Appendix A: Method Notes

- Fourth field watersheds ("HUC 8") serve as the base geographic unit of assessment. Recognizing the reality of the Conservancy's organization by state chapters, this assessment considers all forested watersheds east of the Cascade Crest that are wholly or partially within Washington State. These HUCs are large enough ecological units to include large-scale fire events and also enabled us to create logical ecological boundaries for our project area[1].

- We used LANDFIRE's Refresh 2008 (LF_1.1.0) grouped Biophysical Settings (BPS) and Existing Vegetation (EVT) and S-Class layers to calculate ecological departure. The Refresh 2008 data was the latest release available at the time of our analysis (released summer 2011) and incorporate major disturbances (including fire, insect/disease) through 2008. These layers were clipped to our project area.

- To insure our analysis did not incorporate areas that were not historically forested and areas currently converted to agriculture or urban use, we filtered the LANDFIRE layers so that only areas where the BPS was a forest type and the EVT was not Urban, Agriculture or Barren were selected.

- Only "forested" BpS types were included in our analysis (GROUPVEG = Conifer, Hardwoond-Conifer, Hardwood, Riparian). All other non-forest BpS types were masked out prior to the FRCC analysis.

- Using the Fire Regime Condition Class Mapping Tool (FRCCMT) version 2.2 we calculated strata departure and FRCC for forests across the project area. Following updated FRCC methodology, we used nested watersheds by fire regime group (FRG) to calculate strata departure. Strata departure for FRG 1 BpS's were calculated within by HUC 12 watersheds, FRG 2 within HUC 10 watersheds and FRG 4&5 within HUC 8 watersheds. There were no FRG 3 forests within our assessment area. An updated copy of the Reference Condition Table that was appropriate for the Refresh 2008 data was provided by the LANDFIRE team.

- Land ownership was identified by means of the Protected Areas Database of the United States (PAD-US) version 1.2. Areas not under public ownership were assumed to be private. From this we were able to calculate ownership acreage in each HUC and determine the average departure for each ownership type in each HUC. This provided information on what the relative need for restoration was across the project area in different forest types and where partnership opportunities may exist.

- We used a data layer obtained from the ILAP project team to include relative differences in ease of implementing active forest management across the project area. We adapted the classification's naming system for our purposes, but made no changes to the associated data with the following exception: At the time that the project was being finalized, some potential errors were discovered in the management classifications of private lands. We were unable to conduct a timely review and revision of the data in coordination with the ILAP team; as a result, nearly all private lands are currently classified as "6"; this may change in the future as revisions to the data become available. Metadata for the management classifications are displayed in Table A.1.

[1] Interagency Fire Regime Condition Class (FRCC) Guideboook, v3.0. September 2010. www.frcc.gov

Table A.1. Management Designation Descriptions

ILAP Management Code	Project Management Designation	Management Designation Examples
1	Limited/Protected	Wilderness; Congressional Reserve; National Park; National Monuments; USFS Research Natural Area
2	*Not present in our project area*	Regional conservation reserves; Other reserves; Wilderness Study Areas; Bureau of Land Management (BLM) Visual Resource Management– 1 (VRM-1)
3	Light	Corridors for visual/riparian/biodiversity; Endangered/threatened species management (e.g., dispersal and nesting); Other values of importance (botanical, cultural, etc.); Private conservation areas; VRM -2
4	Moderate	Other wildlife habitat types; Recreation usages; Partial retention; USFS Visual Management areas; USFS Adaptive Management Areas; VRM - 3
5	Heavy	General forest; USFS Matrix lands; Developed recreation; Other public with Wildland Urban Interface (WUI) listed as uninhabited; VRM -4
6	Private	Private small-forest land, private industrial forest

Appendix B: Additional Project Area Results

Table B.1. Forest fire regime group and ecological departure summary for all HUCs (grouped by regions)

Forest Fire Regime Groups: *Low* = Low Severity; *Mixed* = Mixed Severity; *High* = High Severity

% Departed = % of land in each FRG that is departed (ecological departure > 33%)

	LOW		MIXED		HIGH			
	% of Total Acres	% Departed	% of Total Acres	% Departed	% of Total Acres	% Departed	TOTAL (acres)	TOTAL % Departed
East Cascades – South	***38***	***(89)***	***45***	***(49)***	***17***	***(87)***	***2,151,671***	***(71)***
Klickitat	**57**	(88)	**31**	(90)	**11**	(56)	591,075	(85)
Lower Yakima	**68**	(87)	**28**	(100)	**4**	(100)	297,730	(91)
Naches	**17**	(100)	**65**	(39)	**17**	(100)	560,250	(60)
Upper Yakima	**26**	(87)	**46**	(23)	**27**	(90)	702,618	(59)
East Cascades - North / Okanogan	***52***	***(97)***	***29***	***(69)***	***19***	***(95)***	***3,190,813***	***(88)***
Chief Joseph	**79**	(81)	**20**	(98)	**1**	(100)	157,601	(85)
Lake Chelan	**48**	(97)	**22**	(65)	**31**	(93)	382,653	(89)
Methow	**64**	(100)	**24**	(97)	**11**	(95)	913,650	(99)
Okanagan	**61**	(96)	**35**	(87)	**4**	(100)	439,633	(93)
Similkameen	**39**	(98)	**36**	(100)	**25**	(98)	322,341	(99)
Upper Columbia-Entiat	**66**	(98)	**25**	(81)	**9**	(93)	291,395	(93)
Wenatchee	**26**	(99)	**38**	(15)	**36**	(95)	683,540	(66)
NE WA / North Idaho	***44***	***(99)***	***48***	***(34)***	***8***	***(14)***	***3,771,636***	***(61)***
Colville	**61**	(100)	**37**	(64)	**2**	(7)	542,093	(85)
Franklin D. Roosevelt Lake	**68**	(98)	**29**	(43)	**4**	(10)	904,175	(79)
Kettle	**39**	(100)	**47**	(19)	**15**	(13)	574,039	(49)
Pend Oreille	**19**	(100)	**71**	(29)	**10**	(2)	656,848	(40)
Priest	**9**	(100)	**75**	(22)	**16**	(7)	582,189	(26)
Sanpoil	**63**	(100)	**33**	(53)	**4**	(100)	512,292	(84)
Spokane / Coeur D'Alene	***41***	***(94)***	***54***	***(58)***	***4***	***(5)***	***2,187,915***	***(70)***
Coeur D Alene Lake	**31**	(97)	**64**	(66)	**5**	(6)	344,341	(72)
Hangman	**54**	(92)	**45**	(55)	**1**	(18)	127,281	(75)
Little Spokane	**64**	(96)	**36**	(71)	**1**	(64)	298,855	(87)
Lower Spokane	**84**	(88)	**15**	(96)	**0**	(56)	254,938	(89)
Palouse	**23**	(87)	**76**	(75)	**1**	(27)	249,394	(77)
Pend Oreille Lake	**20**	(99)	**70**	(37)	**10**	(2)	641,322	(46)
Rock	**27**	(85)	**73**	(100)	**0**	(0)	45,449	(96)
Upper Spokane	**54**	(96)	**41**	(60)	**5**	(3)	226,335	(77)
Blues	***73***	***(78)***	***25***	***(93)***	***1***	***(97)***	***1,104,914***	***(82)***
Lower Grande Ronde	**76**	(85)	**23**	(98)	**1**	(99)	624,019	(88)
Lower Snake-Asotin	**78**	(80)	**21**	(76)	**1**	(96)	122,125	(80)
Lower Snake-Tucannon	**64**	(79)	**34**	(74)	**2**	(89)	115,366	(78)
Walla Walla	**71**	(57)	**28**	(97)	**1**	(99)	243,405	(69)
TOTAL	**47**	(93)	**42**	(52)	**11**	(69)	12,406,949	**(73)**

Table B.2. Ownership for each HUC (% of total land/HUC in each ownership; grouped by region)

	Total Acres	Private	USFS	Tribal	WDNR	WDFW	WA - State Parks	US - NPS	US - Other	Local Govt	Private Cons	State - ID, OR	Unknown
East Cascades – South	***2,151,671***	***18***	***39***	***29***	***10***	***3***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
Upper Yakima	702,618	27	53	0	14	6	0	0	0	0	0	0	0
Klickitat	591,075	24	1	64	9	1	0	0	1	0	0	0	0
Naches	560,250	6	84	0	6	4	0	0	0	0	0	0	0
Lower Yakima	297,730	4	0	82	12	1	0	0	0	0	0	0	0
East Cascades - North / Okanogan	***3,190,813***	***12***	***69***	***6***	***8***	***1***	***0***	***3***	***0***	***0***	***0***	***0***	***0***
Methow	913,650	4	91	0	2	2	0	0	0	0	0	0	0
Wenatchee	683,540	14	84	0	1	0	0	0	0	0	0	0	0
Okanagan	439,633	32	29	21	16	2	0	0	0	0	0	0	0
Similkameen	322,341	6	54	0	36	1	0	0	2	0	0	0	0
Lake Chelan	382,653	2	73	0	0	0	0	25	0	0	0	0	0
Upper Columbia-Entiat	291,395	16	68	0	10	6	0	0	0	0	0	0	0
Chief Joseph	157,601	18	10	70	2	0	0	0	0	0	0	0	0
NE WA / North Idaho	***3,771,636***	***29***	***37***	***16***	***6***	***0***	***0***	***0***	***6***	***0***	***0***	***5***	***0***
Franklin D. Roosevelt Lake	904,175	34	21	36	6	1	0	1	2	0	0	0	0
Pend Oreille	656,848	29	47	1	5	0	0	0	18	0	0	0	0
Priest	582,189	9	50	0	0	0	0	0	5	0	1	35	0
Kettle	574,039	30	61	0	7	0	0	0	1	0	0	0	0
Colville	542,093	56	16	0	15	0	0	0	13	0	0	0	0
Sanpoil	512,292	13	33	52	2	0	0	0	0	0	0	0	0
Spokane / Coeur D'Alene	***2,187,915***	***63***	***17***	***9***	***3***	***0***	***1***	***0***	***2***	***0***	***0***	***4***	***0***
Pend Oreille Lake	641,322	58	31	0	1	0	1	0	3	0	0	7	0
Coeur D'Alene Lake	344,341	50	26	13	0	0	0	0	3	0	0	7	0
Little Spokane	298,855	89	0	0	6	0	3	0	0	0	0	1	0
Lower Spokane	254,938	47	0	38	11	0	2	1	1	0	0	0	0
Palouse	249,394	70	21	0	1	0	0	0	2	0	0	5	0
Upper Spokane	226,335	76	15	0	2	0	1	0	0	2	0	4	0
Hangman	127,281	48	2	43	3	0	0	0	1	0	0	2	0
Rock	45,449	75	0	1	6	1	0	0	14	0	0	3	0
Blues	***1,104,914***	***35***	***59***	***0***	***1***	***1***	***0***	***0***	***2***	***0***	***0***	***2***	***0***
Lower Grande Ronde	624,019	30	66	0	0	0	0	0	2	0	0	1	0
Walla Walla	243,405	56	39	0	3	0	0	0	1	0	0	0	0
Lower Snake-Asotin	122,125	22	57	0	2	4	0	0	4	0	1	9	0
Lower Snake-Tucannon	115,366	27	63	0	2	8	0	0	0	0	0	0	0

