

How to read the compilation of the field exercise questionnaire responses

Having a copy of the field trip exercise questionnaire handy will help in understanding these instructions and how to read the response compilation.

The field trip consisted of three different stops (Field Stops A, B, and C on the questionnaire) focusing on different themes (Landscape, spotted owl nest core, and treatment areas, respectively). Field stop C, the treatment area stop, was further broken down in to 3 treatment areas or “spots”. Multiple questions were posed for both Field Stop A and B, as well as for each of the 3 treatment spots in Field Stop C. Six different interagency and interdisciplinary groups rotated through the Field Stops and discussed the questions posed and provided answers on the field forms, both individually and collectively.

The following day, individual groups presented their questionnaire answers to the rest of the workshop participants. Each group was assigned a single stop for which they had to formally present their collective answers to all the questions at that stop to the audience. A second group was also assigned to the same field stop and they presented any additional information not covered by the first group’s presentation. Thus, two different groups gave presentations for each field stop. Then the floor was opened up for discussion and members of other groups chimed in any additional discussion items that may have come up in their groups that was not covered by the two presenting groups; these items were not organized by question within the field stops on the questionnaire response document. The group presentations were recorded on flip-chart paper, as was the additional discussion from the floor. The workshop team collected the individual questionnaires and compiled those responses as well.

The answers from the field forms and the group report-outs are organized into tables. The first table for each Field Stop (e.g. Table "Field Stop A. LANDSCAPE OVERVIEW" on page 1) are the additional discussion items recorded from the general audience as the floor was opened up for discussion after the formal presentations. Again, these points were not tied to specific questions within the field stop, so this table only occurs once per field stop.

Each question also has a table (e.g. Table "Stop A (landscape), Question 1 . . ." on Page 1). Within that table, the first 2 rows are the summaries reported by the individual groups assigned to formally report on that stop/question (i.e. "Group 2 summary" and "Group 3 summary"). The next rows within the same table include the transcribed individual field forms for each group; within an individual group's row, the responses from individual field sheets were kept separate and denoted by letter (e.g. on page 2, the "Group 1 individuals" row/cell has responses to this question from 3 individuals, a,b, and c in Group 1). Text shading is just to help break out the individual responses. One of the participants submitting their questionnaire did not note which group they were in, so that response is noted in the tables under the “Unknown group.”

We received 20 questionnaires, representing not quite 30% of the field trip attendees. Not all respondents answered every question.

Finally, where you see either question marks or a word in italics and square [] brackets, the word is a guess at what was written down, whereas the question marks indicate no attempt at deciphering the writing.

Field Trip Exercises: Silvicultural Practices for NSO Dry Forest Habitat

Field Stop A. LANDSCAPE OVERVIEW

Field Stop A. LANDSCAPE OVERVIEW

Additions to group summary (not tied to specific questions)

- Dozer lines on strategic ridges
- Visual concerns
- Riparian areas (fuel loading) wick factor)
- Overall strategy: anticipated fire behavior
- Contribution of hardwoods to overall fire behavior (species specific)
- Treatment of plantations below NSO core (influence fire behavior – support development of NSO habitat)
- Knowledge of how owls / fire use landscape

Stop A (landscape), Question 1 What information needs would you like to have in order to meet your objective?

Group 2 summary

- Fire: behavior, weather, history, ignition sources, fuel models, likely scenarios (spread, direction, fuel load, continuity), fire refugia—core
- Silviculture: stand density, structure, diversity, site productivity, seral stages, soils, tree size, species response (understory), forest type, understory composition
- Owls: occupancy, locations, use patterns, nest tree, adjacent owls, habitat maps, history, down & dead wood, productivity
- Ownership, abiotic factors (slope, aspect . . .) topography

Group 3 summary

- Map of habitat
- Ownership of land
- Fire Hx
- Stand types
- Owl sites
- Other T&E species
- Management allocations
- CHU
- Map of riparian areas
- Abiotic (topo etc)
- Fuel loading

Stop A (landscape), Question 1 What information needs would you like to have in order to meet your objective?

Group 1 individuals

a:

- Social/economic value of habitat & risk assessment
- Zabel model – habitat suitability larger scale assessment
- Telemetry data
- History of owl pair
- Points of ignition
- Site productivity
- Amount of suitable habitat
- Fire behavior modeling
- Climate change information (Future Range of Variability)
- Desired Future Condition – vegetation potential
- Historic Range of Variability

b: Habitat / fire suitability map. Are owls present here. What is the specific area at risk? Are our efforts better spent elsewhere? Basic info on species present and fire behavior modeling.

c: Information on owl habitat use, fire history, bigger scale picture than small watershed. Fire behavior modeling. Site productivity.

Group 2 individuals

a:

- Owl locations / use patterns
- Habitat maps
- Other cores
- Flam map analysis
- Fire behavior maps
- Weather (upslope)
- Fire starts (historic)
- Forest condition / stocking

b:

- Fire history
- Fire behavior potential
- Air photos – habitat

c:

- Fire: fire behavior, fire maps, weather, fire history, most likely fire scenario, ignition sources, land ownership.
- Silviculture: distribution of stand density, tree sizes distribution, different seral stages, aerial photos, other sensitive spp., forest composition & size class
- Owls: occupation, use pattern, nest tree, adjacent owls, habitat maps, abiotic features.

Stop A (landscape), Question 1 What information needs would you like to have in order to meet your objective?

Group 3 individuals

a:

- Map of habitat, ownership of land, fire history, owl sites, stand type, other T&E spp.
- Management allocation, CHU
- Mapping of riparian areas, topo, etc.
- Fuel loading

b:

- Condition class
- Land ownership
- Topo map

Group 4 individuals

a: Recon of ridge systems for suitability for dozer lines. Potential ignition sources. Fire history & vegetation maps.

b:

- Topo & veg maps
- Fire/burn history
- Recon the ridges for fuel break potential

c:

- Climate, substrate
- Ignition sources
- Landscape & topographic features
- Vegetation types – map
- Fuel condition – density
- Ridge system recon – dozer lines
- Pre-existing fuel breaks
- Fire history, regime, frequency
- Fire risk ratings

d: “conifer” should indicate owl hab/non. Ignition sources – houses, lightning strike history. Are ridge suitable for dozer operation? Stand densities, fuel loading. Pre-existing fuel breaks (long-term due to soils, aspect, moisture, & short term – plantations etc). Fire history. Which areas might be close to developing suitability.

e: Veg map with habitat, plantations, fuel conditions, fire history, ignition sources (WUI) locations, lightning strike map.

Stop A (landscape), Question 1 What information needs would you like to have in order to meet your objective?

Group 5 individuals

a:

- Fire history
- Past management
- Radio telemetry of owls
- Other species

b: Know what other species are here. Radio telemetry the owls for use pattern

c: Fire history, past management actions, condition class. T&E species are also around. How much more 100 ac. Habitat is there near by.

d: Fire regime, fire history, fire condition class, ignition sources
Radio telemetry

Group 6 individuals

a:

- Tree species structure
- Fuel connectivity, fire behavior, fuel mapping
- Riparian areas information
- Vegetation – composition landscape mapping
- Topography – aspects
- Weather
- Fire history

b:

- Species of trees
- Owl occupancy
- Slope
- Fuel loading, connectivity of fuel
- Fire, lightning history
- Know what [*habitats*] available [*inside*] core

Unknown group

Location of other owl sites other species of concern
Stand conditions, fuel loading /fire risk, land ownership, habitat map, management classification / allocations

Stop A (landscape), Question 2 What northern spotted owl habitat elements at the landscape scale would factor into your treatment objective?

Group 2 summary

- Focus the following on 500+ acres:
 - Movement corridors & barriers
 - Suitable habitat
 - Future potential habitat
 - Prey habitat
- Uniqueness of current core
 - Fire refuge (300+ trees)
- Riparian location
- Down & dead
- Veg. communities
- Habitat variety
 - Patchiness
 - Edge effect
- Relationship to larger population

Group 3 summary

- Amount of suitable/dispersal habitat. Home range/core
- Corridors for dispersal
- Edge – how much
- Fragmentation of habitat / connectivity

Group 1 individuals

a: North slope plantations may be important to maintain short term / long term plan on landscape. Foraging habitat – madrone stands.

b: How much habitat is at the specific site

c:

- Short term and long term treatment strategy
- Foraging]
- Potential nest sites
- How much habitat now
- How much capable habitat is there

Stop A (landscape), Question 2 What northern spotted owl habitat elements at the landscape scale would factor into your treatment objective?

Group 2 individuals

a:

- Connection of habitat – suitable habitat concentrated near core (500 acres)
- Suitability of habitat – map
- Core areas
- Prey habitat

b:

- Movement corridors
- Core location

c:

100 acres too small, 500 acres most suitable habitat.

