Climate Change Vulnerability Assessment & Action Plan for Forest Landowners [1]

CLIMATE IMPACT

Increased fire risk. Longer fire seasons and hotter, drier summers, both leading to increased potential for large-scale, severe wildfire

SPECIFIC FACTORS TO CONSIDER / THINGS TO LOOK FOR *Check the factors requiring further investigation*

☐ Condition/status of home ignition zone/defensible space	☐ Access (ingress/egress, roads, driveways)	☐ Condition of adjacent properties/stands	☐ Topographic factors influencing fire behavior
☐ Likely direction(s) of fire spread	☐ Potential sources of ignition	☐ Ladder fuels	☐ Density of tree canopy
☐ Stands/sites/habitats that are priorities for protection	☐ Surface fuel loads (slash, woody material, espec. 1”-3”)	☐ Tree species composition (fire resistant vs. vulnerable)	☐ Other:_____ _____

DESCRIPTION OF CONDITION AND MANAGEMENT PRIORITY (HIGH, MEDIUM, LOW)

Consider importance, vulnerability, feasibility & cost to address each factor)

- Home ignition zone & ingress/egress are in decent shape, some maintenance needed
- Dry grass leading to rapid fire spread
- Overgrown stands with heavy ladder fuels on south and west aspects
- Ridgeline snags

MANAGEMENT OPTIONS *Check options you plan to implement (Check all that apply)*

☐ Firewise landscaping & maintenance practices within the home ignition zone	☐ **FUELS REDUCTION:** ☐ Thinning/brushing (chainsaw, hand tools) ☐ Pruning ☐ Mastication ☐ Chipping ☐ Controlled underburning ☐ Maintenance treatments ☐ Use of livestock to manage fuels ☐ Salvage dead trees	☐ **SLASH ABATEMENT** ☐ Lop & scatter ☐ Pile, cover, burn ☐ Swamper burn ☐ Chip ☐ Underburn	**TREATMENT PRIORITY LOCATIONS:** ☐ High fuel loads ☐ Adjacent to homes, outbuildings ☐ Adjacent to roads/driveways ☐ Ridgelines ☐ Adjacent/within vulnerable stands or habitats ☐ Vulnerable topography based on probable direction of fire spread ☐ Opportunities to tie into low-fuel natural features or previous fuels treatments

MANAGEMENT FINANCING OPPORTUNITIES *Check options you plan to explore*

☐ Cost Share:_ODFW grant_____ (Program/Organization) ☐ As part of timber sale ☐ Offset by biomass sale ☐ Other:_____

PLANNED ACTION SPECIFICS

- Driveway treatment recently completed; will need maintenance
- Ridgeline fuelbreak & other past treatments need maintenance
- Roadside treatments (above & below)
- Treat 30 ac. surface & ladder fuels, Unit 1 (ODFW project)

TIMELINE *I plan to implement these actions:*

Immediately *(within next 3 months)*	**Near Term** *(within the next year)*	**Long Term** *(Next year or beyond)*
Map priority locations	Fuelbreak maintenance	Maintenance treatments
Apply for funding	Treat 30 ac surface & ladder fuels	Surface & ladder fuel treatments
		Rx underburn (hopefully some day)

CLIMATE IMPACT

Increased vulnerability of trees, stands, vegetation to drought/heat stress ("hot drought"), insect pests, & diseases; leading to reduced growth & mortality.

SPECIFIC FACTORS TO CONSIDER / THINGS TO LOOK FOR *Check the factors requiring further investigation*

- ☐ Crown condition of trees within the stand (crown ratio, foliage color & density); average crown ratio
- ☐ Species within the stand that appear to be performing well or poorly (consider drought, heat, shade tolerance)
- ☐ Specific insect pests known to be present in the general area & potential host species within the stand
- ☐ Specific diseases known to be present in the general area & potential host species within the stand
- ☐ Species mix in the stand; relative drought/heat tolerance of species within the mix
- ☐ Presence/absence of insect pests/diseases (signs & symptoms visible in trees)
- ☐ Evidence of past or recent branch dieback or tree mortality
- ☐ Stand structure (uniform, patchy, even-aged, variable, uneven-aged)
- Site factors:
  - ☐ Aspect
  - ☐ Soil depth & texture
  - ☐ Slope
  - ☐ Slope position (ridge, upper slopes, mid slope, toe slope)
- ☐ Age of trees within the stand; age class distribution
- ☐ Density of the stand
- ☐ Other:_____ _____ _____ _____

DESCRIPTION OF CONDITION AND MANAGEMENT PRIORITY (HIGH, MEDIUM, LOW)

Consider importance, vulnerability, feasibility & cost to address each factor)

- Lots of DF mortality on ridgeline, upper west & south aspects
- Excessive densities in some stands or portions of stands
- Threat to larger ponderosa and sugar pine from density/moisture competition
- Threat to large oak and madrone from overtopping