Appendix C: Regional Summaries

REGION: East Cascades – South

(HUCs: Upper Yakima, Klickitat, Naches, Lower Yakima)

Total Acres: 2,151,671

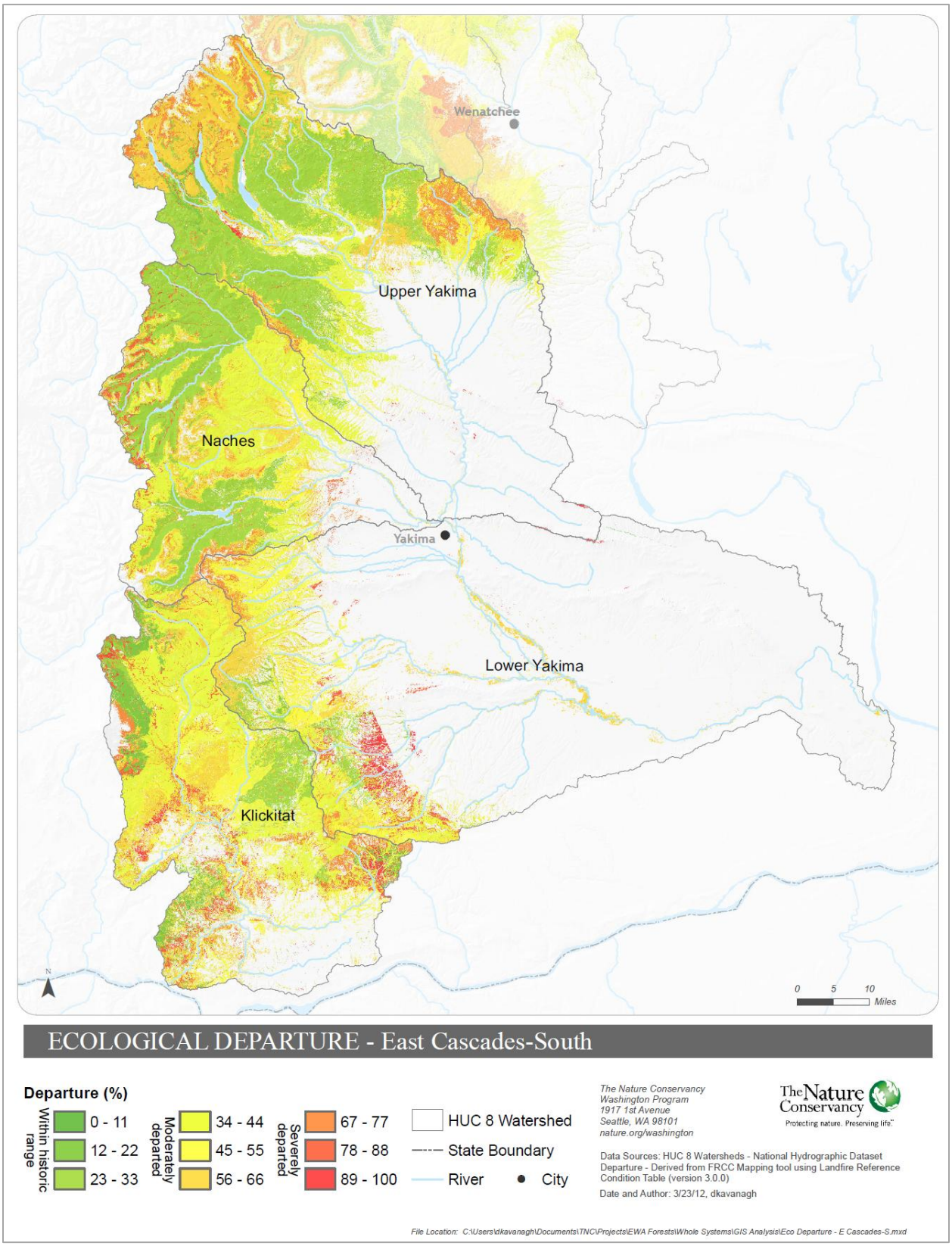


Figure C.1. Forest fire regime groups and ecological departure for East Cascades – South region (total acres: 2,151,671)

Forest Fire Regime Groups: *Low* = Low Severity; *Mixed* = Mixed Severity; *High* = High Severity

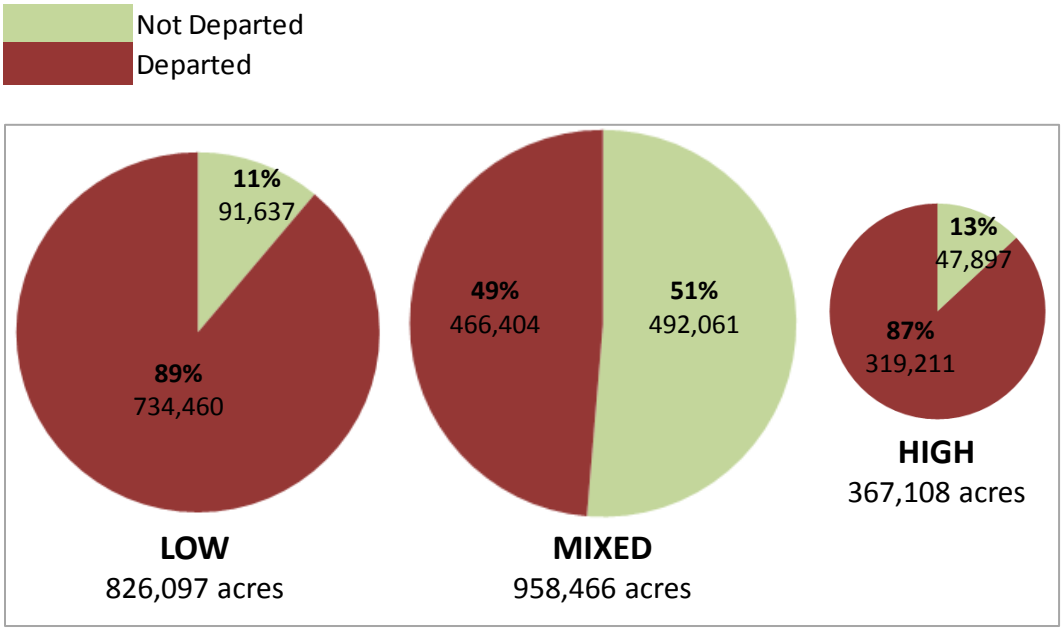


Figure C.2. Forest ownership for East Cascades – South region (total acres: 2,151,671)

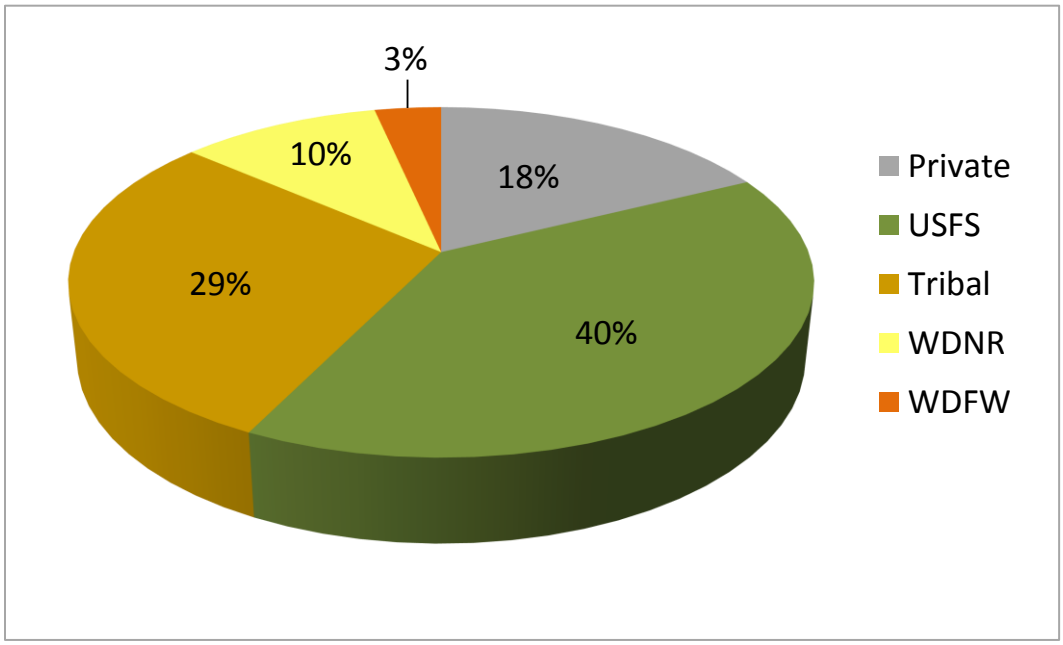


Figure C.3. Major ownerships for East Cascades – South region with ecological departure by forest fire regime groups (total acres: 2,151,671)

