

# Idaho Panhandle Forestry Fundamentals

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# Family Forests live large in Idaho Panhandle

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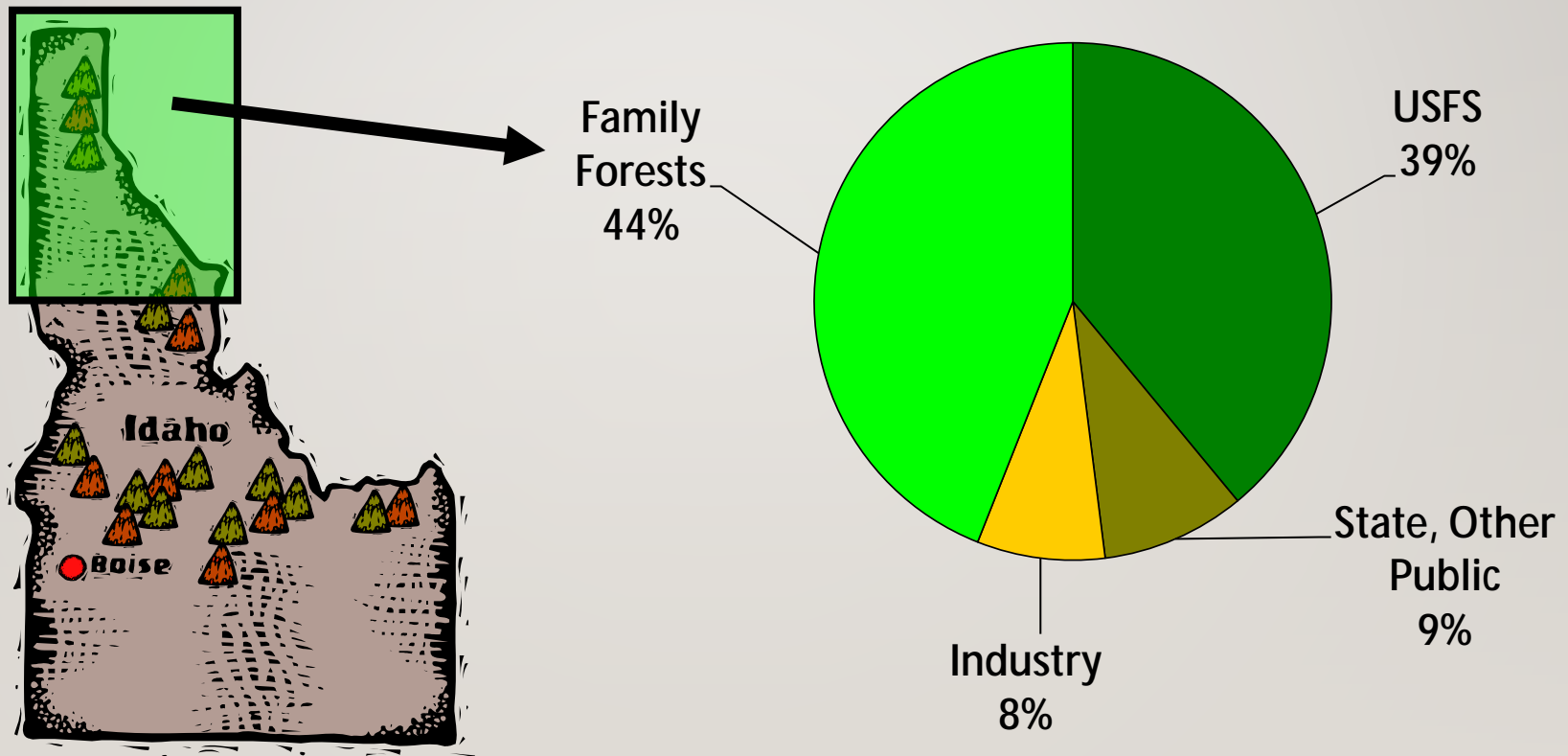
- Over 33,000 forest owners in the Idaho Panhandle with 5-5000 acres
- Most of what we cover here is basic silviculture - applying to forests in other parts of Idaho as well



