# Multi-Benefit Forestry

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Stewardship Forester

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Kitsap Conservation District

Mason Conservation District

Thurston Conservation District EST 1948

King Conservation District

Pierce Conservation District Over 70 Years of Conservation

# Forestry!


Our Programs

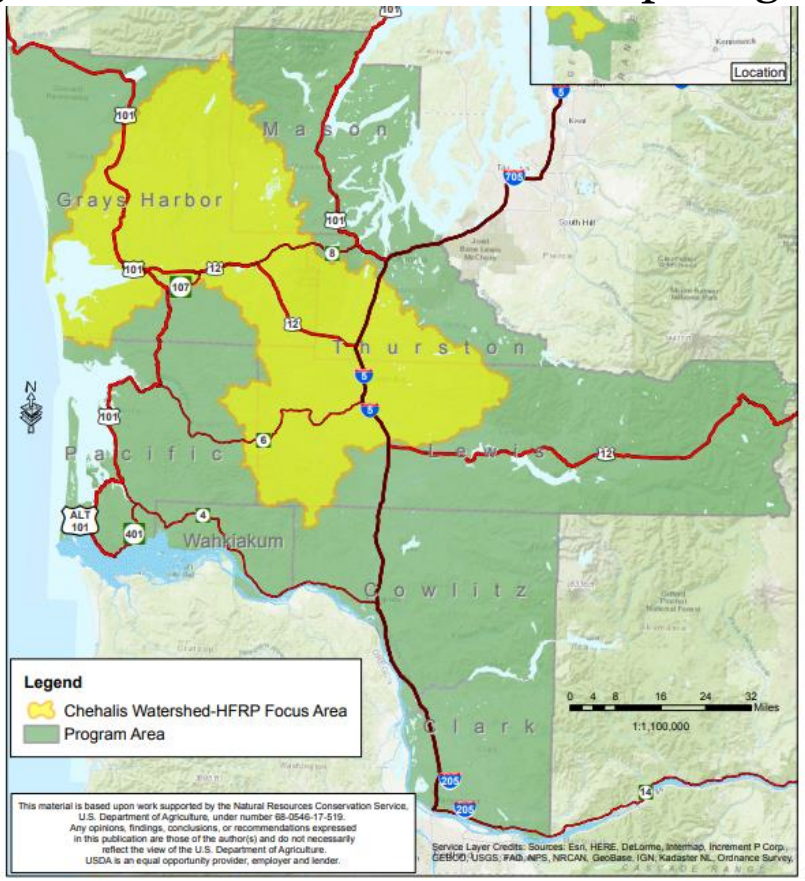
Puget Sound Conservation District
Regional Forest Stewardship Program

## Team members include:

- Bruce Gregory: San Juan Islands Conservation District
- Cathi Winings: San Juan Islands Conservation District
- Nick Kunz: Skagit Conservation District
- Stacey Dixon: Snohomish and Whidbey Island Conservation Districts
- Ellen Arnstein: King Conservation District
- Mark Mead: Mason, Kitsap, Thurston, and Pierce Conservation Districts
- Margaret Kreder: Mason, Kitsap, Thurston, and Pierce Conservation Districts

Participating conservation districts are denoted with a star

Southwest Washington Small forest Lands
Regional Conservation Partnership Program




Mason, Thurston: Mark & Margaret
Dave Houk: Greys Harbor, Pacific
Mackenna Milosevich: Clark

# Qualitative Program Goals

Encourage long-term management decisions that improve forest land retention, health, and vitality.

- Build relationships with landowners and establish trust with the community
- Reduce conversion of forested areas to non-forest uses
- Provide education on the value of active management
  - Highlighting the many options that fall between “doing nothing” and “clear cut”
  - Building resilient forests – climate, pests, diseases
- Empower landowners to act on management recommendations
- Improve wildlife habitat and water quality –Puget Sound Recovery

Proving the need and value of Conservation District Forestry programs to encourage more permanent funding streams.

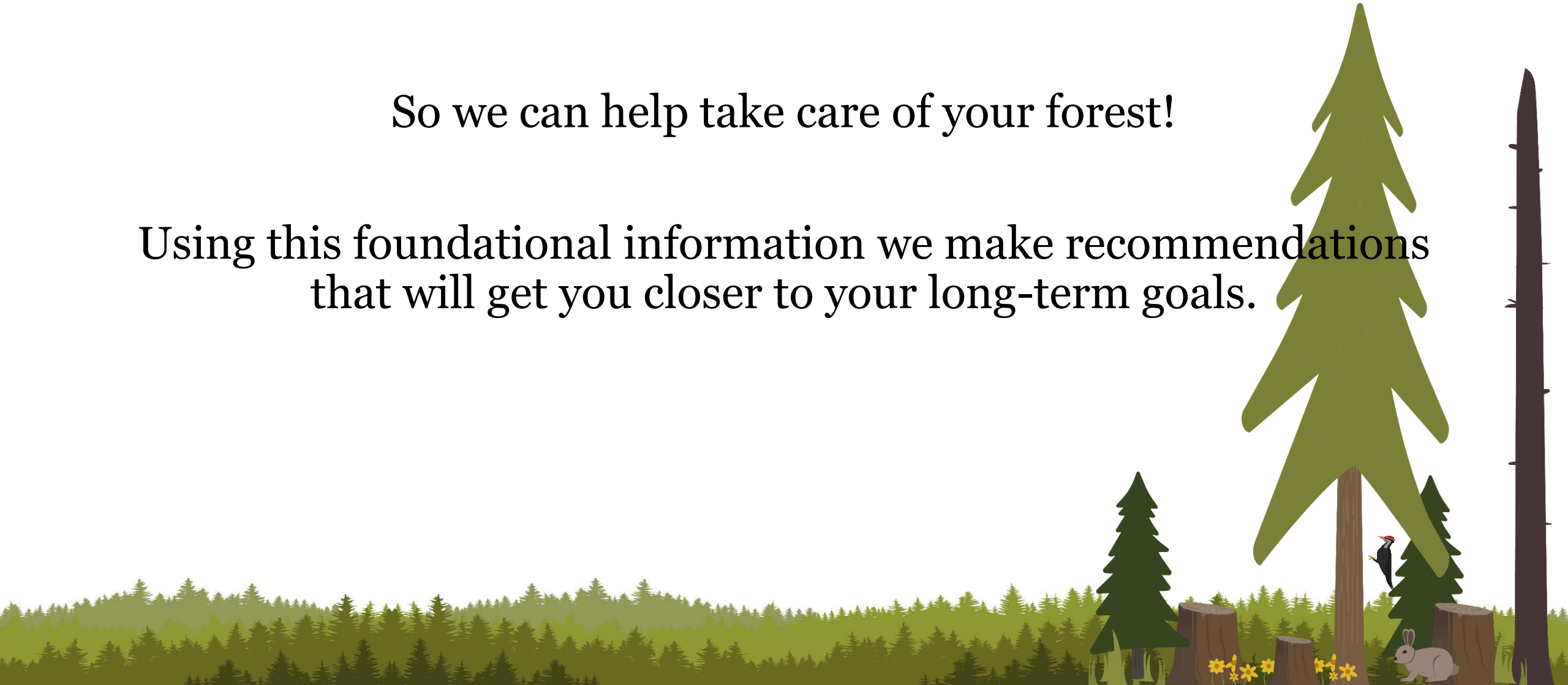

Introduction to Forestry

# A Forester must know:

- Biology & Ecology
  - Tree species identification
  - Tree physiology and effects of variables on growth
  - Pests & pathogens
  - Soil properties
  - Watershed function & hydrology
  - Tree Species & Distribution
  - Structure and function of forest ecosystems
  - Plant and animal associations
- Forest Mensuration & Economics

So we can help take care of your forest!

