APPENDICES

to

Baseline Evaluation of Fisher Habitat and Population Status & Effects of Fires and Fuels Management on Fishers In the Southern Sierra Nevada

June 2008

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List of Appendices

Appendix A -- Science Advisors

The following scientists provided independent scientific input and review at various points throughout this project. Their wisdom added considerable value to this work. However, although the final selection of methods, interpretation of results, formulation of management recommendations, and any inaccuracies in this report are CBI's alone.

Core Science Advisor Group

David Graber – National Park Service –wildlife ecology and national park management

Jan Van Wagtendonk – U.S. Geological Survey – fire ecology and management

Bob Heald – UC Berkeley – silviculture

Frank Davis – UC Santa Barbara – landscape ecology/computer modeling

Bill Zielinski – US Forest Service – fisher biology

Reg Barrett – UC Berkeley – fisher biology

John Vankat – Miami University (Emeritus) and National Park Service – forest ecology

Malcolm North – UC Davis – forest and fire ecology and

Extended Advisor Group

Keith Aubry – US Forest Service – fisher biology

Scott Stephens – UC Berkeley – fire ecology

Carl Skinner – US Forest Service – fire ecology

David Mladenoff – University of Wisconsin – landscape dynamics modeling

Appendix B -- Data Sources

Title: National Land Cover Database Tree Canopy Layer 2001
Publisher: U.S. Geological Survey
Publication Year: 2004
Format: Raster
Resolution: 30m
Units: Percent

Title: United States Average Monthly or Annual Precipitation, 1971 - 2000
Publisher: The PRISM Group at Oregon State University
Publication Year: 2006
Format: Raster
Resolution: 30 arc- second (1km2)
Units: mm * 100

Title: National Operational Hydrologic Remote Sensing Center Snow Data Assimilation System (SNODAS): Daily Snow Depth (modeled snow layer thickness), Jan, Feb, and March 2005
Publisher: National Snow and Ice Data Center
Publication Year: 2005
Format: Raster
Resolution: 30 arc- second (1km2)
Units: meters/1000

Title: Existing vegetation data (EVEG) for the Stanislaus, Sierra, and Sequoia National Forests
Publisher: US Forest Service, Region 5
Publication Year: 2005
Format: Vector (personal geodatabase tiles)
Resolution: minimum mapping unit of 2.5 acres.
Attributes used:
Vegetation Cover Type COVERTYPE
Regional Dominance Type 2 REGIONAL_DOMINANCE_TYPE_2
Conifer Cover From Above CON_CFA
Hardwood Cover From Above HDW_CFA
WHR Type WHRTYPE
WHR Size WHRSIZE
WHR Density WHRDENSITY
Year Planted ORIGIN_YEAR

Title: CWHR version 8.1
Publisher: California Department of Fish and Game. California Interagency Wildlife Task Group.
Publication Year: 2005
Format: personal computer program

Title: CA_R5_FireHistory05_1
Publisher: US Forest Service, Region 5

Publication Year: 2006
Format: Vector (personal geodatabase)
Resolution: 1:24,000
Attributes used:
Year the fire was contained FIRE_YEAR

Title: National Hydrography Dataset
Publisher: U.S. Geological Survey
Publication Year: 2006
Format: Vector (personal geodatabase)
Resolution: 1:12,000 – 1:24,000
Attributes Used:
FlowLine Feature Code FCode

Title: National Elevation Dataset
Publisher: U.S. Geological Survey
Publication Year: 2006
Format: Raster
Resolution: 1 arc-second (30m)
Units: meters

Title: snvtran00_1
Publisher: USDAFS/Remote Sensing Lab Region 5
Publication Year: 1999
Format: Vector (coverage)
Resolution: 1: 24,000
Attributes used:
Road Type

Title: Roads of Sequoia and Kings Canyon National Parks
Publisher: National Park Service
Publication Year: 2003
Format: Vector (shape file)
Resolution: 1: 12,000
Attributes used:
Type

Title: Roads of Yosemite National Park
Publisher: National Park Service
Publication Year: 2001
Format: Vector (shape file)
Resolution: 1: 24,000
Attributes used:
Class

USGS_ROAD100K
Publication Year: 1995
Publisher: U.S. Geological Survey

Format: Vector (coverage)
Resolution: 1:100,000

Title: Annual Inventory of Washington, Oregon, and California: Based on Version 2.0 of the National Core Procedures Manual
Publisher: U.S.D.A. Forest Service, Pacific Northwest Research Station, Forest Inventory and Analysis Program
Publication Year: 2005
Format: Vector (points)
Resolution: Approximately one sample plot per 6,000 acres
Attributes Used: Multiple attributes from the Plot and Tree tables

Appendix C – Data Dictionary for Predictor Variables

		Variable	Description
Abiotic	*Climate*	PRISM	Average annual precipitation (mm * 100), 1971 – 2000, within 5- km^2 moving window (PRISM, 30 arc-second ($1km^2$), resampled to 100m).
		SNOWDPTH	Maximum mean daily snowdepth (meters / 1000.00), Jan – March 2005, in 5-km^2 moving window (SNODAS, 30 arc-second ($1km^2$), resampled to 100m).
	Topography	ADJELEV	Mean latitude-adjusted elevation of 5-km^2 moving window based on 30m NED resampled to 100m. To adjust for the effect of increasing latitude, 0.625m was added to elevation for every km north from the southernmost point in the buffered study area.
		PCTSLOPE	Mean% slope of 5-km^2 moving window derived from 30m NED (National Elevation Dataset) resampled to 100m.
		RELIEF	Mean value of local relief over 5-km^2 moving window, calculated as the standard deviation of elevation in a local 5x5 moving window applied to the 30m NED data, resampled to 100m.
		SOUTHWEST	Mean value of transformed slope aspect (cos(aspect-255)) over 5-km^2 moving window, derived from 30m NED data (Franklin 2003) resampled to 100m.
		INSOL_INDEX	Mean value of solar insolation index over 5-km^2 moving window derived from 30m NED data (slope and aspect) resampled to 100m (Gustafson et al. 2003). $s = 2 - (\sin((slope/90)180))*(\cos(22 - aspect) + 1)$
		ASPECT_225	Proportion of 1ha (100m) cells in 5-km^2 moving window with 225 aspect (180 to 270 degrees) based on aspect derived from 30m NED resampled to 100m.
	Linear Features	MJRRDDENS	Major road density (km/km^2) over 5-km^2 moving window (YOSE class 1 and 2 (primary and secondary roads), SEKI type = primary and secondary, snvtran00_1 road_type = primary highway, secondary highway, and improved light duty/paved, added major roads in buffer outside federal lands from mjrds (1:100000 CaSIL and usgs_roads100k)).
		ALLRDDENS	Road density (km/km^2) over 5-km^2 moving window (all road classes in YOSE, SEKI, snvtran00_1, and added major roads in buffer outside federal lands from mjrds (1:100000 CaSIL and usgs_roads100k).
		STRMDENS	Perennial stream density (km/km^2) over 5-km^2 moving window derived from NHD High Resolution (1:12,000 – 1:24,000) Hydrography data.

Biotic	*Cover Type (EVeg)*	CON	Proportion of 1ha (100m) cells in 5-km^2 moving window classified as cover type = conifer (CON).
		PHDWD	Proportion of 5-km^2 moving window with WHR type = MHW or MHC, or secondary type (REGIONAL_DOMINANCE_TYPE_2) = Riparian Mixed Hardwood (NR), Interior Mixed Hardwood (NX), Canyon Live Oak (QC), Black Oak (QK), Interior Live Oak (QW), Black Cottonwood (QX), Montane Mixed Hardwood (TX).
		HC_RATIO	Ratio of area in cover type = hardwood (HDW) to area in cover type = conifer in 5-km^2 moving window.
		TS_RATIO	Ratio of area in cover type = hardwood (HDW) or conifer (CON) to area in cover type = shrub (SHB) in 5-km^2 moving window.
		SHRUB	Proportion of 1ha (100m) cells in 5-km^2 moving window classified as cover type = shrub (SHB).
		WTM	Proportion of 5-km^2 moving window with WHR type = WTM.
		FORTYPE	Proportion of 5-km^2 moving window with WHR Type = Montane Hardwood-Conifer, Montane Hardwood, Ponderosa Pine, Douglas Fir, Sierran Mixed Conifer, Jeffrey Pine, White Fir, Aspen, or Eastside Pine .
	WHR Suit. (CWHR and Eveg)	CWHR	Fisher CWHR rating (arithmetic mean of REPRO, FEEDING, COVER) * 100, averaged over 5-km^2 moving window; (MHW size and density classes scored by Rick Truex).
		CWHR2	Fisher CWHR rating (arithmetic mean of REPRO, FEEDING, COVER) * 100, excluding WHR types red fir, lodgepole pine, subalpine conifer, and montane riparian, averaged over 5 km^2 moving window; MHW size and density classes scored by Rick Truex).
		HREPRO	Proportion of 5-km^2 moving window with CWHR Reproduction Rating = High.
	Density (Eveg)	DFOR2	Proportion of 5-km^2 moving window with WHR type = Montane Hardwood-Conifer, Montane Hardwood, Ponderosa Pine, Douglas Fir, Sierran Mixed Conifer, Jeffrey Pine, White Fir, Aspen, or Eastside Pine <u>AND</u> WHR Density = D.
		CFA80_TREE	Proportion of 5-km^2 moving window with Conifer Cover From Above (CON_CFA) or Hardwood Cover From Above (HDW_CFA) = 80 - 89.9% (85) OR 90 – 100% (95).
		BADHAB	Proportion of 5-km^2 moving window with WHR Density = S or P <u>OR</u> WHR Type = Urban or Barren.