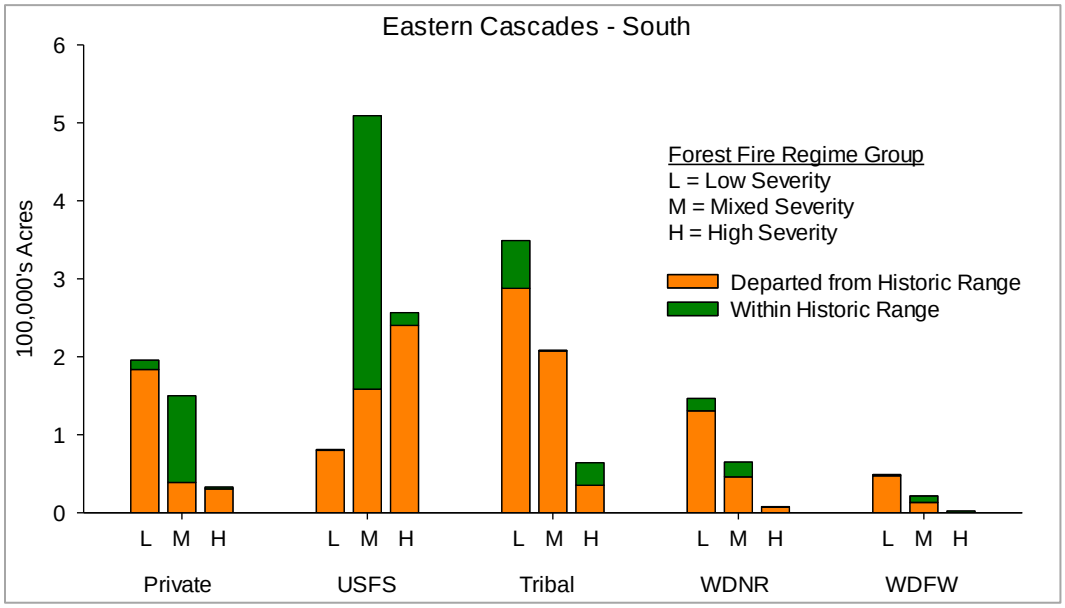
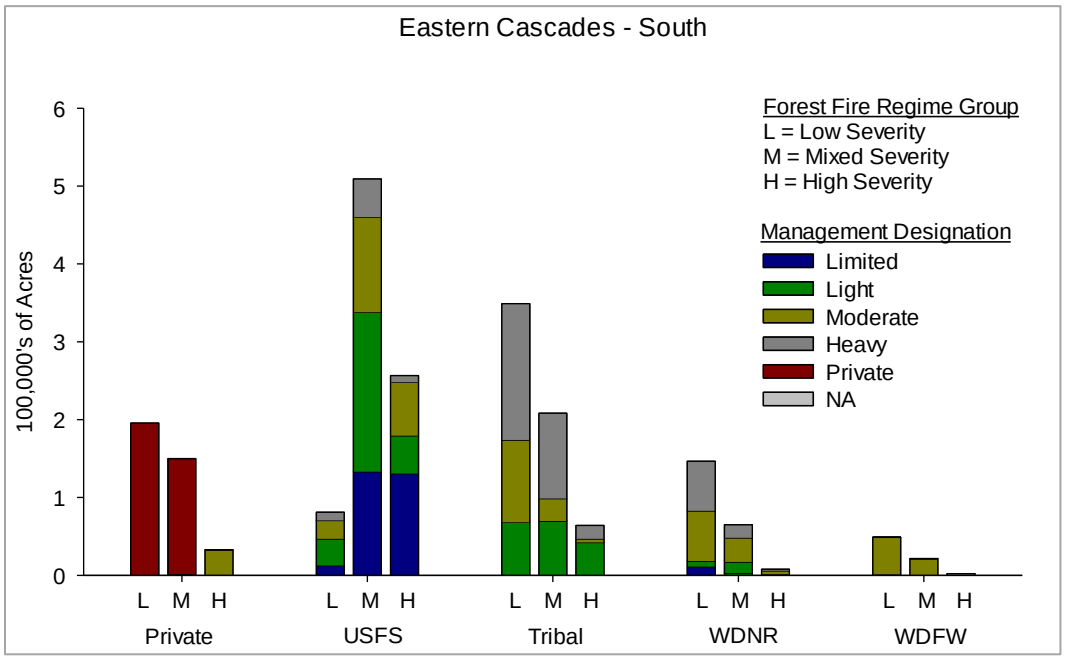


Figure C.4. Management designations for East Cascades – South region (total acres: 2,151,671)



REGION: Eastern Cascades – North / Okanogan

(HUCs: Methow, Wenatchee, Okanogan, Lake Chelan, Similkameen, Upper Columbia-Entiat, Chief Joseph)

Total Acres: 3,190,812

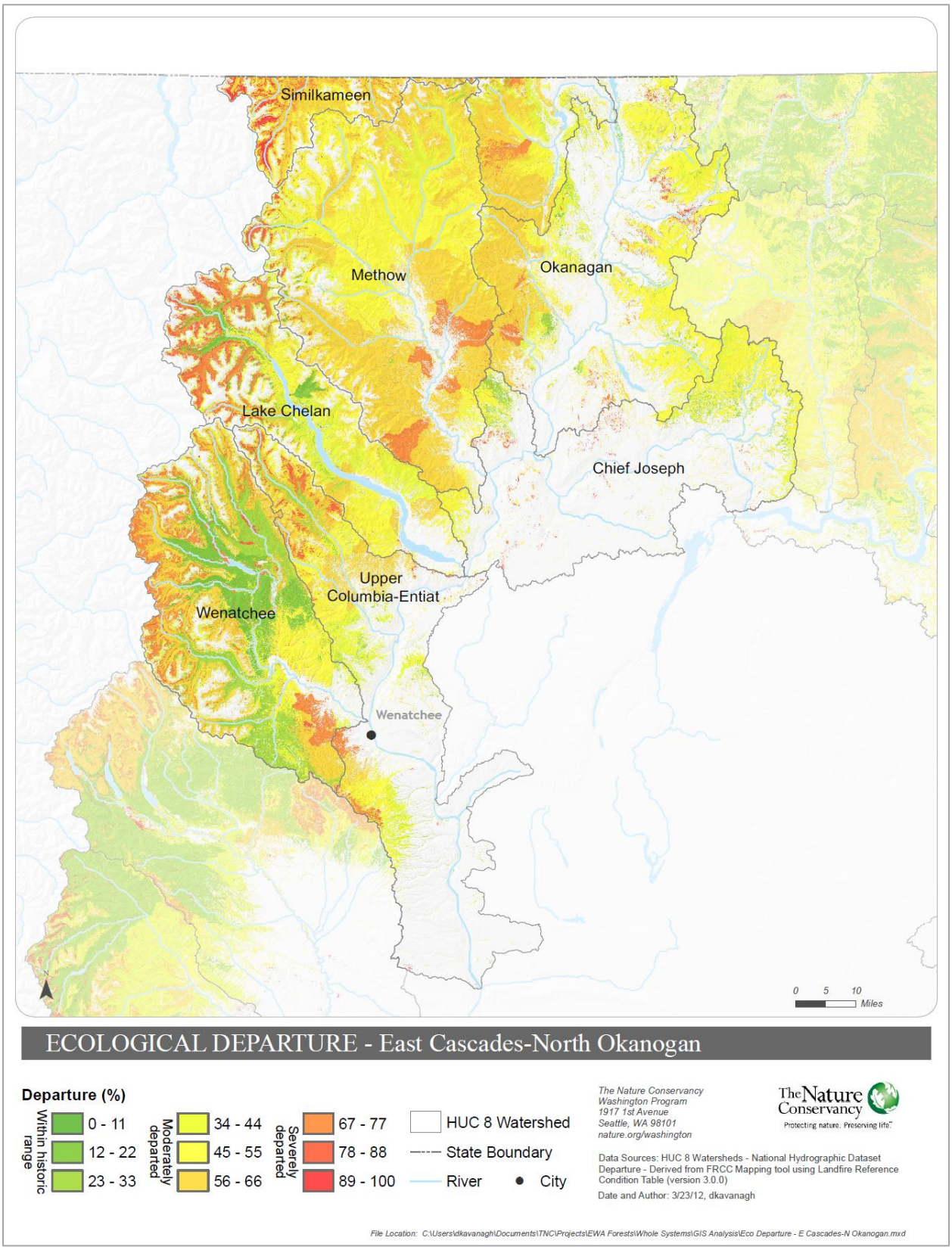


Figure C.5. Forest fire regime groups and ecological departure for Eastern Cascades – North / Okanogan (total acres: 3,190,812)

Forest Fire Regime Groups: *Low* = Low Severity; *Mixed* = Mixed Severity; *High* = High Severity