Using this foundational information we make recommendations that will get you closer to your long-term goals.

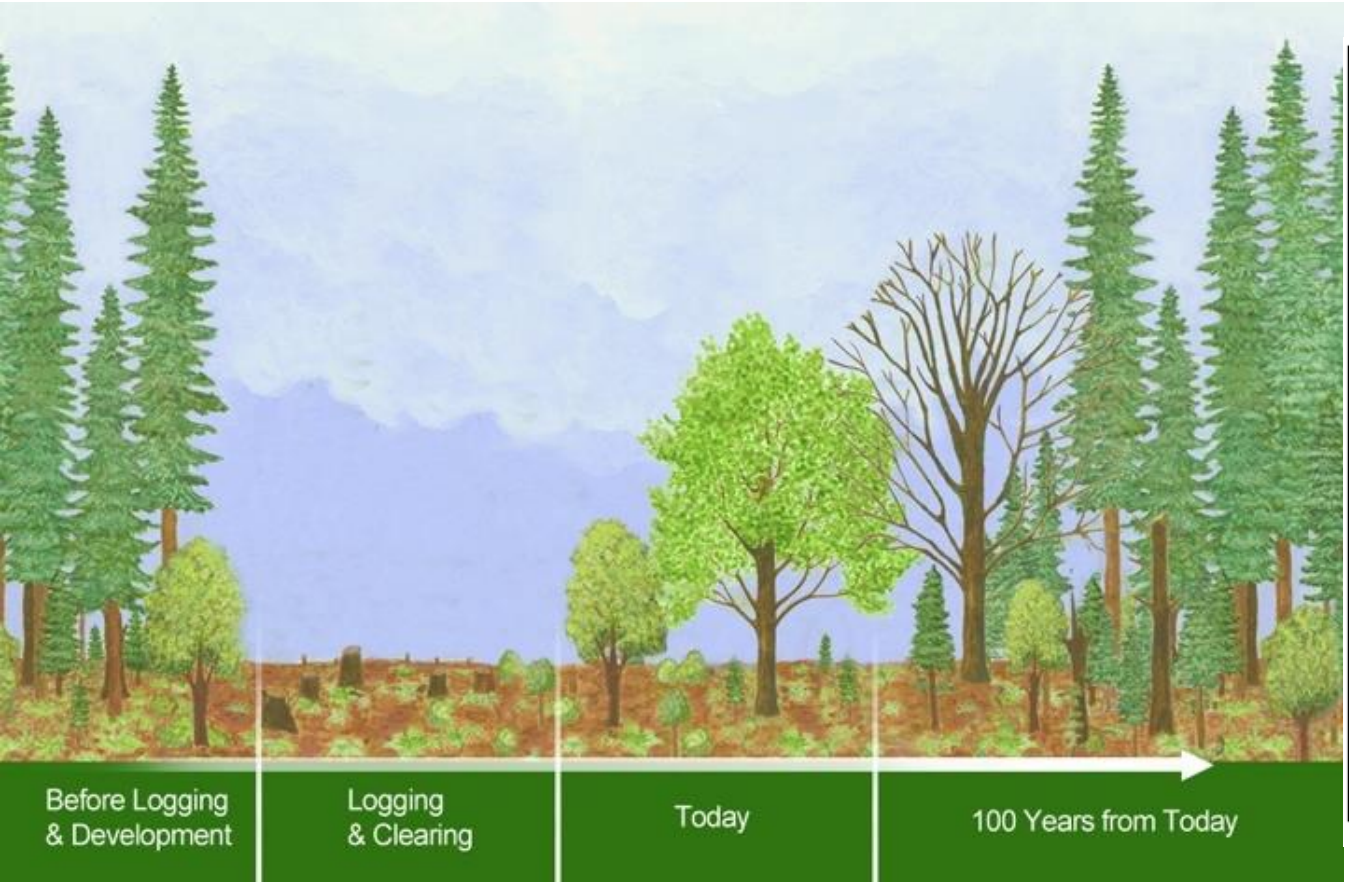


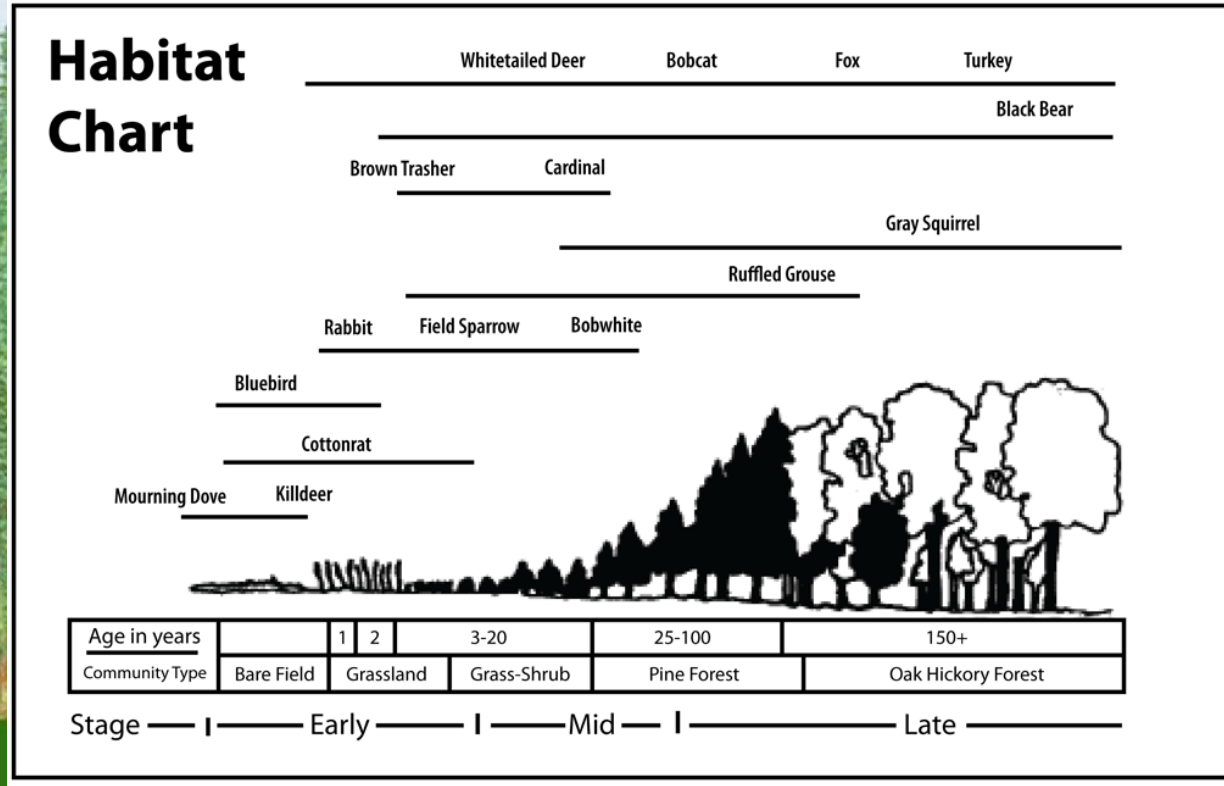
# Commercial vs. Non-Commercial

- Commercial management involves the sale of a product from the forest.
  - Timber harvest

