## Recommended Monitoring Items for Alternative 3

| | Monitoring Item | Completed by |
|---|---|---|
| 1. | Post project stream temperatures | Hydrology |
| 2. | Post project soil compaction | Soils |
| 3. | Effectiveness of canopy closure modeling | Silviculture |
| 4. | Effects on grass, forb, and shrub composition and structure | Ecology/Silv/Rg. |
| 5. | Diversity of snags created with underburning | Wildlife |
| 6. | Snag use | Wildlife |
| 7. | Effectiveness of road closure techniques | Engineering |
| 8. | Mitigation effectiveness-Noxious weed control | Ecology/Botany/Rg. |
| 9. | Mitigation effectiveness-PETS plants | Ecology/Botany |
| 10. | Mitigation effectiveness-Understory Vegetation | Ecology/Botany |
| 11. | Mitigation effectiveness-Heritage properties | Archeology |
| 12. | Mitigation effectiveness-Fuel treatment | Fuel planning |
| 13. | BMP implementation | Hydrology/Soils |
| 14. | Mitigation effectiveness-PETS,MIS.&NWFP species | Wildlife |
| 15. | Scenic Quality- ST-1, ST-2, Heavy Use Disp. Sites | Recreation |
| 16. | Dispersed Recreation- Public use, availability & impacts | Recreation / Soils |
| 17. | Public Opinion | Recreation |
| 18. | Protection of Identified Heritage Properties | Heritage Resources |
| 19. | Water Quality monitoring (herbicide treatment areas) | Hydrology/Fisheries |

In addition, this project may be selected at random for monitoring under the Wenatchee National Forest level monitoring effort outlined in the Amended Forest Plan.

Site specific monitoring requirements that identify who, what, when (frequency and duration), where, why, estimated costs, and potential funding sources are contained in the Project Monitoring Plan in the Elderberry Project Analysis File. Those monitoring items required for project implementation are also identified.

## ALTERNATIVE 4

### Alternative Design -- Alt. 4

Alternative 4 removes the proposed seasonal motorized vehicle closure from approximately 3.98 miles of selected Forest Service system roads proposed for closures under Alternative 2 and 3. These road access changes are being proposed to provide access to some heavier use dispersed campsites during the fall hunting seasons. Alternative 4 also removes some critical big game habitat areas from commercial harvest, fuel treatment, and precommercial thinning entries to offset the loss of hiding cover and security areas that would occur if these additional roads are left open to motorized vehicles. Alternative 4 is similar to Alternative 2 except for the following :

1) Seasonal closures on system roads are reduced on select roads to provide increased access to dispersed campsites during the fall hunting season.

2) approximately 16 acres of commercial tree thinning and 6 acres of natural fuel treatment are dropped from consideration to increase effectiveness of a critical wildlife corridor.

3) approximately 184 acres of mechanical natural fuels treatment is dropped from consideration to improve security habitat for big game in a critical area.

4) additional hiding cover (primarily pre commercial trees screening in road cutbanks) is provided along main open roads in Sections 2, 4, and 16 to improve habitat security for big game.

**Vegetation Treatments -- Alt. 4**

Commercial tree harvest and its associated activities would occur on approximately 1,740 acres and include approximately 1,521 acres if commercial thinning, approximately 169 acres of shelterwood regeneration harvest, and approximately 50 acres of seed tree regeneration harvest. Tree thinning would occur on sites which support dense, dry forest vegetation that have manageable levels of root rots and/or dwarf mistletoe. Basal area in these overstocked stands varies by site capability (available soil moisture) and associated dominant tree species. Of the dominant tree species, ponderosa pine, Douglas-fir, and grand fir, Douglas-fir comprises approximately 90% of the forested area. Table II-1 for Alternative 2 describes the exiting and desired basal areas, trees per acre, and average spacing between trees for different diameters that would be used as a guide.

Thinning activities would leave the larger diameter dominant and codominant tree species which are fire resilient, drought tolerant, and insect and disease resistant (specifically, ponderosa pine, Douglas-fir, and western larch). Commercial thinning areas which have not previously been precommercially thinned would require precommercial thinning after commercial thinning.