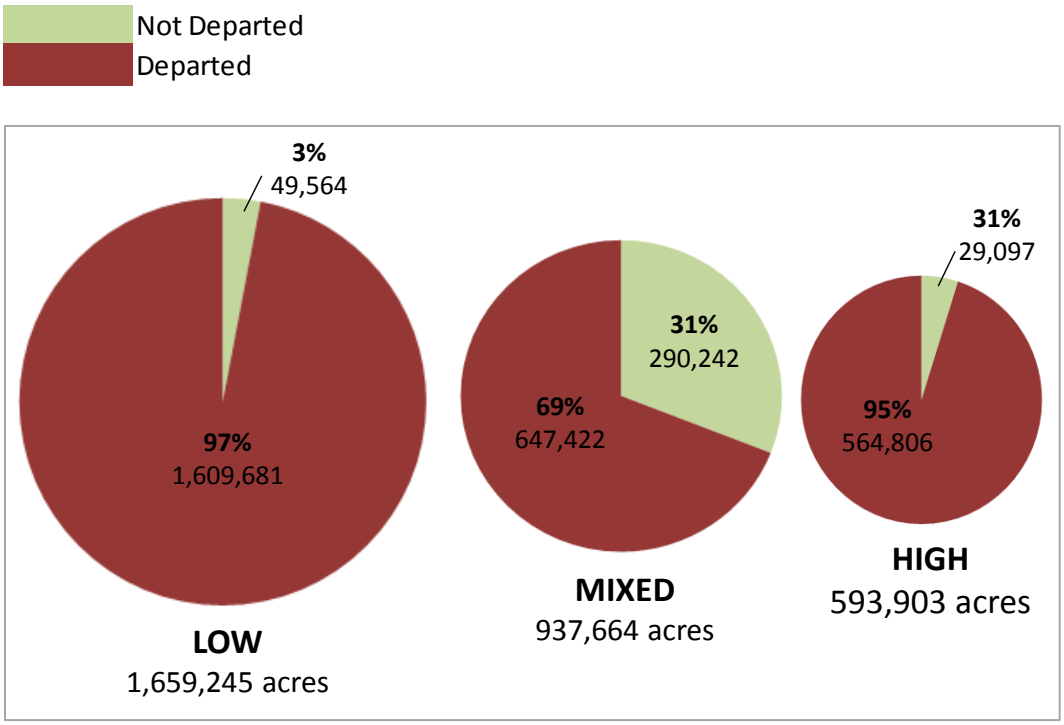


Figure C.6. Forest ownership for Eastern Cascades – North / Okanogan (total acres: 3,190,812)

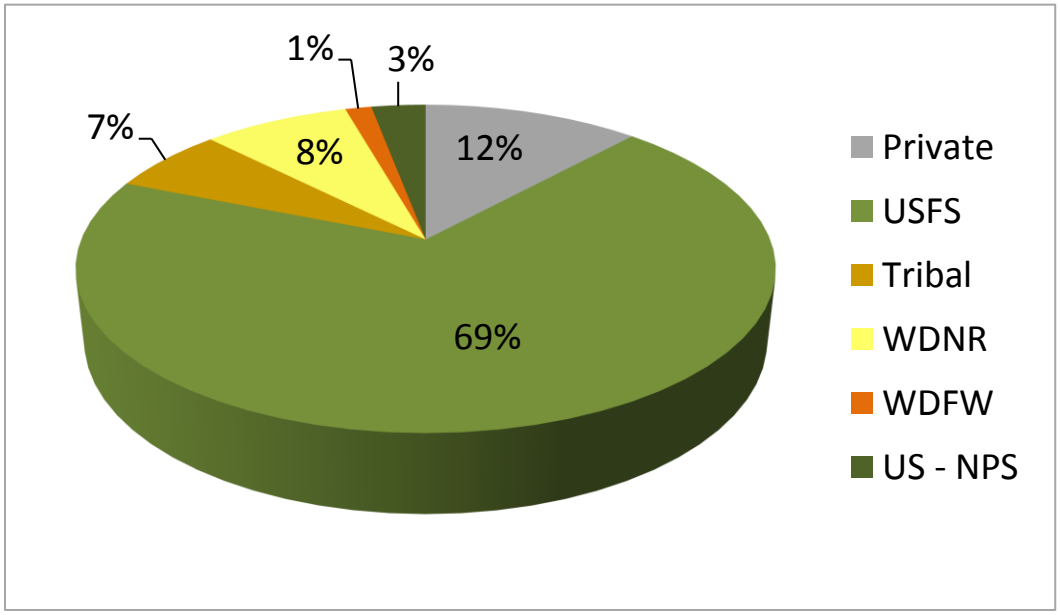


Figure C.7. Major ownerships for Eastern Cascades – North / Okanogan region with ecological departure by forest fire regime groups (total acres: 3,190,812)

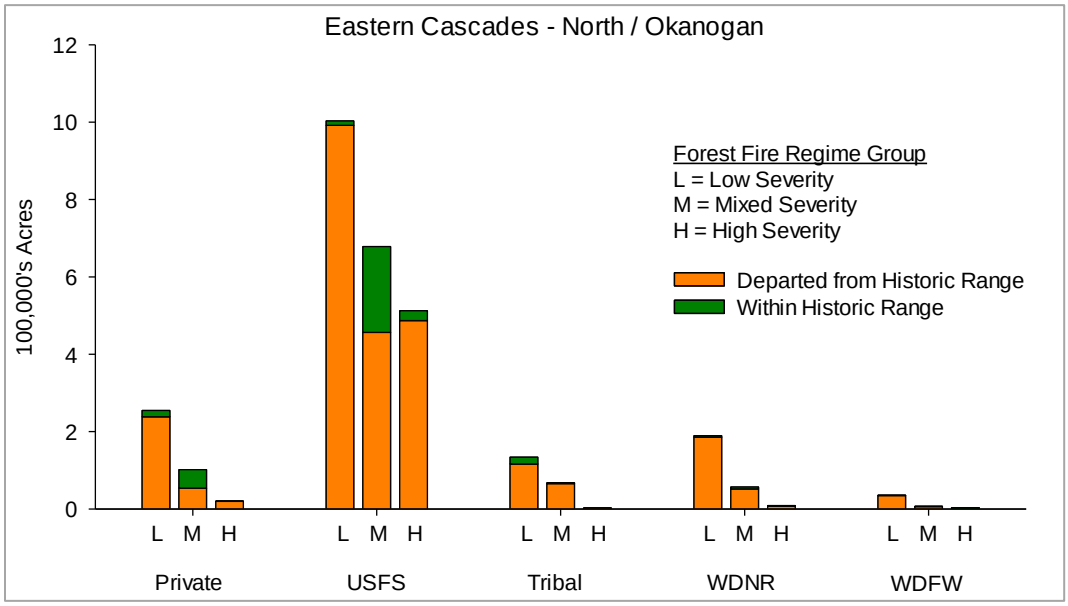
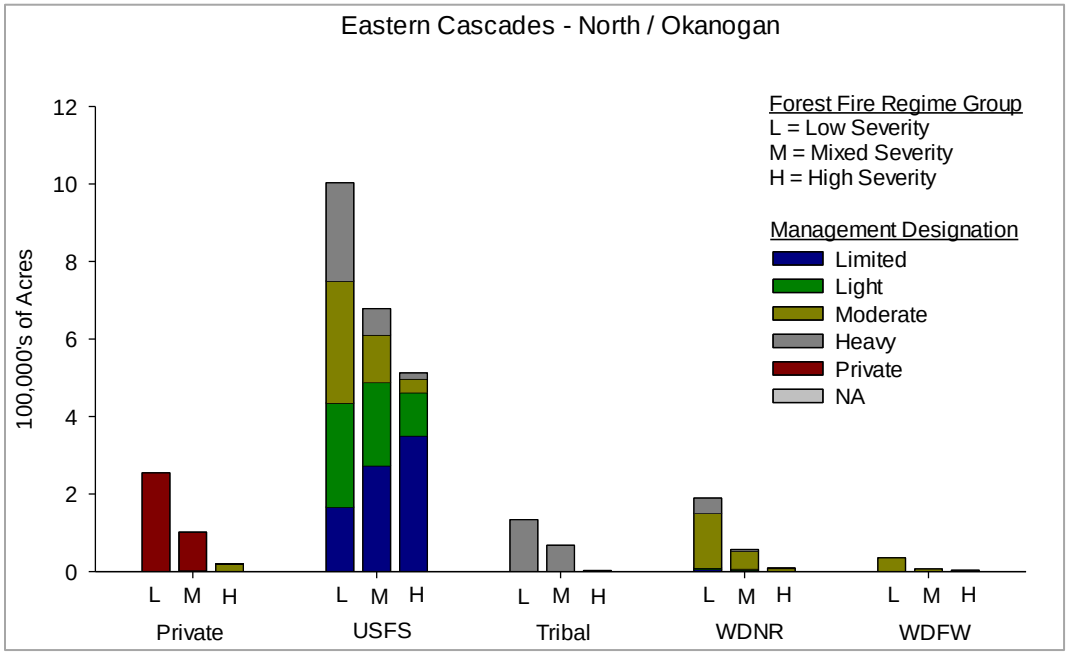


Figure C.8. Management designations for Eastern Cascades – North / Okanogan
(total acres: 3,190,812)



REGION: NE Washington / Northern Idaho

(HUCs: Franklin D. Roosevelt Lake, Pend Oreille, Priest, Kettle, Colville, Sanpoil)

