

# **List of Figures**

Figure 1.	Land use allocations under the alternatives	XLVIII
Figure 2.	BLM projected county payments compared to historic payments	LII
Figure 3.	Percentage of BLM-administered lands in the harvest land base by alternative	LIV
Figure 4.	Total allowable sale quantity by alternative for the planning area	LV
Figure 5.	Nonharvest land base volume over time	LV
Figure 6.	Northern spotted owl suitable habitat on BLM-administered lands by alternative and reference analysis	LIX
Figure 7.	Entire planning area of the resource management plan revisions	16
Figure 8.	Steps in the planning process (highlighted boxes indicate public involvement)	18
Figure 9.	Major ownerships within the planning area	181
Figure 10.	Physiographic provinces within the planning area	183
Figure 11.	BLM surface ownership by legal authority within the planning area	184
Figure 12.	Sample portion of the intermingled checkerboard of private and BLM-administered lands	185
Figure 13.	Areas of the Northwest Forest Plan and the planning area	186
Figure 14.	Road density across all land ownerships within the planning area	187
Figure 15.	Example of geospatial data from the Forest Operations Inventory database	188
Figure 16.	Fifth-field watersheds within the planning area	189
Figure 17.	Two example watersheds showing various BLM ownership patterns	190
Figure 18.	BLM, Forest Service, and private ownership as a percent of the fifth-field watersheds within the planning area	191
Figure 19.	Disturbance map from the Northwest Forest Plan's Late-Successional Forest Monitoring Re	port 195
Figure 20.	Percent of BLM-administered land within each of the physiographic provinces within the planning area	197
Figure 21.	Physiographic provinces and BLM lands within the planning area	197
Figure 22.	Stand establishment forest without structural legacies	199
Figure 23.	Young forest without structural legacies	200
Figure 24.	Mature forest with multilayered canopies	200
Figure 25.	Structurally complex forest	201
Figure 26.	Oregon population growth by county group	217
Figure 27.	Coos and Washington county wage and salary income as a percent of total income	218
Figure 28.	County economies with high wood products sector location quotients (LQ)	222
Figure 29.	Change in the socioeconomic well-being scores from 1990 to 2000 in the northern portion of the planning area	224
Figure 30.	Change in the socioeconomic well-being scores from 1990 to 2000 in the southern portion of the planning area	225
Figure 31.	Fiscal year 2005 county expenditures	227
Figure 32.	Fiscal year 2005 revenues for the O&C counties	227
Figure 33.	Fiscal year 2005 discretionary spending for the O&C counties	229
Figure 34.	BLM payments to counties for fiscal years 1985 to 2005	230
Figure 35.	Harvest by land owner within the planning area	233
Figure 36.	Willamette Valley Douglas fir delivered log prices and BLM volume and average stumpage	234
Figure 37.	Log imports from Canada to Washington and Oregon ports	236
Figure 38.	Oregon sawmill consumption by diameter class	237
Figure 39.	Log consumption by product in western Oregon	238



Figure 40.	Western Oregon sawmills by capacity	238
Figure 41.	Lumber production in Oregon and Washington	239
Figure 42.	Western plywood production	240
Figure 43.	U.S. panel production	240
Figure 44.	Log exports from western United States ports	241
Figure 45.	Employment in Oregon's forest products sector (2005)	242
Figure 46.	Employment in Oregon's forest products industry (1969 to 2005)	243
Figure 47.	Western Oregon BLM budget for selected fiscal years	244
Figure 48.	BLM budget by district and state office for selected fiscal years	245
Figure 49.	Full-time equivalent positions by BLM district and state office	245
Figure 50.	Number of BLM full-time equivalent positions by county	246
Figure 51.	Acres of forested lands within the planning area for 2006 by 10-year age class	248
Figure 52.	Peeler versus sawlog grade of Douglas fir logs by district within the planning area	249
Figure 53.	Percent of BLM lands within the planning area with management history that are suitable for sustained timber production	250
Figure 54.	Trend in the total number of permits issued over five years by BLM district	253
