodium distichum*