Total Acres: 3,771,635

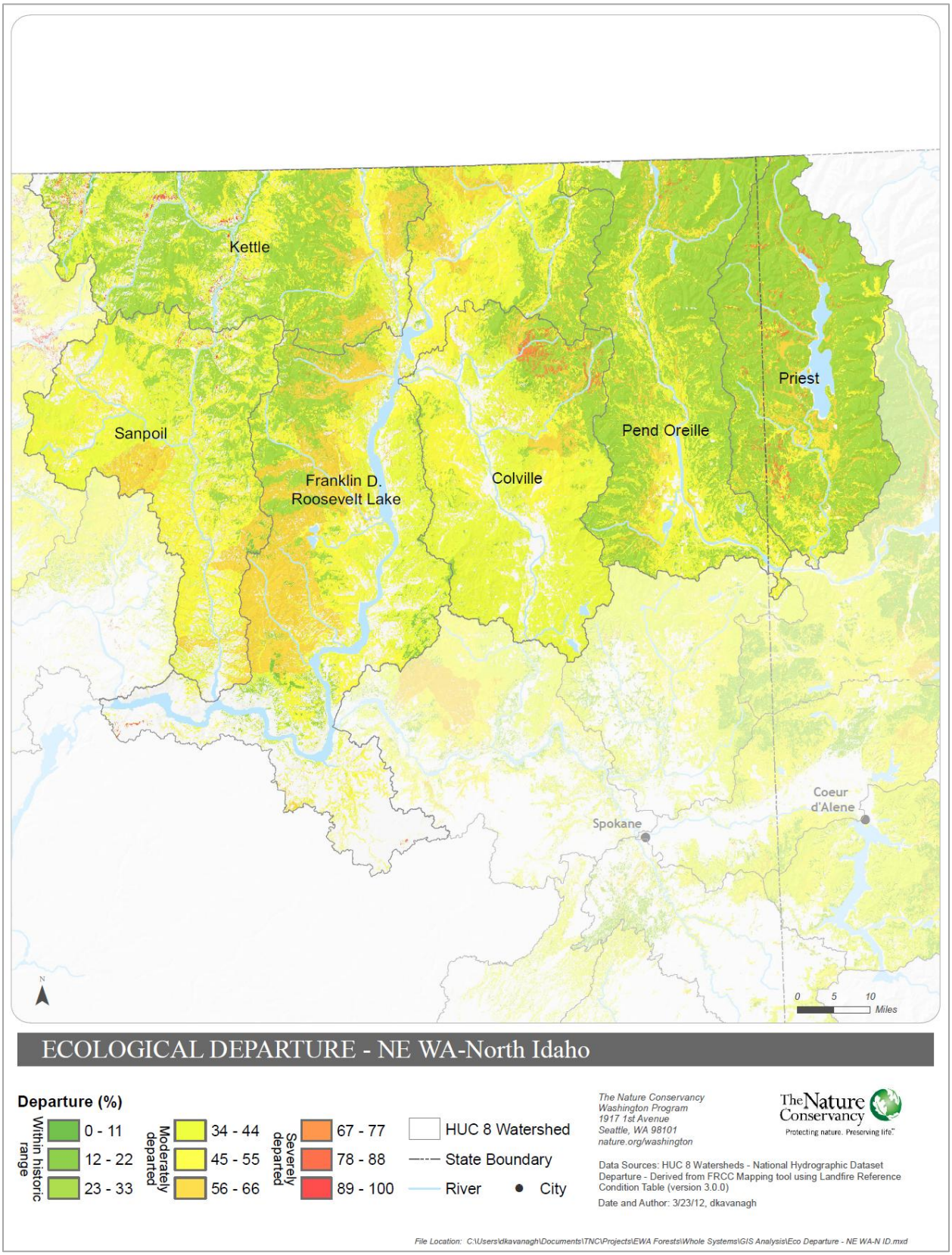


Figure C.9. Forest fire regime groups and ecological departure for NE Washington / Northern Idaho (total acres: 3,771,635)

Forest Fire Regime Groups: *Low* = Low Severity; *Mixed* = Mixed Severity; *High* = High Severity

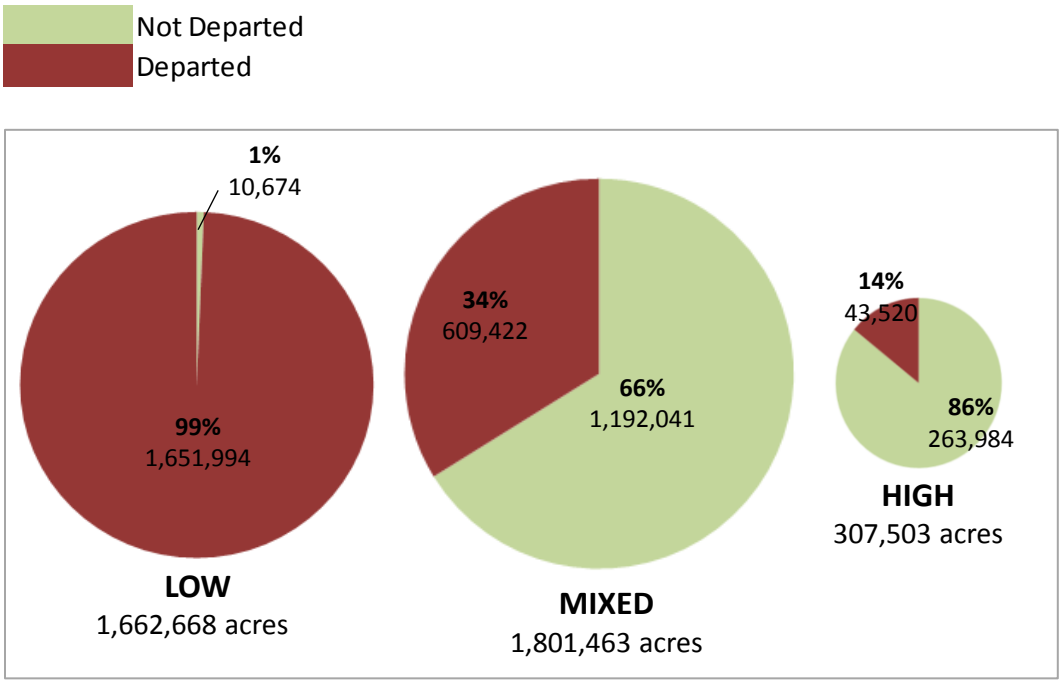


Figure C.10. Forest ownership for NE Washington / Northern Idaho (total acres: 3,771,635)

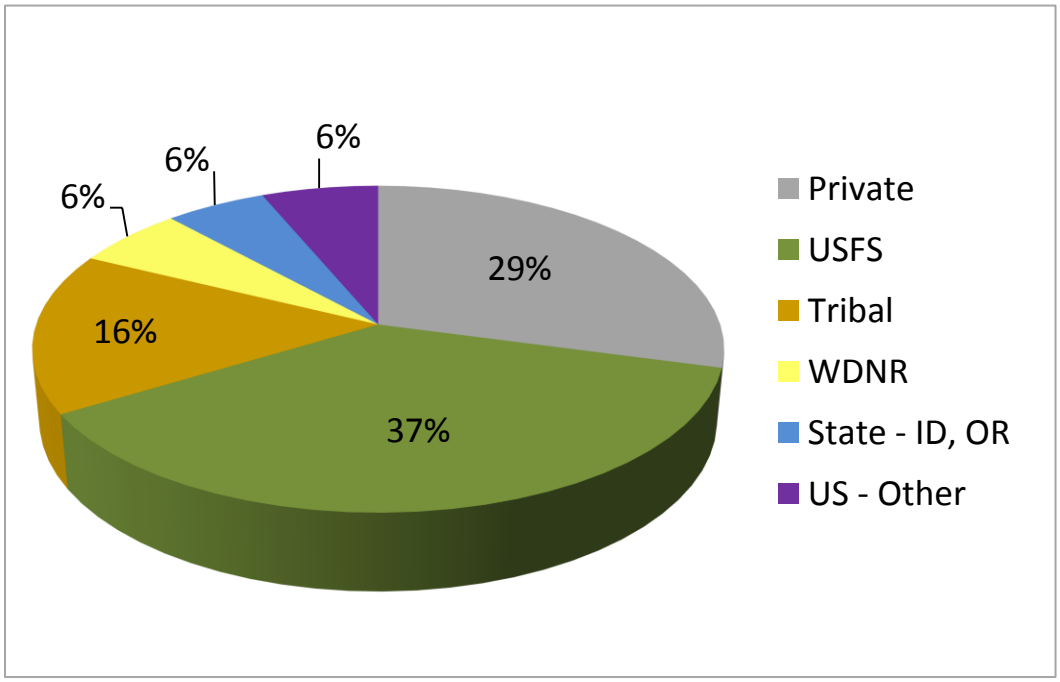


Figure C.11. Major ownerships for NE Washington / Northern Idaho region with ecological departure by forest fire regime groups (total acres: 3,771,635)