- Abiotic features
- Movement corridors or barriers
- Riparian habitat
- Prey habitat
- Conditions of shrub fields
- Protect “base”

Group 3 individuals

a:

- Amount of suitable & dispersal habitat in home range & core & corridors for dispersal
- How much edge

b:

- Suitable habitat in core/home range
- Nesting vs. foraging
- Corridors, riparian

Stop A (landscape), Question 2 What northern spotted owl habitat elements at the landscape scale would factor into your treatment objective?

Group 4 individuals

a: Where is the foraging habitat? What is the adjacency of other owl sites. Where are the stands at high risk of stand-replacing fire?

b:

- Prey base potential habitat / foraging habitat
- Connectivity
- Adjacent cores
- Dispersal sites
- Riparian corridors

c:

- Look at 500 acre scale
- Foraging habitat
- Next nearest owl site
- Riparian corridors
- Connectivity & dispersal sites
- Prey habitat

d: Foraging habitat – distribution & amount. Prey habitat. Dispersal habitat amount & distribution. Location of adjacent cores. Maintenance of habitat in riparian corridors

e: Foraging habitat, connectivity

Group 5 individuals

a:

- Oaks for prey
- Connectivity – other patches
- Winter range?

b: Where are other patches of owl habitat besides the core

c: Where is the other habitat

d: How much other good owl habitat is there

Stop A (landscape), Question 2 What northern spotted owl habitat elements at the landscape scale would factor into your treatment objective?

Group 6 individuals

a:

- Distribution of habitat
- Future conditions
- Travel pathways
- Refugia

b:

- How [??] is riparian area
- Prey base in forest areas / plantation
- Use existing fuel breaks to minimize impact to core

Unknown group

Amount & quality of habitat. topographic features

Stop A (landscape), Question 3 What fuels elements at the landscape scale would factor into your treatment objective?

Group 2 summary

- Treatment longevity
- Response time / contingency plan
- Natural fuel breaks
- Shrub field condition /patchy
- Distribution of fire regimes
- Weather patterns
- Topography – ridges, slopes
- Fuel load / behavior after treatment
- Access
- Target fire % weather (e.g. 90th) [*severe fire weather percentile?*]
- Fire history / threats
- Fire patterns

Group 3 summary

- Past fire Hx & Tx history
- Abiotic factors
- FRCC
- Use modeling to est. fuel loading
- ψ vegetation type

Group 1 individuals

a:

- road adjacency
- riparian area
- heavier treatment of south slopes
- map of high risk areas

b: Thinned plantations. Type of riparian area. Amount of down fuel

c:

- Fuel loads in plantation areas
- Shrub & hardwood component
- Treatment in riparian draws

Stop A (landscape), Question 3 What fuels elements at the landscape scale would factor into your treatment objective?

Group 2 individuals

a:

- Ridges, topographic breaks
- Shrub field conditions
- What level protection (% weather) do we want
- Control resources & response time & likelihood of response
- Ignition sources & fire behavior

b:

- Topography, arrangement of fuel
- Anticipated response to treatment
- Longevity of treatment
- Anticipated ignition location & fire spread

c:

- Location of ridges
- North slopes
- Potential defensible space locations
- Travel time from control resources-responders time
- Patchy treatments
- Condition of shrub fields
- Contingency plan

Group 3 individuals

a:

- Past fire history & treatment history
- Abiotic factors
- At landscape level use modeling to estimate fuel loading
- FRCC
- Potential vegetation

b:

- Where fires likely to start – human vs. lightning
- Vegetation types, previous treated areas
- Slope, aspect, natural fuel breaks

Stop A (landscape), Question 3 What fuels elements at the landscape scale would factor into your treatment objective?

Group 4 individuals

a:

- Where are the stands at high risk of stand-replacing fire?
- Slopes
- Roads
- IRRs
- Veg/fuels map
- Prevailing winds

b:

- Surrounding fuels
- Distance to WUI
- Road systems
- Landscape fire history
- Fire risk map

c:

- Overstocked plantation
- Slope position & %
- Road system
- Distance to WUI
- Surrounding fuels
- Wind flow patterns
- Topography

d: Fire risk, distance to WUI, slopes, road systems, levels of mortality in stands.
Patterns of wind flow

e: Overstocked plantations, slope position/%, fuel load, standing fuel load, prevailing winds.

Stop A (landscape), Question 3 What fuels elements at the landscape scale would factor into your treatment objective?

Group 5 individuals

a:

- Ridges – aspects – width of shaded fuel breaks
- How does it regenerate?
- Road access
- Natural breaks
- Weather patterns

b:

- Shrub fields
- Ridges
- Slope, aspect
- Would the fuel breaks impede movement

c: Aspect, fuel models, historic fire weather

d:

- Topography, vegetation and high risk areas for carrying fire.
- Road access
- Existing fuel breaks

Group 6 individuals

a:

- Fuel breaks, access, roads
- Arrangement of fuels
- Fuel treatments

b:

[??] fuel breaks, ready access, young stand in area

Stop A (landscape), Question 4: What specific strategies could you propose to meet your objective?

Group 2 summary

- *Set up for future habitat in most usable & defensible areas. Fire refugia
- Tie into ridges, use natural breaks
- Break up shrub fields, plantations
- “Protect” 500 acres for owls
- Private property – decrease potential ignitions
- Use ridges (watershed & intermediate ridges)
- Anchor points
- Maintain access
- Park trailers to create WUI (with pool)
- Take experimental approach. Monitor.
- Decrease ignition sources

Group 3 summary

- Treat fuels around owl cores & high habitat values
- Thin adjacent to cores – heavier thin as move away
- Lightning rod

Group 1 individuals

a:

- Maybe treat riparian area below owl core for fire & maintain (small diameter)
- Manage north facing plantations
- Manage for prey – brush stage regen. On old plantations
- Retention of dwarf mistletoe in trees >80 years to promote nesting structures
- Low on watershed

b:

- Treat riparian areas / thinning
- Retention of some mistletoe
- Burning / piling slash. Reintroduce fire in future treatments

c: Treat riparian and plantation areas below owl core for fire and owl habitat

Stop A (landscape), Question 4: What specific strategies could you propose to meet your objective?

Group 2 individuals

a:

- Break up shrub fields – depth & distance
- Keep meadow breaks – create anchor points
- Ridge features, ridges – surround areas – meadows
- Plantations – treat heavily
- Protect cores, also lower along non-fed lands

b:

- Treat in WUI to reduce threat of escape from private
- Use major & minor ridges to be defensible & available to anchor from.
- Develop adjacent potential habitat to increase core & improve fuel situation

c:

- Use natural break areas in grassland slopes
- Use ridge features to work on. Anchor ridgetops
- Maintain ~400 additional acres of owl habitat around the core for owls
- Break up shrub fields,
- Open up access roads.
- Treat plantations,
- Treat south & east facing slopes

Group 3 individuals

a:

- Treat fuel around cores, high habitat high risk as a landscape strategy.
- Thin adjacent to those areas
- As move away, treat more intensely

b: Get fire to ground outside core.

Stop A (landscape), Question 4: What specific strategies could you propose to meet your objective?

Group 4 individuals

a:

- Ring LSR with dozer lines or other type of fuel break, PCT
- Strategy would be surround owl core with reduced fuel areas

b:

- Shaded fuel break along ridge above & along finger ridge below
- Shaded fuel break treatment along road below the core

c:

- Shaded fuel break on ridgeline & tie to road. Underburn between road & fuel break.
- Shaded fuel break on opposite ridge
- WUI treatment at base & canyon
- Shaded fuel break either side at bottom road
- Treat plantations
- Treat brush
- Treat finger ridge south of core – fuel break

d: Shaded fuel breaks on major ridgelines – particularly effective where there are roads near ridge (fight fire from roads, use retardant where staging crews is risky). Fuel breaks on strategic ridges down into draw / where tie in to roads is possible) & piling & burning. WUI treatment at base of canyon. Also dozer lines on ridges. But good pt by another group that fire is likely to come up the bottom of the draw

Note: multiagency agreement that 1st priority for suppression is WUI & next is owl cores. Local fire plans could do this.

e: Treat shrub fields to expose ground; treat plantations. Multi-agency MOU

Stop A (landscape), Question 4: What specific strategies could you propose to meet your objective?

Group 5 individuals

a:

- Shaded fuel breaks
- Treat old units
- Strategic placement of treatment – utilize natural openings

b:

- Pretreat fuels
- Shaded fuel breaks
- Feathering treatments
- Consider spots, natural openings

c:

- Fuel breaks
- SPOT(s)

d:

- Shaded fuel break
- Use of strategically placed treatments
- Pre-commercial thin and pile burn
- Pre-treat some shrub fields

Group 6 individuals

a:

- The hows
- New stands coming on develop as LSR structure
- Treat lower slopes

Unknown group

Prioritize: how much habitat on the landscape. Quality of habitat. high fire risk / high quality habitat first. Where to treat first

Stop A (landscape), Question 5 What would be the scale of that strategy (described in terms of the overlook view)?