# Idaho Panhandle Forest Ownership

*(Boundary, Bonner, Benewah & Kootenai Counties)*

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# Forest Ecology

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- *Forest Ecology*: The interaction between biological organisms in a forest and their environment. Affected by:
  - Climate
  - Soils
  - Precipitation
  - Genetics
  - Disturbance



# Why Know Forest Ecology?

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- Forests evolved under pre-settlement conditions - ignoring their adaptations to those conditions invites disaster.
- Most responses to forest insect and disease problems are preventative
- Which *forest conditions* are most adapted to long-term climatic extremes on your site? (species? trees per acre?)
  - What conditions are needed to perpetuate desired tree species?





# Shade Tolerance

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- *Shade Tolerance*: A tree's capacity to develop and grow in the shade of, and in competition with, other trees.
- No such thing as a shade loving tree!
- Forest succession tends to move from shade intolerant trees to shade tolerant trees.



# Shade Tolerance

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## *Least Shade Tolerant*

western larch  
lodgepole pine  
ponderosa pine  
western white pine  
Douglas-fir  
englemann spruce  
subalpine fir  
grand fir  
western red cedar  
western hemlock

## *Most Shade Tolerant*

# Thinning

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# Why Thin?

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- Select the best tree species.
- Reduce insect and disease vulnerability:
  - Increase individual tree vigor,
  - Diversify tree species.
- Improve forest genetics.



# Why Thin?

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- Enhance non-timber values:
  - E.g.: Allowing more light into understory may stimulate desirable understory plants and wildlife they depend on.
- Decrease fire hazard



# When to Thin

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- Begin thinning early (10-20 year old trees).
- Thin before crown ratio is less than 40%.
- Make subsequent thinnings as competition recurs (when the crowns of adjacent trees begin to touch.)
- Thinning intervals commonly range from 10 to 25 years.





# Desired Spacing after Thinning?

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- Distance left between trees varies, depending on trees' size; and objectives
  - usually 12 - 15 feet on saplings
  - Up to 50 feet on older trees
  - Space trees wider for more understory plants?



## Leave Trees:

After meeting spacing needs, which trees will ...

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- Reduce insect and disease problems (eg, species)?
- Pass on desirable qualities to naturally regenerated tree seedlings, enhancing the genetic pool of the forest?
- Produce higher value trees in the next harvest (e.g., form, growth rate).
- Support wildlife or other objectives (e.g. snags)





# Species:

Which are best adapted to the site, over long term?

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- Stay within range of species well adapted to site.
- Preferentially cut shade tolerant trees (particularly on drier sites).
- Within range of species adapted to site, leave or plant under-represented species (eg: white pine).



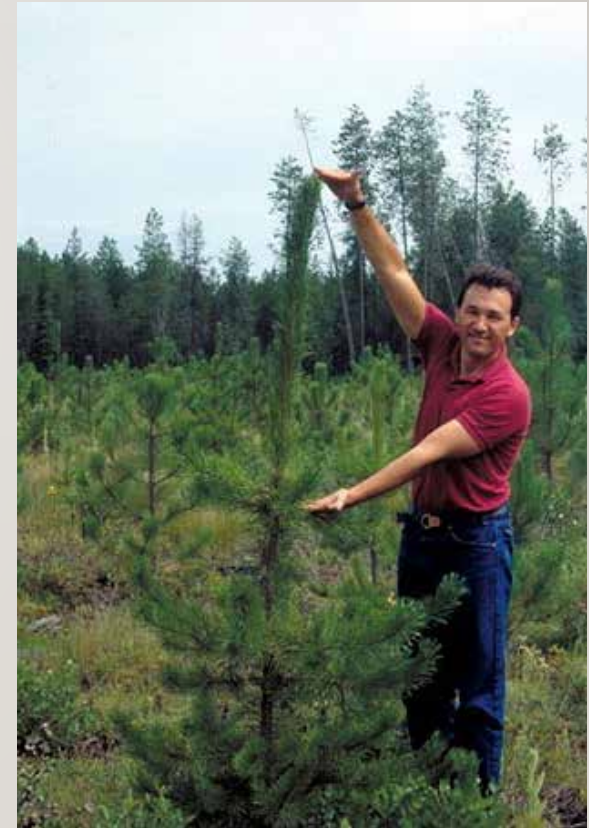


Species:

Which are most desirable for different management goals?