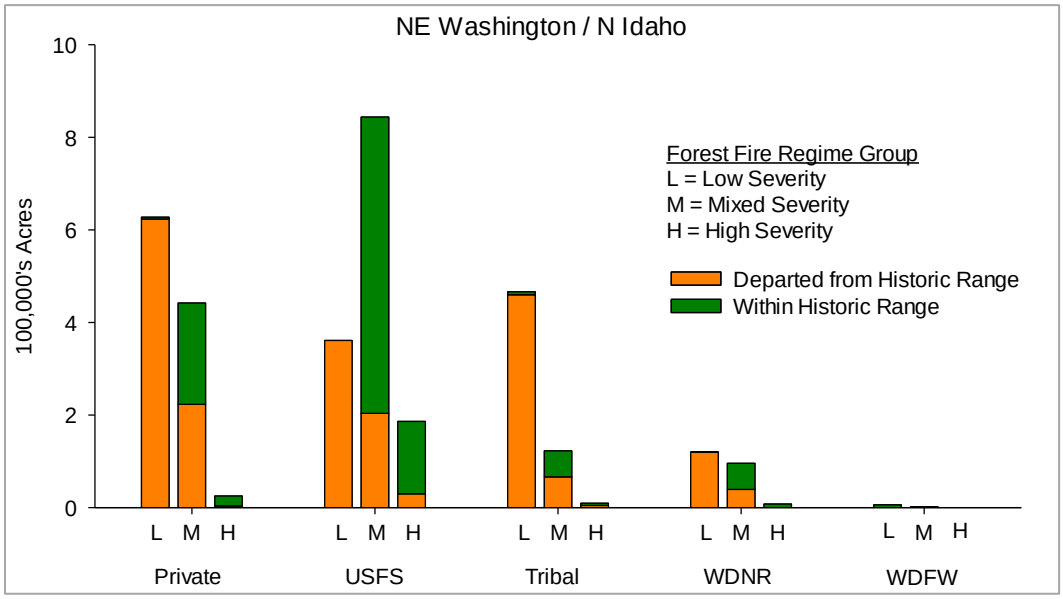
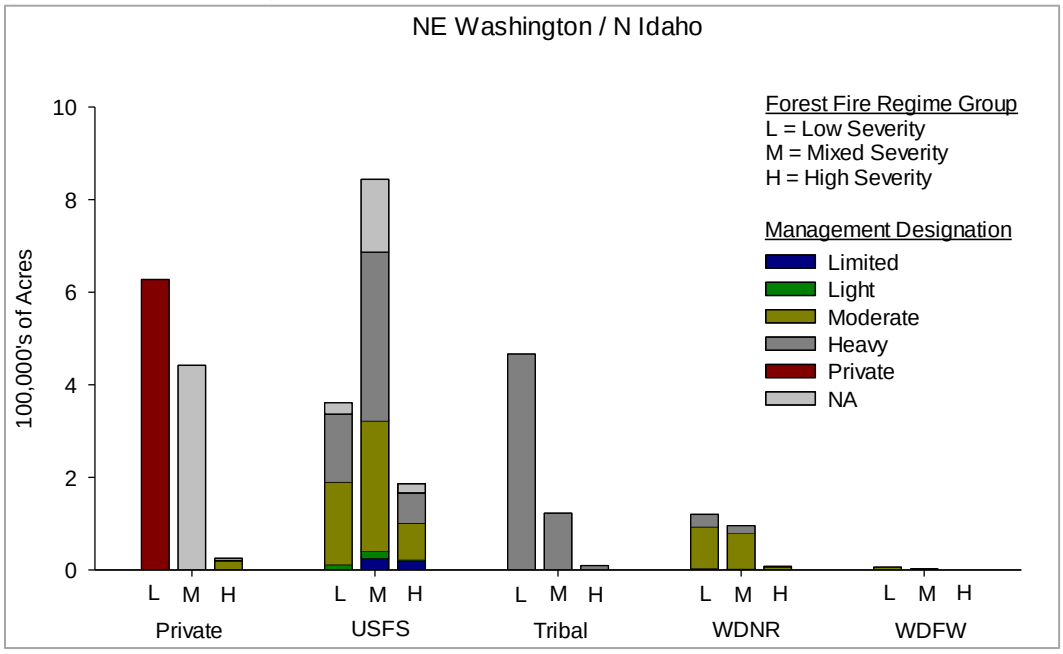


Figure C.12. Management designations for NE Washington / Northern Idaho
(total acres: 3,771,635)



REGION: Spokane / Coeur D'Alene

(HUCs: Pend Oreille Lake, Coeur D'Alene Lake, Little Spokane, Lower Spokane, Palouse, Upper Spokane, Hangman, Rock)

Total Acres: 2,187,915

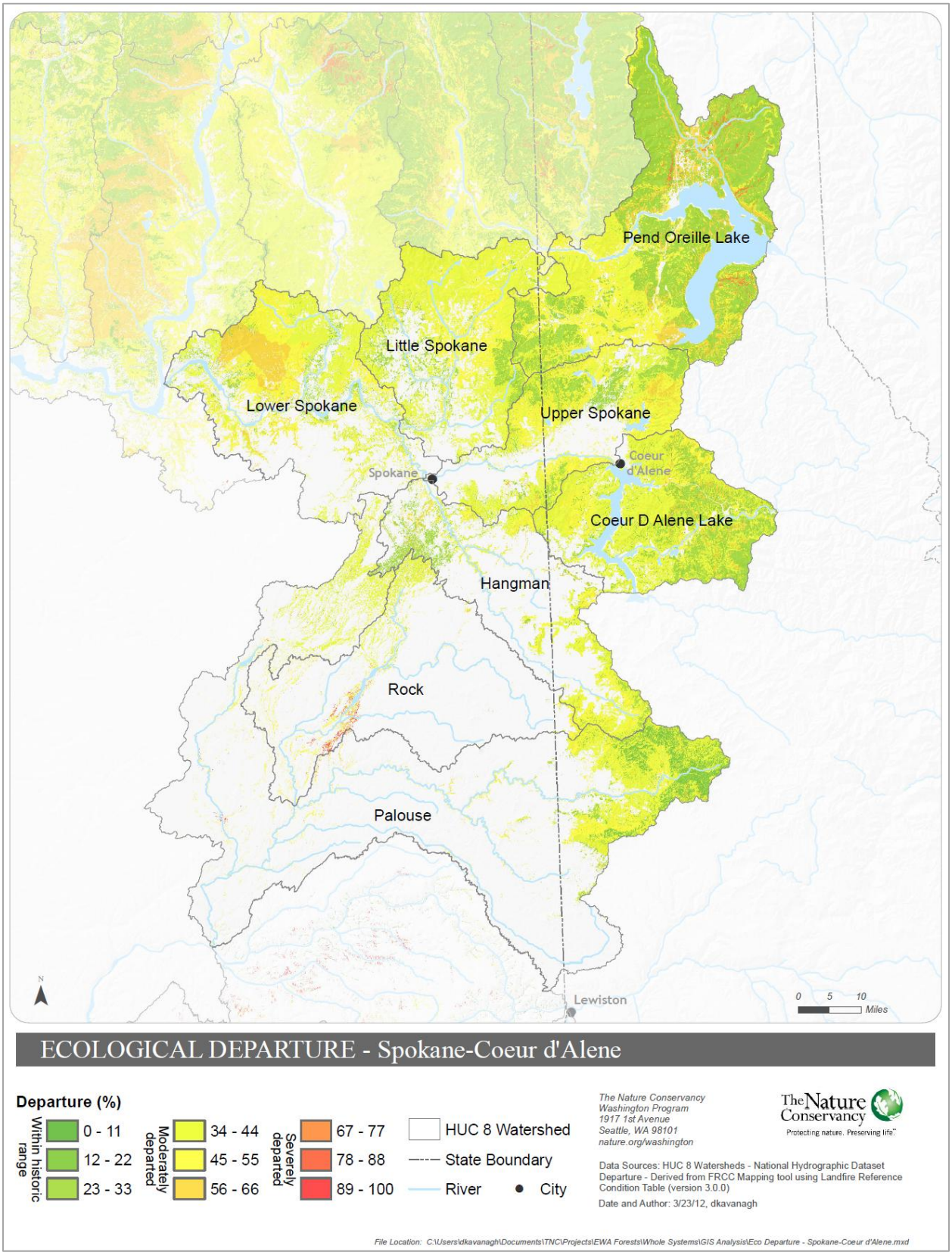


Figure C.13. Forest fire regime groups and ecological departure for Spokane / Coeur D'Alene
(total acres: 2,187,915)
Forest Fire Regime Groups: *Low* = Low Severity; *Mixed* = Mixed Severity; *High* = High Severity

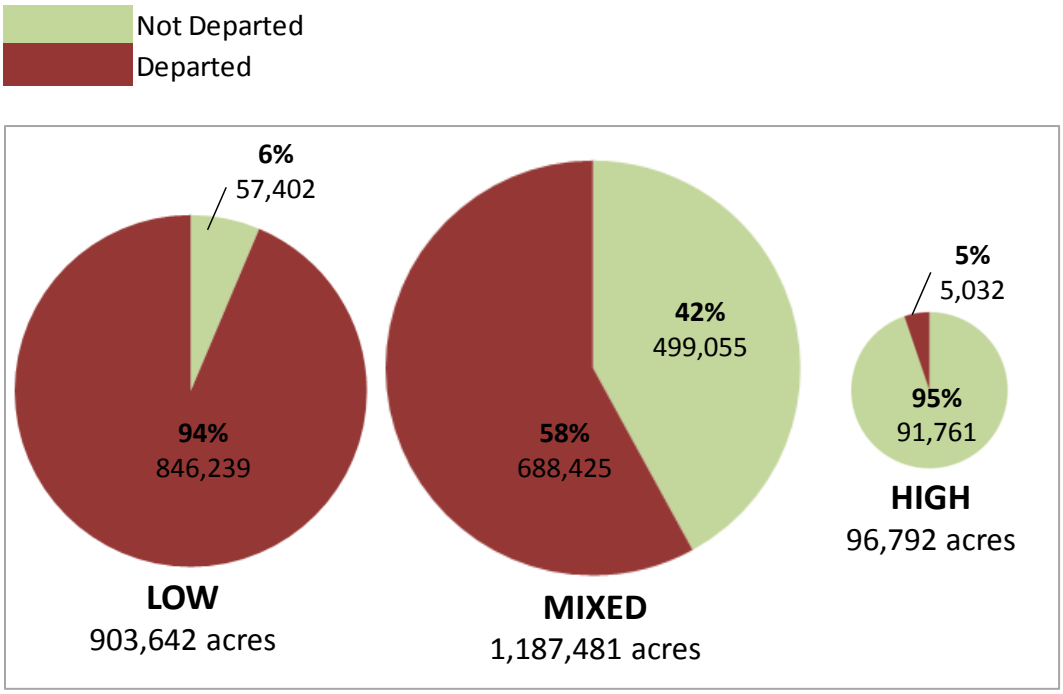


Figure C.14. Forest ownership for Spokane / Coeur D'Alene (total acres: 2,187,915)