Group 2 summary

- 3-4 6th field watersheds
 - to private lands – work cooperative
- 3-4 owl territory sizes

Group 3 summary

- Treat entire drainage (6th or 7th HUC)
- Minimum of 1.2 miles outside of core

Group 1 individuals

a: 7th field Hydrologic Unit Code

b: Treatment of 7th field watershed

c: 7th or 8th field HUC

Group 2 individuals

a:

- Watershed or larger – probably 2-3 adjacent 6th field watersheds.
- Keep 500 acres where possible
- At least at the scale of 3+ owl sites and look at least generally at the larger area

b: Deming Gulch plus watershed to north, south & east (enlarge scope of analysis)

c:

- At least 6th field HUC
- Out of the edge (and include if possible private lands)
- To the top of the ridge

Group 3 individuals

a:

- At least 2o 1.2 miles outside core
- Treat whole basin

b: Drainage (7th?) HUC

Stop A (landscape), Question 5 What would be the scale of that strategy (described in terms of the overlook view)?

Group 4 individuals

a: Subwatershed scale. Tie dozer lines/shaded fuel break into road below thin plantations surrounding owl core.

b: Mile or more around the unit, defined by ignition source (threat). Primary threat being lightning & WUI

c:

- Landscape – 2 mile scale. Focus on threats from WUI & lightning
- Also protect around core
- Stimulate prey production in some fuel breaks [*@lower?*] ridge

d: Within about 1-2 miles of the core. Based on threats from fire in this major draw. Need some efforts concentrated near core & downslope of core – nearest ridgelines

e: ~7th field watershed due to scale of threats

Group 5 individuals

a: Watershed

b: Drainage – refer to map

c:

- Place SPOTs to connect with WUI
- 5th field watershed

d: Will have to move to major ridge and work with specific vegetation patterns that need treatment (the map)

Group 6 individuals

a: Watershed + into other watersheds (over the ridges)

b: Watershed on both sides of ridge (7 field)

Unknown group

Drainage – bottom to top of ridges

Stop A (landscape), Question 6 What types of treatments would be an integral part of the strategy?

Group 2 summary

Use all tools & suite of treatments including: pruning, small openings

Group 3 summary

- Light thin next to core – heavier as move away from core (mature stands)
- Plantation – PCT to wider spacing
- Underburn away from cores, along roads easily defensible areas
- Lop & scatter (pre-treat)
- Use of goats in core
- Consider use of slashbuster

Group 1 individuals

a:

- Thinning from below in riparian area
- No large tree harvest
- Diversity maintenance
- Vegetative diversity – seral stages. Manage for heterogeneity openings. Patchy treatment of brush to maintain woodrat habitat
- Manage for prey – brush stage regen. On old plantations
- Retention of dwarf mistletoe in trees >80 years to promote nesting structures
 - Low on watershed
 - Keep trees healthy to greater than 80 years of age
 - Maintain on lower slopes to prevent raining mistletoe from infected areas
- Frequent fire treatment
- Education for landowners on prevention

b:

- Commercial / precommercial thinning
- Variety in seral stages –regarding burn off areas
- Burn at more frequent intervals after initial treatment

c:

- Tree selection
- Shrub component
- Dwarf mistletoe kept in patches in lower places

Stop A (landscape), Question 6 What types of treatments would be an integral part of the strategy?

Group 2 individuals

a:

- Pile & burn, underburn, PCT / commercial thin
- Treat plantations & brush
 - Long-term set up for new habitat in most likely & protectable areas (low/mid slope, riparian, north slopes)

b:

- Rx burn
- H.P. & burn
- Mastication
- Precommercial & commercial thinning

c:

- Entire suite of treatments. Thinning, pre-commercial thinning, pruning
- Broadcast burn
- Jackpot burn
- Anchor points

Group 3 individuals

a:

- Light thin next to core, moderate to heavy farther away from core, on mature stands
- Plantation pct to wider spacing
- Underburn away from cores, next to road, easily defensible, pretreat by lop & scatter etc.

b: Thin/burn

Stop A (landscape), Question 6 What types of treatments would be an integral part of the strategy?

Group 4 individuals

a: Ring LSR with dozer lines or other type of fuel break. PCT

b:

- Shaded fuel breaks
 - Tree removal
 - Pile burn
- Pre-com thin adjacent plantations

c:

- Pile & burn, remove <8"
- PCT in plantations
- In shaded fuel breaks, remove some >8" to get spacing
- Fuel break in shrubs (shrub Rx)

d: Shaded fuel breaks, pile & burn. Where possible, maintain foraging habitat in shaded fuel breaks. Thinning in plantations. Fuel break through shrubs. Possible broadcast burning where there are good breaks. If there was a perennial stream, could place a control device for water withdrawal.

e:

- Pile & burn, shaded fuel breaks
- PCT in plantations
- Fuel break in shrub fields

Stop A (landscape), Question 6 What types of treatments would be an integral part of the strategy?

Group 5 individuals

a:

- Fuel breaks, foraging
- Shaded fuel breaks
- Treat old units
- Strategic placement of treatment – utilize natural openings

b:

- Pretreat fuels
- Shaded fuel breaks
- Feathering treatments
- Consider spots, natural openings

c: Fuel breaks, ladder fuel reduction, reduce canopy bulk density, increase crown base height (prune)

d:

- Shaded fuel break
- Use of strategically placed treatments
- Pre-commercial thin and pile burn

Pre-treat some shrub fields

Group 6 individuals

a:

- Density manage
- Species composition mix change – favor some hardwoods, reduce shrubs
- Fuel treatments

b:

- Density [*management*]
- Commercial thinning, [??] commercial, [??] to reduce fuel

Unknown group

Plantations – PCT. Fuel breaks. Commercial thins. Pile & burn

Stop A (landscape), Question 7 Where on the landscape would the treatments be implemented?

Group 2 summary

- Ridges
- Plantations
- WUI
- Adjacent stand to core
- East of ridge
- Along roads
- Around 500 acres
- Brush fields
- Potential fire starts
- Defensible space

Group 3 summary

- Fuel breaks by houses & next to cores & out
- Strategic areas – position on slope, aspect—S & W
- Where heavy fuels on ridges

Group 1 individuals

a: Near potential points of ignition

b: Riparian area, tree plantations

c:

- Below owl core areas
- Snag retention on ridges
- Prescribed fire in meadows
- plantations

Group 2 individuals

a:

- Ridges, brush fields, anchor points
- Private lands
 - Plantations, unnatural brush fields
- Focus outside current habitat where possible

b:

- Strategic ridges (down to riparian – lighter in riparian reserve)
- Definitely at mouth of drainage

c:

- Plantations
- Shrub fields
- Defensible space locations – ridges
- Fire start areas
- Around the 500 acre core areas

Stop A (landscape), Question 7 Where on the landscape would the treatments be implemented?

Group 3 individuals

a:

- First, fuel breaks by houses, treat next to cores and out.
- Second, slope aspect S&W and position on slope where heavy fuels on ridges.

b:

- WUI
- Adjacent cores

Group 4 individuals

a: Focus on ridges – and around WUI, roads, plantations, shrub fields

b:

- Along roadsides & ridges
- Plantations
- Shrub fields
- Units adjacent to cores

c: Roads, ridges, plantations & shrub fields in units adjacent to core. Downslope

d: Ridges, shrub fields, plantations, areas close to core.

e: Along natural ridgelines, roadsides, plantations, shrubfields

Group 5 individuals

a: Abiotic

b: Use openings & ridges

c: S&W aspects, tie into natural barriers (include WUI) CC 2 & 3 areas

d: Ridges

Group 6 individuals

a:

- Mid to lower slopes
- Treat riparian – understory

b: Mid, lower slope

Unknown group

In the WUI
Ridge tops. Around the core

Stop A (landscape), Question 8 What would be the potential barriers to implementing the treatments/strategy?

Group 2 summary

- \$\$\$
- Public opinion
- Staff
- Priority for suppression
- Availability of information in question # 1 [*information needs*]
- Targets
- Narrow burn prescription
- Forest plan. Matrix vs. 500 acre needs
- SMOKE!!
- Local landowner concerns

Group 3 summary

- Cost
- Checkerboard ownership
- Smoke management
- Burning escaping to private land
- Goat disease
- Enviros/hippies/fiscally conservatives

Group 1 individuals

b: Cost, possible change in tree plantations may be a barrier.

c:

- Land use allocation
- Survey & manage, political and litigation concerns
- We need to treat outside of stand to promote habitat for owls and reduce fire behavior in adjacent areas to help fire behavior in the core area

Group 2 individuals

a: \$, people, priorities for suppression

b: \$\$

c:

- Money/funding
- Time
- Staff constraints
- Public opinion
- Smoke
- Perception
- Availability of information
- Checkerboard ownership

Stop A (landscape), Question 8 What would be the potential barriers to implementing the treatments/strategy?