Figure 55.	Special status species density shown as hot spots and cold spots	259
Figure 56.	Populations and occupied habitat of special status species on O&C and public domain lands within the planning area	261
Figure 57.	Number of special status species by habitat group	
Figure 58.	Distribution of Canada thistle	
Figure 59.	Distribution of dyer's woad	
Figure 60.	Distribution of false brome	
Figure 61.	Distribution of Japanese and giant knotweed (left) and the Himalayan knotweed (right)	
Figure 62.	Distribution of leafy spurge	
Figure 63.	Distribution of meadow knapweed	
Figure 64.	Distribution of Scotch broom (left) and French (right) brooms	
Figure 65.	Distribution of diffuse knapweed (left) and spotted knapweed (right)	
Figure 66.	Distribution of yellow starthistle	
Figure 67.	Reported infestations of representative invasive species within the planning area	
Figure 68.	Distribution categories of invasive species for the fifth-field watersheds within the planning area	
Figure 69.	Designated critical habitat units for the northern spotted owl within the planning area	
Figure 70.	Areas of concern for the northern spotted owl	
Figure 71.	Marbled murrelet conservation zones	
Figure 72.	Range of the marbled murrelet within the planning area	
Figure 73.	Marbled murrelet population estimates in conservation Zones 3 and 4	
Figure 74.	Critical habitat for the marbled murrelet within the planning area	308
Figure 75.	Locations of the Pacific coast population of the western snowy plover on  BLM Lands within the planning area	
Figure 76.	North Bank Habitat Management Area in the Roseburg District	
Figure 77.	Deer habitat management areas on BLM lands within the planning area	
Figure 78.	Elk habitat management areas on BLM lands within the planning area	
Figure 79.	Listed fish species and evolutionary significant units within the planning area	
Figure 80.	Percentage of miles of fish-bearing streams on and off BLM lands within the planning area	339
Figure 81.	Percentage of miles of high intrinsic potential streams on and off BLM land per evolutionary significant unit within the planning area	
Figure 82.	Number of road and stream crossings in the Evans Creek Watershed	341



Figure 83.	Example of deep pool and habitat diversity caused by large wood	342
Figure 84.	Example of a stream with high wood volume	343
Figure 85.	Relative importance and spatial variability of wood recruitment processes	344
Figure 86.	Probability of debris flow from intermittent streams	345
Figure 87.	Current riparian conditions by BLM district	346
Figure 88.	Changes in western Oregon vegetation types	347
Figure 89.	Representative watersheds	
Figure 90.	Current and maximum large wood contribution by ownership	
Figure 91.	Proportion of current large wood contribution compared to maximum potential	350
Figure 92.	Current and maximum potential fish productivity index	
Figure 93.	Proportion of current fish production compared to the maximum potential	354
Figure 94.	Miles of treated anadromous or listed fish streams by the BLM districts within the planning area	
Figure 95.	Normal annual precipitation	
Figure 96.	Contrasting BLM ownership in the Evans Creek and Eagle Creek watersheds	
Figure 97.	303(d) listed streams within the planning area	
Figure 98.	Angular canopy density and buffer widths for small streams within the planning area	
Figure 99.	Angular canopy density and stream shade	
-	Stream shade and change in water temperature	
	Relationship of primary and secondary shade zones	
_	Riparian tree heights by physiographic province and percent of BLM area	
_	Geology within the planning area	
-	Road distribution in a representative watershed	
	Watersheds with the highest fine sediment delivery from roads	
	Relative landslide susceptibility in a representative watershed	
	Timber productivity capability classification withdrawn areas in a watershed	
	November 1996 precipitation return period for western Oregon	
_	Precipitation hydroregions within the planning area	
_	Subwatersheds that are currently susceptible to peak flows in the rain-dominated hydroregion	
_	Subwatersheds currently susceptible to peak flows in the rain-on-snow-dominated hydroregion .	