Size (Eveg)	SMLFOR	Proportion of 5-km^2 moving window with WHR Type = Montane Hardwood-Conifer, Montane Hardwood, Ponderosa Pine, Douglas Fir, Sierran Mixed Conifer, Jeffrey Pine, White Fir, Aspen, or Eastside Pine <u>AND</u> WHR Size = 1 or 2.
	MLFOR	Proportion of 5-km^2 moving window with WHR Type = Montane Hardwood-Conifer, Montane Hardwood, Ponderosa Pine, Douglas Fir, Sierran Mixed Conifer, Jeffrey Pine, White Fir, Aspen, or Eastside Pine <u>AND</u> WHR Size = 3 – 6.
	LRGFOR	Proportion of 5-km^2 moving window with WHR Type = Montane Hardwood-Conifer, Montane Hardwood, Ponderosa Pine, Douglas Fir, Sierran Mixed Conifer, Jeffrey Pine, White Fir, Aspen, Eastside Pine <u>AND</u> WHR Size = 4, 5, or 6.
	LRGHDWD	Proportion of 5-km^2 moving window with WHR type = MHW OR MHC <u>AND</u> WHRSIZE = 3, 4, 5 or 6.
Size and Density (Eveg)	DLFOR	Proportion of 5-km^2 moving window with WHR type = Montane Hardwood-Conifer, Montane Hardwood, Ponderosa Pine, Douglas Fir, Sierran Mixed Conifer, Jeffrey Pine, White Fir, Aspen, or Eastside Pine <u>AND</u> WHR Density = D <u>AND</u> WHR Size = 4, 5, or 6.
	STRUCT	Structure score averaged over 5-km^2 moving window. Product of the following: CWHR habitat indicator variable (1 = Montane Hardwood-Conifer, Montane Hardwood, Ponderosa Pine, Douglas Fir, Sierran Mixed Conifer, Jeffrey Pine, White Fir, Aspen, or Eastside Pine, Red Fir, Lodgepole Pine, Subalpine Conifer, and Montane Riparian; 0 otherwise); Forest canopy closure (centroid of class interval: S (10-25) = 17.5, P (25 – 35) = 30, M (40-60) = 50, and D (> 60) = 80)); Tree size (centroid of class interval: 1 (0 – 1) = 0.5, 2 (1 – 6) = 3.5, 3 (6 – 11) = 8.5, 4 (11 – 24) = 17.5, 5 (> 24) = 24, and 6 (multilayered trees) = 37).
	STRUCT2	Structure score averaged over 5-km^2 moving window. Product of the following: CWHR2 habitat indicator variable (1 = Montane Hardwood-Conifer, Montane Hardwood, Ponderosa Pine, Douglas Fir, Sierran Mixed Conifer, Jeffrey Pine, White Fir, Aspen, or Eastside Pine; 0 otherwise); Forest canopy closure (centroid of class interval: S (10-25) = 17.5, P (25 – 35) = 30, M (40-60)

Landscape Diversity (Eveg and Fragstats)

	= 50, and D (> 60) = 80));
	Tree size (centroid of class interval: 1 (0 – 1) = 0.5, 2 (1 – 6) = 3.5, 3 (6 – 11) = 8.5, 4 (11 – 24) = 17.5, 5 (> 24) = 24, and 6 (multilayered trees) = 37).
CWHR_VUL	Proportion of 5-km^2 moving window with WHR type = Ponderosa Pine, Montane Hardwood Conifer, or Sierran Mixed Conifer, AND WHR Density = D AND WHR Size = 3 or 4.
TYPE_SHDI	Shannon Diversity Index - all WHR types.
TSIZE_SHDI	Shannon Diversity Index for all WHR Tree Size classes.
AGGREG_SHDI	Shannon Diversity Index for aggregated WHR types/sizes/densities: 1. Low density shrubs: all Shrub habitats with density class S or P (all sizes) ADS, ASC, BBR, CRC, CSC, DSC, DSW, LSG, MCH, MCP, SGB 2. High density shrubs: all shrub types with density class M or D (all sizes) 3. Small hardwood forests: MHW / MRI class 1, 2, 3 (all density classes) 4. Large hardwood forests: MHW / MRI class 4, 5 (all density classes) 5. Small, low density 'mixed conifer/ pine ' forests: SMC, PPN, WFR, JPN, DFR /MHC 1,2,3, density S and P 6. Small, high density mixed conifer / pine forests as above, but density M and D 7. Large, low density 'mixed conifer / pine' forests: types as above for sizes 4,5,6 and density S and P 8. Large, high density 'mixed conifer / pine' forests: types as above for sizes 4,5,6 and density M and D 9. Small high elevation forests: RFR, LPN, SCN 1, 2, 3 10. Large high elevation forests: RFR, LPN, SCN 4, 5, 6 11. Low elevation 'other' habitats: BOW, PGS, BOP, VRI, VOW, AGS, DRI, JST, CPC, FEW, SEW 12. Non-vegetated habitat: BAR, URB, LAC 13. Unique types: WTM, ASP 14. Other 'forest' types: EPN, PJN, JUN
ALL_SHDI	Shannon Diversity Index: all Type/Size/Density.

Landscape Arrangement (Eveg and Fragstats)	HREPRO_ENNMN	Mean nearest neighbor distance of HREPRO patches within 5-km^2 moving window.
	CWHR2_ENNMN	Mean nearest neighbor distance of patches with CWHR2 > 0 over 5 km^2 moving window.
	HREPRO_AREAMN	HREPRO mean patch size over 5-km^2 moving window.
	CWHR2_AREAMN	CWHR2 > 0 mean patch size over 5-km^2 moving window.
	HREPRO_PARAMN	Mean perimeter-area ratio of HREPRO patches over 5-km^2 moving window.
	CWHR2_PARAMN	Mean perimeter-area ratio of CWHR2 > 0 patches over 5 km^2 moving window.
Historic	PLANT	Proportion of 5-km^2 moving window in plantations (USFS Eveg).
	FIRE_OLD	Proportion of 5-km^2 moving window burned before 1990 (CA_R5_FireHistory_05_1, USFS Region 5)
	FIRE_NEW	Proportion of 5-km^2 moving window burned 1990 – 2005 (CA_R5_FireHistory_05_1, USFS Region 5)
Age and Biomass (LANDIS and Eveg)	MAXAGE	Mean maximum tree age within 5-km^2 moving window, from LANDIS initial conditions at year 0.
	BIOMASS_T	Mean total tree biomass ((kg/ha)/100) over 5-km^2 moving window, from LANDIS initial conditions at year 0.
	BIOM_NORF	Mean total tree biomass ((kg/ha)/100) excluding red fir (*Abies magnifica*) over 5-km^2 moving window, from LANDIS initial conditions at year 0.
	BIOM_NORFBO	Mean total tree biomass ((kg/ha)/100) excluding red fir (*Abies magnifica*) and black oak (*Quercus kelloggii*) over 5-km^2 moving window, from LANDIS initial conditions at year 0.
	BIOM_BLKOAK	Mean black oak (*Quercus kelloggii*) biomass ((kg/ha)/100) over 5-km^2 moving window, from LANDIS initial conditions at year 0.