Group 3 individuals

a:

- Cost
- Ownership, BLM checkerboard
- Smoke management
- Burn into private land

b:

- \$
- land ownership
- smoke
- social acceptance of underburning

Group 4 individuals

a: Costs, visuals, riparian areas, topography

b:

- Visual
- Riparian
- Survey & Manage
- Topography
- litigation

c:

- Visual
- \$\$
- Riparian reserve S&Gs
- Topography. North ridge isn't very substantial
- Litigation

d: Visual resource guidelines, riparian, smoke, topography might make some fuel breaks less likely to work. Litigation.

e: Visual, cash, S&M species

Group 5 individuals

c: Environmental groups, public, cumulative effects, connectivity

Stop A (landscape), Question 8 What would be the potential barriers to implementing the treatments/strategy?

Group 6 individuals

a:

- Limited funds
- smoke issues
- view
- land use allocation
- operational
- NEPA
- Access
- Time
- Coordination more than 1 year treatment

b:

- \$
- [??] aspects
- decreased money outside WUI
- smoke
- viewshed
- [??] in some areas
- [??] of [??]
- survey info
- [planning]

Unknown group

- Non-federal landowners limited by take avoidance
- Smoke
- Social concerns – fears
- cost

Field Stop B. NORTHERN SPOTTED OWL NEST CORE

Field Stop B. OWL CORE

Additions to group summary (not tied to specific questions)

- Ladder fuels: define what they are (live vegetation / dead limbs)
- Assumption that treatment would occur outside core area
- Risk evaluation
- Stagger treatment temporally / spatially
- NWFP 100 acre core area limitations
- Risk associated with treatment: broadcast burn vs. pile & burn, jackpot burning
- Could vs. Should (define NEED TO TREAT)

Stop B (owl core), Question 1 What characteristics make this stand northern spotted owl habitat?

Group 1 summary

ASSUMPTIONS (note there was not consensus on at least the first assumption, if not all of them:

- Ordered by manager to do some treatment despite groups near consensus to not enter the core with treatment
- Rest of watershed has been treated to relatively “fire safe” conditions.
- Work, including burning, will be done by experienced, in-house crews with biologist on site
- All work would be done in non-nesting years

Habitat characteristics:

- Presence of owls
- High canopy closure ~85%
- Epicormic growth
- Dwarf mistletoe – nesting structures
- Multi-story canopy
- Vertical structure – 130 age; fire refugia doms – 250 years
- Cool microsite
- Predominately Douglas-fir

Group 6 summary

- Large snags present (assumed)
- Large trees
- Down wood
- Multi-layered stand
- Hardwood component in riparian area
- High canopy closure
- Mistletoe present

Stop B (owl core), Question 1 What characteristics make this stand northern spotted owl habitat?

Group 1 individuals

a:

- Epicormic growth
- Presence of owls
- High canopy closure
- Cool microsite
- Dwarf mistletoe
- Lots of understory trees
- 130 age, dominant 250
- Doug-fir reprod

b:

- Multiple layer canopy, more canopy closure
- Understory trees, mistletoe evident
- Structural diversity horizontal vertical
- Woody material present
- Cooler area located in draw

c:

- Hardwoods shrubs (snowberry, serviceberry, Oregon grape) add to diversity
- Significant mistletoe
- LWM for prey
- Tree deformities (whorls, mistletoe)
- Cool microsite, climate
- Canopy closure

Stop B (owl core), Question 1 What characteristics make this stand northern spotted owl habitat?

Group 2 individuals

a:

- Perches, multi-layered stand
- Remnant trees (large)
- Canopy closure
- Understory

b:

- Owls use it
- Perch areas
- Density

c:

- Multi-layer canopy
- Presence of owl pair
- Mistletoe
- Moderate to high canopy closure >60%
- Availability of perches
- Woody debris
- Tree species diversity – somewhat limited

Group 3 individuals

a: Multilayer, 80% CC, large trees, hardwoods, large logs, size variance, variable stand, good prey habitat

b:

- High cc
- Multi-layer
 - Not much species diversity – hardwoods down the hill
- Not as many large OS as optimal

Stop B (owl core), Question 1 What characteristics make this stand northern spotted owl habitat?

Group 4 individuals

a: Scattered predoms and mistletoe provide nest structure

b:

- Douglas-fir
- Large trees
- Multiple age class
- Close to riparian
- Mistletoe
- Some hardwoods

c:

- Canopy closure
- Dense stand
- Large mature trees – nest structure
- High stems/acre
- Multiple species habitat
- Structural diversity – mistletoe
 - Prey base habitat

d: Mid-high canopy. Multi-layered, large overstory trees, mistletoe & other structures. Deficient in large logs, seedlings, species diversity.

e: Large trees, defect (mistletoe), shrub cover, downed wood (some) canopy closure, snags, lower slope (mid to lower).

Group 5 individuals

a: Large trees; little understory/brush. Older trees were open grown until secondary trees grew

b: Nesting habitat. large older trees, high canopy closure, large dbh snags, light down wood, flying space

c: Large DF, closed canopy (for the most part), some decadence showing, not a lot of CWD, does have multi layered canopy

d:

- High canopy closure
- Multi-layered
- Large overstory trees
- Dark stand

Stop B (owl core), Question 1 What characteristics make this stand northern spotted owl habitat?

Group 6 individuals

a:

- Foraging habitat, closed canopy
- Nesting, roosting multiple canopy, structure, tree species

b: Dead & down, multi layered stand, [*limited hardwood*] [??] nesting structures

Stop B (Owl core), Question 2 What would you want to know about fire/fuels for this site in order to implement your objective?

Group 1 summary (see assumptions under question 1)

- Core missed at least 2 fire cycles
- Fire regime ~30 year return interval
- Surface fuel loading → ladder fuels → arrangement
- Adjacent fuel loading in plantations & other stands
- Level of existing fuel reduction treatments in adjacent stands
- Aspect—SW facing drainage
- Wind direction
- Local weather patterns
- Effectiveness of treatments in similar habitat

Group 6 summary

- Amount, distribution & arrangement of surface fuels (tons/acre)
- How the stand will burn & where are areas of highest probability of ignition (Flamap) or FIRESHED
- Risk of active crown fire
- Evaluation of ladder fuels
- Shrub densities

Group 1 individuals

a: Aspect, wind direction, surrounding

b:

- How ladder fuel removal would affect owls
- What reasons are there to treat the stand
- How much fuel is available (ladder / surface fuels)
- Local weather, aspect, slope soil of site and surrounding landscape conditions

c:

- Value of dead mistletoe trees (how many are there?)
- What is the NRF habitat situation in the 7th field watershed
- What is the fire return interval

Group 2 individuals

a: Ignition sources, fire history, current risk (our fire person not too worried)

b:

- Risk of ignition
- What percentile fire weather
- What surrounds

c:

- What is your risk of ignition
- What type of weather parameters you are trying to reduce the risk for
- What is the habitat around the 100 acre site.

Stop B (Owl core), Question 2 What would you want to know about fire/fuels for this site in order to implement your objective?

Group 3 individuals

a:

- Fire history, fire regime condition class, fuel breaks
- Slope position – mid slope
- Fuel loading

b:

- Where fire is likely to come from
- Fire history
- Treatments in surrounding stands

Group 4 individuals

a: What would be the consequence of underburning stand as it is now.

b:

- Burn/fire history
- Management objectives / constraints
- Buffer needs like inception points
- Fuel loading before & after harvest
- Surrounding fuels

c:

- What is around it? Below it?
- Ignition sources (WUI) below?
- Where is it on slope? Aspect?
- Fire history?
- Management objectives?

d: Surrounding fuels (particularly below), aspect, ignition sources. Typical ignition locations?

e: Surrounding fuels, fire history (return, interval, last fire), potential ignition sources.

Group 5 individuals

a: Fire history – regime, condition class, sources of ignition, fuel loading, crown bulk density, forest health condition

b: Fire history, ignition sources, fire regime & what condition class

c: Fire history, fire regime, condition class

d: Fire regime, fire condition class, ignition source, fire history

Stop B (Owl core), Question 2 What would you want to know about fire/fuels for this site in order to implement your objective?

Group 6 individuals

a: High ladder fuels, distribution of vegetation, height to crown base, fire history, surface fuels

b: Distribution of fuels, dist. Of ladder fuels, shrub distribution & density

Stop B (Owl core), Question 3 What reasons would you have to treat this stand?