	Source water watersheds percentage on BLM lands within the planning area	
-	Incidence of forest fires within the planning area between 1994 and 2004	
	Ratings of fire hazards within the planning area	
_	Current fire hazard ratings by percent of land within the Salem District	
_	Current fire hazard ratings by percent of land within the Eugene District	
_	Current fire hazard ratings by percent of land within the Roseburg District	
_	Current fire hazard ratings by percent of land within the Coos Bay District	
•	Current fire hazard ratings by percent of land within the northern portion of the Medford District	
•	Current fire hazard ratings by percent of land within the southern portion of the Medford District	400
_	Current fire hazard ratings by percent of land within the Klamath Falls Resource Area of the Lakeview District	
	Air quality management areas within the planning area	
Figure 123.	Remoteness levels for a portion of the Klamath Falls Resource Area of the Lakeview District $\dots$	407
Figure 124.	Stand visualizations for each classification of naturalness	408
Figure 125.	Proportion of BLM lands by district with secured or unsecured legal public access	410
Figure 126.	Secured and unsecured legal public access to a portion of the BLM's	111



Figure 127.	Current and projected levels of participation by recreation activity within the planning area from 2006 to 2016	111
Eiguro 120	Proportion of projected recreational demand by activity in the year 2016	
_	Distribution of recreational demand by setting for each recreation activity	
_	Mt. Hebo wilderness characteristics	
•		
	Acres by visual resource inventory class within the planning area	
_	Wild and scenic rivers by classification	
_	Percentage of grazing on BLM and Forest Service lands within the planning area	
	Change in the number of active allotments between 1996 and 2004	
	Change in active animal unit months (AUMs) between 1996 and 2004	
_	Forage production within a stand establishment forest versus a young forest	
_	Wild horses in the Pokegama Herd Management Area	
_	Distribution of functional classifications for BLM roads	
•	Miles of road maintenance	
_	Active mineral materials cases on BLM-administered lands by township	468
Figure 141.	Active mining claim cases on BLM-administered lands by township	470
Figure 142.	Structural stage abundances on the BLM-administered lands by alternative	495
Figure 143.	Comparison of the BLM-administered forested lands by 2106 with the	
	average historic conditions and current conditions by alternative	496
Figure 144.	The influence of legacy retention on future stand development	499
Figure 145.	Stand establishment forests with and without structural legacies (e.g., retained green trees) by alternative	502
Figure 146.	Young forests with and without structural legacies (e.g., retained green trees) by alternative	503
Figure 147.	Mature forest with multilayered canopies or single canopies by alternative	505
Figure 148.	Structural stage abundances on the forested lands in the harvest land base by alternative	512
Figure 149.	Structural stage abundances on the forested lands in the nonharvest land base by alternative	513
Figure 150.	Comparison of the structural stage abundances on the BLM- administered forested lands by 2106 with the current conditions and the average historic conditions by alternative by province	514
Figure 151.	Change in the mean patch size from the current condition by 2106 by forest structural stage on the BLM-administered lands	515
Figure 152.	Change in the connectance from the current condition by 2106 by forest structural stage on the BLM-administered lands	516
Figure 153.	Structural stage abundances on the BLM-administered forested lands in the Coast Range province by alternative	518
Figure 154.	Structural stage abundances on the BLM-administered forested lands in the Western Cascades province by alternative	520
Figure 155.	Structural stage abundances on the BLM-administered forested lands in the Klamath province by alternative	522
Figure 156.	Structural stage abundances on the BLM-administered forested lands in the Eastern Cascades province by alternative	524
Figure 157.	Structural stage abundances of the subalternatives and the reference analyses as a percentage of the BLM-administered forested lands by 2106	527
Figure 158.	Comparison of all ownerships by 2106 with average historic conditions and current conditions by alternative	530
Figure 159.	Comparison of all ownerships by 2106 with average historic conditions and current conditions by province by alternative	531
Figure 160.	Change in the mean patch sizes from the current condition by 2106 by the forest structural stages on all ownerships	533
XXVI		