Alternative 4 would maintain better hiding cover along main open roads in Sections 2, 4, and 16 than that proposed for Alternative 2 as identified on Map A4 -1. The harvest prescription within 200 feet either side of the following roads would be modified from that in Alternative 2 to provide a more clumpy distribution of trees with a heavier crown canopy to provide better screening and hiding cover for big game:

| | Section 2 | Section 4 | Section 16 |
|---|---|---|---|
| Forest Road | 1400 | | 1301 |
| | 1400 216 | 1400 225 | 1410 |

Alternative 4, like Alternative 2 would conduct shelterwood regeneration harvests on approximately 10 percent of the estimated commercial thinning acres or approximately 169 acres (2 acres less than in Alternative 2). Shelterwood regeneration harvest would occur on sites which support dense, dry and mesic forest vegetation with greater than desired levels of laminated root rot *(Phalanges weary)*,. Anises root disease (*Heteroploidies omasum*), and Dwarf mistletoe. These areas would be planted with fire resilient, drought tolerant, insect and disease resistant ponderosa pine and western larch. These shelterwood harvests would generally range in size from ¼ to ten acres with an average leave tree spacing of 50 to 65 feet. These shelterwood acres are not mapped as separate vegetation treatments since they occur as small pockets scattered throughout the commercial thinning areas.

Alternative 4 would conduct seed tree harvests on the same 50 acres as Alternative 2. These stands have a high proportion of disease and insect prone grand fir. Leave trees on these seed tree harvest units would have an average spacing of 75 to 90 feet. These areas would also be

planted with fire resilient, drought tolerant, insect and disease resistant ponderosa pine and western larch.

Firewood collection in Alternative 4 would occur on the same approximate 85 acres along the 1500 325 road as indicated for Alternative 2. The objective of this firewood collection is to capture expected tree mortality in nearby stands and reduce future road clearing costs.

Alternative 4, like Alternative 2 would implement approximately 180 acres of thinning.

It is anticipated that approximately 4.4 million board feet of timber would be harvested in association with this action.

## Fuel Treatments -- At. 4

Under Alternative 4, approximately 4,984 acres of fuels treatment would occur. Fuels treatments would include those within proposed timber harvest units (approximately 1,740 acres), outside of proposed tree harvest units in natural fuel treatment areas (approximately 2,979 acres), thin areas (approximately 180 acres), and a firewood collection area (approximately 85 acres). Fuel and vegetation treatments for fuel break development are outlined in Table II - 5 on the next page and shown on Map A4 -2 in Appendix A. Fuel treatments associated with the commercial timber harvest operations make up approximately 35 percent of the total foulbrood acres. Natural fuel treatments (underpinning and mechanical), thinning, and firewood collection make up the remaining 65% of the total fuelbreak acres.

**Table II - 5, Fuel Treatment Acres-- Alternative 4**

| Proposed - Alt. 4 Vegetation Treatment | Proposed - Alt. 4 Fuel Treatment | Approximate Acres |
|---|---|---|
| Commercial Thin | Yard Tops / Spring Underburn | 1,244 |
| Commercial Thin | Yard Tops / Precommercial Thin / Prune / Spring Underburn | 446 |
| Seed Tree | Yard Tops / Stand Cleaning / Spring Underburn | 50 |
| Precommercial Thin | Handpile | 171 |
| Natural Fuels Underburn | Spring Underburn | 188 |
| Natural Fuels Underburn | Fall Underburn | 2,034 |
| Natural Fuels Mechanical Treatment | Precommercial Thin / Prune / Handpile or Chip | 757 |
| Precommercial Thin and Underburn | Precommercial Thin and Spring Underburn | 9 |
| Firewood Collection | Handpile | 85 |

The 4,984 acres of fuel treatment in Alternative 4 approximately 190 acres less than that of Alternative 2. Alternative 4 drops approximately 6 acres from natural fuel treatment in two small stands south of Bear Lake that provide hiding cover along a critical big game travel corridor. The remaining 184 acres removed from fuel treatment consideration was located in Section 13 in the vicinity of Forest Road 1400 286. This area was dropped from mechanical fuel treatment consideration to improve security habitat for deer and elk. The area had a low priority for fuel treatment and high wildlife value as security habitat.

Natural barriers, topography, previously treated areas, and proposed vegetation treatment areas would be utilized to create continuous fuelbreaks with a reduced resistance to control. As a

consequence of reduced fuel loading, reduced ladder fuels and relatively open vegetation, the fuelbreak would provide a strategic areas for wildfire control.

Alternative 4 would include underburning a total of 3,971 acres. Spring underburning would occur on approximately 1,937 acres or 49 % of the underburn acres. The areas scheduled for spring underburning include all of the commercial thin acres, approximately 9 acres of precommercial thinning, and approximately 188 acres of natural fuel treatment areas intermixed with more forested areas. Fall underburning would occur on approximately 2,034 acres or approximately 51 % of the underburn acres. The areas scheduled for fall underburning are the natural fuel treatment areas dominated by grass, forbs, and shrubs.