Group 1 summary (see assumptions under question 1)

- To protect-reduce fire risk/intensity/severity that would remove overstory
- To begin to reintroduce fire to stand

Group 6 summary

- To reduce fuels & fire risk
- Decrease ladder fuels
- Decrease risk of active crown fire
- Retain tree species diversity (pine & oak)
- Long-term viability of stand

Group 1 individuals

a: Treat to reintroduce fire. Natural fire regime

b: Reduce fire fuels. Get back in to a fire cycle. Reduce intensity / severity

c:

- To get the stand into the normal fire cycle. Assumption is we have missed 2 fire cycles & this will eventually burn up
- Buy some time

Group 2 individuals

a:

- Maintain habitat
- Promote continued development
- Reduce risk of crown fire

b:

- Longevity of core area
- Fire risk (assumed from outside)
- ? of loss of utility to owls as stand continues on current trajectory

c:

- Reduce fire risk
- Reduce some of the density of small trees for owl access??
- The silviculturist in our group felt that 120-140 BA should be removed for tree health
- *High concern about treating the 100 acre core area. Instead treat around the 100 acre core area.

Group 3 individuals

a: Reduce fire risk & maintain functioning habitat

b: Most strategic location

Stop B (Owl core), Question 3 What reasons would you have to treat this stand?

Group 4 individuals

a: To make it resilient to a surface fire or passive crown fire.

b:

- May want ridgeline fuel break
- Drainage
- Roadside starts
- Lightning potential
- Midstory may be getting too thick for owl flight
- Help prevent catastrophic fire

c:

- Avoid crown fire
- Perpetuate stand

d:

- To maintain as nesting habitat – avoiding replacement fires.
- Q – what about insect risks? (no real discussion on this)
- Might do better to treat around & not in stand

e: To avoid a crown fire, maintain owl values.

Group 5 individuals

a:

- Create snags/logs (?)
- WUI (?)
- Ladder fuels, crown density
- Landscape priority (where?)

b:

- Lots of ladder fuels
- Fuel loading
- Is it a high priority
- Crown bulk density
- High priority because it's an active 100 acre owl core & is it in a WUI?

c: WUI / non-WUI

d:

- Maintain owl core
- Is it in WUI

Group 6 individuals

a: Tree density, fuels, fuel ladders, maintain species viability, to protect

Unknown group

Reduce ladder fuels & surface fuels

Stop B (Owl core), Question 4 What types of treatments could be implemented without eliminating or substantially impacting the important elements of spotted owl habitat and forest health?

Group 1 summary (see assumptions under question 1)

- Pruning up to 10 ft – patchy – maybe 50% during non-nesting year
- Patchy burn
- Broadcast burn in the spring. Low intensity/severity fire. Back down slope. Do deeper burn in fall.
- Remove really dead mistletoe infected trees that are suppressed
- Jackpot burning

Group 6 summary

- Select a few pines & oaks per acre & culture around them
- Remove ladder fuels along roads
- Treat shrub field—open in a mosaic to create regeneration to increase prey species

Group 1 individuals

a: Back fire down from road in cool weather

b: Remove ladder fuels. Return fire cycle. Prune up to 10 ft., hand pile / leave some piles.

Low intensity fire: cutting ladder fuels, burning small diameter dead mistletoe trees.
Broadcast burn

c:

- Remove lower ladder fuels (5 ft high) on 40% of trees
- Remove dead mistletoe trees
- Treat with prescribed fire after pruning
- If you pile prunings – burn all piles

Stop B (Owl core), Question 4 What types of treatments could be implemented without eliminating or substantially impacting the important elements of spotted owl habitat and forest health?

Group 2 individuals

a: Some thinning – light, careful & not within immediate vicinity of known trees.
Winter cut

b: Reduce ladder fuels by pruning & light understory thinning of suppressed. Hand pile & burn.

c:

? Should we work in 100 acre area at all? Rather, work around the 100 acre area.

- Ideas-- <prune> up
- Provide for a patchy distribution – maintain heterogeneity
- Remove smaller trees, drop & leave
- Pile & burn selectively and in a patch distribution
- Retain hardwoods, big trees, snags mistletoe trees, maximize diversity, maintain riparian
- Heavy treatment at top of slope
- Light spring burns
- Leave some piles
- Leave high canopy closure at multiple levels
- Phase work
- Work in winter or non-reproductive year.

Group 3 individuals

a:

- Alternative A:
 - Prune & pile, light thin from below (DBH limit) – varied thin
 - Treat strategic points, depending on fuel loading, aspect S&W facing, access. Generally stay away from riparian areas.
 - Treat outside 100 ac to decrease fire risk & increase habitat
- Alternative B:
 - Treat around 100 acre core – somewhat effective, short-term protection.

b:

- Pruning: pile, light thin from below
- Treat c/c to foraging standard (slope access)
- Treat areas outside core both to reduce fire risk

Stop B (Owl core), Question 4 What types of treatments could be implemented without eliminating or substantially impacting the important elements of spotted owl habitat and forest health?

Group 4 individuals

a: Limb up trees 15' & fell suppressed <8" hand pile & burn most but not all piles

b:

- Understory thinning, maybe some older commercial trees
- Pile burn, could leave some piles for woodrats
- Understory burn in cool season
- Pruning & pile burning

c:

- Pruning 12-15' high. Selective cut (<8" dbh) of suppressed trees
- Piling & burn
- Selective cut on intermediate (8-20")

d: Limbing to maybe 15', cut some of the suppressed & hand pile & burn or scatter & burn

e: Limbing/pruning to up to 15', cut <10". Hand pile & burn (not sure I agree)

Stop B (Owl core), Question 4 What types of treatments could be implemented without eliminating or substantially impacting the important elements of spotted owl habitat and forest health?

Group 5 individuals

a:

- Prune old limbs
- Fuel breaks on bottom /top?
- Anchors?
- Protect draw, treat edges
- If open up may stimulate ladders – madrones in light gaps
- Maybe PCT / ladder fuels piles
- Don't change crown bulk density
- But maybe nothing

b:

- Remove crown bulk density
- Cool underburn
- Fuel breaks
- Remove small fuels
- Remove fuels on the edge & into the core to reduce fuels without removing into the nest site

c:

- Reduce canopy bulk density
- Reduce ladder fuels
- Increase crown base height
- Fuel breaks

d:

- Fuel breaks – positioned based likely fire behavior
- Reduce ladder fuels – thin small trees using a diameter limit
- Work on edges to reduce crown bulk density
- Run understory burn through it after ladder fuel treatment

Group 6 individuals

a:

- Peripheral treatments
- Maintain pine & hardwoods
- Fuels – ladder – pruning
- Burning piles

b: Remove ladder fuel around edges, some pruning , can stagger treatments

Unknown group

- Prune – pile & burn
- Thin small trees . . . <12” dbh
- Identify areas with highest risk / fuels for treatment
- Treat portion of the area – 50%?

Stop B (Owl core), Question 5 How effective would the treatments be in meeting your objective?

Group 1 summary (see assumptions under question 1)

Pruning would be fairly effective. Would preclude crown fire if fire ignited within the stand. Not so effective if fire ignites in adjacent stand.

Group 6 summary

Not very effective in reducing fuels & is not a long-term solution. Without landscape level treatments outside/around the core, the core treatments are not effective. Assumption is that area around core will be treated to decrease fuels. We don't know what kind of treatments can be done that would take the owls & habitat below threshold to maintain owl presence.

Group 1 individuals

b: Buying time essentially, which may be sufficient as long as adjacent landscapes are treated with owl future and potential crown fires in mind.

c: Maybe

Group 2 individuals

a:

- Some risk to owl habitat from thinning
- Not likely to be able to greatly decrease fire risk or reduce stand density as far as silviculture would like

c:

- ?

Group 3 individuals

a:

- 50% of ac plus or minus 10% -- very effective
- fuel focus – long term

b: If treatments outside core are effective in keeping fire on ground

Group 4 individuals

a: Could be effective except for active crown fire.

b:

- If we could remove most of the ladder & surface fuels while maintaining owl needs
- Could at least encourage a crown fire to drop to surface

c: Would work except for active crown fire.

d: Depends on burn conditions as far as stand replacing fire. Didn't address effectiveness for owls

e: May not prevent active crown fire.

Stop B (Owl core), Question 5 How effective would the treatments be in meeting your objective?

Group 5 individuals

a: Effective under right conditions. Better than nothing

c: Under the right conditions above (#4) treatments would be effective

d: Good if you could do 2/3 to all of them – fuel break alone would probably not buy you much

Group 6 individuals

a:

- Need to treat surrounding area to be effective
- Not effective for silviculture
- At stand level pruning & fuel treatments would be effective to keep on ground

b: Not effective for fuels or silviculture

Stop B (Owl core), Question 6 What would be potential barriers to effective treatments?

Group 1 summary (see assumptions under question 1)

- Narrow window for burning
- Nesting season – spring burn
- No back-up stand
- Cost

Group 6 summary

- Cost vs. effectiveness
- Without landscape level treatments outside/around the core, the core treatments are not effective. Assumption is that area around core will be treated to decrease fuels. We don't know what kind of treatments can be done that would take the owls & habitat below threshold to maintain owl presence.
- NWFP-100 acre cores not maintained over time.