Figure 161.	Historic and projected BLM payments to the counties for the first 10 years	539
Figure 162.	Average annual stumpage revenues	551
Figure 163.	Revenues, costs, and net revenues for the first 10 years	552
Figure 164.	Total allowable sale quantity by alternative for the planning area	559
Figure 165.	Allowable sale quantity by district and alternative	559
Figure 166.	Alternative 1, Subalternative 1: Allow no regeneration harvesting until	
	thinning opportunities are exhausted	
_	Alternative 1, Subalternative 2: Allow no harvesting of stands that are 80 years of age and older	561
Figure 168.	Alternative 1, Subalternative 3: Allow no harvesting of stands that are 200 years of age and older	562
Figure 169.	Alternative 1, Subalternative 4: Increase the size of the late- successional management area to include all critical habitat of the northern spotted owl	563
Figure 170.	Alternative 2, Subalternative 1: Change the rotation to emulate the timber industry's short rotation	564
Figure 171.	Reference Analysis: Manage most commercial forest lands for timber production	565
Figure 172.	Alternative 3, Subalternative 1: Apply the landscape target of 50% in late successional habitat condition to only those areas where the government land ownership is half or more of the total ownership	566
Figure 173.	Nonharvest land base volume over time	567
Figure 174.	Total annual volume level by alternative over the next 10 years	569
Figure 175.	Total harvest volume by decade and alternative	570
Figure 176.	Timber volume harvest by age class under the No Action Alternative over the next 10 years	571
Figure 177.	Timber volume harvest by age class under Alternative 1 over the next 10 years	571
Figure 178.	Timber volume harvest by age class under Alternative 2 over the next 10 years	572
Figure 179.	Timber volume harvest by age class under Alternative 3 over the next 10 years	572
Figure 180.	Total volume harvested for all four alternatives and subalternatives	573
Figure 181.	Acres in the harvest land base by alternative	573
Figure 182.	Percent volume by structural stage	574
Figure 183.	Volume by structural stage and alternative	575
Figure 184.	Percentage of number 3, peeler-grade and better Douglas fir logs by alternative	576
_	Douglas fir log volumes by peeler grade and sawlog grade by alternative	
Figure 186.	Annual stumpage value by alternative over the next 10 years	578
_	Harvest acres by harvest type over the next 10 years	
_	Harvest acres by age class under the No Action Alternative	
•	Harvest acres by age class under Alternative 1	
_	Harvest acres by age class under Alternative 2	
_	Harvest acres by age class under Alternative 3	
_	No Action Alternative, average annual harvested acres by harvest type over the next 100 years.	
_	Alternative 1, annual average harvested acres by harvest type over the next 100 years	
	Alternative 2, average annual harvested acres by harvest type over the next 100 years	
_	Alternative 3, average annual harvested acres by harvest type over the next 100 years	
	Miles of new permanent road construction under each alternative	
	Acres of new permanent road construction under each alternative	
	Inventory on the harvest land base by alternative over the next 100 years	
	Harvest land base distribution under the No Action Alternative over the next 100 years	
_	Harvest land base distribution under Alternative 1 over the next 100 years	
Figure 201	Harvest land base distribution under Alternative 2 over the next 100 years	588



Figure 202.	Harvest land base distribution under Alternative 3 over the next 100 years	589
Figure 203.	Distribution of populations of BLM sensitive and assessment botany	
Figure 204	species subject to timber harvest	
	Number of populations and occupied habitat acres by province	
_	Species in the conifer habitat group by ownership and number of currently known populations	606
•	Relative susceptibility of fifth-field watersheds to invasive plant species introduction as a result of timber harvesting activities over the next 10 years	613
Figure 207.	Susceptibility comparison for the introduction of invasive plant species that are associated with timber harvesting activities over the next 10 years	614
Figure 208.	Comparison of the risk by mapped watershed for the introduction of invasive plant species that are associated with timber harvesting activities over the next 10 years	616
Figure 209.	Comparison of the risk by watersheds for the introduction of invasive plant species associated with timber harvesting activities over the next 10 years	617
Figure 210.	Susceptibility comparison for the introduction of invasive plant species into riparian habitats associated with timber harvesting activities over the next 10 years	619