Underburning in Alternative 4, like Alternative 2 would occur in harvest areas and in natural fuel treatment areas which occur outside of harvest areas to reduce fuel loadings, to eliminate undesirable tree species and to improve understory vegetation. An additional 180 acres would be precommercial thinned and pruned followed by either burning handpiles or chipping. This precommercial thinning would occur in harvest areas and in fuelbreak areas outside of harvest areas to reduce ladder fuels and risk of crown fires. in sensitive visual areas. Handpiling would also occur on an estimated 85 acres in the firewood collection area along Forest Road 1500 325.

Alternative 4 also proposes to mechanically treat fuels (precommercial thin, prune, handpile, and burn handpiles, or chip) a portion of the riparian reserve along a total of approximately 2.6 miles of stream where streams are located within or adjacent to other proposed mechanical fuel treatment areas. This activity will reduce the risk of tree crown fires in these areas and help improve their long term sustainability of riparian vegetation.

## Logging/ Transportation Systems -- Alt. 4

Logging methods would generally be the same as Alternative 2 but have approximately 16 fewer acres of tractor logging

Winter logging would be considered on approximately 602 acres as indicated on Map A4 -1. These proposed winter logging areas occur in higher elevations tree stands that receive more snow cover and provide lower quality winter range for deer and elk herds. This is being proposed to reduce potential soil compaction problems, make the timber sale more economically viable, and provide a wider range of alternatives for consideration. Special mitigation measures would be used to enforce the winter motorized vehicle access restrictions on Forest Road 1400.

## System Roads - Alt. 4

Alternative 4 would obliterate approximately 1.35 miles of system roads, change 0.41 miles of Forest Road 1400 238 from a seasonal motorized vehicle closure to a year round motorized vehicle closure, and propose seasonal motorized vehicle closures on approximately 9.65 miles of system roads. These proposed seasonal closures would restrict the use of motorized vehicles on these system roads during the fall hunting seasons from the beginning of the modern deer rifle season though the end of the archery elk season (generally from mid October through the end of November). The proposed seasonal road closures could directly affect public motorized access to approximately 1.56 miles of road on private lands. As mentioned previously, the proposed seasonal motorized vehicle closures would not infringe on the right of Forest Service, or private landowners to enter or authorize the entry into the closed areas with motorized vehicles for administrative, emergency, law enforcement, or other management needs. Please refer to the mitigation measure on page II - 21 for additional information.

System Road Obliterations

Alternative 4, would obliterate a total of 1.35 miles or 0.16 fewer miles of Forest Road 1400 669 than Alternative 2 and 3.. This change was made to allow access to a dispersed campsite off Forest Road 1400 669.

System Road Year Round Motorized Vehicle Closures

Alternative 4, like Alternatives 2 and 3 would also change the remaining portion (0.41 miles) of Forest Road 1400 238 from a seasonal closure to a year round closure to enhance wildlife security habitat. This road would be closed with a guard rail barricades, earth berms, gate, or other suitable closure device.

Seasonal Motorized Vehicle Closures

Seasonal motorized vehicle closures are proposed under Alternative 4 to provide for increase security areas for big game and also retain some existing access to heavier use dispersed camping sites (hunter camps) during the fall hunting seasons.

Alternative 4 provides better access to hunter camps than Alternative 2 or Alternative 3 by 1) eliminating the seasonal motorized vehicle closures on Forest Roads 1400 282 , 1400 283, 1400 619, and 1400 and 2) reducing the length of system road affected by seasonal motorized vehicle closures for Forest Roads 1301, 1301 275, 1400 666, and 1410 250. All road closures would be evaluated for dispersed camping opportunities. Where suitable and practical a portion of the beginning of the closed road (generally less than 100 feet) would be left open for dispersed camping.
Alternative 4 would implement a seasonal motorized vehicle closure on all or portions of the system roads as indicated on Map A4 -4 and Table II - 6. Those roads that have changes from Alternative 2 are marked with a * *.