Appendix D -- Comparison of Four Model Types Tested on Fisher Data

Model Type	Species Data	Description	Interpret-ability	Citations
GAM (Generalized Additive Models)	Presence / Absence	A semi-parametric form of regression analysis which uses a link function to establish a relationship between the mean of the response variable and a smoothed function of the explanatory variables instead of coefficients (automatically identifies appropriate transformations of predictors). Assumes functions are additive and the components are smooth. Can model predictors non-parametrically but requires specification of the probability distribution of the response variable. Produces predicted probability of occurrence ranging from 0 to 1.	Easy	Hastie and Tibshirani (1990), Guisan et al. (2002)
ENFA (Ecological niche factor analysis, Biomapper)	Presence	Computes suitability functions by comparing the species distribution in the ecogeographical variable space with that of entire set of cells. Factor analyses transform correlated variables into uncorrelated factors and can extracted linear combinations of variables on which the species shows most of its marginality (ecological distance between the species optimum and the mean habitat within the reference area) and specialization (ratio of ecological variance in mean habitat to that observed for the focal species). First axis is selected to account for all the marginality of the species, and the following axes selected to maximize specialization.	Moderate	Hirzel et al. (2001), Hirzel et al. (2002), Hirzel et al. (2006)
Maximum Entropy (MaxEnt)	Presence	Utilizes statistical mechanics approach to make predictions from incomplete information. Estimates most uniform distribution of occurrence points under the constraint that the expected value of each environmental predictor variable under this estimated distribution is within the empirical error bounds of its average value using a smoothing procedure (regularization). Weights each environmental variable by a constant. Resulting probability distribution is the sum of each weighed variable divided by a scaling constant so that the probability values range from 0 to 1. Starts with uniform probability distribution and iteratively alters one weight at a time to maximize the likelihood to reach the optimum probability distribution. Predictions for each analysis cell are 'cumulative values' ranging from 0 to 100, representing the average probability value for the current analysis cell and all other cells with equal or lower probability values.	Moderate	Phillips et al. (2006), Miller and Knouft (2006)
GARP (Genetic Algorithm for Rule-set Prediction)	Presence	Machine learning algorithm, taking an artificial intelligence based approach. Uses several predictive modeling algorithms (atomic, logistic regression, range rules, and negated range) to develop a set of 'rules' used to search iteratively for non-random correlations between species occurrences and environmental predictors. Outputs are stochastic, resulting in a unique prediction map each time. Therefore, multiple runs should be performed to produce large number of output prediction maps from which a 'best subset' based on accuracy measures can be selected. Predictions of these can be arithmetically combined to produce a final predicted distribution map.	Difficult	Stockwell and Peters (1999), Anderson et al. (2003), Anderson (2003) Stockman et al. (2006)

Appendix E – Initial Candidate Models Evaluated Using GAM Models

Group	Num	Variable 1	Variable 2	Variable 3	Variable 4	Variable 5	Bio-logic or Hypotheses
Single Abiotic Variables	1	PRISM					Precip affects veg
	2	SNOWDPTH					Deep snows limit fishers
	3	PCTSLOPE					Rest sites on steep slopes; slopes affect veg
	4	ADJELEV					elev affects veg & snow depth
	5	RELIEF					Reflects slopes, ruggedness.
	6	ASPECT_225					Affects potential veg & snow depth
	7	SOUTHWEST					Affects potential veg & snow depth
	8	INSOL_INDEX					Affects potential veg & snow depth
	9	MJRRDDENS					Roads may affect mortality (roadkill) & correlate with degree/type of forest mgt.
	10	ALLRDDENS					Roads may affect mortality (roadkill) & correlate with degree/type of forest mgt.
	11	STRMDENS					Streams affect veg, prey availability, & perhaps forest structure?
Precipitation Family	12	PRISM	PCTSLOPE				Precip affects veg + slope affects veg potential.
	13	PRISM	RELIEF				Precip affects veg + relief affects veg potential
	14	PRISM	ASPECT				Precip affects veg + aspect affects veg potential
	15	PRISM	SOUTHWEST				Precip affects veg + insolation affects veg potential
	16	PRISM	INSOL_INDEX				Precip affects veg + insolation affects veg potential
	17	SNOWDPTH	ADJELEV				elev affects veg, snow depth affects fishers
c Varia	18	ADJELEV	RELIEF				Elev affects veg & snow, relief affects microhabitat?

	19	ADJELEV	SOUTHWEST				elev affects veg & snow, southwestness effects veg.
	20	ADJELEV	SOUTHWEST	ALLRDDENS			Elev affects veg & snow, southwestness affects veg, roads affect management.
	21	ADJELEV	SOUTHWEST	MJRRDDENS			elev affects veg & snow, southwestness affects veg, roads affect management.
	22	ADJELEV	SOUTHWEST	STRMDENS			elev affects veg & snow, southwestness affects veg, streams affect veg & prey.
	23	ADJELEV	INSOL_INDEX				elev affects veg & snow, insolation affects potential veg.
	24	ADJELEV	INSOL_INDEX	ALLRDDENS			elev affects veg & snow, insolation affects potential veg, roads affect mgt & mortality.
	25	ADJELEV	INSOL_INDEX	MJRRDDENS			elev affects veg & snow, insolation affects potential veg, roads affect mgt & mortality.
	26	ADJELEV	INSOL_INDEX	STRMDENS			elev affects veg & snow, insolation affects potential veg, streams affect veg & prey.
	27	INSOL_INDEX	ALLRDDENS				Insolation affects potential veg & roads affect veg mgt & mortality.
	28	INSOL_INDEX	MJRRDDENS				insolation affects potential veg & roads affect veg mgt & mortality.
	29	INSOL_INDEX	STRMDENS				Insolation affects potential veg & streams affect veg & prey
	30	SOUTHWEST	ALLRDDENS				Southwestness affects veg & microclimate, roads affect mortality & mgt
	31	SOUTHWEST	MJRRDDENS				Southwestness affects veg & microclimate, roads affect mortality & mgt
	32	SOUTHWEST	STRMDENS				Southwestness affects veg & microclimate, streams affect prey, etc.
	33	INSOL_INDEX	ALLRDDENS	STRMDENS			Together reflect potential veg, veg mgt, prey
	34	INSOL_INDEX	MJRRDDENS	STRMDENS			Together reflect potential veg, veg mgt, prey

	35	SOUTHWEST	ALLRDDENS	STRMDENS			Together reflect potential veg, veg mgt, prey
	36	SOUTHWEST	MJRRDDENS	STRMDENS			Together reflect potential veg, veg mgt, prey
	37	ADJELEV	INSOL_INDEX	ALLRDDENS	STRMDENS		All of above.
	38	ADJELEV	INSOL_INDEX	MJRRDDENS	STRMDENS		All of above.
	39	ADJELEV	SOUTHWEST	ALLRDDENS	STRMDENS		All of above.
	40	ADJELEV	SOUTHWEST	MJRRDDENS	STRMDENS		All of above.
Single Biotic Variables	41	DFOR2					Dense canopy associated with resting habitat
	42	CWHR					Expert rating of fisher habitat value.
	43	CWHR2					Improved expert rating of fisher habitat value.
	44	STRUCT					Associated with resting microhabitat
	45	STRUCT2					Associated with resting microhabitat
	46	PHDWD					Hardwoods provide resting structures & mast for prey.
	47	CON					General habitat assoc
	48	LRGHDWD					Resting structures & mast for prey.
	49	LRGFOR					Provide resting & foraging habitat, & favorable microclimate?
	50	HREPRO					Associated with resting & reproductive habitat.
	51	BADHAB					High contrast negative assoc.
	52	SMALFOR					Negative assoc?
	53	MLFOR					Includes size 3 trees as potential habitat.
	54	DLFOR					Provide resting & foraging habitat.
	55	CFA80_TREE					Densest canopies provide best resting habitat.
	56	CWHR_VUL					Veg types used by fishers that are most affected by fuels mgt.
	57	FORTYPE					Associated with fisher presence.
	58	SHRUB					Potential prey source?
	59	WTM					Potential prey source?
	60	TYPE_SHDI					Provide diverse prey base?