MANAGEMENT OPTIONS *Check options you plan to implement*

☐ **STAND-LEVEL THINNING**
(check all that apply)
- ☐ to target density levels
- ☐ to favor better adapted species; discriminate against species less suited to future climate
- ☐ to favor most vigorous trees
- ☐ to maintain a mix of tree species, sizes, and ages

☐ Harvest trees/stands in poor condition or poorly suited to future climate

☐ **REFORESTATION**
(check all that apply)
- ☐ to emphasize more drought & heat tolerant species; maintain mix of site-adapted species
- ☐ use genetically improved seed sources
- ☐ use local seed sources
- ☐ assisted migration (introducing seedlings grown from non-local seed sources matched to future climate)
- ☐ introduce non-local species (do with caution!)

☐ Manage slash generated in thinning to minimize risk of insect infestations
- ☐ for pine ips beetle Jan-July
- ☐ for other species

☐ **TREATMENT PRIORITIES**
(check all that apply)
- ☐ within important stands (high current or future timber value, habitat, other)
- ☐ within high risk, vulnerable stands
- ☐ within/adjacent to high value trees (e.g, large, old conifers, oaks, other hardwoods) & tree patches
- ☐ currently infested trees or stands
- ☐ within stands most likely to respond to treatment

☐ Remove trees currently infested with insect pests (sanitation/ salvage)

☐ Individual tree or local thinning to create more growing space around individual trees or clumps of favored trees; remove all or most trees and shrubs under dripline and out to pre-determined distance

☐ Prune trees (blister rust, dwarf mistletoe)

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CLIMATE IMPACT

Increased vulnerability of trees, stands, vegetation to drought/heat stress ("hot drought"), insect pests, & diseases; leading to reduced growth & mortality.

MANAGEMENT FINANCING OPPORTUNITIES *Check options you plan to explore*

☐ Cost Share:_____ ☐ As part of timber sale ☐ Offset by biomass sale ☐ Other:_____
(Program/Organization)

PLANNED ACTION SPECIFICS

- Non-commercial thinning in priority locations (variable density with some skips and gaps, focus on trees up to 8" DBH, release oaks, pines, selected large madrone, viable Douglas-fir, pile and burn slash) Species selection and desired proportion of species will vary by site.
- Commercial removal in north slope stand. Thin from below, single tree and group selection. This is a couple of years out.

TIMELINE *I plan to implement these actions:*

Immediately *(within next 3 months)*	**Near Term** *(within the next year)*	**Long Term** *(Next year or beyond)*
Map priority locations for NCT Apply for funding	Treat 10-20 ac surface & ladder fuels	Commercial treatment in north slope stand

Climate Change Vulnerability Assessment & Action Plan for Forest Landowners [4]

CLIMATE IMPACT

Increased vulnerability to more extreme weather events (wind storms, rain storms, flooding, rain on snow, etc.)

SPECIFIC FACTORS TO CONSIDER / THINGS TO LOOK FOR *Check the factors requiring further investigation*

- ☐ Road drainage maintenance (ditches, cross drain culverts, dips, waterbars, etc.)
- ☐ Forest road and skid trail design and location
- ☐ Landslide and debris flow hazard zone
- ☐ Areas of bare and/or compacted soil
- ☐ Locations of stands vulnerable to high winds
- ☐ Stream crossings
- ☐ Stream channel erosion
- ☐ Culvert sizing
- ☐ Other: _____

DESCRIPTION OF CONDITION AND MANAGEMENT PRIORITY (HIGH, MEDIUM, LOW)

Consider importance, vulnerability, feasibility & cost to address each factor)

- Roads are insloped with ditches venting directly to stream in some cases
- Road surface is eroding in places; there are few drainage structures (e.g., cross-drain culverts) in place
- Stream crossing culverts are small and at risk of plugging

MANAGEMENT OPTIONS *Check options you plan to implement*

- ☐ Gradual tree thinning and release of dense stands to improve wind-firmness
- ☐ Winterization of roads; road maintenance
- ☐ Improvement of road drainage systems
- ☐ Cover bare areas with mulch; revegetate
- ☐ Remove road sidecast on steep slopes
- ☐ Locate roads in less vulnerable locations
- ☐ Replace or install culverts
- ☐ Riparian planting

MANAGEMENT FINANCING OPPORTUNITIES *Check options you plan to explore*

☐ Cost Share:_____ (Program/Organization) ☐ As part of timber sale ☐ Offset by biomass sale ☐ Other:_____

PLANNED ACTION SPECIFICS

- install more cross drain culverts, rolling dips, and/or water bars to move water off the road and filter out sediment before it enters stream.
- Install larger culverts for stream crossings.

TIMELINE *I plan to implement these actions:*

Immediately *(within next 3 months)*	**Near Term** *(within the next year)*	**Long Term** *(Next year or beyond)*
Road assessment Install water bars in critical locations		