Figure 211.	Relative risk of introducing invasive plant species in riparian habitats over the next 10 years	622
Figure 212.	Riparian risk category comparison for the introduction of invasive plant species over the next 10 years	623
Figure 213.	Risk comparison for the introduction of invasive plant species associated with new road construction over the next 10 years	625
Figure 214.	Relative risk for the introduction of invasive plant species that are associated with off-highway vehicle designations	628
Figure 215.	Risk comparison for introduction of invasive plant species that are associated with off-highway vehicle use	629
Figure 216.	Northern spotted owl suitable habitat on BLM-administered lands by alternative and reference analysis	635
Figure 217.	Northern spotted owl suitable habitat on BLM-administered lands by province by alternative	638
Figure 218.	Suitable Habitat within Alternative 2 large blocks of late-successional management areas by province	646
Figure 219.	$\label{lem:constraint} Acres of late-successional reserve/late-successional management area \ \ allocated \ \ by \ province$	650
Figure 220.	Percentage of late-successional reserve/late-successional management area acres allocated by province	651
Figure 221.	Suitable habitat outside of late-successional reserves/late-successional management areas, as percentage of habitat-capable acres	657
Figure 222.	Suitable habitat outside of late-successional reserves/late-successional management areas, by district/province divisions, as percentage of habitat-capable acres	
Figure 223.	Dispersal habitat conditions on BLM-administered lands across the planning area by alternative	661
_	Current condition of dispersal habitat across all land ownerships by sixth-field watershed	664
Figure 225.	Dispersal habitat by 2106 across all land ownerships by six-field watershed for the no harvest reference analysis	665
Figure 226.	South Willamette-North Umpqua area of concern: Total Dispersal Habitat across All Ownerships	669
Figure 227.	South Willamette-North Umpqua area of concern: suitable habitat across all ownerships*	669
Figure 228.	Rogue-Umpqua area of concern: total dispersal habitat across all ownerships	671
Figure 229.	Rogue-Umpqua area of concern: suitable habitat across all ownerships.*	671
_	Ashland area of concern: total dispersal habitat across all ownerships	
_	Ashland area of concern: suitable habitat across all ownerships*	
Figure 232.	Marbled murrelet nesting habitat by the year 2106	676



Figure 233.	District marbled murrelet nesting habitat fluctuations in Zone 1	679
Figure 234.	District marbled murrelet nesting habitat fluctuations in Zone 2	681
Figure 235.	Average summer thermal habitat availability on the deer habitat management units in the Coos Bay District.*	684
Figure 236.	Percent of foraging habitat availability on the deer habitat management units in the Medford District and Klamath Falls Resource Area	685
Figure 237.	Percent of foraging habitat in Deer Habitat Management Areas on eastside management lands in the Klamath Falls Resource Area	686
Figure 238.	Average summer thermal habitat availability on the elk habitat management units in the Coos Bay District	690
Figure 239.	Average foraging habitat on the elk habitat management units in the Medford District	691
Figure 240.	Bald eagle nesting and roosting habitat development under the alternatives	695
Figure 241.	Summary of bald eagle nesting and roosting habitat development in the west-side of the Klamath Falls Resource Area	696
Figure 242.	A histogram illustrating the abundance and development of bald eagle nesting and roosting habitat in bald eagle management areas	697
Figure 243.	Fisher natal and foraging habitat summarized for BLM-administered lands within the planning area	699
Figure 244.	Abundance of fisher natal habitat under Alternative 3	700
Figure 245.	Response of fisher foraging habitat in the Klamath Falls Resource Area	701
Figure 246.	Klamath Falls Resource Area landbird habitat trends for eastside coniferous forests, expressed as a percentage of total forested area in the plant association	703
Figure 247.	Westside coniferous forest landbird habitat trends, expressed as a percentage of total forested area in the plant association	705
Figure 248.	Total number of western snowy plover young fledged along the Oregon Coast from 1990-2006)	708
Figure 249.	Historic range of sage grouse within the planning area of the western Oregon plan revision	709
Figure 250.	Sage grouse habitat within the Klamath Falls Field Office	710
Figure 251.	Forest floor habitat quality summary for each alternative	722
Figure 252.	Total large wood contribution and potential coho productivity index for the five representative fifth-field watersheds on the BLM-administered lands	724