	61	TSIZE_SHDI					Provide diverse prey base?
	62	ALL_SHDI					Provide diverse prey base?
	63	AGGREG_SHDI					Provide diverse & abundant prey?
	64	HC_RATIO					A mix of hdwd & conifer provides diverse resting & foraging opportunities?
	65	TS_RATIO					Provides for diverse prey base?
	66	HREPRO_AREMN					Large blocks of best repro habitat support breeding = source habitat.
	67	HREPRO_ENNMN					Dispersal among source habitats.
	68	CWHR2_AREAMN					Large blocks of best habitat = source habitat.
	69	CWHR2_ENNMN					Dispersal among source habitats.
	70	HREPRO_PARAMN					Contiguous source habitat.
	71	CWHR2_PARAMN					Contiguous source habitat.
	72	PLANT					Positive or negative association with plantations?
	73	FIRE_OLD					Older fires affect forest structure?
	74	FIRE_NEW					Recent fires affect forest structure.
	75	HC_RATIO	LRGFOR				Diverse foraging + resting habitat.
Hardwood Predominance	76	PHDWD	CWHR2				Prey base + expert opinion fisher habitat
	77	PHDWD	DFOR2				Prey base, resting structures, & best resting habitat (dense).
	78	PHDWD	STRUCT2				Prey base, & resting structures.
	79	PHDWD	HREPRO				Prey base, reproductive value
	80	PHDWD	BADHAB				Prey base + high-contrast negative assoc?
	81	PHDWD	FORTYPE				Prey base + general habitat assoc?
	82	PHDWD	LRGFOR				Prey base + potential resting habitat.
	83	PHDWD	DLFOR				Prey base + "best" forest conditions?
Large Hard woods	84	LRGHDWD	DFOR2				Prey base, large woody structures, & best resting habitat (dense).

	85	LRGHDWD	CWHR2				Prey base, large woody structures, & good general habitat.
	86	LRGHDWD	STRUCT2				Prey base, large woody structures.
	87	LRGHDWD	HREPRO				Prey base, large woody structures, & best reproductive habitat (source habitat).
	88	LRGHDWD	BADHAB				Prey base, large woody structures, & high-contrast negative assoc.
	89	LRGHDWD	FORTYPE				Prey base, large woody structures, & general habitat assoc.
	90	LRGHDWD	LRGFOR				Prey base, large woody structures, & habitat assoc.
	91	LRGHDWD	DLFOR				Prey base, large woody structures, & "best" forest stand conditions.
	92	MLFOR	DFOR2	ALL_SHDI			General habitat assoc, best resting microhabitat, + diversity of prey base.
	93	MLFOR	DFOR2	AGGREG_SHDI			General habitat assoc, best resting microhabitat, + diversity of prey base.
	94	HREPRO	AGGREG_SHDI				Best reproductive habitat + prey diversity.
	95	HREPRO	ALL_SHDI				Best repro habitat + prey diversity.
Hardwood-Precipitation Family	96	PHDWD	CWHR2	PRISM			General habitat assoc, prey base, & veg growth potential.
	97	PHDWD	DFOR2	PRISM			Prey base, best resting microhabitat, & veg growth potential.
	98	PHDWD	STRUCT2	PRISM			Prey base, resting structures, & veg growth potential.
	99	PHDWD	HREPRO	PRISM			Prey base, best resting habitat, & veg growth potential.
	100	PHDWD	BADHAB	PRISM			Prey base, high-contrast negative assoc, & veg growth potential.

	101	PHDWD	FORTYPE	PRISM			Prey base, general habitat assoc, & veg growth potential.
	102	PHDWD	LRGFOR	PRISM			Prey base, large woody structures, & veg growth potential.
	103	PHDWD	DLFOR	PRISM			Prey base, "best" forest conditions, & veg growth potential.
Hardwood-Slope Family	104	PHDWD	CWHR2	SNOWDPTH			Prey base, habitat assoc, microclimate, & slope assoc.
	105	PHDWD	DFOR2	SNOWDPTH			Prey base, best resting microhabitat, & slope assoc.
	106	PHDWD	STRUCT2	SNOWDPTH			Prey base, resting structures, & slope assoc.
	107	PHDWD	HREPRO	SNOWDPTH			Prey base, best reproduction habitat, & slope associations.
	108	PHDWD	BADHAB	SNOWDPTH			Prey base, high-contrast negative assoc, & slope associations.
	109	PHDWD	FORTYPE	SNOWDPTH			Prey base, general habitat assoc, & slope assoc.
	110	PHDWD	LRGFOR	SNOWDPTH			Prey base, large woody structures, & slope assoc.
	111	PHDWD	DLFOR	SNOWDPTH			Prey base, "best" forest conditions, & slope assoc.
Hardwood-Relief Family	112	PHDWD	CWHR2	RELIEF			Prey base, habitat assoc, microclimate, & slope assoc.
	113	PHDWD	DFOR2	RELIEF			Prey base, best resting microhabitat, & slope assoc.
	114	PHDWD	STRUCT2	RELIEF			Prey base, resting structures, & slope assoc.
	115	PHDWD	HREPRO	RELIEF			Prey base, best reproduction habitat, & slope associations.
	116	PHDWD	BADHAB	RELIEF			Prey base, high-contrast negative assoc, & slope associations.

	117	PHDWD	FORTYPE	RELIEF			Prey base, general habitat assoc, & slope assoc.
	118	PHDWD	LRGFOR	RELIEF			Prey base, large woody structures, & slope assoc.
	119	PHDWD	DLFOR	RELIEF			Prey base, "best" forest conditions, & slope assoc.
Hardwood-INSOL_INDEX Family	120	PHDWD	CWHR2	INSOL_INDEX			Prey base, habitat assoc, microclimate, & veg growth potential.
	121	PHDWD	DFOR2	INSOL_INDEX			Prey base, best resting microhabitat, & veg growth potential.
	122	PHDWD	STRUCT2	INSOL_INDEX			Prey base, resting structures, & veg growth potential.
	123	PHDWD	HREPRO	INSOL_INDEX			Prey base, best reproduction habitat, & veg growth potential.
	124	PHDWD	BADHAB	INSOL_INDEX			Prey base, high-contrast negative assoc, & veg growth potential.
	125	PHDWD	FORTYPE	INSOL_INDEX			Prey base, general habitat assoc, & veg growth potential.
	126	PHDWD	LRGFOR	INSOL_INDEX			Prey base, large woody structures, & veg growth potential.
	127	PHDWD	DLFOR	INSOL_INDEX			Prey base, "best" forest conditions, & veg growth potential.
Hardwood-Southwestness Family	128	PHDWD	CWHR2	SOUTHWEST			Prey base, habitat assoc, microclimate, & veg growth potential.
	129	PHDWD	DFOR2	SOUTHWEST			Prey base, best resting microhabitat, & veg growth potential.
	130	PHDWD	STRUCT2	SOUTHWEST			Prey base, resting structures, & veg growth potential.
	131	PHDWD	HREPRO	SOUTHWEST			Prey base, best reproduction habitat, & veg growth potential.

	132	PHDWD	BADHAB	SOUTHWEST			Prey base, high-contrast negative assoc, & veg growth potential.
	133	PHDWD	FORTYPE	SOUTHWEST			Prey base, general habitat assoc, & veg growth potential.
	134	PHDWD	LRGFOR	SOUTHWEST			Prey base, large woody structures, & veg growth potential.
	135	PHDWD	DLFOR	SOUTHWEST			Prey base, "best" forest conditions, & veg growth potential.
Large Hardwood-Precipitation Family	136	LRGHDWD	CWHR2	PRISM			Prey base, large woody structures, & veg growth potential.
	137	LRGHDWD	DFOR2	PRISM			Prey base, best resting microhabitat, & veg growth potential.
	138	LRGHDWD	STRUCT2	PRISM			Prey base, resting structures, & veg growth potential
	139	LRGHDWD	HREPRO	PRISM			Prey base, large woody structures, best repro habitat, & veg growth potential.
	140	LRGHDWD	BADHAB	PRISM			Prey base, large woody structures, high-contrast negative assoc, & veg growth potential.
	141	LRGHDWD	FORTYPE	PRISM			Prey base, large woody structures, general habitat assoc, & veg growth potential.
	142	LRGHDWD	LRGFOR	PRISM			Prey base, large woody structures, & veg growth potential.
	143	LRGHDWD	DLFOR	PRISM			Prey base, large woody structures, & snow effects.
Large Hardwood-Slope Family	144	LRGHDWD	CWHR2	SNOWDPTH			Prey base, large woody structures, general habitat assoc, & slope assoc.
	145	LRGHDWD	DFOR2	SNOWDPTH			Prey base, large woody structures, best resting microhabitat, & slope assoc.