- Non-commercial management is improvements made that do not necessarily have a product.
  - Thinning of young trees
  - Planting for wildlife forage or cover

# The Forest Cycle



# Where management could help!

Species selection: Douglas-fir growing through a hardwood canopy

Stem Exclusion: High density stand

# Where management could help!

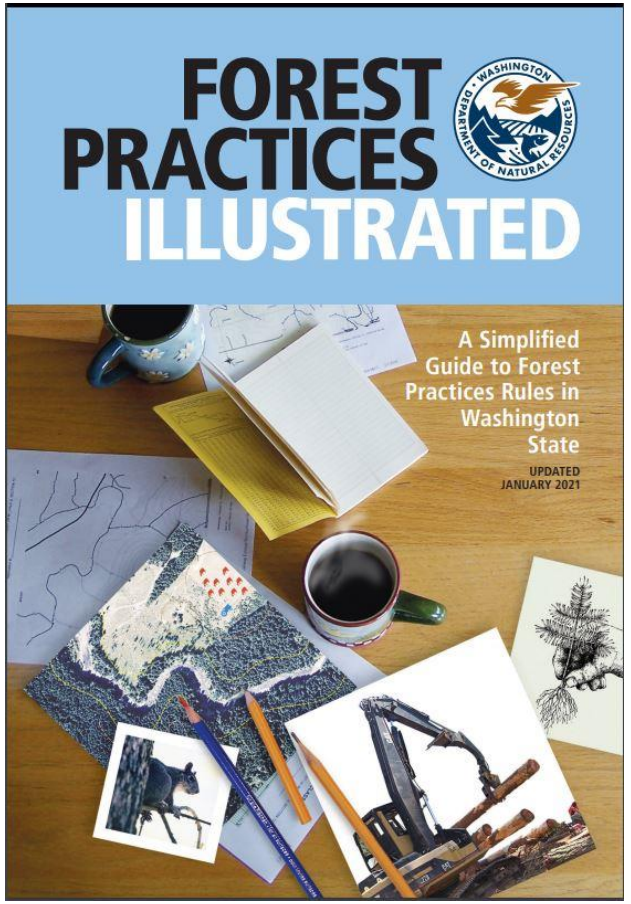
Disease: Significant root rot damage

Lack of Diversity: structure, species

It all depends on what YOU want!

# What a Landowner/Forest Manager should know:

- **Know your responsibilities**
  - Local & State regulations
  - Timber Taxes
- **Know what you have**
- **Know what you want to accomplish**
- **Know where to go for help**
  - Forestry Consultants
  - Local forest landowner groups
  - Conservation Districts
  - Natural Resource Conservation Service (NRCS)
  - DNR Small Forest Landowner Office & Stewardship Foresters
    - DNR Regulatory Assistance Foresters
  - WSU Extension Foresters
  - County Foresters



# The Past:
# Basis of Forest Management

# Management Techniques
# Clear-Cut Harvest

# Management Techniques
# Seed Tree Harvest

Grouped seed tree system

Uniform seed tree system

# Management Techniques
# Shelterwood Harvest

# Management Techniques
# Commercial Thinning

- From Above – removing medium to large trees
- From Below – removing small to medium trees


[Competition and Density in Woodland Stands]

# Management Techniques
## Non-Commercial

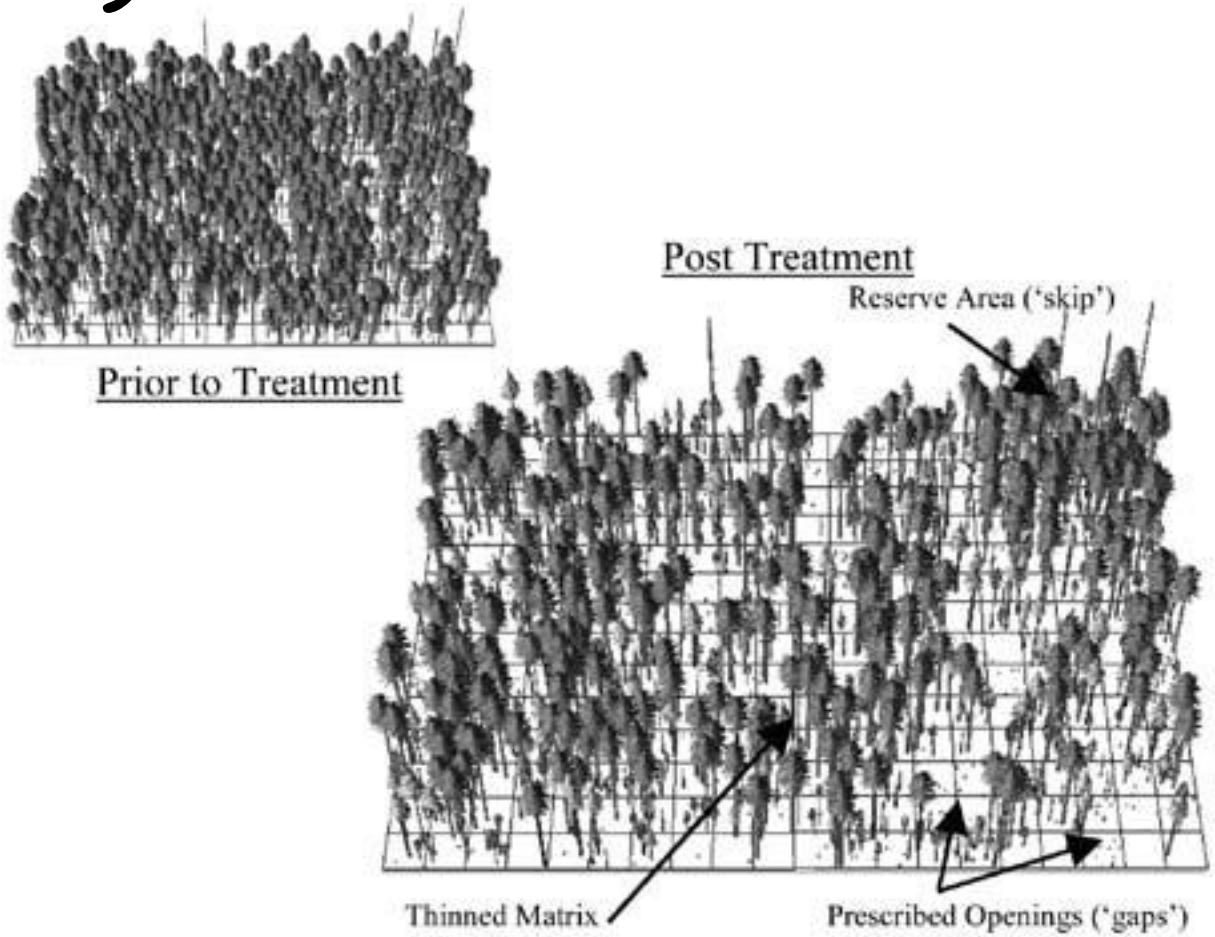
- Reforestation
- Invasive & Competing Vegetation Management
- Pre-commercial thinning
- Interplanting