**Table II - 6, Proposed System Road Access and Management Changes**
**Alternative 4**

| System Road Number | Name/ Geographic Area | Description of Road Change<br>MVC = Motorized Vehicle Closure |
|---|---|---|
| 1301 | Bear Canyon<br>/ Bear Canyon | MVC during fall hunting seasons on approximately *1.06* miles |
| 1301 275 | Burn<br>/ Bear Canyon | MVC during fall hunting seasons on approximately *0.79 *miles |
| 1301 604 | / Bear Canyon | MVC during fall hunting seasons on approximately 0.41 miles |
| 1400 215 | Line Road<br>/ Oak Creek, Sec. 2 | MVC during fall hunting seasons on approximately 0.28 miles |
| 1400 220 | North Fork Oak Creek<br>/ North Fork Oak Creek | MVC during fall hunting seasons on approximately 0.38 miles |
| 1400 221 | Hardwood<br>/ North Fork Oak Creek | MVC during fall hunting seasons on approximately 0.28 miles |
| 1400 238 | Water Oak<br>/ South of Bear Lake | *OBLITERATE* approximately 0.36 miles and YEAR-ROUND CLOSURE on approximately 0.41 miles to improve wildlife security cover and reduce long term road maintenance costs. |
| 1400 282 | Phelps<br>/ Uppper Oak Creek | MVC during fall hunting seasons on approximately *0.00* miles |
| 1400 283 | Ridge<br>/ Upper Oak Creek | MVC during fall hunting seasons on approximately *0.00* miles |

| | | |
|---|---|---|
| 1400 619 | / Oak Creek, Sec 4 | *OBLITERATE* approximately 0.19 miles and MVC on approximately *0.00* miles to improve wildlife security cover and reduce long term road maintenance costs. |
| 1400 634 | / Oak Creek, Sec. 4 | *OBLITERATE* approximately 0.17 miles to improve wildlife security cover and reduce long term road maintenance costs. |
| **System Road Number Table II - 6 (Continued)** | **Name/ Geographic Area** | **Description of Road Change** MVC = Motorized Vehicle Closure |
| 1400 639 | / Oak Creek, Sec. 6 | MVC during fall hunting seasons on approximately 0.25 miles |
| 1400 653 | / Upper Oak Creek Sec. 13,14,23,24 | MVC during fall hunting seasons on approximately 0.73 miles |
| 1400 666 | / Upper Oak Creek | MVC during fall hunting seasons on approximately *0.00* miles |
| 1400 669 | / Oak Creek, Sec. 6 | *OBLITERATE* approximately *0.17* miles to improve wildlife security cover and reduce long term road maintenance costs. |
| 1400 673 | / Oak Creek, Sec. 13 | MVC during fall hunting seasons on approximately 0.15 miles |
| 1401 646 | / So. Fork Oak Creek Sec. 20 | *OBLITERATE* approximately 0.46 miles to reduce long term road maintenance costs. |
| 1410 250 | Tanbark / Oak Creek, Sec. 2 | MVC during fall hunting seasons on approximately *0.42* miles |
| 1410 254 | No Road / Oak Crk & Bear Cyn Sec. 2 | MVC during fall hunting seasons on approximately 0.97 miles |
| 1410 255 | Last Road / Bear Canyon, Sec.10,11 | MVC during fall hunting seasons on approximately 1.87 miles |
| 1410 621 | / Bear Canyon, Sec.10 | MVC during fall hunting seasons on approximately 0.28 miles |
| 1410 631 | / Oak Creek, Sec. 2 | MVC during fall hunting seasons on approximately 0.23 miles |
| 1410 636 | / Oak Creek, Sec. 2 | MVC during fall hunting seasons on approximately 0.17 miles |
| 1410 641 | / Bear Canyon, Sec.10 | MVC during fall hunting seasons on approximately 0.32 miles |
| 1410 655 | / Bear Canyon, Sec. 15 | MVC during fall hunting seasons on approximately 1.06 miles |

Year-round closures would be with an earth berm, guard rail barricades, gate, or other suitable closure device. Seasonal closures would be by signing, gate, or other suitable temporary closure device. All road closures would be evaluated for dispersed camping opportunities. Where suitable and practical a portion of the beginning of the closed road (generally less than 100 feet) would be left open for dispersed camping.

### Non System Roads on Federal Lands

Alternative 4, like Alternative 2 would close during the fall hunting seasons the same 12.39 miles of user established/maintained roads currently not part of the official transportation system. This includes all inventoried non system roads on Federal lands within the Elderberry Analysis Area. Alternative 4, like Alternative 2 would also consider for obliteration approximately 2.13 miles of non system roads within proposed timber harvest units. Please refer to Map A4 - 4 in Appendix A for approximate locations of potentially affected non system roads.

### Private Roads

Alternative 4 has the potential to affect existing public access on approximately 1.56 miles of roads on private lands. These are roads on private lands that are accessed by roads on Federal lands being proposed for seasonal closures. The elimination of seasonal closures on Forest Road 1400 282 under Alternative 4 reduced the miles of user roads on private lands potentially affected from that proposed under Alternative 2 and 3. As mentioned earlier, roads on private

lands not included in easement agreements with the Forest Service may be closed by the private landowner at anytime.

## Noxious Weed Control -- Alt. 4

Noxious weed control for Alternative 4 would be the same as that of Alternative 2 and 3. (including the use of herbicides).