	146	LRGHDWD	STRUCT2	SNOWDPTH			Prey base, large woody structures, & slope assoc.
	147	LRGHDWD	HREPRO	SNOWDPTH			Prey base, large woody structures, best reproduction habitat, & slope assoc.
	148	LRGHDWD	BADHAB	SNOWDPTH			Prey base, large woody structures, high-contrast negative assoc, & slope assoc.
	149	LRGHDWD	FORTYPE	SNOWDPTH			Prey base, large woody structures, general habitat assoc, & slope assoc.
	150	LRGHDWD	LRGFOR	SNOWDPTH			Prey base, large woody structures, & slope assoc.
	151	LRGHDWD	DLFOR	SNOWDPTH			Prey base, best forest conditions, & snow effects.
Large Hardwood-Relief Family	152	LRGHDWD	CWHR2	RELIEF			Prey base, habitat assoc, microclimate, & slope assoc.
	153	LRGHDWD	DFOR2	RELIEF			Prey base, best resting microhabitat, & slope assoc.
	154	LRGHDWD	STRUCT2	RELIEF			Prey base, resting structures, & slope assoc.
	155	LRGHDWD	HREPRO	RELIEF			Prey base, best reproduction habitat, & slope associations.
	156	LRGHDWD	BADHAB	RELIEF			Prey base, high-contrast negative assoc, & slope associations.
	157	LRGHDWD	FORTYPE	RELIEF			Prey base, general habitat assoc, & slope assoc.
	158	LRGHDWD	LRGFOR	RELIEF			Prey base, large woody structures, & slope assoc.
	159	LRGHDWD	DLFOR	RELIEF			Prey base, best forest conditions, & relief effects.
Hardwood-Insolation	160	LRGHDWD	CWHR2	INSOL_INDEX			Prey base, habitat assoc, microclimate, & slope assoc.
	161	LRGHDWD	DFOR2	INSOL_INDEX			Prey base, best resting microhabitat, & slope assoc.

	162	LRGHDWD	STRUCT2	INSOL_INDEX			Prey base, resting structures, & slope assoc.
	163	LRGHDWD	HREPRO	INSOL_INDEX			Prey base, best reproduction habitat, & slope associations.
	164	LRGHDWD	BADHAB	INSOL_INDEX			Prey base, high-contrast negative assoc, & slope associations.
	165	LRGHDWD	FORTYPE	INSOL_INDEX			Prey base, general habitat assoc, & slope assoc.
	166	LRGHDWD	LRGFOR	INSOL_INDEX			Prey base, large woody structures, & slope assoc.
	167	LRGHDWD	DLFOR	INSOL_INDEX			Prey base, best forest conditions, & potential veg, snow.
Large Hardwood-Southwestness Family	168	LRGHDWD	CWHR2	SOUTHWEST			Prey base, habitat assoc, microclimate, & slope assoc.
	169	LRGHDWD	DFOR2	SOUTHWEST			Prey base, best resting microhabitat, & slope assoc.
	170	LRGHDWD	STRUCT2	SOUTHWEST			Prey base, resting structures, & slope assoc.
	171	LRGHDWD	HREPRO	SOUTHWEST			Prey base, best reproduction habitat, & slope associations.
	172	LRGHDWD	BADHAB	SOUTHWEST			Prey base, high-contrast negative assoc, & slope associations.
	173	LRGHDWD	FORTYPE	SOUTHWEST			Prey base, general habitat assoc, & slope assoc.
	174	LRGHDWD	LRGFOR	SOUTHWEST			Prey base, large woody structures, & slope assoc.
	175	LRGHDWD	DLFOR	SOUTHWEST			Prey base, best forest conditions, & potential veg, snow.
large, Dense, Diverse	176	MLFOR	DFOR2	ALL_SHDI	SNOWDPTH		General habitat assoc, favorable resting microclimate, prey diversity, & snow effects.
	177	MLFOR	DFOR2	ALL_SHDI	ADJELEV		General habitat assoc, favorable resting microclimate, prey diversity, & elev assoc.

	178	MLFOR	DFOR2	ALL_SHDI	INSOL_INDEX		General habitat assoc, favorable resting microclimate, prey diversity, & veg growth potential.
	179	MLFOR	DFOR2	ALL_SHDI	SOUTHWEST		General habitat assoc, favorable resting microclimate, prey diversity, & veg growth potential.
	180	MLFOR	DFOR2	ALL_SHDI	PRISM		General habitat assoc, favorable resting microclimate, prey diversity, & veg growth potential.
	181	MLFOR	DFOR2	ALL_SHDI	RELIEF		General habitat assoc, favorable resting microclimate, prey diversity, & relief effects.
	182	MLFOR	DFOR2	AGGREG_SHDI	SNOWDPTH		General habitat assoc, favorable resting microclimate, prey diversity, & snow effects.
	183	MLFOR	DFOR2	AGGREG_SHDI	ADJELEV		General habitat assoc, favorable resting microclimate, prey diversity, & elev assoc.
	184	MLFOR	DFOR2	AGGREG_SHDI	INSOL_INDEX		General habitat assoc, favorable resting microclimate, prey diversity, & veg growth potential.
	185	MLFOR	DFOR2	AGGREG_SHDI	SOUTHWEST		General habitat assoc, favorable resting microclimate, prey diversity, & veg growth potential.
	186	MLFOR	DFOR2	AGGREG_SHDI	PRISM		General habitat assoc, favorable resting microclimate, prey diversity, & veg growth potential.
	187	MLFOR	DFOR2	AGGREG_SHDI	RELIEF		General habitat assoc, favorable resting microclimate, prey diversity, & relief effects.
Carroll et al. family	188	PRISM	STRUCT2	DLFOR			Precip affects veg effects veg; favorable resting/breeding habitat.
	189	PRISM	STRUCT2	DLFOR	LRGHDWD		Precip affects veg; favorable resting/breeding habitat, + mast for prey.

	190	PRISM	STRUCT2	DLFOR	PHDWD		Precip affects veg effects veg; favorable resting/breeding habitat, + mast for prey.
	191	PRISM	STRUCT2	DFOR2	LGFOR		Precip affects veg effects, favorable resting habitat.
	192	PRISM	STRUCT2	DFOR2	LGFOR	PHDWD	Precip affects veg effects, favorable resting habitat, mast for prey.
Davis et al. family	193	PRISM	ADJELEV	DFOR2			Precip affects veg & elev effects on veg & snow, + dense canopy.
	194	PRISM	ADJELEV	DFOR2	PHDWD		Precip affects veg & elev effects on veg & snow, + dense canopy, + mast for prey.
	195	PRISM	ADJELEV	DFOR2	STRUCT2		Precip affects veg & elev effects on veg & snow, + favorable resting structure.
	196	PRISM	ADJELEV	DFOR2	LGFOR		Precip affects veg & elev effects on veg & snow, + large forest.
	197	PRISM	ADJELEV	DFOR2	LRGHDWD		Precip affects veg & elev effects on veg & snow, + dense canopy, + mast for prey.
Reproductive Habitat	198	HREPRO_AREMN	MJRRDDENS	ALL_SHDI			Contiguous source habitat, mgt effects, & prey diversity, potential roadkill.
	199	HREPRO_AREMN	ALLRDDENS	ALL_SHDI			Contiguous source habitat, mgt effects, & prey diversity.
	200	HREPRO_AREMN	MJRRDDENS	AGGREG_SHDI			Contiguous source habitat, road effects, prey diversity
	201	HREPRO_AREMN	ALLRDDENS	AGGREG_SHDI			Contiguous source habitat, road effects, prey diversity
	202	STRMDENS	DFOR2				Prey base & favorable resting microclimate.
	203	STRMDENS	DFOR2	STRUCT2			Prey base, favorable resting microclimate, & large woody structures.

	204	DFOR2	RELIEF				Favorable resting microclimate, & topographic relief assoc.
	205	LRGFOR	RELIEF				Large woody structures & topographic relief assoc.
	206	STRMDENS	LRGFOR	DFOR2			Prey base, large woody structures, & favorable resting microclimate.
	207	STRMDENS	DFOR2	PHDWD			Prey base, favorable resting microclimate, mast-based prey base.
	208	STRMDENS	HREPRO_AREMN				Prey base & best repro habitat.
	209	STRMDENS	CWHR2				Prey base & general habitat assoc.
Hardwood Predominance - Dense Forest Family	210	PHDWD	DFOR2	ALL_SHDI	RELIEF		Prey base, favorable resting microclimate, diversity of prey base, & topo relief assoc.
	211	PHDWD	DFOR2	ALL_SHDI	ADJELEV		Prey base, favorable resting microclimate, diversity of prey base, & elev assoc.
	212	PHDWD	DFOR2	ALL_SHDI	INSOL_INDEX		Prey base, favorable resting microclimate, diversity of prey base, & veg growth potential.
	213	PHDWD	DFOR2	ALL_SHDI	SOUTHWEST		Prey base, favorable resting microclimate, prey diversity, & veg & snow effects.
	214	PHDWD	DFOR2	AGGREG_SHDI	RELIEF		Prey base, favorable resting microclimate, prey diversity, & relief effects.
	215	PHDWD	DFOR2	AGGREG_SHDI	ADJELEV		Prey base, favorable resting microclimate, prey diversity, & veg & snow effects.
	216	PHDWD	DFOR2	AGGREG_SHDI	INSOL_INDEX		Prey base, favorable resting microclimate, prey diversity, & veg & snow effects.
	217	PHDWD	DFOR2	AGGREG_SHDI	SOUTHWEST		Prey base, favorable resting microclimate, prey diversity, & veg & snow effects.
Hard wood Famil	218	MJRRDDENS	PHDWD	DFOR2			Mgt effects, prey base, favorable resting microclimate, potential roadkill.