The Present:
More Recent Adaptations for
Forest Management

# Management Techniques
# Variable Density Thinning

- Combines elements of all previous management techniques

- Introduces structural and spatial diversity interior to the stand

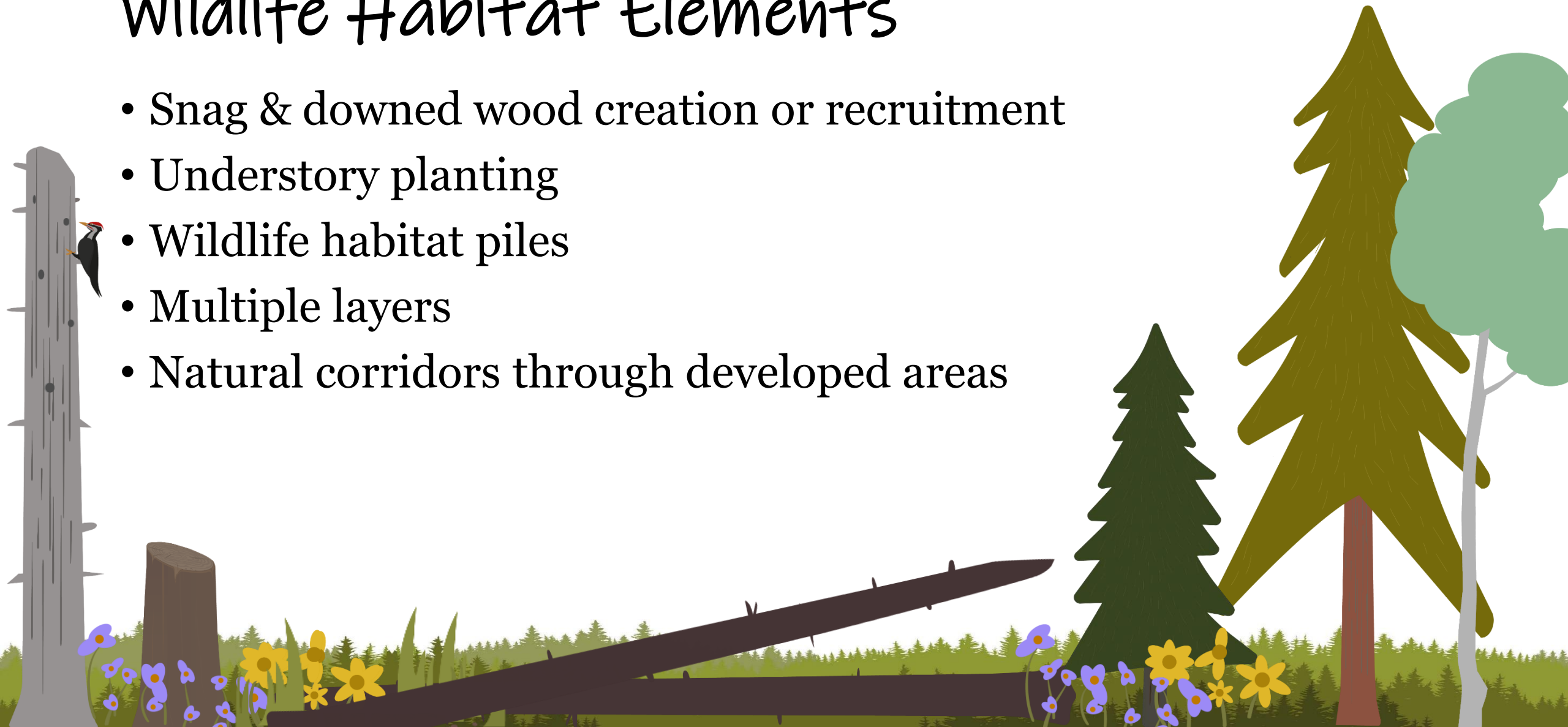


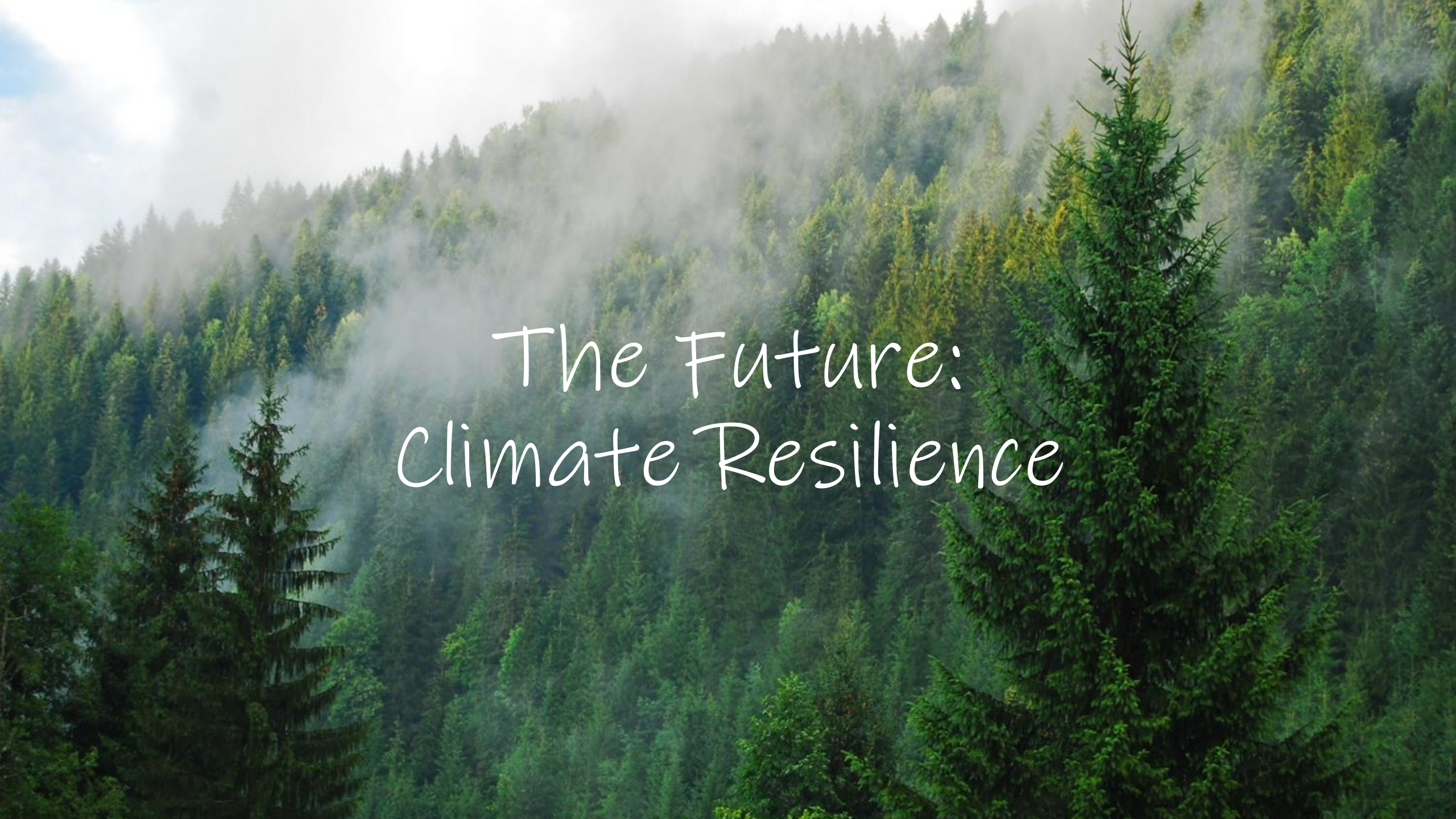
# Management Techniques
# Alternative Products