Group 1 individuals

a: Narrow window for burning

b: Cost, narrow window for burn, which may be within nesting season of the owls. Risk of potential loss of treated area.

c:

- Nowhere for owls to go in short term
- Possible access limitations due to snow

Group 2 individuals

a: Owl habitat & need to maintain and we really don't know what we need to keep for them

c:

- Wet weather
- Steep topography

Group 3 individuals

a:

- Cost
- Seasonal restriction – do in Sept. – Feb.
- Access
- Air quality to burn piles

b:

- LOPs
- Riparian considerations
- smoke

Stop B (Owl core), Question 6 What would be potential barriers to effective treatments?

Group 4 individuals

a: Costs

b:

- Riparian buffers
- Steepness may affect ability to harvest
- Risk of ruining habitat we have i.e. negative affect

c: \$, maintaining owl habitat (not go too far, particularly with cut of intermediates)

d: Retaining habitat value

e: Pushing against SPOW habitat. Suitability.

Group 5 individuals

a:

- None if politics, regulations & economics not factors.
- Social

c: Environmental groups, public

d: None, social problem?

Group 6 individuals

a:

- Maintenance high quality owl habitat
- Cost
- Limited treatments

b:

- Maintenance of high quality STOC habitat
- Treating core and enough
- Need to treat outside core

Unknown group

- FWS
- Social concerns – lawsuits
- cost

FIELD STOP C (Spots 1, 2 &3): TREATMENT AREAS

Field Stop C. TREATMENT AREAS

Additions to group summary (not tied to specific questions)

- Definitions of “habitat”
- Viewing perspective may have influenced opinions (from the road versus within the stand)
- Efforts to retain hardwoods must be clearly defined and provided for within individual prescriptions and carried through implementation
- Implementation monitoring: Did it work? If not, why not?
- Need for follow up by specialist beyond the IDT process.
- Hardwood species not created equal and require species specific prescriptions
- Quality versus quantity. Meeting needs of species versus human-centric objectives.
- Calibration of terminology. e.g. heavy thin versus light thin could be viewed as regen. harvest versus heavy thin. How do we come to consensus?
- Static vs. dynamic perspective. Consider what stand looks like now as well as anticipate what it will develop into.
- Neutral terminology that does not reflect a specific discipline (biology, fuels, etc)
- Working with measurable parameters versus opinions
- Importance of defining a measurable trajectory

Spot 1

Stop C-1 (Treatment Areas), Question 1 Any suggestions for the Checklists?

Group 4 summary

- Not clear how checklist is to be used
- Rows & columns don't crosswalk
 - Some are metrics, others just ideas
 - Would be useful to have crosswalk between columns

Group 5 summary

- Nesting Roosting vs. Foraging elements.
- Fuels condition class.
- Aspect slope position NSOwl.
- Add platform info (other than mistletoe)

Stop C-1 (Treatment Areas), Question 1 Any suggestions for the Checklists?

Group 1 individuals

a:

- Define: canopy closure; canopy cover; crown closure; crown bulk density
- Add epicormic growth characteristics to Table 2
- DWD, CWD, Downed wood
 - Tonnage vs. large wood
 - Positions of logs on landscape
 - Large wood

b: Need for clarification on riparian reserves. Canopy cover vs. Canopy closure. Crown bulk density. Define tonnage for down woody debris

c:

- Epicormic growth, branch whorls added to incidence of deformities
- Riparian reserves should be addressed
 - Definition between canopy cover vs. canopy closure
 - Crown bulk density
 - Crown closure
- Pictures of examples
- LWM vs. tonnage (Larry Irwin's example)
 - Position on landscape

Group 2 individuals

a:

- Since we have both habitat & non-habitat using only owl habitat doesn't cover everything
- How about doing one table with an actual stand described from all 3 perspectives or even a couple of stands. Would demonstrate the variation in thought & potential differences in how we use terms.
- Need definitions of terms

b: CBD -- ? RE: structural variability in crowns. High CC = closed stand may not equal high CBD

c:

- Define canopy closure & canopy cover
- Provide more clarification & definitions as it relates to NSO habitat

Group 3 individuals

a:

- Consolidate into 1 list, reduce redundancy
- Break out nesting, roosting & foraging habitat -- define

Stop C-1 (Treatment Areas), Question 1 Any suggestions for the Checklists?

Group 4 individuals

a: In discussion on mistletoe, Hawksworth is tree specific. Wildlife might want stand level description

b: Fire column are not points like the other columns, it's too general (live fuel species composition – how much?, just part of fuel model?) If these are just elements to measure that's fine but what about ranges of acceptance?

c: Need actual measures

d: Diversity of tree species might not be very important (based on lack of species diversity in these stands). Hawksworth should be 0-6 – this is an individual tree rating. Need to emphasize incidence of medium-large brooms. Needs more quantification of attributes across disciplines to describe some conditions.

Group 5 individuals

a:

- Nesting – roosting vs. foraging elements
- Condition class – fuels
- Position within landscape for owls – bottom/middle/top of ridge
- Platforms besides mistletoe

b: Position on the landscape

c: Add condition class to fuel size class area

d: Account for fact there are stands the owls will forage in but not likely nest in. So you have NR and F

Group 6 individuals

a:

- For silviculture:
 - Site productivity related to trees
 - Soils – water holding capacity
 - Elevation
 - Relative density & distribution
 - Growth rates
 - Leader growth
 - Height diameter ratio
 - Soils – stability – how open can you go before you get a lot of blowdown
 - Time
 - Quadratic mean diameter with BA

Unknown group

How do we measure canopy closure?

Spot 2

Stop C-2 (Treatment Areas), Question 1 Do you agree that this stand is spotted owl habitat?	
Group 4 summary	
Dispersal, maybe foraging, not nesting.	
Group 5 summary	
Yes for foraging.	
Group 1 individuals	
a: Not habitat. Marginal foraging at best. Not enough structural diversity. Missing young cohort in understory	
b: Not optimum owl habitat, yet possible foraging. No understory for roost however possible very good roosting in 60 years	
c: <ul style="list-style-type: none">▪ No understory▪ Canopy closure is about the same▪ Simpler structure (vertical and horizontal)▪ Could be on trajectory to be habitat in 60 years	
Group 2 individuals	
a: Not very functional. Marginal to foraging – but little vertical variation – limited use at this time. Too even.	
b: Reduced to low quality short term.	
c: Yes, but marginal. Likely foraging habitat at best	
Group 3 individuals	
a: Foraging habitat, not nesting. Yes for dispersal – 40% cc, no multi layer, lack larger down	
b: Foraging, cc reduced ~40%, less multilayered	
Group 4 individuals	
a: Yes, forage but not nesting	
b: Not really, too uniform, maybe foraging definitely dispersal	
c: Maybe foraging, dispersal. Not nesting	
d: Maybe foraging, not nesting. OK for dispersal. I think the ht. to lowest branches is an issue for foraging use, but some low perches are available & the slope makes high perches more useable.	

Stop C-2 (Treatment Areas), Question 1 Do you agree that this stand is spotted owl habitat?

Group 5 individuals

a: Yes (foraging – nesting may be limited)

b: Yes

c: Foraging yes

d: Probably foraging but not likely nesting

Group 6 individuals

a: Good foraging habitat

b: Foraging, possibly roosting, not nesting

Unknown group

Yes, but not high quality

Stop C-2 (Treatment Areas), Question 2 Do you agree that fire risk has been reduced?

Group 4 summary	
Yes	
Group 5 summary	
Yes. Ladder & surface fuels have been reduced. Reduction in crown bulk density.	
Group 1 individuals	
a: Yes	
b: Yes. Ladder fuels gone. Heavy log cover not present.	
c: Yes.	
	<ul style="list-style-type: none"> ▪ Ladder fuels ▪ Habitat simplification ▪ Loss LWM of prey, loss of mistletoe ▪ microclimate
Group 2 individuals	
a: Yes	
b: Yes	
c: Yes	
Group 3 individuals	
a: Yes. No down, ladder fuels	
b: Yes, ladders reduced	
Group 4 individuals	
a: Yes. Removal of ladders	
b: Yes, greatly unless active crown fire	
c: Yes. No ladder, surface	
d: Yes	
Group 5 individuals	
a: Surface/ladder reduced	
b: Yes	
c: Yes. Reduced surface fuels/ladder fuels	
d: Yes – treatment of ladder fuels	
Group 6 individuals	
a: Yes – low surface fuel, increase ht.	
b: Yes, decreased volume, [??] slash	

Stop C-2 (Treatment Areas), Question 2 Do you agree that fire risk has been reduced?

Unknown group

Yes

Stop C-2 (Treatment Areas), Question 3 How have the stand structural changes likely impacted spotted owls?

Group 4 summary

- Fewer mid-story perches affecting foraging
- Less down woody debris affecting prey habitat
- Provides fire buffer to owl core

Group 5 summary

Lost some down wood, perches for foraging. Lost some potential nesting structures.