Figure 253.	Riparian reserve and riparian management area widths and large wood contribution	728
•	Structural stage abundances in the harvest land base by alternative	
_	Example of riparian management areas under all four alternatives	731
Figure 256.	Percent intermittent streams with highest probability of debris flow to fish-bearing stream channels	732
Figure 257.	Chinook salmon productivity index and steelhead trout productivity index for the Upper Smith River representative watershed	734
Figure 258.	Maximum large wood contribution to fish-bearing streams	735
_	Wood contribution by source	
	Debris flow probabilities between watersheds	737
Figure 261.	Differences in the number of miles of high intrinsic potential streams between watersheds on BLM-administered lands	739
_	Distribution of high intrinsic potential streams for chinook salmon, coho salmon, and steelhead trout within key watersheds of the planning area	
Figure 263.	Susceptible rain-dominated subwatershed	747
Figure 264.	Susceptible rain-on-snow-dominated sixth-field subwatersheds	749
Figure 265.	Riparian management areas for permanently flowing streams	751
Figure 266.	Structural stage classes of the riparian reserves under the No Action Alternative	752
Figure 267	Structural stage classes of the riparian reserves under Alternative 1	754



Figure 268.	Structural stage classes of the riparian reserves under Alternatives 2 and 3	756
Figure 269.	Number of miles along streams that are maintaining 80% effective shade within the primary and secondary shade zones	757
Figure 270.	Projected new permanent BLM road miles contributing to fine sediment delivery	759
Figure 271.	Timber productivity capability classification withdrawals within the Upper Smith River representative watershed	762
Figure 272.	High fire severity for northern districts by alternative	768
Figure 273.	High fire severity for southern districts by alternative.	769
Figure 274.	Fire resiliency by district by alternative	771
Figure 275.	Acres of naturalness levels for the year 2016 by alternative	781
Figure 276.	Percent change in naturalness settings by the year 2016 under each alternative	782
Figure 277.		787
Figure 278.	Visual resource inventory and management classes in acres by alternative	790
Figure 279.	Harvest land base acres within visual resource inventory classes by alternative	791
Figure 280.	Visual resource inventory class II areas maintained by alternative	792
Figure 281.	Visual resource inventory class III areas maintained by alternative	792
Figure 282.	Acres available for grazing	797
Figure 283.	Change in animal unit months by alternative	799
Figure 284.	Change in the number of allotments by alternative	799
Figure 285.	Changes in structural stage abundance within lands allocated for grazing	802
Figure 286.	Changes in Forage Production by Alternative	803
Figure 287.	Changes in structural stage abundance within the Pokegama HMA	805
Figure 288.	Changes in forage production by alternative	806
Figure 289.	Land Use Planning, Monitoring, and Adaptive Management.	849
Figure 290.	Northern spotted habitat by District and Province.	1050
Figure 291.	Stand Conditions Resulting from Partial Harvests in Alternative 3 Compared to Regeneration Harvest in No Action	1057
Figure 292.	Comparison of Classification of Mature with Multiple Canopies and Structurally Complex Forest with Classification of Suitable Habitat – No Action	1058
Figure 293.	Comparison of Classification of Mature with Multiple Canopies and Structurally Complex Forest with Classification of Suitable Habitat – Alternative 3	1059
Figure 294.	Historical independent Lower Columbia River Evolutionary Significant Unit early and late-fall-run Chinook salmon populations. Source: Myers et al. (2002)	1074
Figure 295.	Historical populations of spring-run Chinook salmon in the Upper Willamette River Evolutionary Significant Unit. Source: Myers et al. (2002)	1075
Figure 296.	Historical populations of the Southern Oregon/Northern California Coast Coho Evolutionary Significant Unit	1076
Figure 297.	Tentative historical populations of the Lower Columbia River coho salmon Evolutionary Significant Unit. Source: based on work by Willamette/Lower Columbia Technical Recovery Team for Chinook salmon and steelhead (Myers et al. 2002)	1077
Figure 298.	Historical populations of winter-run steelhead in the Lower Columbia River steelhead ESU.Source: Myers et al. (2002).	1078
Figure 299.	Map of historical Upper Willamette River steelhead Evolutionary Significant Unit populations	1079
Figure 300.	Historical chum salmon populations in the Columbia River chum salmon ESU	
•	Examples of relationship between values of the three stream attributes and the index scores used to calculate intrinsic potential.	