- Non-Timber Forest Products
  - Greenery and bows
  - Mushrooms
  - Berries, fruits, nuts
  - Maple syrup
  - Herbs, medicinals, essential oils
- Specialty timber products
  - Figured wood
  - Custom milling
- Carbon

# Management Techniques
# Wildlife Habitat Elements

- Snag & downed wood creation or recruitment
- Understory planting
- Wildlife habitat piles
- Multiple layers
- Natural corridors through developed areas




The Future:
Climate Resilience

# Disturbances
# Frequency & Severity

<u>Previous Disturbance Regime of West Side Forests</u>

- Low Frequency (150-200 years) between stand-replacing disturbances
- Indigenous management using low-severity fires
- Insect swarming events rare, moderate to low severity

# Disturbances
# Frequency & Severity

## Projected Disturbance Regime of West Side Forests

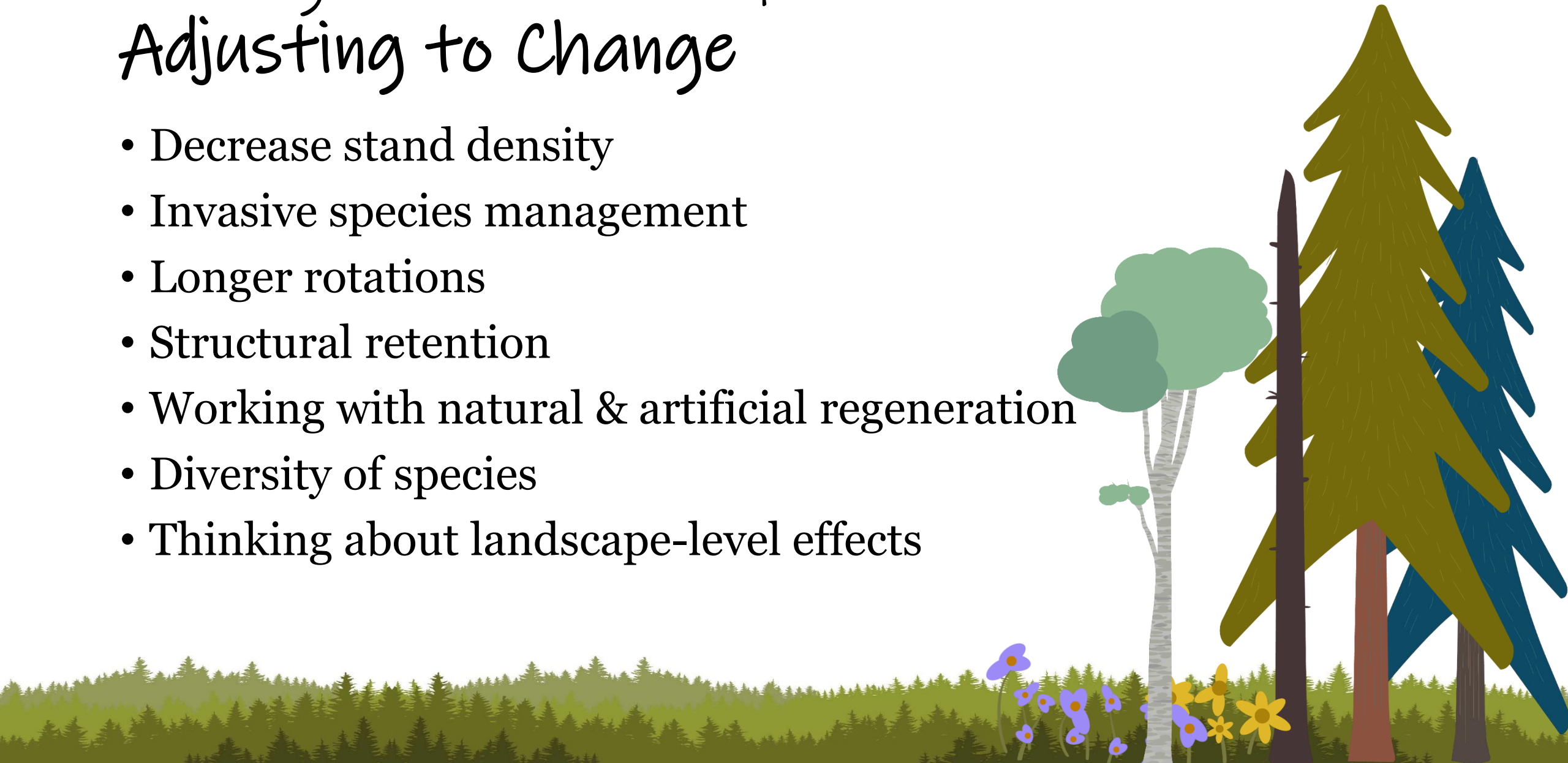
- Increasing heat & drought leading to more **moisture stress**
- Stressed trees are **more susceptible to pests and pathogens**

- Warmer winters means **higher potential for insect survival**
- Higher stress & die-off feeds into **greater amount of fuels** on the ground
- Higher frequency of landscape-level disturbances