## CONNECTED ACTIONS -- ALT. 4

Connected actions associated with Alternative 4 are the the same as those described for Alternative 2.

### Resource Enhancement Opportunities

Resource Enhancement Opportunities for Alternative 4 are the same as those for Alternative 2

### Mitigation Measures -- Alternative 4

Mitigation Measures for Alternative 4 are the same as those for Alternative 2 except for the additional mitigation measures mentioned below.

### Additional Mitigation Measures -- Alternative 4

### Wildlife Resources

12. The gate on Forest Road 1400 near State Highway 12 must be opened and closed for each logging vehicle that passes during its closure period (generally from the end of November through April 1 each year). A gate tender must be present all all times during gate use to ensure that no unauthorized vehicles pass by the gate and enter the Oak Creek Drainage.

### Monitoring

Monitoring requirements for Alternative 4 are the same as Alternative 2 except as noted below.

**Additional Recommended Monitoring Items for Alternative 4**

| | Monitoring Item | Completed by |
|---|---|---|
| 20. | Gate Tending on Forest Road 1400 | Timber Sale Admin. |

In addition, this project may be selected at random for monitoring under the Wenatchee National Forest level monitoring effort outlined in the Amended Forest Plan.

Site specific monitoring requirements that identify who, what, when frequency and duration), where, why, estimated costs, and potential funding sources are contained in the Project Monitoring Plan in the Elderberry Project Analysis File. Those monitoring items required for project implementation are also identified.

## Table II-7, Comparison of the Alternatives by Quantitative Units of Measures Associated with Significant Issues

| Unit of Measure | Desired Future Condition / Standard | Alt. 1 No Action | Alt. 2 | Alt. 3 | Alt. 4 |
|---|---|---|---|---|---|
| **CUMULATIVE WATERSHED EFFECTS (Issue 1 )** | | | | | |
| Soil Productivity and Compaction | | | | | |
| Total acres treated (commercial timber harvest and underburning) | | 0 | 5,749 | 2,237 | 5,711 |
| Acres of ground based yarding | | 0 | 1,583 | 0 | 1,567 |
| Acres of skyline yarding | | 0 | 173 | 0 | 173 |
| Acres underburned | | 0 | 3,993 | 2,237 | 3,971 |
| Road Density (Mile per square mile) | less than 3.0 | 3.15 | 3.03 | 3.10 | 3.04 |
| Commercial timber harvest acres on severe erosion hazard soils | | 0 | 266 | 0 | 251 |
| Acres underburned on severe erosion hazard soils | | 0 | 495 | 495 | 489 |
| Water Timing and Flow | | | | | |
| Percent of anaysis area acres reduced below 40% tree crown canopy closure | | 54% | 61 % | 55 % | 61% |
| Acres below 40 percent tree crown canopy closure | | 11,214 | 12,589 | 11,304 | 12,573 |
| Percent change in analysis area acres with tree crown canopy reduced below 40 percent | less than 25% | 0 | 7 % | 1 % | 7 % |
| Percent of analysis area receiving treatment this entry | | 0 | 19 % | 11 % | 19 % |
| Change in road density (mile per sq. mile) | | 0 | - 0.12 | - 0.05 | - 0.11 |
| | | | | | |
| **HABITAT EFFECTIVENESS IN KEY DEER AND ELK HABITAT ( Issue 2)** | | | | | |
| Cover / Forage Ratio | | | | | |
| EW - 1 | 21 / 79 | 46 / 54 | 38 / 62 | 45 / 55 | 38 / 62 |
| Summer Range | 40 / 60 | 41 / 59 | 39 / 61 | 42 / 58 | 39 / 61 |
| Percent of deer and elk cover in EW-1 rated as satisfactory | minimum of 20 | 36 | 39 | 36 | 39 |
| Percent of the analysis area in security habitat | minimum of | | | | |
| 12/1 - 3/31 | 50 | 90 | 90 | 90 | 90 |
| 4/1 - 10/15 | 50 | 18 | 19 | 19 | 19 |
| 10/16 - 11/30 | 50 | 21 | 23 | 23 | 23 |
| Estimated winter log loads per day | | 0 | 0 | 0 | 2 to 5 |
| Estimated total winter log loads per season | | 0 | 0 | 0 | 254 |