	219	MJRRDDENS	PHDWD	MLFOR			Mgt effects, prey base, general habitat assoc, woody structures, potential roadkill.
	220	ALLRDDENS	PHDWD	DFOR2			Mgt effects, prey base, & favorable resting microclimate.
	221	ALLRDDENS	PHDWD	MLFOR			Mgt effects, prey base, general habitat assoc, & woody structures.
Potential Veg/Snow Family	222	CWHR2	INSOL_INDEX	ADJELEV			Habitat assoc, & potential veg, snow.
	223	LRGHDWD	INSOL_INDEX	ADJELEV			Mast for prey, rest structures, & potential veg., snow.
	224	DFOR2	INSOL_INDEX	ADJELEV			Best resting microhabitat, & potential veg, snow.
	225	STRUCT2	INSOL_INDEX	ADJELEV			Resting structures, & potential veg, snow.
	226	HREPRO	INSOL_INDEX	ADJELEV			Best reproduction habitat, & potential veg, snow.
	227	BADHAB	INSOL_INDEX	ADJELEV			High-contrast negative assoc, & potential veg, snow.
	228	FORTYPE	INSOL_INDEX	ADJELEV			General habitat assoc, & potential veg, snow.
	229	LRGFOR	INSOL_INDEX	ADJELEV			Large woody structures, & potential veg, snow.
	230	DLFOR	INSOL_INDEX	ADJELEV			Best forest conditions, potential veg, snow.
Large Hardwood-Potential Veg/Snow Family	231	LRGHDWD	CWHR2	INSOL_INDEX	ADJELEV		Prey base, habitat assoc, microclimate, potential veg, snow.
	232	LRGHDWD	DFOR2	INSOL_INDEX	ADJELEV		Prey base, best resting microhabitat, & potential veg, snow.
	233	LRGHDWD	STRUCT2	INSOL_INDEX	ADJELEV		Prey base, resting structures, & potential veg, snow.
	234	LRGHDWD	HREPRO	INSOL_INDEX	ADJELEV		Prey base, best reproduction habitat, & potential veg, snow.

	235	LRGHDWD	BADHAB	INSOL_INDEX	ADJELEV		Prey base, high-contrast negative assoc, & potential veg, snow.
	236	LRGHDWD	FORTYPE	INSOL_INDEX	ADJELEV		Prey base, general habitat assoc, & potential veg, snow.
	237	LRGHDWD	LRGFOR	INSOL_INDEX	ADJELEV		Prey base, large woody structures, & potential veg, snow.
	238	LRGHDWD	DLFOR	INSOL_INDEX	ADJELEV		Prey base, best forest conditions, & potential veg, snow.
Hardwood-Potential Veg/Snow Family	239	PHDWD	CWHR2	INSOL_INDEX	ADJELEV		Prey base, habitat assoc, microclimate, & veg/snow potential.
	240	PHDWD	DFOR2	INSOL_INDEX	ADJELEV		Prey base, best resting microhabitat, & veg/snow potential.
	241	PHDWD	STRUCT2	INSOL_INDEX	ADJELEV		Prey base, resting structures, & veg/snow potential.
	242	PHDWD	HREPRO	INSOL_INDEX	ADJELEV		Prey base, best reproduction habitat, & veg/snow potential.
	243	PHDWD	BADHAB	INSOL_INDEX	ADJELEV		Prey base, high-contrast negative assoc, & veg/snow potential.
	244	PHDWD	FORTYPE	INSOL_INDEX	ADJELEV		Prey base, general habitat assoc, & veg/snow potential.
	245	PHDWD	LRGFOR	INSOL_INDEX	ADJELEV		Prey base, large woody structures, & veg/snow potential.
	246	PHDWD	DLFOR	INSOL_INDEX	ADJELEV		Prey base, "best" forest conditions, & veg/snow potential.
Forest-Potential Veg/Snow	249	INSOL_INDEX	ADJELEV	DFOR2	STRUCT2		Insolation & elev affect veg & snow, + favorable resting structure.
	250	INSOL_INDEX	ADJELEV	DFOR2	LGFOR		Insolation & elev affect veg & snow, + resting habitat & large woody.

	251	INSOL_INDEX	ADJELEV	DFOR2	HREPRO		Insolation & elev affect veg & snow, + resting & repro habitat.
	252	INSOL_INDEX	ADJELEV	DFOR2	BADHAB		Insolation & elev affect veg & snow, + resting habitat & negative assoc with barren.

Appendix F – Final Candidate Models Sorted From Highest to Lowest AIC Weights

Variable 1	Variable 2	Variable 3	Variable 4	Variable 5	AIC_c Weights	% dev expl	AUC MAPE2	AUC MAPE	AUC TEST SET	Mean 5-fold c-v AUC
ADJELEV	PRISM	BIOMASS			0.6897	0.5326	0.9410	0.8314	0.6383	0.9050
ADJELEV	INSOL_INDEX	BIOMASS			0.1577	0.5177	0.9330	0.8226	0.6137	0.9033
ADJELEV	INSOL_INDEX	MAXAGE	BIOMASS		0.0579	0.5183	0.9337	0.8209	0.6137	0.8989
ADJELEV	INSOL_INDEX	MAXAGE			0.0492	0.5059	0.9300	0.8276	0.5944	0.8787
ADJELEV	INSOL_INDEX	MAXAGE	BIOM_NORF		0.0342	0.5130	0.9348	0.8268	0.5935	0.8707
ADJELEV	PRISM	MAXAGE			0.0073	0.4867	0.9229	0.8273	0.6251	0.8820
ADJELEV	INSOL_INDEX	BIOM_NORFBO	BIOM_BLKOAK		0.0021	0.4845	0.9215	0.8138	0.5909	0.8912
ADJELEV	INSOL_INDEX	BIOM_NORF			0.0009	0.4656	0.9208	0.8201	0.6365	0.8796
ADJELEV	INSOL_INDEX	BIOM_NORFBO	BIOM_BLKOAK	MAXAGE	0.0007	0.4845	0.9215	0.8138	0.5909	0.8912
ADJELEV	INSOL_INDEX	BIOM_BLKOAK			0.0001	0.4447	0.9060	0.8039	0.6190	0.8823
LRGHDWD	CWHR2	INSOL_INDEX	ADJELEV		0.0001	0.4493	0.9153	0.8172	0.6594	0.8814
PHDWD	CWHR2	INSOL_INDEX	ADJELEV		0.0000	0.4445	0.9162	0.8178	0.6743	0.8999
LRGHDWD	LRGFOR	INSOL_INDEX	ADJELEV		0.0000	0.4427	0.9118	0.8113	0.6752	0.8751
PHDWD	LRGFOR	INSOL_INDEX	ADJELEV		0.0000	0.4405	0.9118	0.8156	0.6918	0.8912
LRGHDWD	STRUCT2	INSOL_INDEX	ADJELEV		0.0000	0.4363	0.9099	0.8142	0.6585	0.8769
PHDWD	STRUCT2	INSOL_INDEX	ADJELEV		0.0000	0.4305	0.9093	0.8145	0.6778	0.8947
PRISM	ADJELEV	DFOR2	LRGHDWD		0.0000	0.4227	0.9054	0.7794	0.7032	0.8822
CWHR2	INSOL_INDEX	ADJELEV			0.0000	0.4117	0.9054	0.8208	0.6365	0.8450
LRGHDWD	FORTYPE	INSOL_INDEX	ADJELEV		0.0000	0.4179	0.9030	0.8085	0.6892	0.8786
LRGHDWD	CWHR2	PCTSLOPE			0.0000	0.4055	0.8971	0.7958	0.6813	0.8769
PHDWD	FORTYPE	INSOL_INDEX	ADJELEV		0.0000	0.4162	0.9031	0.8122	0.7050	
LRGHDWD	CWHR2	RELIEF			0.0000	0.4042	0.8970	0.7950	0.6787	
LRGHDWD	DFOR2	INSOL_INDEX	ADJELEV		0.0000	0.4143	0.9030	0.8107	0.6576	
LRGHDWD	DLFOR	INSOL_INDEX	ADJELEV		0.0000	0.4125	0.9031	0.8061	0.6567	
LRGFOR	INSOL_INDEX	ADJELEV			0.0000	0.4016	0.8982	0.8178	0.6550	
PHDWD	CWHR2	PCTSLOPE			0.0000	0.4007	0.8973	0.8239	0.6313	
LRGHDWD	LRGFOR	PCTSLOPE			0.0000	0.4000	0.8970	0.7996	0.7085	
STRUCT2	INSOL_INDEX	ADJELEV			0.0000	0.3994	0.9001	0.8170	0.6356	
PHDWD	CWHR2	RELIEF			0.0000	0.3991	0.8961	0.8221	0.6304	
LRGHDWD	LRGFOR	RELIEF			0.0000	0.3989	0.8975	0.7993	0.7050	
INSOL_INDEX	ADJELEV	DFOR2	LGFOR		0.0000	0.4085	0.9035	0.8211	0.6479	
PHDWD	DFOR2	INSOL_INDEX	ADJELEV		0.0000	0.4072	0.8998	0.8084	0.6637	
LRGHDWD	HREPRO	INSOL_INDEX	ADJELEV		0.0000	0.4047	0.9010	0.8022	0.6506	
MLFOR	DFOR2	AGGREG_SHDI	PCTSLOPE		0.0000	0.4044	0.9001	0.8317	0.6734	
MLFOR	DFOR2	AGGREG_SHDI	RELIEF		0.0000	0.4042	0.9001	0.8307	0.6752	
PHDWD	LRGFOR	PCTSLOPE			0.0000	0.3929				