Douglas-fir Beetle Gallery

# Management Techniques
## Adjusting to Change

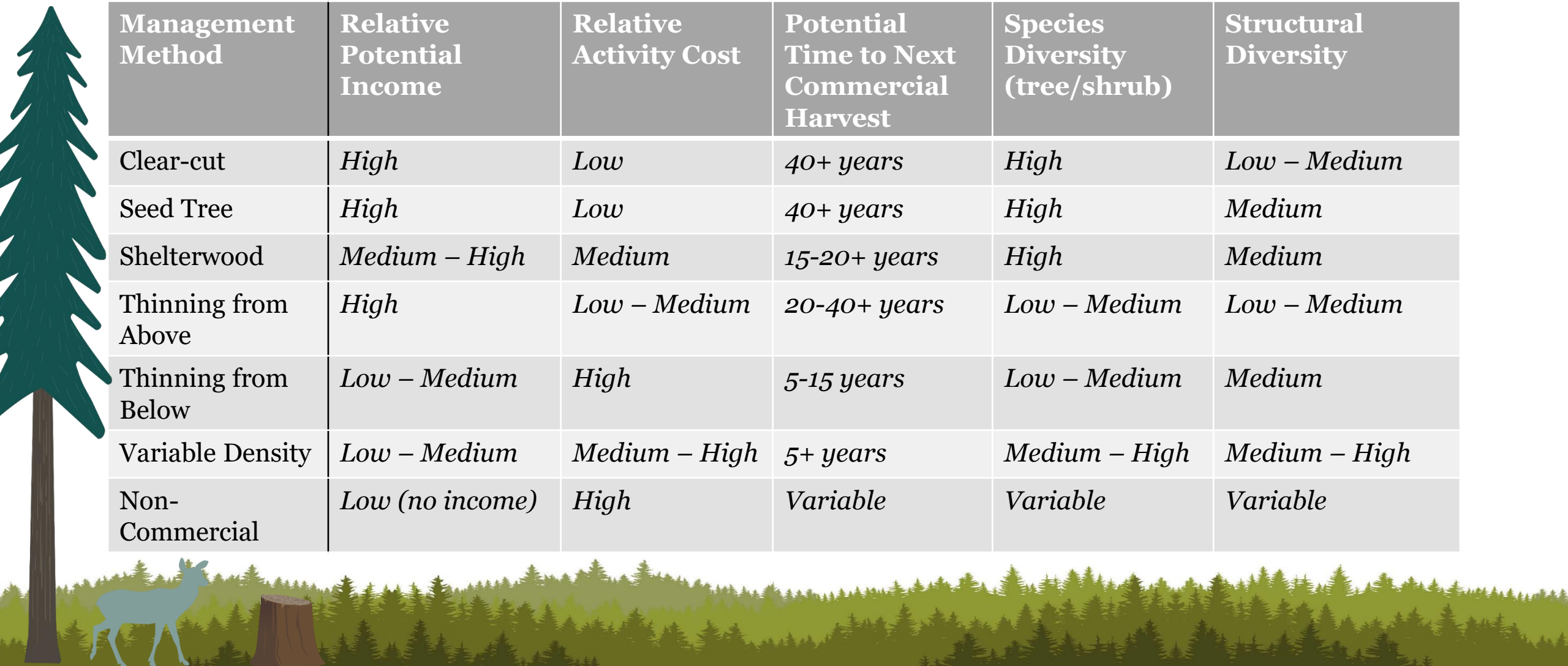
- Decrease stand density
- Invasive species management
- Longer rotations
- Structural retention
- Working with natural & artificial regeneration
- Diversity of species
- Thinking about landscape-level effects




Takeaways

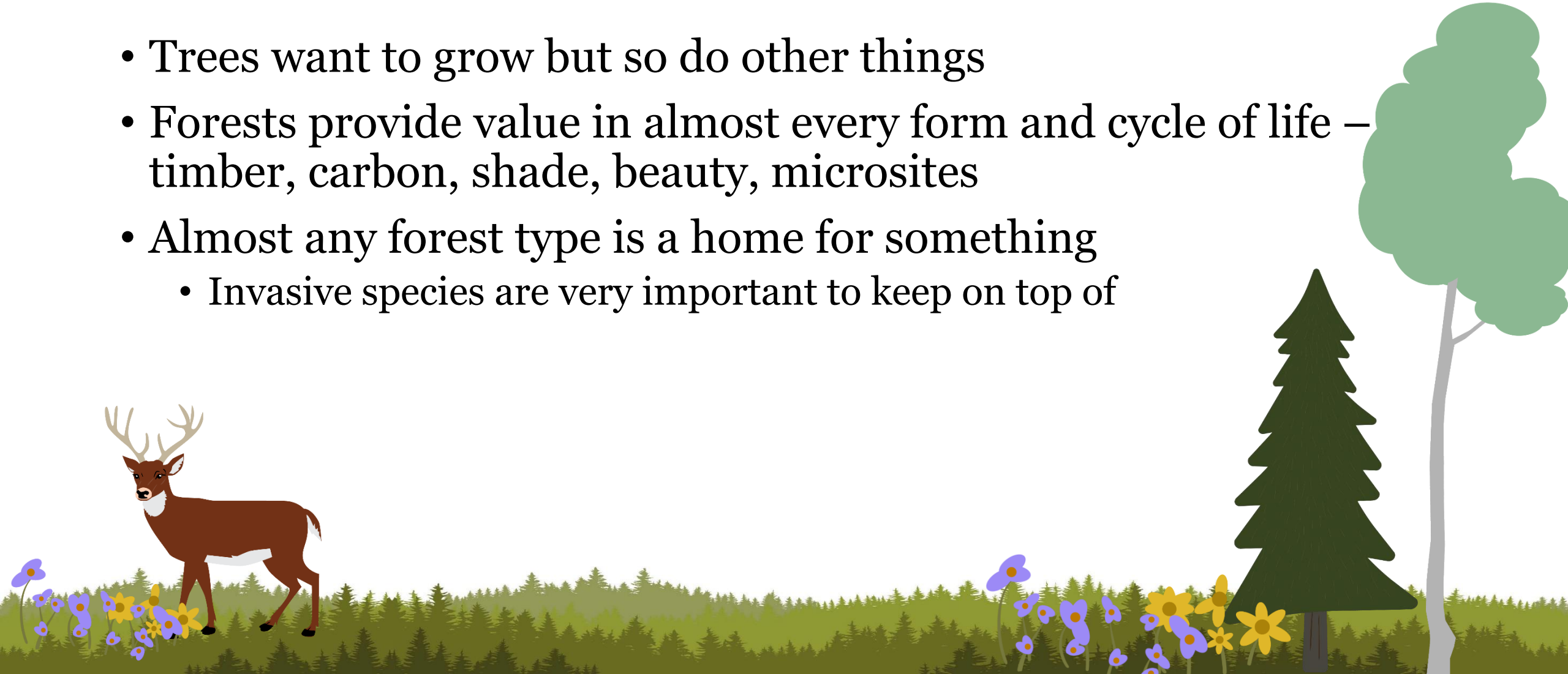
# Management Techniques
# Compare & Contrast

| Management Method | Relative Potential Income | Relative Activity Cost | Potential Time to Next Commercial Harvest | Species Diversity (tree/shrub) | Structural Diversity |
|---|---|---|---|---|---|
| Clear-cut | *High* | *Low* | *40+ years* | *High* | *Low – Medium* |
| Seed Tree | *High* | *Low* | *40+ years* | *High* | *Medium* |
| Shelterwood | *Medium – High* | *Medium* | *15-20+ years* | *High* | *Medium* |
| Thinning from Above | *High* | *Low – Medium* | *20-40+ years* | *Low – Medium* | *Low – Medium* |
| Thinning from Below | *Low – Medium* | *High* | *5-15 years* | *Low – Medium* | *Medium* |
| Variable Density | *Low – Medium* | *Medium – High* | *5+ years* | *Medium – High* | *Medium – High* |
| Non-Commercial | *Low (no income)* | *High* | *Variable* | *Variable* | *Variable* |