| Table II - 7, (Continued) Comparison of Alternatives.... Unit of Measure | DFC / Standard | Alt. 1 No Action | Alt. 2 | Alt. 3 | Alt. 4 |
|---|---|---|---|---|---|
| **HABITAT EFFECTIVENESS IN KEY DEER AND ELK HABITAT ( Issue 2, Continued)** | | | | | |
| Habitat Effectiveness Index | maximum sustainable | | | | |
| 12/1 - 3/31 | 69 | 66 | 73 | 70 | 73 |
| 4/1 - 10/15 | 69 | 56 | 62 | 59 | 62 |
| 10/16 - 11/30 | 69 | 57 | 66 | 63 | 65 |
| Cover Sustainability (% of analysis area at high risk of catastrophic loss due to insects / disease / fire) | 20% - 40 % | 80%-100% | 60%-80% | 80%-90% | 60% - 80% |
| **EFFECT ON THE COMPOSITION AND STRUCTURE OF DRY FOREST VEGETATION (Issue 3)** | | | | | |
| Acres of altered tree species composition | 8,540 - 9,760 (70 % - 80%) | 1, 043 ( 9 %) | 3,271 (27 %) | 1,515 (12 %) | 3,255 (27 %) |
| Acres of overstocked stands remaining | maximum of 2,440 - 3,660 (20 % - 30%) | 8,911 (73 %) | 6,634 (54%) | 8,690 (71%) | 6,950 (57%) |
| Acres having full silvicultural treatment | 8,540 - 9,760 (70 % - 80%) | 821 (7 %) | 3,088 (25 %) | 1,332 (11 %) | 3,072 (25 %) |
| Acres within each successional class | | | | | |
| Early | 2,440 - 3,660 (20 % - 30%) | 1,446 (12 %) | 1,667 (14 %) | 1,446 (12 %) | 1,665 (14 %) |
| Mid | 6,100 (50%) | 9,920 (81 %) | 9,699 (80%) | 9,920 (81 %) | 9,701 (80 %) |
| Late | 2,440 - 3,660 (20 % - 30 %) | 834 ( 7 %) | 834 (7 %) | 834 (7 %) | 834 (7 %) |
| Acres of medium size class commercially thinned | | 0 | 203 | 0 | 203 |
| Forested acres at risk to insect and disease | 2,440 - 3,660 (20 % - 30 %) | 8,911 (73 %) | 6,934 (57 %) | 8,690 (71 %) | 6,950 (57 %) |
| Acres of shrub and herb component treated | | | | | |
| Acres of commercial tree harvest | | 0 | 1,756 | 0 | 1,740 |
| Acres of underburning | | 0 | 3,993 | 2,237 | 3,971 |
| Acres of non forest shrub and herb treated | 2,634 - 3,010 (70 % - 80 %) | 0 | 1,592 (42 %) | 1,592 (42 %) | 1,586 (42 %) |

| Table II - 7, (Continued) Comparison of Alternatives.... Unit of Measure | DFC / Standard | Alt. 1 No Action | Alt. 2 | Alt. 3 | Alt. 4 |
|---|---|---|---|---|---|
| **EFFECT ON THE SPREAD OF NOXIOUS WEED SPECIES (Issue 4)** | | | | | |
| Total Acres treated (commercial timber harvest and burning) | | 0 | 5,749 | 2,237 | 5,711 |
| Acres of commercial timber harvest where tree crown canopy is reduced below 40 % | | 0 | 1,377 | 0 | 1,361 |
| Acres of ground based logging systems | | 0 | 1,583 | 0 | 1,567 |
| **EFFECT ON THE RISK OF LARGE, UNCONTROLLABLE CROWN FIRE AND ASSOCIATED IMPACTS ON AIR QUALITY VS. IMPACTS FROM HAZARD REDUCTION MODIFICATIONS (Issue 5)** | | | | | |
| Risk of Crown Fire | | | | | |
| Forested acres with tree crown canopy greater than or equal to 40% | | 9,551 | 8,174 | 9,459 | 8,190 |
| Forested acres with tree crown canopy reduced below 40% | | 0 | 1,377 | 92 | 1,361 |
| Acres of fuel treatment | | 0 | 5,190 | 5,190 | 4,984 |
| Acres of reduced Resistence to Control (RTC) | | 0 | 5,190 | 5,190 | 4,984 |
| Air Quality | | | | | |
| Average tons of particulate (PM10 & PM2.5) produced as a result of fire | | 0 | 839 | 1,104 | 839 |