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- Highest commercial value (how long will you grow them)?
- Highest wildlife value?
- Aesthetic value?



# Growth and Form

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- Leave Trees Matter!
  - Most of our forests are even-aged because of regeneration after stand-replacing fires
  - Cutting everything over a certain diameter - leaving the smaller trees, is dysgenic (degrades stand genetics)
- Favor dominant trees (tallest trees dominating canopy rather than poorer competitors lower in the canopy)
- Favor good height growth (e.g. “pointy tops, longer distance between branch whorls).

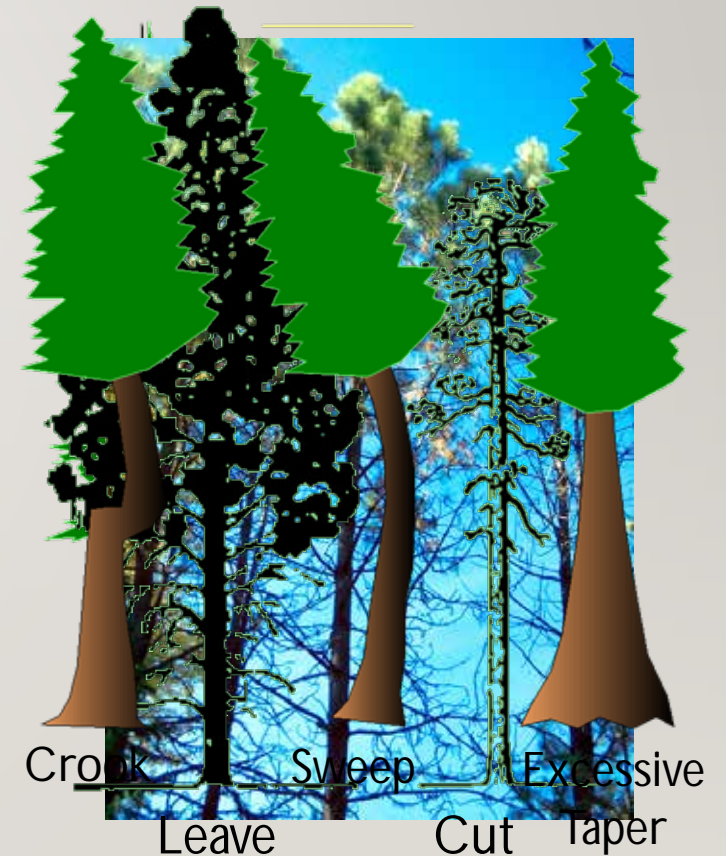




# Growth and Form

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- Favor trees with at least a 40% crown ratio.
- Remove trees with forked or broken tops, or ramicorn branches. (forks break out, very heritable)
- Favor trees with abundant, full needles, with good color and length for their species
- Disfavor trees with, crook, sweep, excessive taper

