Backyard Woodlands

• Whether you own a few trees or several acres, maintaining the health of your trees & woodland is important.

• Individual trees, groups of trees (woods or groves) and forests (stands or acres of trees) may have similar requirements but require different management approaches.
Planning for Land Stewardship

- Develop your goals
- Have a plan
- Understand what it takes to get there
- Take action!

Questions to Ask Yourself About Your Land

1. What do I have?
2. What do I want?
3. Am I getting what I want?
4. How do I get what I want? What help is available?
Assessing What You Have

- Inventorying and mapping your property
- Identifying important natural resources or historic aspects

Resources on Your Property

- Soil
- Water
- Trees/plants
- Wildlife
- Cultural
Limitations/Issues

- Insects & disease
- Wet or boggy areas
- Soil problems
- Invasive plants
- Access issues
- Fuel & Fire Risk

Making a Map

- **Lane County Assessor database**
  http://lcmaps.lanecounty.org/LaneCountyMaps/ZoneAndPlanMapsApp/
- My Land Plan
  https://mylandplan.org/
- Google earth pro
  https://www.google.com/earth/
- Forest Planner
  http://forestplanner.ecotrust.org/
Questions to Ask Yourself About Your Land

#1 What do I have?

#2 What do I want?

#3 Am I getting what I want?

#4 How do I get what I want? What help is available?
Goals for Your Land Ownership

- Personal use & enjoyment
- Recreational
- Wildlife
- Fuel Reduction
- Income
- Firewood
- Solitude/Living Environment
- Maintenance & ecological sustainability
- Stewardship

Income Sources

- Fruit & nut production
- Christmas trees
- Timber
- Firewood
- Post & poles
- Mushrooms, boughs, and other greenery
- Fee enterprises (fishing)
- Carbon sequestration
Questions to Ask Yourself About Your Land

#1 What do I have
#2 What do I want?
#3 Am I getting what I want?
#4 How do I get what I want? What help is available?

Analyzing Where You Are

• Are you goals being met?

• Is your property in the shape you want it to be in?

• Is your property providing you the kind of wildlife, satisfaction, money or other values you expect?
Questions to Ask Yourself About Your Land

#1 What do I have

#2 What do I want?

#3 Am I getting what I want?

#4 How do I get what I want? What help is available?

How Do You Go About Meeting Your Goals?

- Time
- Physical Labor
- Consultant & Contractor Services
- Information & Education
Shortcuts to Tree Species

If you see these characteristics, then you most likely have...
If you see round buds and upright cones on branches, you’re probably looking at...
A species of true fir

Grand fir in low elevations of Lane County

Distinguishing Fir Trees

• Douglas-fir is not a true fir
  • Cones point downward
  • Cones remain intact on forest floor
  • Cones have distinctive bracts
  • Branches arch upward – “happy tree”
  • Bark is thick and deeply furrowed
  • Buds are pointed
A drooping top and needles of several distinct sizes that are green on top and white underneath are indicative of . . .

Western hemlock
*Tsuga heterophylla*
If you see scale-like foliage with butterfly patterns on underside, upright cones shaped like rose buds when open, and frond-like branches reaching upward then you’re looking at . . .

Western redcedar
*Thuja plicata*
Distinguishing Cedar Trees

<table>
<thead>
<tr>
<th>Western redcedar</th>
<th>Incense - Cedar</th>
<th>Port-Orford-Cedar*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butterfly markings &amp; cones are upright on branches</td>
<td>Fluted wine glasses shaped cones</td>
<td>Tiny white X’s round cones</td>
</tr>
</tbody>
</table>

Needles that are sharp, twigs with pegs, and cones that hang down belong to...
Sitka spruce
*Picea sitchensis*

- Resemble fir trees in silhouette
- Needles are prickly
- There are pegs where the needles connect to branches
- Cones hang downward, like Douglas-fir, but lack the pointy bracts
- Bark is scaly
Short, twisted needles in bundles of two and small prickly cones is likely.

**Lodgepole pine**  
*Pinus contorta*  
**This species is also known as shore pine along the coast**
Distinguishing Pine Trees

Two needles per bundle: lodgepole

Three needles per bundle: ponderosa

Five needles per bundle: western white and whitebark

Large, egg-shaped leaves with double-toothed edges that roll under and small woody “cones” belong to. . .
Red alder  
*Alnus rubra*

*White alder (Alnus Rhombifolia) does not have rolled edges and is found in the riparian areas in the Willamette Valley.*

---

**Large, palmate leaves with 5 lobes, and samaras at a right angle with hairs, belong too...**
Bigleaf maple
*Acer macrophyllum*

Simple, alternate lobed leaves and acorns with shallow caps belong to...
Oregon white oak
Quercus garryana

Distinguishing Oak Trees

**White Oak**
- Rounded lobes
- Shallow cap acorn
- Galls

**Black Oak**
- Pointy lobes
- Deep cap acorns
- No galls
Leaves that are simple, alternate, and evergreen with bark flaking off in strips are unique to...