PHDWD	DLFOR	INSOL_INDEX	ADJELEV	0.0000	0.4027
PHDWD	LRGFOR	RELIEF		0.0000	0.3917
LRGHDWD	BADHAB	INSOL_INDEX	ADJELEV	0.0000	0.3997
INSOL_INDEX	ADJELEV	DFOR2	STRUCT2	0.0000	0.3995
LRGHDWD	STRUCT2	PCTSLOPE		0.0000	0.3878
LRGHDWD	STRUCT2	RELIEF		0.0000	0.3869
PHDWD	HREPRO	INSOL_INDEX	ADJELEV	0.0000	0.3967
DFOR2	INSOL_INDEX	ADJELEV		0.0000	0.3850
PHDWD	STRUCT2	PCTSLOPE		0.0000	0.3795
PHDWD	BADHAB	INSOL_INDEX	ADJELEV	0.0000	0.3894
PHDWD	STRUCT2	RELIEF		0.0000	0.3780
PRISM	ADJELEV	DFOR2	PHDWD	0.0000	0.3882
FORTYPE	INSOL_INDEX	ADJELEV		0.0000	0.3774
INSOL_INDEX	ADJELEV	DFOR2	BADHAB	0.0000	0.3878
DLFOR	INSOL_INDEX	ADJELEV		0.0000	0.3767
PHDWD	DFOR2	AGGREG_SHDI	ADJELEV	0.0000	0.3863
MLFOR	DFOR2	AGGREG_SHDI	INSOL_INDEX	0.0000	0.3859
INSOL_INDEX	ADJELEV	DFOR2	HREPRO	0.0000	0.3857
LRGHDWD	CWHR2	INSOL_INDEX		0.0000	0.3734
LRGHDWD	INSOL_INDEX	ADJELEV		0.0000	0.3733
MLFOR	DFOR2	AGGREG_SHDI	SOUTHWEST	0.0000	0.3826
LRGHDWD	CWHR2	SOUTHWEST		0.0000	0.3701
LRGHDWD	LRGFOR	INSOL_INDEX		0.0000	0.3689
LRGHDWD	FORTYPE	PCTSLOPE		0.0000	0.3681
PHDWD	FORTYPE	PCTSLOPE		0.0000	0.3681
LRGHDWD	FORTYPE	RELIEF		0.0000	0.3677
HREPRO	INSOL_INDEX	ADJELEV		0.0000	0.3674
PHDWD	FORTYPE	RELIEF		0.0000	0.3672
PHDWD	CWHR2	INSOL_INDEX		0.0000	0.3655
LRGHDWD	LRGFOR	SOUTHWEST		0.0000	0.3642
PHDWD	LRGFOR	INSOL_INDEX		0.0000	0.3618
PRISM	ADJELEV	DFOR2	LGFOR	0.0000	0.3705
LRGHDWD	STRUCT2	INSOL_INDEX		0.0000	0.3588
PRISM	ADJELEV	DFOR2	STRUCT2	0.0000	0.3689
PRISM	ADJELEV	DFOR2		0.0000	0.3582
LRGHDWD	STRUCT2	SOUTHWEST		0.0000	0.3576
BADHAB	INSOL_INDEX	ADJELEV		0.0000	0.3558
LRGHDWD	CWHR2			0.0000	0.3445
PHDWD	CWHR2	SOUTHWEST		0.0000	0.3540
MLFOR	DFOR2	AGGREG_SHDI	ADJELEV	0.0000	0.3638
ADJELEV	INSOL_INDEX	MJRRDDENS		0.0000	0.3525
LRGFOR	RELIEF			0.0000	0.3407
PHDWD	HREPRO	PRISM		0.0000	0.3489

LRGHDWD	LRGFOR			0.0000	0.3381
ADJELEV	RELIEF			0.0000	0.3380
PCTSLOPE	ADJELEV			0.0000	0.3379
PHDWD	STRUCT2	INSOL_INDEX		0.0000	0.3484
PHDWD	LRGFOR	SOUTHWEST		0.0000	0.3479
LRGHDWD	CWHR2	PRISM		0.0000	0.3460
LRGHDWD	STRUCT2			0.0000	0.3336
ADJELEV	SOUTHWEST	MJRRDDENS		0.0000	0.3428
ADJELEV	INSOL_INDEX	MJRRDDENS	STRMDENS	0.0000	0.3526
LRGHDWD	DLFOR	PCTSLOPE		0.0000	0.3395
LRGHDWD	LRGFOR	PRISM		0.0000	0.3387
PHDWD	STRUCT2	SOUTHWEST		0.0000	0.3385
LRGHDWD	DFOR2	PCTSLOPE		0.0000	0.3383
LRGHDWD	DLFOR	RELIEF		0.0000	0.3383
PHDWD	DFOR2	AGGREG_SHDI	RELIEF	0.0000	0.3483
ADJELEV	INSOL_INDEX			0.0000	0.3270
ADJELEV	INSOL_INDEX	ALLRDDENS		0.0000	0.3372
MJRDDENS	PHDWD	MLFOR		0.0000	0.3372
LRGHDWD	DFOR2	RELIEF		0.0000	0.3367
ADJELEV	SOUTHWEST	ALLRDDENS		0.0000	0.3358
PHDWD	FORTYPE	SOUTHWEST		0.0000	0.3358
LRGHDWD	FORTYPE	SOUTHWEST		0.0000	0.3357
LRGHDWD	STRUCT2	PRISM		0.0000	0.3357
PHDWD	DFOR2	PCTSLOPE		0.0000	0.3344
PHDWD	CWHR2			0.0000	0.3226
LRGHDWD	FORTYPE	INSOL_INDEX		0.0000	0.3328
PHDWD	DFOR2	RELIEF		0.0000	0.3325
ADJELEV	SOUTHWEST	MJRRDDENS	STRMDENS	0.0000	0.3429
PHDWD	DLFOR	PCTSLOPE		0.0000	0.3321
PHDWD	FORTYPE	INSOL_INDEX		0.0000	0.3312
ADJELEV	SOUTHWEST			0.0000	0.3199
PHDWD	DLFOR	RELIEF		0.0000	0.3301
PHDWD	LRGFOR			0.0000	0.3175
PRISM	STRUCT2	DLFOR	LRGHDWD	0.0000	0.3381
ADJELEV	INSOL_INDEX	STRMDENS		0.0000	0.3271
ADJELEV	INSOL_INDEX	ALLRDDENS	STRMDENS	0.0000	0.3377
PHDWD	CWHR2	PRISM		0.0000	0.3263
MLFOR	DFOR2	AGGREG_SHDI		0.0000	0.3257
ADJELEV	SOUTHWEST	ALLRDDENS	STRMDENS	0.0000	0.3363
PHDWD	DFOR2	AGGREG_SHDI	SOUTHWEST	0.0000	0.3347
LRGHDWD	FORTYPE			0.0000	0.3126
ADJELEV	SOUTHWEST	STRMDENS		0.0000	0.3200
PHDWD	STRUCT2			0.0000	0.3093