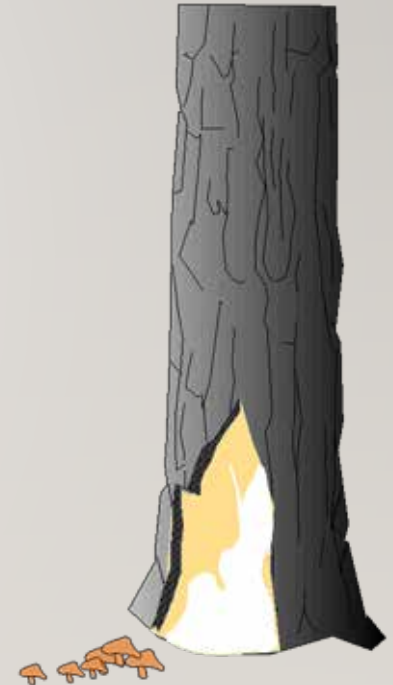




# Insects/Disease

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- Tree killer #1: Root Diseases:
  - Favor larch or pines, which survive root disease best
- Tree killer #2: Bark Beetles:
  - Reduce stocking, favor most drought-tolerant species for site
- Leaving the best species for the site, adequately spaced, is best insurance for healthy forests.
  - Sustainable Species Reference point: What is the most shade tolerant tree species in your stand? (worst species to favor)



# Reforestation

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# Natural Seeding

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- Need seed source.
- May need site preparation.
- Will you get species you want?



# Which Seedling Species . . .

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- Are most adapted to the site over the long term? (e.g., less shade tolerant than the most shade tolerant species found on site)
- Will seed in naturally - are they what you want (e.g., grand fir, lodgepole)?
- Will add to for site-appropriate diversity?
- Prune young white pine (if you have them)

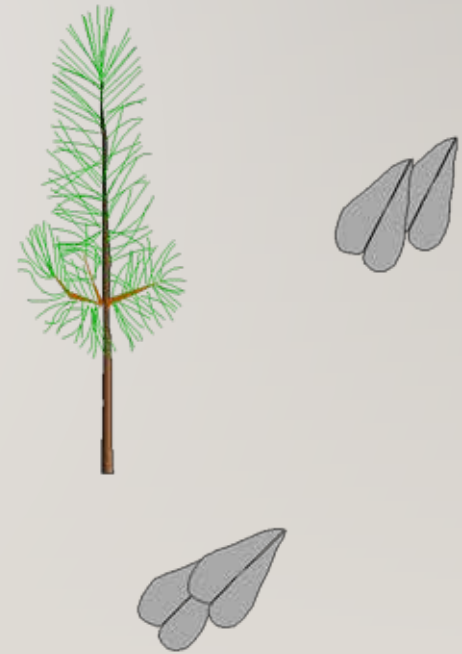




# Threats to Seedling Survival:

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- The most critical time for seedling survival is within the first two years.
  - Lack of moisture/competing vegetation
  - Deer/Elk
  - Gophers & other rodents
  - Livestock
- Plan on how to deal with these factors before putting trees in the ground.



# Educational Assistance for Family Forest Owners

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# University of Idaho Extension

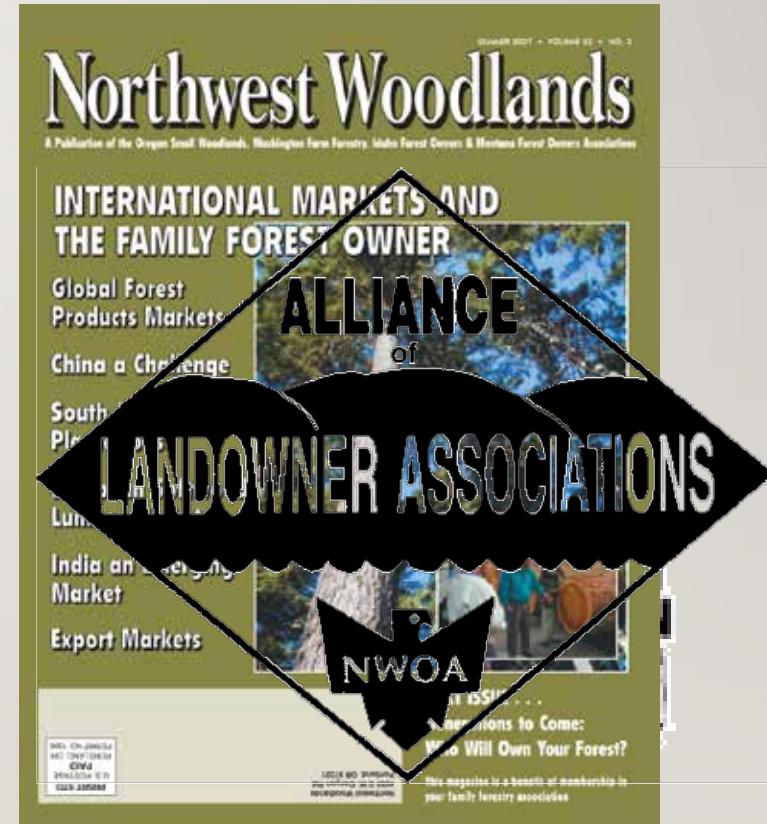
- Primary role is education (workshops, field tours, publications, videos, etc.).
- Extension faculty on Moscow campus and in 42 of Idaho's 44 counties.