Group 1 individuals

a: Yes, ladder fuel reductions reduced roosting habitat. Downed wood removal may have affected prey.

b: Reduced foraging and nesting habitat. May or may not have affected prey. Lost mid level / lower canopy.

c:

- Loss of roosting foraging
- Nesting structures present but loss of utilization

Group 2 individuals

a: Yes – but still some use may occur [??] if woodrats lost a lot of important components.

c: Yes, removed multi-canopy layer, didn't leave woody debris, lost perches, nest structure & hardwoods.

Group 3 individuals

a: Hot, not enough structure for nesting, too open more vulnerable to predation – great horned

b: Not great nesting, could become nesting sooner – larger trees

Group 4 individuals

a: Removal of ladders may have reduced forage perches

b: Removed midstory

c:

- Fewer mid-story perches – impact foraging
- Less DWD – prey habitat

d: Fewer perches for foraging. Less down woody material for prey. No nesting structures evident.

Stop C-2 (Treatment Areas), Question 3 How have the stand structural changes likely impacted spotted owls?

Group 5 individuals

a:

- Less likely to have deformities
- Lost some down wood

b: Taken down wood, reduced prey habitat

c: Yes

d: Probably foraging quality

Group 6 individuals

a: Removed understory

b: Potential long term [??], decreased disease

Unknown group

More open – raised temps – less likely to provide good roosting

Stop C-2 (Treatment Areas), Question 4 How have the stand structural changes likely changed fire behavior and forest health?

Group 4 summary

- Fire
 - reduction in ladder fuels
 - Changed to slow moving surface fire
 - Less torching and decreased spotting
- Forest
 - Slight reduction in insect/disease
 - Slight increase in availability of nutrients, water & light

Group 5 summary

Improved the tree & shrub growth (slightly). Reduced fire intensity & ladder fuels.

Group 1 individuals

a: Has changed fire behavior. Tree vigor not necessarily better.

b: Forest health=tree vigor? Minor change to tree vigor. Depending on type of fire, will change fire behavior.

c: Not on tree vigor. Good for underburning condition.

Group 2 individuals

a: Increased growth, reduced fire ladder fuels & risk of crown fire.

c: Yes, likely reduced fire intensity, might slow down the fire.

Group 3 individuals

a: Short term effect, more ground fires, lower intensity. Increased forest health, less inter tree competition, release residuals.

b: Ground fire, lower intensity, some concern about [*pan LCR*]in leave trees

Stop C-2 (Treatment Areas), Question 4 How have the stand structural changes likely changed fire behavior and forest health?

Group 4 individuals

a:

- Limited forest health benefits
- Slow moving ground fire, limited torching

b:

- Slow moving surface fire
- Limited to no torching
- May have reduced stresses to timber

c:

- No significant increase in growth
- Change to slow moving surface fire
- Less torching – fewer ladder fuels
- No change or slight improvement in insect susceptibility & fungal outbreaks due to space
- Slight increase in availability of nutrients

d: Small decrease in stress on trees – won't release trees to significant increase in growth. Fire likely to stay on ground.

Group 5 individuals

a:

- Reduce intensity
- Improve forest health/growth

b:

- Improved tree growth
- Reduced fire risk

c: Yes. Reduced canopy bulk density & increased crown base height. Should be able to carry this stand into the future with some additional treatments

d: Yes

Group 6 individuals

b: Increased forest health; risk of fire destroying stand reduced, ladder fuels reduced, may just be a slow surface burn

Stop C-2 (Treatment Areas), Question 5 Are there other ways to conduct the treatments having the same successful results?

Group 4 summary

Leave some hardwoods. Promote heterogeneity.

Group 5 summary

- Left more hardwoods.
- Left un-burned (critter) piles.
- Left space around madrones.
- Left more diversity & encouraging more diversity

Group 1 individuals

a: Leave productive microsites more densely stocked. Open up areas within the stand to allow regeneration of shrubs & understory trees.

b: Possible patches left with openings. Could have left more hardwoods. Hand pile burn, keep in a cooler burn stage.

c:

- In bigger picture they may have protected adjacent owl core area, but they have reduced foraging component here in project area.
- Possible patches left with mid story structure in selective sites
- Leave some mistletoe

Group 2 individuals

a: Patchy heavier harvest – not increase vigor in some areas not likely to do much good for owls.

c:

- Patchy thinning
- Maintain heterogeneity
- Remove more shrubs
- Leave more piles

Group 3 individuals

a:

- Group selection maybe
- Cost effective
- Overall good midslope 40%, top slope 30% good fuel reduction

Stop C-2 (Treatment Areas), Question 5 Are there other ways to conduct the treatments having the same successful results?

Group 4 individuals

a: More heterogeneity. Clumps & openings to promote production (hardwoods)

b:

- More large trees removed & retain multi-layer for fire
- Leave more clumps
- Promote hardwood clumps

c:

- Leave some clumps – not so uniform Rx. Some openings
- Promote hardwoods

d: Less uniform treatment, could leave more clumps of smaller trees & maybe some small openings.

Group 5 individuals

a:

- Open around young trees with canopy.
- Leave more piles, drop large trees & leave
- Leave more heterogeneity (some reprod patches)

b: Leave more piles

d:

- Leave piles & slash
- Leave some large trees on ground
- Leave hardwoods
- Variable density

Group 6 individuals

b: This was the [*best*] treatment, could be ladder fuel issue of [*tried*] to burn it

Unknown group

Selection cuts may be a possibility, but perhaps not as effective from a fuels perspective

Spot 3

Stop C-3 (Treatment Areas), Question 1 Do you agree that this stand no longer functions as spotted owl habitat?

Group 4 summary

- Could not come to agreement
- Definitions important
- Landscape context – how much & where is it located in association with other habitat.

Group 5 summary

Yes, as a dispersal site, but only due to its smaller size. Great elk habitat ☺ Larry!

Group 1 individuals

a: Yes

b: Yes, not preferred foraging habitat. Nest trees not present, not flying squirrel habitat.

c: Dispersal habitat at best

- Canopy, tree density, stand diversity
- Loss of horizontal structure
- 80-120 sqft; 35-40 trees/acre; underburned

Group 2 individuals

a: Yes It provides for prey habitat. It still is not owl habitat.

b: Yes

c: Yes, dispersal at best. No perching limbs below 50' for foraging. Too open.

Group 3 individuals

a: Dispersal habitat only, low quality forage, create an edge for forage also predation

b: Dispersal

Group 4 individuals

a: Yes. Except it could be forage or dispersal

b: Still potential foraging if close to good habitat but no use otherwise

c: Possible foraging if close to nest or other close in. Also if small patch

d: If this was a small patch next to denser habitat, might use as foraging. Might serve as dispersal (but need denser patches within stands). In good condition to now increase in size quickly & redevelop into habitat.

e: I think it's pretty poor.

Stop C-3 (Treatment Areas), Question 1 Do you agree that this stand no longer functions as spotted owl habitat?

Group 5 individuals

a:

- Dispersal; small patch
- Given time – better

b: Does function as dispersal with good suitable habitat to move to

c: There is some dispersal habitat

d: Minimal dispersal

Group 6 individuals

a: Yes, no perches for owl very low BA

b: Yes

Unknown group

No – dispersal, forging on edges

Stop C-3 (Treatment Areas), Question 2 Do you agree that fire risk has been significantly reduced?

Group 4 summary

Yes – risk of stand replacing fire has been reduced. But needs maintenance.

Group 5 summary

Yes, in the short term. Treatments will probably be needed in the future.

Group 1 individuals

a: Yes. Surface fuels and crown bulk density reduced

b: Yes. Understory removed. Spacing increased limits crown fire

c: Yes. Surface fuels, crown bulk density, ladder fuels, lack of decadence.

Group 2 individuals

a: Yes. But low basal area – potential high regrowth.

b: Yes

c: Yes, but shrubs would likely require maintenance.

Group 3 individuals

a: For trees, yes, but fuels dry out quicker with sun & still have same ground fuels, but fire could move through here.

b: Yes

Group 4 individuals

a: Risk has been reduced. May need maintenance

b: Yes

c: Yes. Temporary – will need to be maintained

d: Understory response works against you – lots of low fuel. Trees do seem to be less vulnerable to fire mortality. Would need intensive maintenance schedule to keep risk low.

e: Yes, but with increased maintenance.

Stop C-3 (Treatment Areas), Question 2 Do you agree that fire risk has been significantly reduced?

Group 5 individuals

a:

- Yes – short term
- 10 years – no

b:

- short term reduced <10 years
- long term problems

c: Short term yes. Will need maintenance to keep risk down.

d: Yes

Group 6 individuals

a: Yes. Reduced fuels & crown bulk density

b: Yes – [??] & for decades to come

Unknown group

Yes

Stop C-3 (Treatment Areas), Question 3 What other treatments could be used to meet fire objectives?

Group 4 summary

- Leave madrones
- Leave clumps
- Leave snags
- Pile & burn rather than broadcast burn

Group 5 summary

Hand pile & burn instead of an underburn. Could have left more hardwoods. Leave more clumps. If burning used, keep it a cool burn.