| Table II - 7, (Continued) Comparison of Alternatives.... Unit of Measure | DFC / Standard | Alt. 1 No Action | Alt. 2 | Alt. 3 | Alt. 4 |
|---|---|---|---|---|---|
| **ACCESS TO NATIONAL FOREST ADMINISTERED LANDS (Issue 6)** | | | | | |
| Miles of additional system road closed year round to motorized vehicle travel | | 0 | 0.41 | 0.41 | 0.41 |
| Miles of road obliterated | | | | | |
| System Roads | | 0 | 1.51 | 1.51 | 1.35 |
| Non System Roads | | 0 | 2.13 | 0 | 2.13 |
| TOTAL | | 0 | 3.64 | 1.51 | 3.48 |
| Miles of additional road closed to public motorized vehicle travel during the fall hunting seasons (approx. mid October to November 30) | | 0 | 13.63 | 13.63 | 9.65 |
| System Roads | | | 12.39 | 12.39 | 12.39 |
| Non System Road | | | 26.02 | 26.02 | 22.04 |
| TOTAL | | | | | |
| Percent change in miles of road open to public motorized vehicle travel (Approx. April 1 through mid October)) | | | | | |
| System Roads | | 0 | - 2.5 % | - 2.5 % | - 2.3 % |
| Non System Roads | | 0 | -17.0 % | 0 % | -17.0 % |
| Private Roads | | 0 | 0 % | 0 % | 0 % |
| | | 0 | | | |
| Weighted Average % change (Includes Privae Roads) | | | - 3.9 % | - 1.6 % | - 3.7 % |
| Percent change in miles of roads on Federal lands open to public motorized vehicle travel (Approx. April 1 through mid October) | | 0 | - 5 % | - 2 % | - 5 % |

| Table II - 7, (Continued) Comparison of Alternatives.... Unit of Measure | DFC / Standard | Alt. 1 No Action | Alt. 2 | Alt. 3 | Alt. 4 |
|---|---|---|---|---|---|
| **ACCESS TO NATIONAL FOREST ADMINISTERED LANDS (Issue 6, Continued)** | | | | | |
| Miles of open road during the fall hunting seasons (Approx. mid October to November 30) | | | | | |
| State Highway 12 | | 9.11 | 9.11 | 9.11 | 9.11 |
| System Roads | | 51.68 | 37.36 | 37.36 | 41.50 |
| Non System Roads | | 12.56 | 0 | 0 | 0 |
| Private Roads | | 12.37 | 10.57 | 10.57 | 10.81 |
| TOTAL | | 85.72 | 57.04 | 57.04 | 61.42 |
| Percent change in miles of road open to public motorized vehicle travel (Approx. mid October to November 30) | | | | | |
| System Roads | | 0 | - 27.7 % | - 27.7 % | - 19.7 % |
| Non System Roads | | 0 | - 100.0 % | - 100.0 % | - 100.0 % |
| Private | | 0 | - 14.6 % | - 14.6 % | - 12.6 % |
| Weighted Average % Change (Includes Private roads) | | 0 | - 33.5 % | - 33.5 % | - 28.4 % |
| Percent change in miles of roads on Federal lands open to public motorized vehicle travel (Approx. April 1 through mid October) | | 0 | - 42 % | - 42% | - 35 % |
| Road Density (Mile per sq. Mile) | | 3.15 | 3.03 | 3.10 | 3.04 |
| **EFFECTS ON RECREATION OPPORTUNITIES (Issue 7)** | | | | | |
| Total number of dispersed sites with motorized access available during the fall hunting seasons | | | | | |
| National Forest / Percent Change | | 94 / 0 % | 73 / -22 % | 73 / -22 % | 81 / -14 % |
| Private / Percent Change | | 18 / 0 % | 18 / 0 % | 18 / 0 % | 18 / 0 % |
| Maximum number of dispersed sites directly affected in the short term | | | | | |
| Direct Effects (National Forest Lands ) | | 0 / 0 % | 23 / 23 % | 51 / 54 % | 15 / 16 % |
| Direct Effects (Private Lands) | | 0 / 0 % | 0 / 0 % | 0 / 0 % | 0 / 0 % |
| Estimated percent of dispersed sites directly affected in the long term | | | | | |
| Direct Effects (National Forest Lands) | | 0 / 0 % | 36 / 38 % | 0 / 0 % | 10 / 11 % |
| Direct Effects (Private Lands) | | 0 / 0 % | 0 / 0 % | 0 / 0 % | 0 / 0 % |