Pacific madrone
*Arbutus menziesii*
All trees need the same things to survive and grow.

• Adequate sunlight

• Moist, well-drained soil

• Adequate nutrients

Forest communities vary in space and time based on competitive advantage.
### Species Tolerance: 1 = High, 5 = Low

<table>
<thead>
<tr>
<th>Species Type</th>
<th>Shade</th>
<th>Drought</th>
<th>Flooding</th>
<th>Frost</th>
</tr>
</thead>
<tbody>
<tr>
<td>W. hemlock</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>W. redcedar</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Incense cedar</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Grand fir</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Douglas-fir (western)</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Pacific silver fir</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Noble fir</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Lodgepole pine</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Ponderosa pine</td>
<td>5</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Sugar pine</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>3</td>
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<tr>
<td>White pine</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Engelmann spruce</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>W. larch</td>
<td>5</td>
<td>3</td>
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</tr>
</tbody>
</table>

### Species Tolerance: 1 = High, 5 = Low

<table>
<thead>
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<th>Species Type</th>
<th>Shade</th>
<th>Drought</th>
<th>Flooding</th>
<th>Frost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red alder</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Bigleaf maple</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Oregon oak</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Black oak</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Oregon ash</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Black cottonwood</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Madrone</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Bitter cherry</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Chinkapin</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Tanoak</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Myrtle</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Canyon live oak</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>
Management Aspects of Your Property

- Trees in the home landscape
- Groups of native trees
- Forests or stands of several acres

Monitor for health

- Look for thinning and discolored foliage
- Oozing
- Broken tops or limbs
Managing Landscape Trees

Hazard Tree Management

• Hazard tree management is important:
  • Damage to your home & property
  • Damage to your neighbors home & property
• Be aware of native disease signs and symptoms.
• Be aware of legal liabilities of danger trees – changes with insurance holder and negligence.
Hidden dangers of internal decay

Fuel Reduction

- Reduce surface, ladder, and crown fuels
- Remove dead and dying material
Managing Groups of Native Trees

Minimize Damage

- Human/Building/construction damage
  - Soil compaction and root damage can be caused by
    - Knives and blades
    - Trenching
    - Building sidewalks, driveways, and roads
    - Frequent running heavy equipment and animals over roots
- Avoid working around trees - trunk damage can cause decay in live trees
- Be careful with change – soil disturbance, trenching, or changes in drainage
Managing Groups of Native Trees

- Many species thrive in community with other trees/plants rather than alone.
- With groups of trees, try to mimic the natural environment as much as possible.

Managing Groups or Groves

- Avoid unnecessary competition between trees and plants
- Consider plant communities
- Manage for small ecosystems
Managing Forest Stands

The forest development cycle begins and ends with a stand-replacing disturbance.
Stand initiation is the first stage of forest development.

Reforestation/Afforestation

- Matching seedlings to the site
- Site Prep/veg. control
- Proper planting
- Protection
- Follow-up
Stem exclusion is the dark, dense second stage of development.

The amount of resources used is proportional to tree size.

Many Small = One Large
During this competitive process, trees differentiate into different crown classes.

- Dominant
- Codominant
- Intermediate
- Suppressed

**Thinning**

- Improve tree & stand health
- Reduce competition
- Enhance understory vegetation
- Can provide income or constitute a cost depending on the size of trees removed.
- Improve wildlife habitat
- Remove damage or defective trees
In **understory reinitiation**, space begins to open up for understory trees and shrubs.

**Pruning**

- Removes lower branches
- Reduce ladder fuels
- Remove mistletoe
- Aesthetics
The formation of gaps is an important part of late-successional development.

Over time, shade-tolerant species fill in gaps.
Thinning

- Create Gaps
- Develop variable densities of trees
- Release hardwood trees

Eventually, shade-tolerant “late successional” species will dominate the overstory.
Here are a few summary points.

• Forests are dynamic.
• Disturbance is not necessarily a bad thing.
• Density management is important.
• Keep diversity in mind.

Regulations

• Regulations governing your land may come from the city, county, or state.
• These may involve trees, water, or wildlife
• Take time to learn what regulations govern your land.
Neighbor Issues

• Actions of adjacent property owners
• Property line trees
• Trespass
• Getting along

Living on the Land

ENHANCING WILDLIFE HABITAT
What We Will Cover

Section 1: Habitat Components

Section 2: Optimizing other Activities

Section 3: Managing for Particular Suite of Species

Section 4: Wildlife spotting tools

Section 1: Habitat Components

Habitat = everything wildlife need to fulfil their life histories

All wildlife need:
• Food
• Water
• Shelter
• Space
Your Land Changes Over Time

• All forest ages can be beneficial to wildlife.
• Which wildlife visit your land might change as the habitat changes.