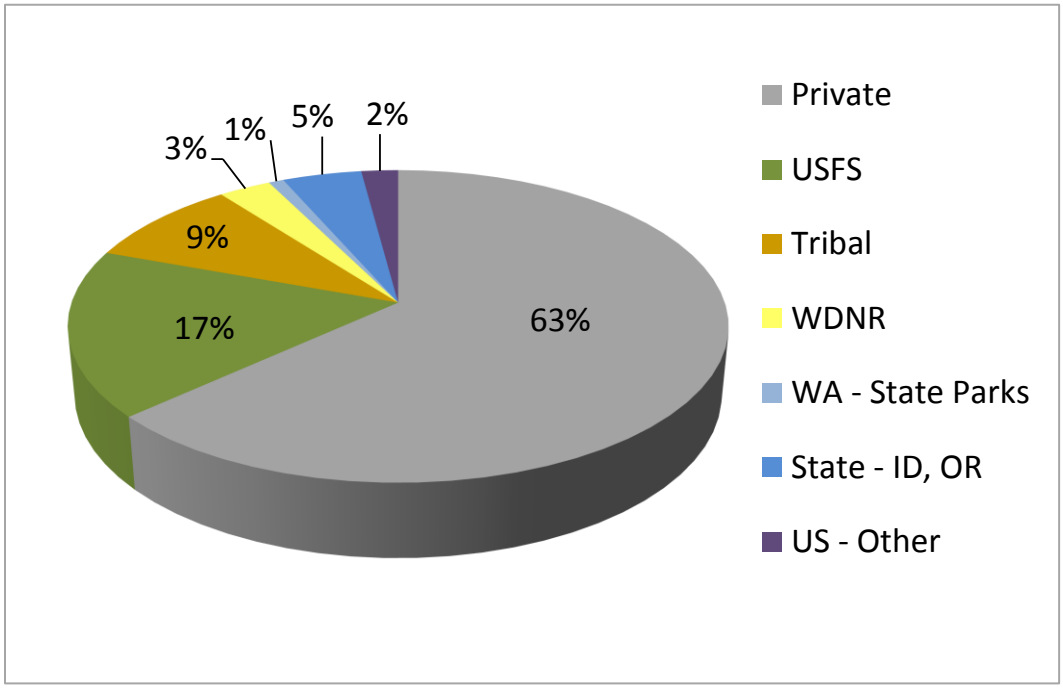


Figure C.15. Major ownerships for Spokane / Coeur D'Alene region with ecological departure by forest fire regime groups (total acres: 2,187,915)

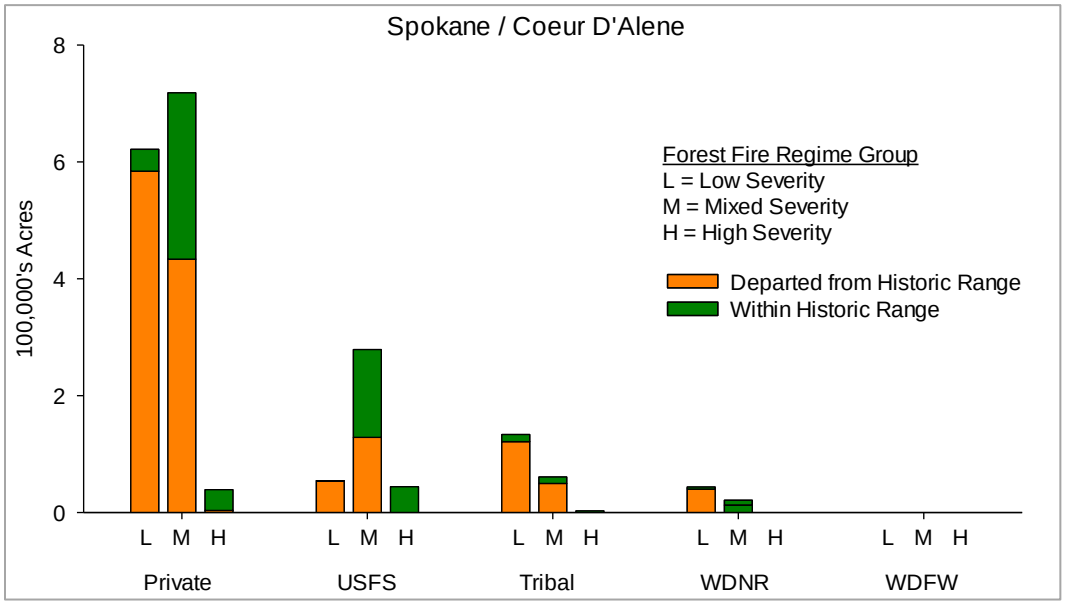
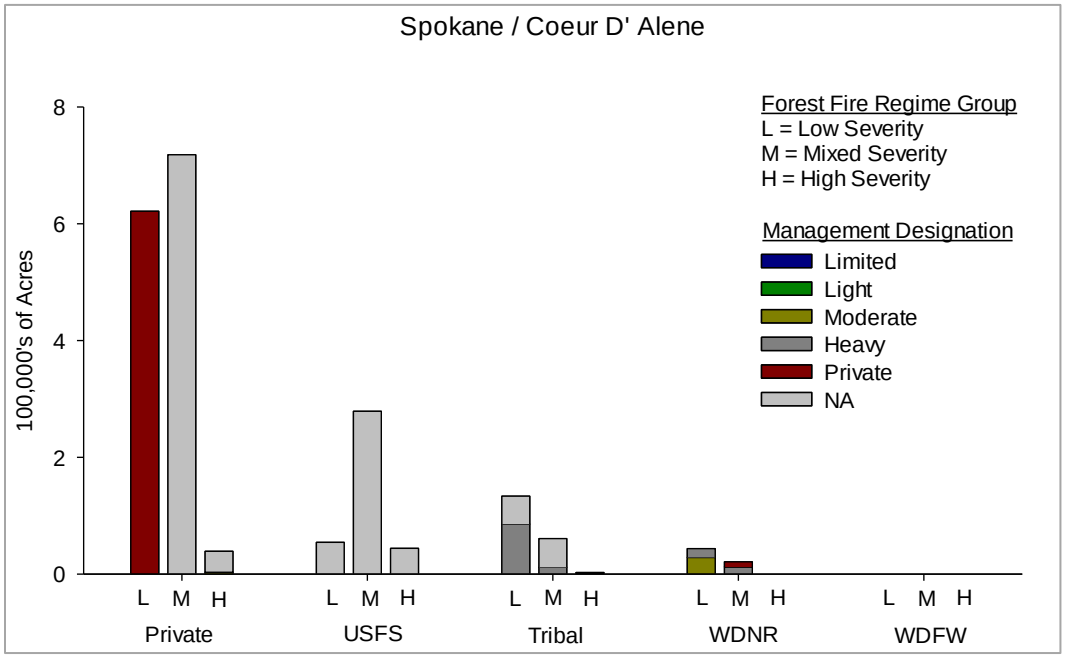


Figure C.16. Management designations for Spokane / Coeur D'Alene (total acres: 2,187,915)



REGION: Blue Mountains

(HUCs: Lower Grande Ronde, Walla Walla, Lower Snake-Asotin, Lower Snake-Tucannon)

Total Acres: 1,104,914

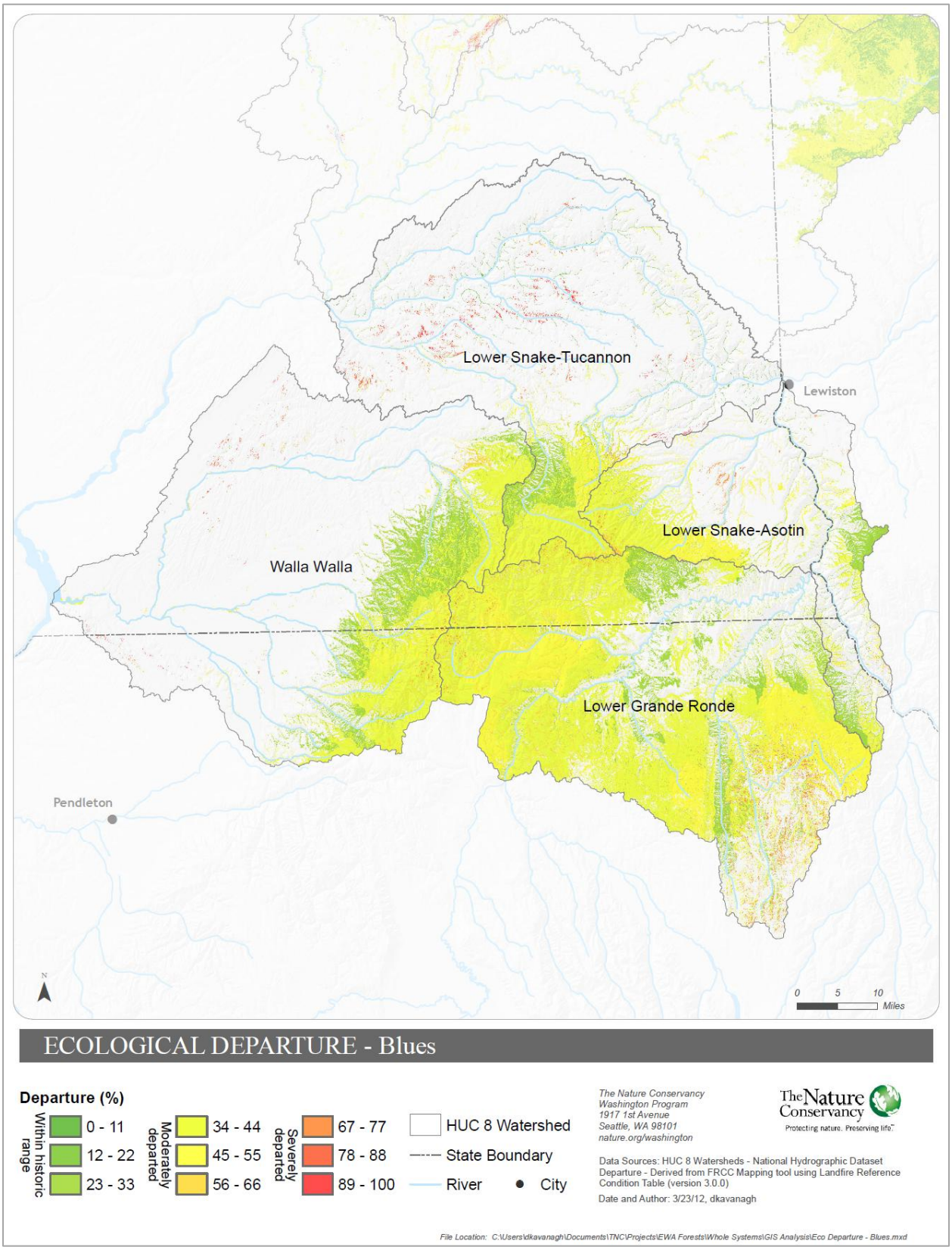


Figure C.17. Forest fire regime groups and ecological departure for Blue Mountains
(total acres: 1,104,914)
Forest Fire Regime Groups: *Low* = Low Severity; *Mixed* = Mixed Severity; *High* = High Severity