| Table II - 7, (Continued) Comparison of Alternatives.... Unit of Measure | DFC / Standard | Alt. 1 No Action | Alt. 2 | Alt. 3 | Alt. 4 |
|---|---|---|---|---|---|
| Estimated percent of dispersed sites indirectly affected (haul noise)<br>Indirect Effects (National Forest Lands)<br>Indirect Effects (Private Lands) | | <br>0 %<br>0 % | <br>85 %<br>100 % | <br>0 %<br>0 % | <br>71 %<br>100 % |
| System Roads and Non System Roads<br>Please refer to Issue 6 for road indicators | | | | | |
| | | | | | |
| **EFFECTS ASSOCIATED WITH PRIVATE LANDS (Issue 8)** | | | | | |
| Number of additional dispersed sites with vehicle access restricted during the fall hunting seasons | | 0 | 21 | 21 | 13 |
| Increased miles of private road with public motorized access restricted | | 0 | 1.8 | 1.8 | 1.6 |
| Forested acres with tree crown canopy greater than or equal to 40 % | | 9,551 | 8,174 | 9,459 | 8,190 |
| Forested acres with tree crown canopy reduced below 40% | | 0 | 1,377 | 92 | 1,361 |
| | | | | | |
| **ECONOMICS (Issue 9)** | | | | | |
| Amount of Federal funding needed to implement the project. | | | | | |
| Timber Sale Portion | | 0 | 232,356 | 0 | 229,453 |
| Natural Fuels Portion | | 0 | 874,638 | 2,029,851 | 764,606 |
| Total | | | 1,106,994 | 2,029, 851 | 994,059 |
| | | | | | |
| Expected Net Timber Sale Revenues | | | | | |
| Estimated Timber Market Value | | 0 | 240, 333 | 0 | 237, 114 |
| Estimated Cost of Implementation | | 0 | 232, 356 | 0 | 229, 453 |
| Estimated Net Revenues | | 0 | 7, 997 | 0 | 7,661 |
| | | | | | |
| **Economics -- General** | | | | | |
| Total volume removed (mmbf) | | 0 | 4.7 MMBF | 0 | 4.6 MMBF |
| Total volume removed (ccf) | | 0 | 8, 971 | 0 | 8, 894 |
| Predicted base rates/ccf | | N / A | 10.00 | N / A | 10.00 |
| Predicted advertised rates/ccf - | | N / A | 26.79 | 0 | 26.66 |
| Predicted total timber market value | | 0 | 240, 333 | 0 | 237, 114 |
| | | | | | |
| Est. Activity Fuel Treatment Costs | | 0 | 506, 855 | 0 | 503, 729 |
| Est. Natural Fuel Treatment Costs | | 0 | 874, 638 | 2, 029, 851 | 764, 606 |

| Table II - 7, (Continued) Comparison of Alternatives.... | DFC / | Alt. 1 | Alt. 2 | Alt. 3 | Alt. 4 |
|---|---|---|---|---|---|
| **Unit of Measure** | Standard | No Action | | | |
| **ECONOMICS (Issue 9)** | | | | | |
| | | | | | |
| FS Fuel Trtm. Cost w/o Timber Sale (1) | | 0 | 2, 029, 851 | 2, 029, 851 | 1, 915, 853 |
| FS Fuel Trtm. Cost w/ Timber Sale(2) | | N / A | 874, 638 | N / A | 764, 606 |
| FS Add. Cost of Implem. Tbr. Sale (3) | | N / A | 232,356 | N / A | 229,453 |
| | | | | | |
| Timber Sale Fuel Trtm. Value (1)-(2+3) | | N / A | 922,857 | N / A | 921,794 |
| Timber Mrkt. Value + Fuel Trm. Value | | N / A | 1,163,190 | N / A | 1,158,908 |
| | | | | | |
| Timber Sale Fuel Treatment Acres | | 0 | 1, 756 | 0 | 1, 740 |
| Other Activity Fuel Treatment Acres | | 0 | | | |
| (Precommercial Thin / Firewood) | | | 265 | 265 | 265 |
| Natural Fuel Treatment Acres | | 0 | 3, 169 | 4, 925 | 2,979 |
| | | | | | |
| Alt. Total Fuel Treatment Acres | | 0 | 5, 190 | 5, 190 | 4, 984 |
| | | | | | |
| Avg. Est. Act. Fuel Cost/Acre Treated | | 0 | 97.66 | 0 | 101.07 |
| Avg. Est. Nat. Fuel Cost/Acre Treated | | 0 | 168.53 | 391.11 | 153.41 |
| | | | | | |
| FS Fuel Trmt.Cost/ Ac. w/o Timber Sale | | 0 | 391.11 | 391.11 | 384.40 |
| FS Fuel Trmt. Cost/Ac. w/ Timber Sale | | 0 | 168.52 | N / A | 153.41 |
| FS Timber Sale Fuel Trtm. Value/ Ac. | | 0 | 177.81 | N / A | 184.95 |
| FS Tbr.Sale Mrkt. + Fuel Trtm. Val/Ac | | 0 | 224.12 | N / A | 232.53 |
| | | | | | |
| | | | | | |