Snags

• Snags, especially large ones, are often missing on the landscape due to historic land use practices.
• Snags are important for nesting, roosting, feeding, perching.
**Down Wood**

- Den sites
- Protective cover
- Foraging
- Nest sites

**Hardwood Trees**

Hardwoods provide important habitat contributions such as food, increasing cavity potential, and perch sites.

- Pacific madrone
- Bigleaf maple
- Red alder
- Oregon white oak
- Willow
- Black cottonwood
Fruiting Shrubs

Recommended Species:
- Ocean spray
- Elderberry
- Cascara
- Witch Hazel
- Snowberry
- Currants

Wilson's warbler nests in shrubs and thickets in W. Oregon. Photo: J. Rivers

Composition and Structure

Wildlife respond to forest structural diversity:
- Tree size, age, shape
- Spacing
- Understory plants
- Dead wood

Thinning is your most useful tool
Water and Riparian Zones

Remember:

• Safe access
• Protect riparian zones

Riparian zones

Due to their high diversity, riparian areas provide:

• High quality food
• Water
• Shelter
• Breeding space
Section 2: Optimizing Activities

Reforestation

• Maintain fruiting shrubs
• Plant a diversity of species
• Install bird boxes
• Limit broadcast herbicides – spot spray instead
• Retain snags and future snags
**Thinning**

Thinning is one of the most powerful tools you have

- Create gaps
- Make snags
- Increase structural diversity

**Mowing**

- Leave some areas unmowed
- Sow wildlife or pollinator grass mixes.
- Walk your field to scout for nests before mowing.

  Early nesting season:
  February 1 – April 15

  Main nesting season:
  April 15 – July 31

- Wait until later in the summer to conduct mowing.
**Regeneration Cut**

- Retain or create snags and down wood
- Leave some live trees to become future snags.
- Retain a few hardwoods (10% is a magic number)
- Leave a few slash piles in each acre

**Invasive Species**

- Follow timing protocol.
- Have a plan for post-removal, such as sowing native or wildlife-friendly mixes.
**Bird and Bat Boxes**

- Clean out every year.
- Protect from predators.
- Make sure entrance is correct size.
- Protect from elements.

**Fencing**

- Consider wildlife travel.
- Install fencing you can lay down during high travel seasons.
- Make fencing tall enough adults won’t jump over.
**Roads**

- On dirt roads and skid trails, plant a wildlife forage mix.
- Good roads divert water in a way that reduces sedimentation.
- Prevent trespass to save your roads and wildlife.

**Slash Piles**

- Leave some slash piles near open areas so protection, food, and water can all be close.
- Slash piles made of hardwood trees will last longer.
- Avoid leaving slash piles close to roads, gullies, or other places that are vulnerable to water or disturbance.