# Management Techniques
# Forest Response

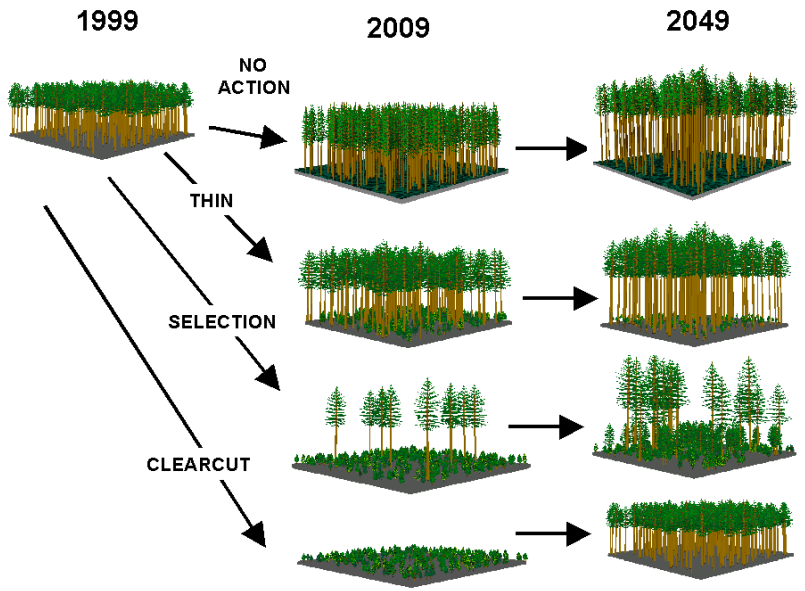
- Trees want to grow but so do other things
- Forests provide value in almost every form and cycle of life – timber, carbon, shade, beauty, microsites
- Almost any forest type is a home for something
  - Invasive species are very important to keep on top of



# Your Forest

# Where do you want to go?

Figuring out what you want your property to look like, **what you want to accomplish** with it, and **what you want your legacy to be** is one of the first steps in forest management.

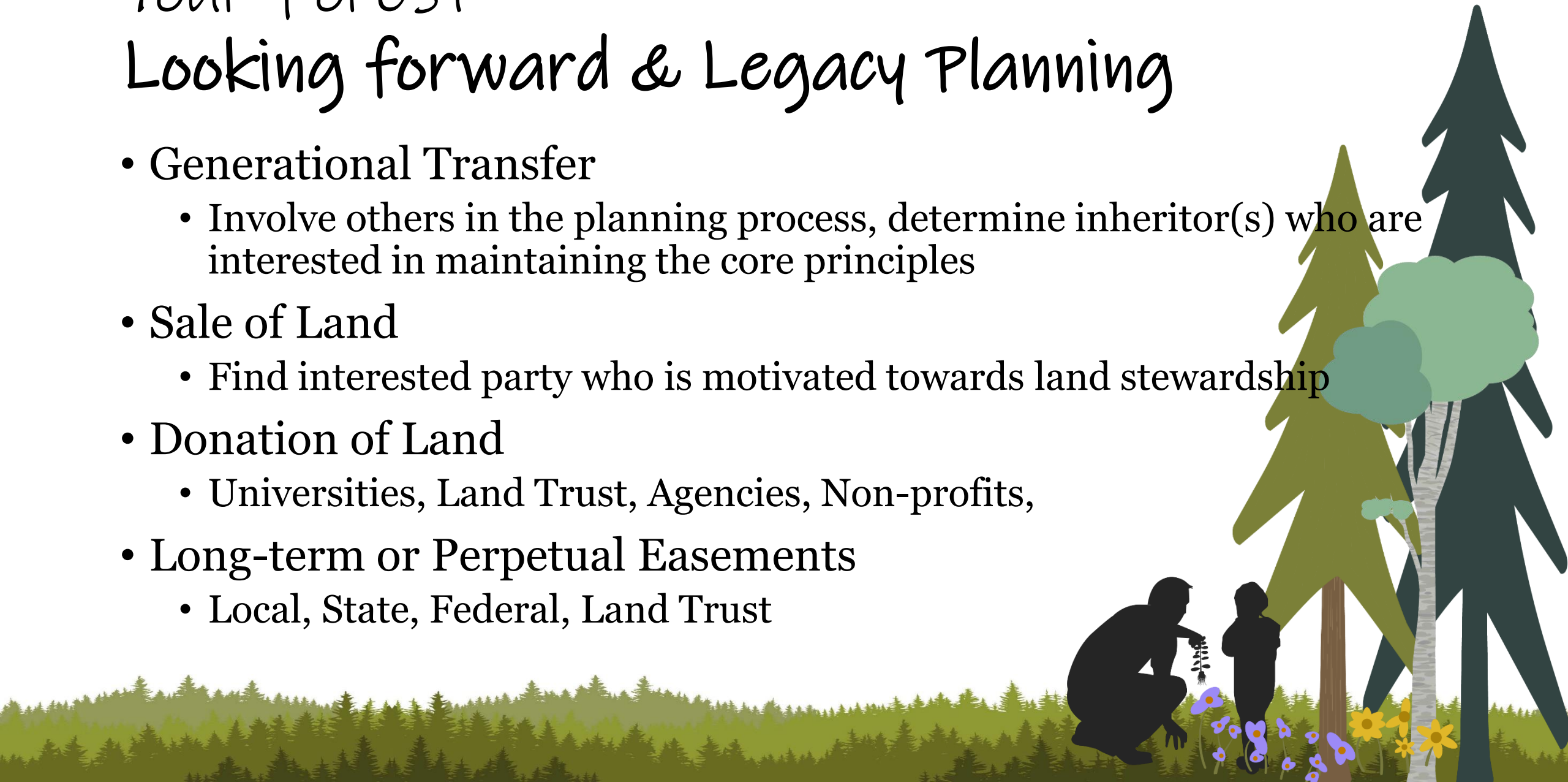



The best method for management is the one that meets your goals with the resources you have with consideration to other future outcomes.

We can help work with you to figure out what the next steps should be to achieve those goals.