# Idaho Forest Owners Association

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- Started 1982
- 300-400 members
- *Northwest Woodlands.*
- [www.idahoforestowners.org](http://www.idahoforestowners.org)





# American Tree Farm System

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- Run by state-level committees of foresters and landowners. Tree Farms are inspected and certified by professional foresters.
- Some mills offer a bonus for Tree Farm logs because those logs help them meet forest certification requirements.
- [www.treefarmssystem.org](http://www.treefarmssystem.org)



# Technical Assistance for Family Forest Owners

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# Idaho Department of Lands

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- Forest Practice Advisors/Private Forestry Specialists:
  - inspect logging jobs for compliance with state laws;
  - provide limited technical services to family forest owners; and
  - work with cost-share programs.





# Natural Resources Conservation Service (NRCS)

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- Provides technical assistance related to soils, planning . . .
  - Works with IDL on forestry cost share programs.



# Conservation Districts

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- Locally elected officials who guide conservation efforts.
- Strong ties to NRCS.
- Increasingly involved in local grants related to water quality.





# Consulting Forester

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- Provides management recommendations, related services for a fee.
- Doesn't buy logs or work for a mill.
  - Can serve as landowner's legal representative on a timber sale.





# Consulting Forester

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- Credentials: Association of Consulting Foresters (ACF), other forester credentials.
- Northwest Natural Resource Consultant Directory



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# Financial Assistance for Family Forest Owners

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# Cost Sharing Assistance for Family Forestry

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- Cost Sharing: A government agency or private organization provides partial financial assistance to help private landowners apply practices that also provide public benefit:
  - Tree planting, pre-commercial thinning, etc..
  - Local IDL private forestry specialists are usually aware of what is available at any particular time, and who to contact.





# Cost Sharing – Federal Programs

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- Have been many federal cost-share programs, but primary program now is EQIP (Environmental Quality Incentives Program):
  - Administered by USDA-NRCS, with help from IDL and Consulting foresters operating as Technical Service providers (“TSPs”).
  - Wide range of cost-sharable practices, from forester-written forest management plans, to planting, thinning, etc.
  - Extra EQIP funds sometimes available for specific purposes (e.g. Regional Conservation Partnership Program – “RCPP” for the Spokane River Watershed).



# Tax-based Assistance for Family Forest Owners

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# Property Tax-based Assistance for Family Forestry

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- Two Idaho forestry property tax categories: Bare Land & Yield (6) and Productivity (7).
  - Not an “exemption” (like for homes) - it is lower property tax rate based on land use.
  - Arguably the most effective fiscal incentive to active forestry in Idaho:
    - Landowner gets it every year!





# Property Tax-based Assistance for Family Forestry

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- Law requires that land taxed in Category 6 or 7 be actively managed for wood products.
- One of the ways of documenting that, which many northern Idaho counties require, is a written forest management plan;
  - Landowners can write their own plan but some counties require a graduate forester signature.