Photo: Washington DNR
SECTION 3: Managing for particular species

Deer and Elk

<table>
<thead>
<tr>
<th>Species of Plants</th>
<th>Nutrients for Deer and Elk</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trees</strong></td>
<td></td>
</tr>
<tr>
<td>Male deer</td>
<td>Black-tailed deer</td>
</tr>
<tr>
<td>Serveberry</td>
<td>Vine maple</td>
</tr>
<tr>
<td>Moose orange</td>
<td>Manzanita</td>
</tr>
<tr>
<td>Bitter cherry</td>
<td>Cascara</td>
</tr>
<tr>
<td>Willow</td>
<td>Western redbud</td>
</tr>
<tr>
<td></td>
<td>Crabapple</td>
</tr>
<tr>
<td></td>
<td>Bitter cherry</td>
</tr>
<tr>
<td></td>
<td>Willow species</td>
</tr>
<tr>
<td></td>
<td>Western redbud</td>
</tr>
<tr>
<td></td>
<td>Serviceberry</td>
</tr>
<tr>
<td></td>
<td>Aspen</td>
</tr>
<tr>
<td></td>
<td>Cottonwood</td>
</tr>
<tr>
<td></td>
<td>Vine maple</td>
</tr>
<tr>
<td></td>
<td>Willow species</td>
</tr>
<tr>
<td></td>
<td>Big-leaf maple</td>
</tr>
<tr>
<td></td>
<td>Black locust</td>
</tr>
<tr>
<td></td>
<td>Cascara</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>** Shrubs**</td>
<td></td>
</tr>
<tr>
<td>Red hollyhock</td>
<td>Thimbleberry</td>
</tr>
<tr>
<td>Nicklausk</td>
<td>Wild rose</td>
</tr>
<tr>
<td>Golden currant</td>
<td>Thimbleberry</td>
</tr>
<tr>
<td>Wild rose</td>
<td></td>
</tr>
<tr>
<td>Thimbleberry</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Forbs, Grasses, and Legumes</strong></td>
<td></td>
</tr>
<tr>
<td>Endiv</td>
<td>Clover</td>
</tr>
<tr>
<td>Boston</td>
<td>Alfalfa</td>
</tr>
<tr>
<td>Caterpillar</td>
<td>Orchard grass</td>
</tr>
<tr>
<td>Cat's ear</td>
<td>Alfalfa</td>
</tr>
<tr>
<td>Corn</td>
<td>Clover</td>
</tr>
<tr>
<td>Bear grass</td>
<td>Cat's ear</td>
</tr>
<tr>
<td>Cat's ear</td>
<td>Corn</td>
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<tr>
<td>Cow parsnip</td>
<td>Cow parsnip</td>
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<tr>
<td>Chaiksa</td>
<td>Cocksfoot</td>
</tr>
<tr>
<td>Rocky Mountain</td>
<td>Cocksfoot</td>
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<tr>
<td>Volunteers</td>
<td>Cocksfoot</td>
</tr>
<tr>
<td>Northern leafy</td>
<td>Cocksfoot</td>
</tr>
<tr>
<td>False dandelion</td>
<td>Cocksfoot</td>
</tr>
<tr>
<td>Sweet clover</td>
<td></td>
</tr>
</tbody>
</table>
**Songbirds**

- Include hardwoods, fruiting shrubs and plants.
- Time work outside of nesting
- Include a diversity of plant layers (vertical diversity).
- Pet cats and dogs can negatively impact bird and small mammal populations.

**Cavity-nesting birds**

- Maintain and recruit snags and down wood.
- Create snags.
- Build bird boxes.

<table>
<thead>
<tr>
<th>Forest condition</th>
<th>Tree decay stage</th>
<th>Soft snag</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young</td>
<td>House wren</td>
<td>Western bluebird</td>
</tr>
<tr>
<td>Mature</td>
<td>Red-breasted nuthatch</td>
<td>Red-breasted sapsucker</td>
</tr>
<tr>
<td>Old growth</td>
<td>Spotted owl</td>
<td>Northern flying squirrel</td>
</tr>
</tbody>
</table>
Bats

• Protect roost sites.

• Protect/create large snags especially near water.

• Leave slash piles, stacks of down logs.

Amphibians and Reptiles

• Maintain ponds/streams and surrounding vegetation.

• Include loafing logs.

• Leave large down wood.
Small Mammals

- Important role in ecosystem.
- Retain a few slash piles.
- Keep snags and down wood.
- Promote species that produce nuts, cones, fruit and seed.
- Raptors, other predators can help control small mammals
- Pet cats and dogs can negatively impact small mammal populations.

Fish

4 C’s:
Clean cold water in complex and connected water bodies.

In-stream wood guidelines:

<table>
<thead>
<tr>
<th>Bankfull Width, in Feet</th>
<th>Minimum Diameter Log, in Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 10</td>
<td>10</td>
</tr>
<tr>
<td>10 – 20</td>
<td>16</td>
</tr>
<tr>
<td>20 – 32</td>
<td>18</td>
</tr>
<tr>
<td>Over 32</td>
<td>22</td>
</tr>
</tbody>
</table>

ODFW 2010
Upland Game Birds – turkey quail and grouse

- Manage for fruiting shrubs.
- Create a mix of cover types.
- Provide a place to escape.
- Most need nearby water source
- Wildlife seeding can be effective for food/cover.

If you build it they will come...
Sensitive Species

Section 4: Wildlife spotting tools
Game Cameras

Track Plates

- Can be used with sand, chalk, mud.
- Placement is key.
Indirect Evidence

Recognition Programs

• You can be recognized for your stewardship efforts
  • Tree Farm Program
  • National Wildlife Federation
Resources Available to You

- **OSU Extension Service**
  - Master Gardeners
  - Master Woodland Managers
  - Publications and web-based educational materials

- **Oregon Department of Forestry**
  - One-on-one technical advice
  - Forest and Fire laws

- **Oregon Department of Fish & Wildlife**
  - Advice on habitat improvement

- **Soil & Water Conservation District**
  - Soils, maps, etc.

- **Certified Arborists**
  - Hazard tree evaluation & removal

Resources Available to You Cont.

- **Know Your Forest**
  
  [www.knowyourforest.org](http://www.knowyourforest.org)