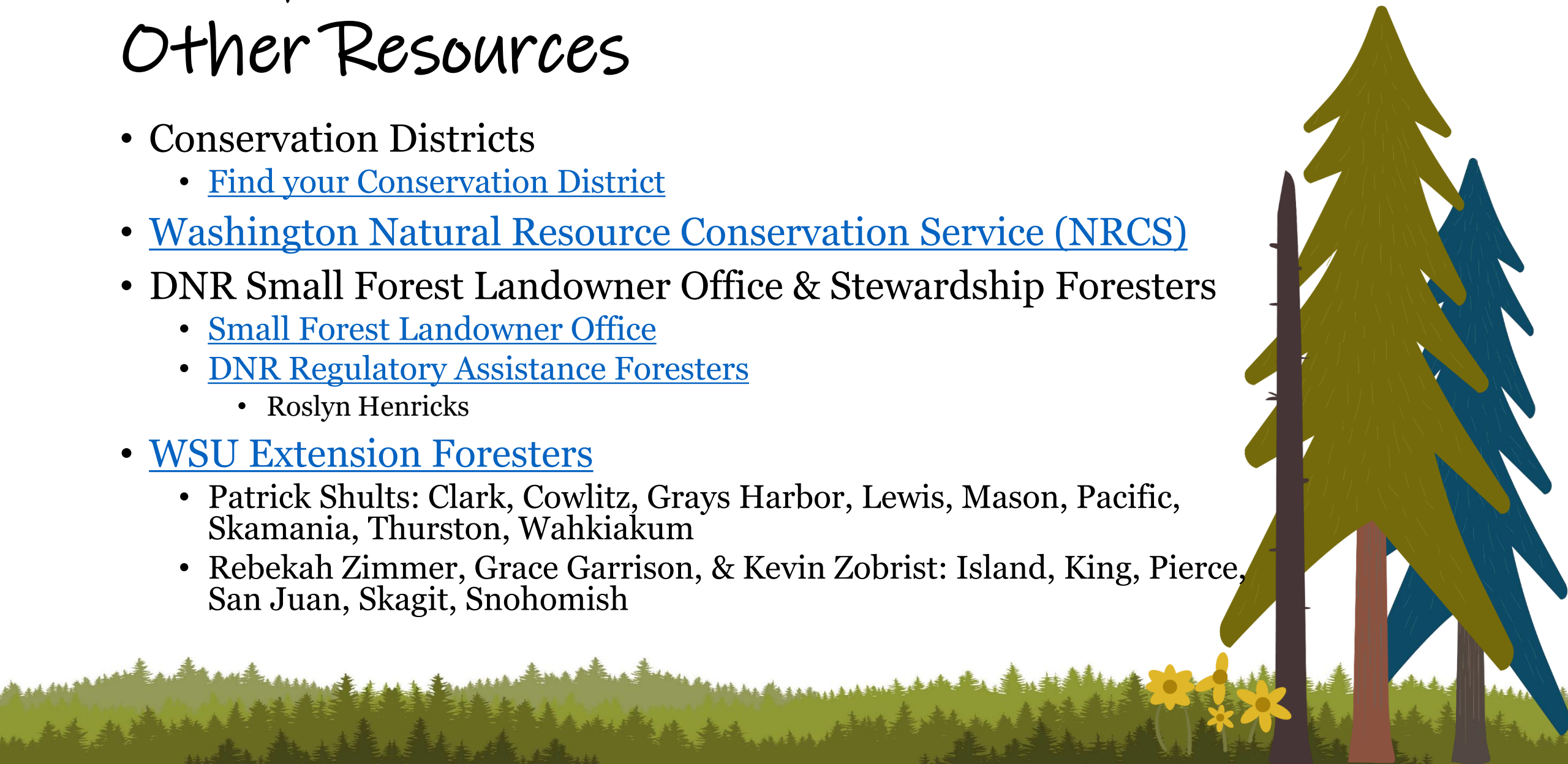
# Your Forest
# Looking forward & Legacy Planning

- Generational Transfer
  - Involve others in the planning process, determine inheritor(s) who are interested in maintaining the core principles
- Sale of Land
  - Find interested party who is motivated towards land stewardship
- Donation of Land
  - Universities, Land Trust, Agencies, Non-profits,
- Long-term or Perpetual Easements
  - Local, State, Federal, Land Trust



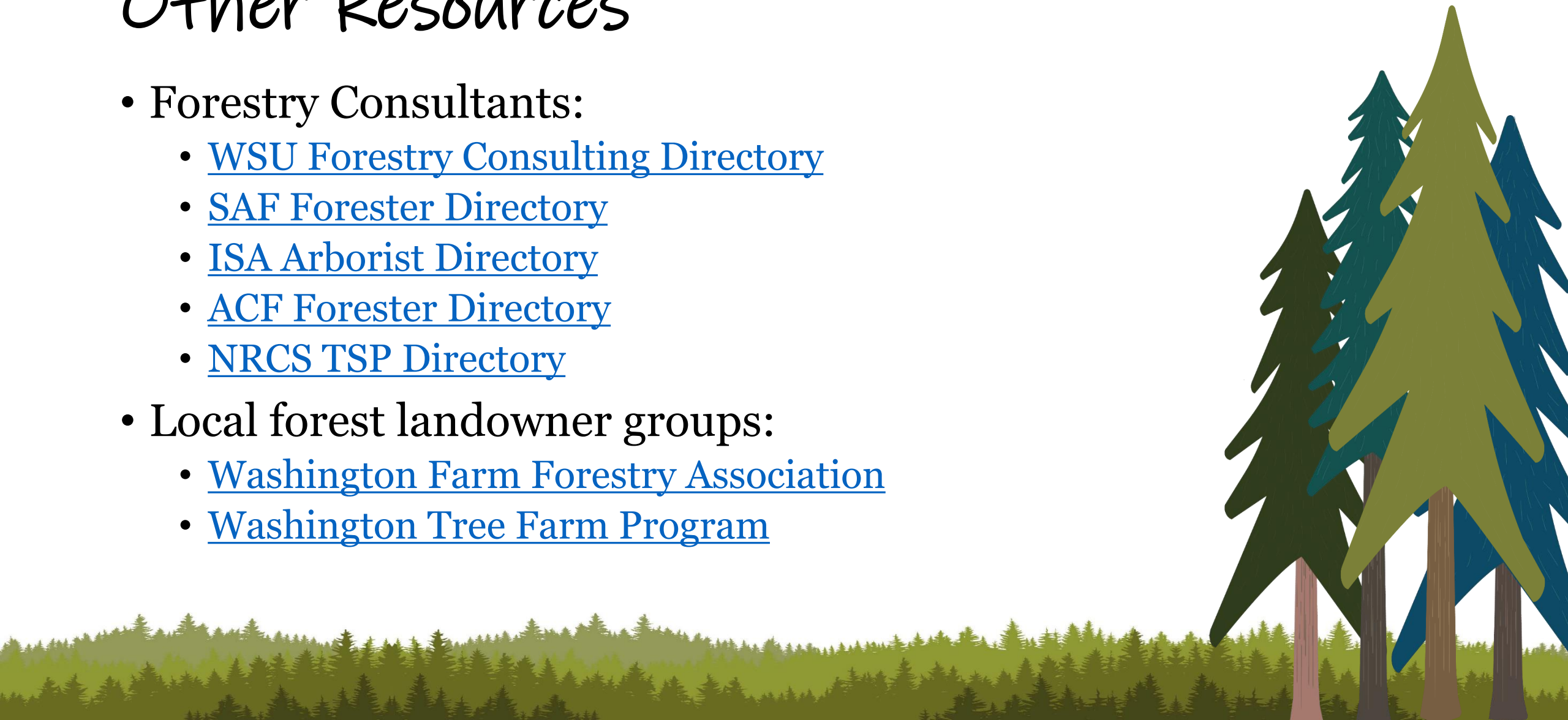
# Your Forest
# Other Resources

- Conservation Districts
  - Find your Conservation District
- Washington Natural Resource Conservation Service (NRCS)
- DNR Small Forest Landowner Office & Stewardship Foresters
  - Small Forest Landowner Office
  - DNR Regulatory Assistance Foresters
    - Roslyn Henricks
- WSU Extension Foresters
  - Patrick Shults: Clark, Cowlitz, Grays Harbor, Lewis, Mason, Pacific, Skamania, Thurston, Wahkiakum
  - Rebekah Zimmer, Grace Garrison, & Kevin Zobrist: Island, King, Pierce, San Juan, Skagit, Snohomish



# Your Forest
# Other Resources

- Forestry Consultants:
  - WSU Forestry Consulting Directory
  - SAF Forester Directory
  - ISA Arborist Directory
  - ACF Forester Directory
  - NRCS TSP Directory
- Local forest landowner groups:
  - Washington Farm Forestry Association
  - Washington Tree Farm Program



# Contact Us!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Or contact your local conservation district for assistance!


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Over 70 Years of Conservation