# Income Tax-based Assistance for Family Forestry

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- Many incentives to forest management built into the federal tax codes.
  - E.g., the reforestation tax credit
- Tax laws are especially critical when harvesting timber:
  - E.g., separating the value of the timber on a property from the value of the land (“basis”), can have a large impact on incomes taxes associated with timber harvest



# Income Tax-based Assistance for Family Forestry

- Landowners may want to help their accountants understand federal tax laws as applied to forestry.
- National Timber Tax web site: [www.timbertax.org](http://www.timbertax.org)

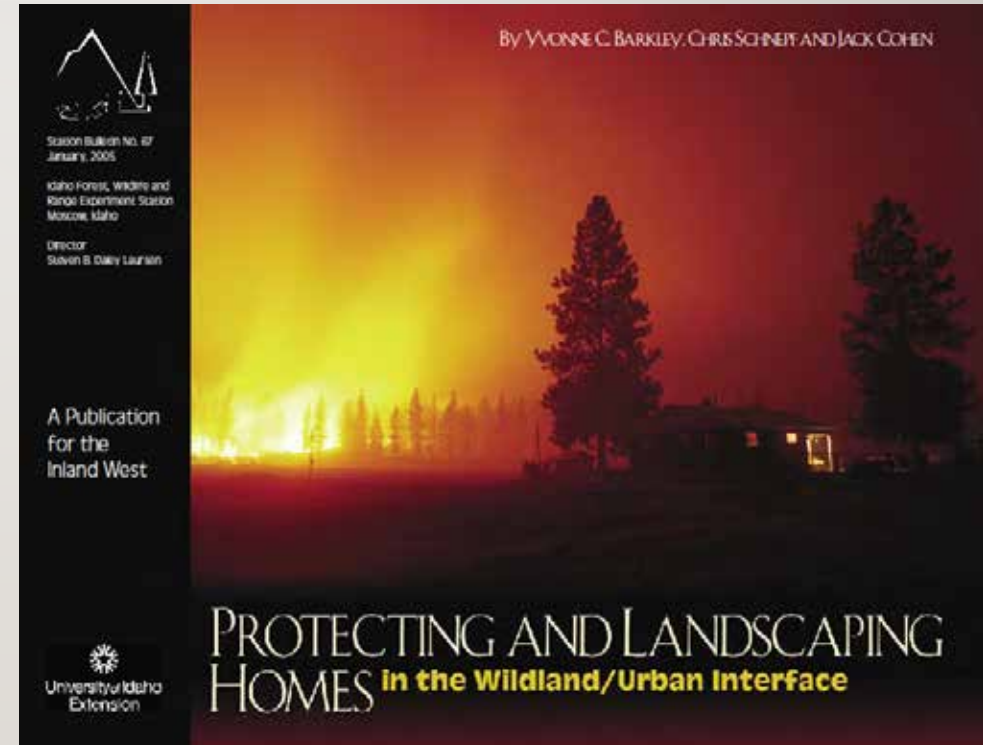




# One more thing . . .

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- Fire is a big part of our ecology – not if but when!
- Prepare for fire - Remove fuel in the home ignition zone around your house!
- Most homes burn in large project fires, where people are evacuated – your home will be on its own!



# For More Information:

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- Logging Selectively – A Practical Field Guide to Partial Timber Harvesting in Forests of the Inland Northwest and the Northern Rocky Mountains (UI PNW 534)
- Thinning: an Important Timber Management Tool (OSU PNW 184)
- Using Pre-commercial Thinning to Enhance Woodland Productivity (OSU EC 1189)
- Plant your Container-grown Seedlings Right (UI CIS 528)
- Pruning to Enhance Tree And Stand Value (OSU EC 1457)
- Managing Organic Debris for Forest Health: Reconciling Fire Hazard, Bark Beetles, Wildlife, and Forest Nutrition Needs (UI PNW 609)
- Idaho Natural Resource Consultant Directory (Includes CIS 1226: Working With A Professional Forester)
- Protecting and Landscaping Homes in the Wildland/Urban Interface 2004 by: University of Idaho Extension. Idaho Forest, Wildlife, and Range Experiment Station Bulletin No. 67
- Reducing Fire Risk on Your Property. Pacific Northwest Extension Publication - PNW 618

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