	•	



Figure 302.	Using Digital Elevation Models to delineate stream. For each Digital Elevation Model point, all stream-edge segments are found within one tree height	1085
Figure 303.	Determining tree fall using DEMs.	1086
Figure 304.	Probability that a falling tree at a DEM point hits a stream segment	1086
Figure 305.	Tree fall from riparian areas dependent on: forest cover, hillslope gradient, distance to stream channel, and channel planform geometry	1088
Figure 306.	Identification of valley-floor pixels: within a specified elevation of the channel; within a specified slope relative to the channel slope; all pixels flagged meeting these criteria with the identification of the reach to which they drain	1089
Figure 307.	Debris flow source areas for wood are widely distributed, but most of the wood accumulated by debris flows is scoured from low-order channels.	1090
Figure 308.	Debris flow inputs to fish-bearing streams occur at these low-order channel junctions	1091
Figure 309.	Angular canopy density (ACD) and buffer widths for small streams in western Oregon (Brazier and Brown 1972). It illustrates that a buffer strip width of 60 feet will result in an angular canopy density of 65 percent.	. 1115
Figure 310.	Angular canopy density (ACD) and stream shade (Park 1991).	. 1116
Figure 311.	Effective Stream Shade and Change in Stream Temperature	. 1116
Figure 312.	Solar Pathfinder (43° to 49° N Lat., Boyd 1999).	. 1117
Figure 313.	Reservoir Standards	1266
Figure 314.	Fence Standards	1268
Figure 315.	Wire Spacings	1269
Figure 316.	Standards for Rangeland Health	1285
Figure 317.	Southern Tyee sedimentary basin, from Ryu et al. (1996)	1444
Figure 318.	Coaledo Formations of the onshore portion of the Coos Basin, from Torrent Energy Inc. (2005)	1445
Figure 319.	BLM Oregon Salem District, Surface. Based on Newton (1969), Ferns and Huber (1984), Olmstead <i>et al.</i> (1989), and BLM (2007)	1452
Figure 320.	Salem District BLM, Subsurface. Based on Newton (1969), Ferns and Huber (1984), Olmstead <i>et al</i> (1989), and BLM (2007)	1454
Figure 321.	Mist Gas Field, 1999 Boundary (DOGAMI 2003)	1458
Figure 322.	Identified High Potential Area (this report) and Bacona Geologic Quadrangle (Houston 1997)	1459
Figure 323.	Mist Gas Field Boundaries-1985 and 1999	1461
Figure 324.	Salem District Mist gas Field Expansion Estimate, 160 acre spacing	1466
Figure 325.	Coos Basin Acreage in Area of Mutual Interest	1470
Figure 326.	Coos Basin Unleased Acreage	1471
Figure 327.	Coos Basin wells based on 338 acre spacing	1474
Figure 328.	Coos Basin wells based on 160 acre spacing	1474
•	Example of FOI Mapping for approximately a three by three mile area	
•	Example of TPCC Withdrawn lands.	
	CVS Plot Design	
_	CVS Plot overlain with Forest Operations Inventory.	
	Western Oregon Age Class Distribution 2006 (Acres).	
Figure 334.	Species Group by District – Forested Acres	1523
Figure 335.	Salem District Site Class Re-Distribution Example (Species Groups NCM – Northern Conifer Mixed, NDF – Northern Douglas-Fir, NHM – Northern Hardwood Mixed)	1527
Figure 226	Northern Hardwood Mixed)	
_	Organon Variants  Example of CVS plots and FOI Units with a common existing stand condition	
_	Examples of subplot data imputed into FOI units	
	Differences between the FOI and LLI themes.	
. Igui e Joj.	Directions between the FOI and ELI tricines	1007



Figure 340.	Graphic example how a resultant layer is created from a number of resource layers. Multiple resource layers are overlaid in a GIS process	
	to create a single resultant layer for use in OPTIONS.	1553
Figure 341.	OPTIONS trend to normality examples.	1555
Figure 342.	Example of a volume growth projection curve and adjustments for thinning treatments	1556
Figure 343.	Landscape level harvest rules example.	1557
Figure 344.	Green tree retention accounting within the OPTIONS model	1575
Figure 345.	An example of adjustments utilized for a single alternative and district	1579
Figure 346.	Reserve, ASQ, and Total Volume.	1584
Figure 347.	A comparison of an initial yield curve, the regenerated (future) yield curve and the blended curve	1586
Figure 348.	Data Flow Diagram for Owl Habitat and Structural Stage Classification.	1599