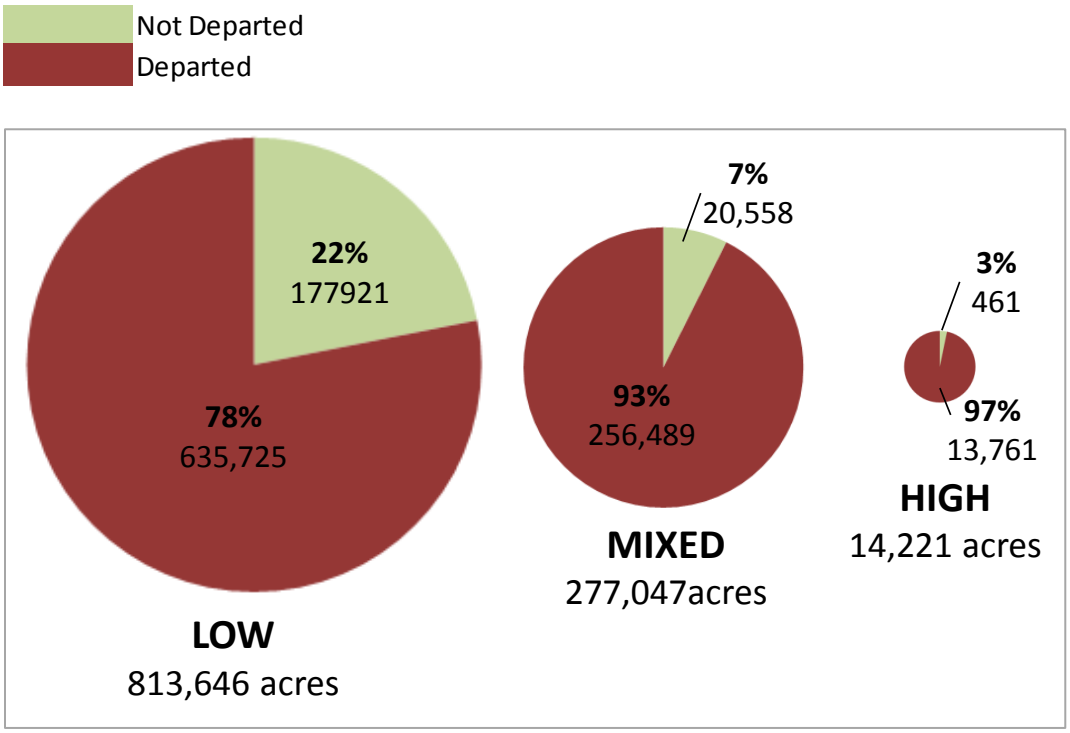


Figure C.18. Forest ownership for Blue Mountains (total acres: 1,104,914)

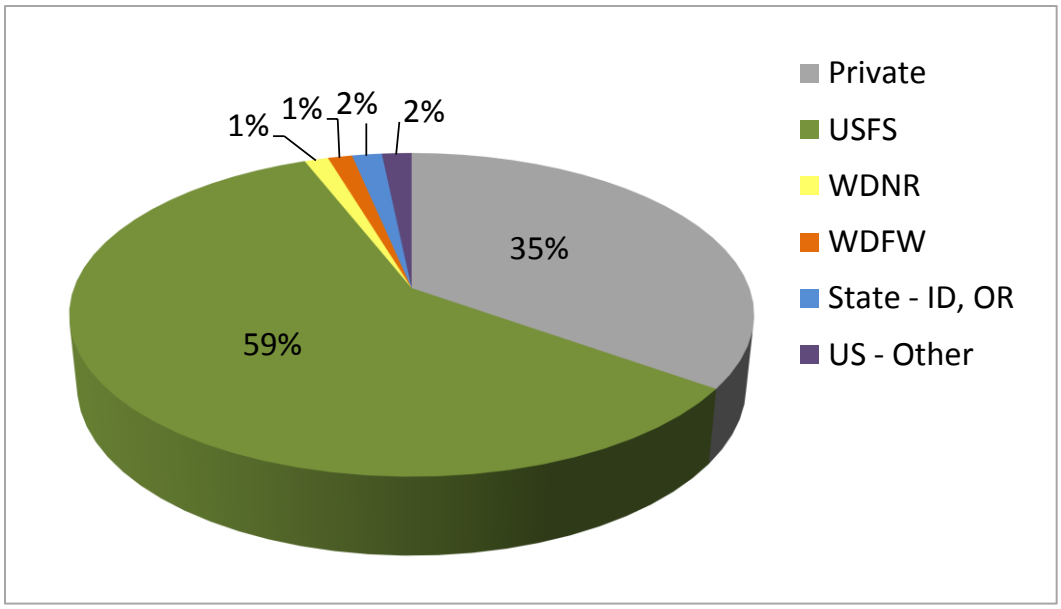


Figure C.19. Major ownerships for Blue Mountains region with ecological departure by forest fire regime groups (total acres: 1,104,914)

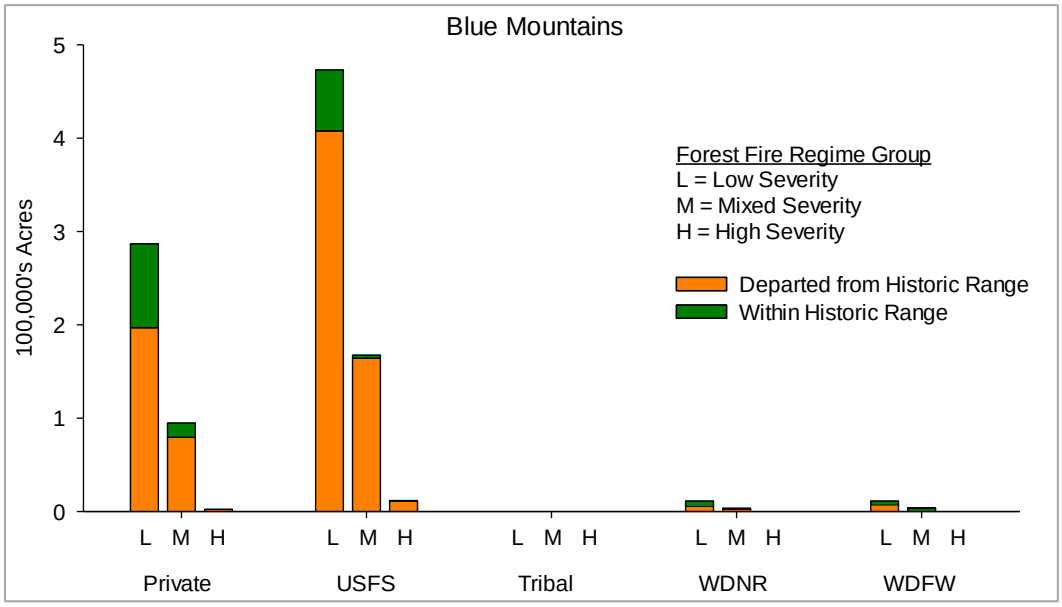
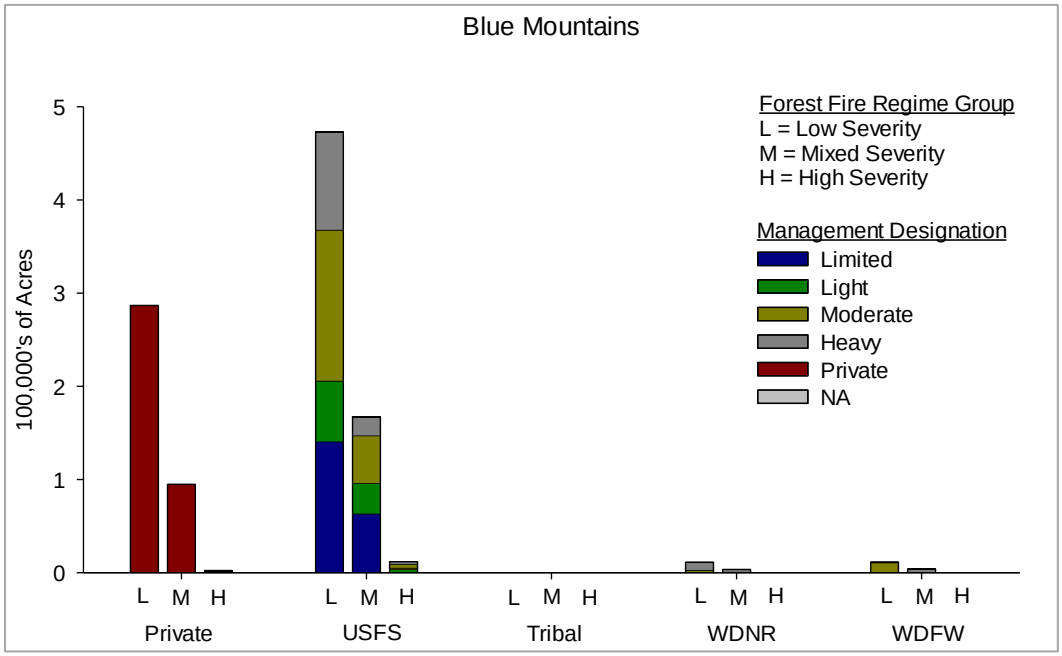



Figure C.20. Management designations for Blue Mountains (total acres: 1,104,914)