Group 1 individuals

a:

- Patchy
- Left drainage untreated
- Radial thin around some younger trees with potential for release & future development of old growth

b:

- Possibly left more patchy
- Radial thin around best trees

c: Treated in patches, treated plantations below and left riparian areas for lighter treatments. Radial thin around larger conifers and younger trees with potential to grow into old growth trees.

Group 2 individuals

a: Variable thinning.

c:

- Prune up to 12' on intermediate stage trees
- Pine Rx – mostly Doug. Fir
- Basal area way below optimum according to group silviculturist
- What are they trying to accomplish silviculturally?
- Trees have a very low crown to bole ratio

Group 3 individuals

b: Another underburn – have a 3 year cycle

Stop C-3 (Treatment Areas), Question 3 What other treatments could be used to meet fire objectives?

Group 4 individuals

a: Leave madrones, clumps & openings. Don't thin as much

b:

- Leave hardwoods
- Leave clumps
- Hand pile burn instead of broadcast

c:

- Leave madrones
- Leave clumps
- Leave snags
- Pile & burn vs. broadcast

d: Follow up with maintenance (question 2 above). Pile & burn if objective is to retain some understory but reduce fuels in between. Could have retained hardwoods.

e: Keep hardwoods.

Group 5 individuals

a:

- Leave more madrones / oaks
- Hand piles
- Clumps

b:

- Hand pile & burn
- Clump treatment

c: Hand pile, leave clumps, burn on cool end of Rx

d: See #2

Group 6 individuals

a:

- Maintenance in future 15+ years out
- Cutting

b: Patchy underburn in 15 years ([??] dense)

Stop C-3 (Treatment Areas), Question 4 Where would you use the treatments?

Group 4 summary

Assuming existing treatment:

- Roads, ridgelines, near homes or other ignition sources
- In unoccupied habitat, where you want to promote better habitat

Group 5 summary

In the WUI areas. Small scale patch cuts for additional diversity.

Group 1 individuals

b: Plantations below

Group 2 individuals

a:

- Higher crown ratio situations outside core & owl area
- Fire – defensible fuel zone
- Anchor points – to allow suppression
- WUI & shaded fuel blocks

c:

- In WUI
- As a defensible fuel profile zone – from fuel planner
- Areas where you want to start over again
- At a very small scale

Group 3 individuals

a: Where can maintain it (access) & where high value

b: Maintain. needed

Stop C-3 (Treatment Areas), Question 4 Where would you use the treatments?

Group 4 individuals

a:

- Assumption is “the treatment” = this treatment
- Strategic ridges

b:

- Use fuel break treatment in defensible space & ridges along roads where possible.
- Lower 1/3 of slope for future owl habitat

c:

- Using existing treatment, where you want to grow big trees & hardwood -- <50 yr old stands
- WUI, ridge tops – top 1/3
- Long term goal to grow owl habitat
- If older stand, may want to take down & start over

d: Assuming we mean something like this with hardwood retention – ridges, near homes. Might be appropriate in owl habitat where functioning is threatened (stagnated too small) or currently unoccupied. Have to look at how much of owl circle is in habitat for owls vs. habitat for local prey too.

e: In a home range with too much LSOG!

Group 5 individuals

a:

- Current treatment = WUI or small scale for diversity
- From #3, high visibility areas

b:

- Near WUIs
- For owls at a small scale for diversity

c:

- Near hi value areas (WUI)
- On appropriate aspects & slope position of hi-value stands

d: In WUI and in stands in general landscape to promote diversity and boost prey

Group 6 individuals

a: Patchy treatments

b: Patchy underburns

Stop C-3 (Treatment Areas), Question 5 Could you conduct a heavy thin – for fire risk reduction- and keep it somewhat spotted owl friendly? If yes, how would you do it? What components would you retain to keep it more spotted owl friendly? If no, why not?

Group 4 summary

Where:

- Strategic areas around cores
- Areas we want to develop habitat over time

Components to keep:

- 40% crown, maintain species diversity, maintain hardwoods, maintain / create vertical diversity, leave some logs on site.

Group 5 summary

- Keep the hardwoods.
- Leave foraging perches.
- Leave piles for prey to live in.
- Leave small un-thinned patches.
- More cool season burns.

Group 1 individuals

a: No. Refer to number 3. Maybe leaving patchy

b: No, yet dependent on surrounding owl habitat. Retain some lower canopy if any present. Thin, leave some patches

c: Canopy considerations, layering, keep temporal and spatial perspectives. Heavy thin in patches.

Group 2 individuals

a: No. Not at this scale/approach. Owls need cover & only some habitat can be young or this open.

c: Yes.

- Keep the hardwoods or trees
- Keep some midstory trees
- Leave wood piles for prey
- Use cool season burn

Group 3 individuals

a: Yes, shape – rectangle for creating edge for sp. At younger stand thin heavy. No, not preferred for habitat

b: Change shape / configuration to [??] more foraging edge
Younger stands, deeper crowns.

Stop C-3 (Treatment Areas), Question 5 Could you conduct a heavy thin – for fire risk reduction- and keep it somewhat spotted owl friendly? If yes, how would you do it? What components would you retain to keep it more spotted owl friendly? If no, why not?

Group 4 individuals

a:

- 1) strategic treatment areas around cores. Keep hardwoods, deformities, snags
- 2) Areas where you wanted to “grow” nest core in (distant) future

b:

- Sacrificial areas around cores to make them more fire safe
- In areas beyond salvage, to release them for future habitat
- Components:
 - Hardwood
 - Defect trees
 - Small openings
 - Vertical diversity
 - Dead & down
 - Species diversity

c:

- Strategic areas around 1 or more cores
- Areas we want to develop habitat over time
- Components:
 - Hardwoods, small openings, vertical diversity, snags, big logs, defect trees, 40% canopy

d: Leave some vertical diversity, snags, logs, maintain 40% canopy.

e: Adjacent to core to keep fire out.

Stop C-3 (Treatment Areas), Question 5 Could you conduct a heavy thin – for fire risk reduction- and keep it somewhat spotted owl friendly? If yes, how would you do it? What components would you retain to keep it more spotted owl friendly? If no, why not?

Group 5 individuals

a:

- Leave more hardwoods
- Don't burn as hot
- Leave foraging perches
- Patches in draw
- Keep small area & % of land spread out up down & around

b: Retain clumps of madrone, thin in clumps across stand and keep handpiles on the landscape

c: Yes – leave hardwoods & perches. Treat over a wide area with clumps of hardwoods left (keep patch size small)

d:

- Keep portion of the hardwoods
- Don't thin uniformly
- For fire objectives, plan on managing it for dispersal habitat

Group 6 individuals

a: Yes. Make it patchy, keep lower structures

b: Yes – make it patchy or having corridors?

Unknown group

In a heavy thin, consider leaving unthinned patches, especially around snags or decadent trees. If shape is narrow with lots of edge near suitable habitat, would offer good foraging opportunities

Stop C-3 (Treatment Areas), Question 6 What would you continue to do in this stand to set it up silviculturally for spotted owl habitat?

Group 4 summary

- Let madrones come up
- Promote growth of smaller existing conifers
- Pre-commercial thin (soon)

Group 5 summary

Site-prep—plant with mixed conifers. Promote hardwoods

Group 1 individuals

a: Wait and see if trees release. Start developing second cohort. Allow hardwoods to develop in drainage.

b: Burn at frequent intervals until over story comes in.

c: Time. See if trees release. Allow shrubs and hardwood component to develop.

Group 2 individuals

a: Bring in second story. Maintain all species of trees, especially hardwood. But will stay non habitat for a long time.

c: Site preparation, underplanting, promote hardwoods.

Group 3 individuals

- a:**
- Spot plant with multiple species
 - Hardwoods

Group 4 individuals

a: Maintain hardwoods during maintenance

- b:**
- Hardwood
 - Defect trees
 - Small openings
 - Vertical diversity
 - Dead & down
 - Species diversity
 - Let madrones grow, prune to single stems
 - Promote some of the reprod

- c:**
- Let madrones come up – prune to single stem
 - Promote growth of smaller conifers
 - PCT soon

d: Maybe PCT in regen clumps. For the most part, it just needs to regrow at this point.

e: Allow hardwoods to grow.

Stop C-3 (Treatment Areas), Question 6 What would you continue to do in this stand to set it up silviculturally for spotted owl habitat?

Group 5 individuals

a:

- See #5
- Promote hardwoods
- Underplant (?) – except waste
- Promote foraging characteristics – drop trees for logs

b: Promote madrone clumps

c:

- Manage for prey species
- Drop trees to create CWD

d: Don't do it in the first place – if your plan is to provide nesting/roosting or quality foraging habitat don't reduce the stand density. Given what you have, promote understory development / underplant

Group 6 individuals

a:

- Culture hardwood
- Release & plant conifers

b: [??] thinnings