LRGHDWD	BADHAB	PCTSLOPE			0.0000	0.3191
LRGHDWD	BADHAB	RELIEF			0.0000	0.3178
PHDWD	LRGFOR	PRISM			0.0000	0.3177
PHDWD	BADHAB	PCTSLOPE			0.0000	0.3151
ADJELEV					0.0000	0.2939
MLFOR	DFOR2	AGGREG_SHDI	PRISM		0.0000	0.3257
LRGHDWD	FORTYPE	PRISM			0.0000	0.3149
PHDWD	BADHAB	RELIEF			0.0000	0.3134
ALLRDDENS	PHDWD	MLFOR			0.0000	0.3132
PHDWD	DFOR2	AGGREG_SHDI	INSOL_INDEX		0.0000	0.3238
LRGHDWD	HREPRO	PCTSLOPE			0.0000	0.3128
PHDWD	STRUCT2	PRISM			0.0000	0.3126
LRGHDWD	HREPRO	RELIEF			0.0000	0.3114
PRISM	STRUCT2	DLFOR	PHDWD		0.0000	0.3220
LRGHDWD	DLFOR	INSOL_INDEX			0.0000	0.3089
LRGHDWD	DFOR2	INSOL_INDEX			0.0000	0.3070
HC_RATIO	LRGFOR				0.0000	0.2840
PHDWD	HREPRO	PCTSLOPE			0.0000	0.3048
PHDWD	HREPRO	RELIEF			0.0000	0.3032
LRGHDWD	DLFOR	SOUTHWEST			0.0000	0.3021
PHDWD	FORTYPE				0.0000	0.2910
PHDWD	DFOR2	INSOL_INDEX			0.0000	0.3007
PRISM	STRUCT2	DFOR2	LGFOR	PHDWD	0.0000	0.3216
LRGHDWD	DFOR2	SOUTHWEST			0.0000	0.2987
PHDWD	DLFOR	INSOL_INDEX			0.0000	0.2964
CWHR2_PARAMN					0.0000	0.2751
LRGHDWD	DLFOR				0.0000	0.2840
MJRDDENS	PHDWD	DFOR2			0.0000	0.2941
LRGHDWD	DLFOR	PRISM			0.0000	0.2938
LRGHDWD	DFOR2	PRISM			0.0000	0.2935
LRGHDWD	DFOR2				0.0000	0.2825
PHDWD	FORTYPE	PRISM			0.0000	0.2924
PHDWD	DFOR2	SOUTHWEST			0.0000	0.2918
CWHR2_AREAMN					0.0000	0.2685
PHDWD	DLFOR	SOUTHWEST			0.0000	0.2888
PHDWD	BADHAB	INSOL_INDEX			0.0000	0.2856
LRGHDWD	HREPRO	INSOL_INDEX			0.0000	0.2848
CWHR2					0.0000	0.2605
LRGHDWD	HREPRO	PRISM			0.0000	0.2782
PHDWD	DFOR2	PRISM			0.0000	0.2764
LRGHDWD	HREPRO	SOUTHWEST			0.0000	0.2759
PHDWD	DFOR2				0.0000	0.2639
PHDWD	HREPRO	INSOL_INDEX			0.0000	0.2745

DFOR2	RELIEF			0.0000	0.2624
STRMDENS	CWHR2			0.0000	0.2620
LRGFOR				0.0000	0.2506
LRGHDWD	BADHAB	SOUTHWEST		0.0000	0.2712
PHDWD	DLFOR			0.0000	0.2603
PHDWD	DLFOR	PRISM		0.0000	0.2708
STRUCT2				0.0000	0.2447
LRGHDWD	BADHAB	INSOL_INDEX		0.0000	0.2655
STRMDENS	DFOR2	PHDWD		0.0000	0.2654
ALLRDDENS	PHDWD	DFOR2		0.0000	0.2652
LRGHDWD	HREPRO			0.0000	0.2544
PHDWD	HREPRO	SOUTHWEST		0.0000	0.2648
LRGHDWD	BADHAB	PRISM		0.0000	0.2608
STRMDENS	LRGFOR	DFOR2		0.0000	0.2577
PRISM	STRUCT2	DLFOR		0.0000	0.2562
PHDWD	BADHAB	SOUTHWEST		0.0000	0.2558
LRGHDWD	BADHAB			0.0000	0.2430
PLANT				0.0000	0.2306
STRMDENS	DFOR2	STRUCT2		0.0000	0.2484
PRISM	STRUCT2	DFOR2	LGFOR	0.0000	0.2586
PHDWD	HREPRO			0.0000	0.2328
CWHR_VUL				0.0000	0.2168
FORTYPE				0.0000	0.2135
PHDWD	BADHAB	PRISM		0.0000	0.2331
LRGHDWD				0.0000	0.2106
PHDWD	BADHAB			0.0000	0.2182
MLFOR				0.0000	0.1970
CWHR				0.0000	0.1922
PHDWD				0.0000	0.1851
DLFOR				0.0000	0.1842
DFOR2				0.0000	0.1817
STRUCT				0.0000	0.1737
STRMDENS	DFOR2			0.0000	0.1818
PRISM	PCTSLOPE			0.0000	0.1604
PRISM	RELIEF			0.0000	0.1580
PRISM	INSOL_INDEX			0.0000	0.1426
SNOWDPTH				0.0000	0.0902
PRISM	SOUTHWEST			0.0000	0.1305
PCTSLOPE				0.0000	0.1080
HREPRO_PARAMN				0.0000	0.1073
RELIEF				0.0000	0.1045
FIRE_OLD				0.0000	0.1008
CFA80_TREE				0.0000	0.0950

WTM			0.0000	0.0932
HREPRO			0.0000	0.0932
HREPRO_AREAMN	MJRDDENS	AGGREG_SHDI	0.0000	0.1126
HREPRO	AGGREG_SHDI		0.0000	0.0996
BADHAB			0.0000	0.0855
PRISM	ASPECT		0.0000	0.0937
HREPRO_AREAMN	ALLRDDENS	AGGREG_SHDI	0.0000	0.1011
TS_RATIO			0.0000	0.0793
PRISM			0.0000	0.0791
INSOL_INDEX	ALLRDDENS		0.0000	0.0888
HREPRO_AREAMN			0.0000	0.0762
CON			0.0000	0.0706
INSOL_INDEX	ALLRDDENS	STRMDENS	0.0000	0.0914
INSOL_INDEX	MJRRDDENS		0.0000	0.0805
SOUTHWEST	ALLRDDENS		0.0000	0.0795
STRMDENS	HREPRO_AREAMN		0.0000	0.0764
INSOL_INDEX	MJRRDDENS	STRMDENS	0.0000	0.0869
INSOL_INDEX			0.0000	0.0614
SHRUB			0.0000	0.0614
SOUTHWEST	ALLRDDENS	STRMDENS	0.0000	0.0795
INSOL_INDEX	STRMDENS		0.0000	0.0688
AGGREG_SHDI			0.0000	0.0555
SOUTHWEST	MJRRDDENS		0.0000	0.0635
CWHR2_ENNMN			0.0000	0.0500
SOUTHWEST			0.0000	0.0467
SOUTHWEST	MJRRDDENS	STRMDENS	0.0000	0.0644
SOUTHWEST	STRMDENS		0.0000	0.0488
HC_RATIO			0.0000	0.0311
TYPE_SHDI			0.0000	0.0280
ALLRDDENS			0.0000	0.0233
TSIZE_SHDI			0.0000	0.0195
MJRRDDENS			0.0000	0.0169
FIRE_NEW			0.0000	0.0273
ASPECT_225			0.0000	0.0076
STRMDENS			0.0000	0.0041
SMLFOR			0.0000	0.0034
HREPRO_ENNMN			0.0000	0.0014

APPENDIX G

Scenario Parameters:

Baseline Fire Regime
Fuel Treatment Rate: None
Fuel Treatment Intensity: None

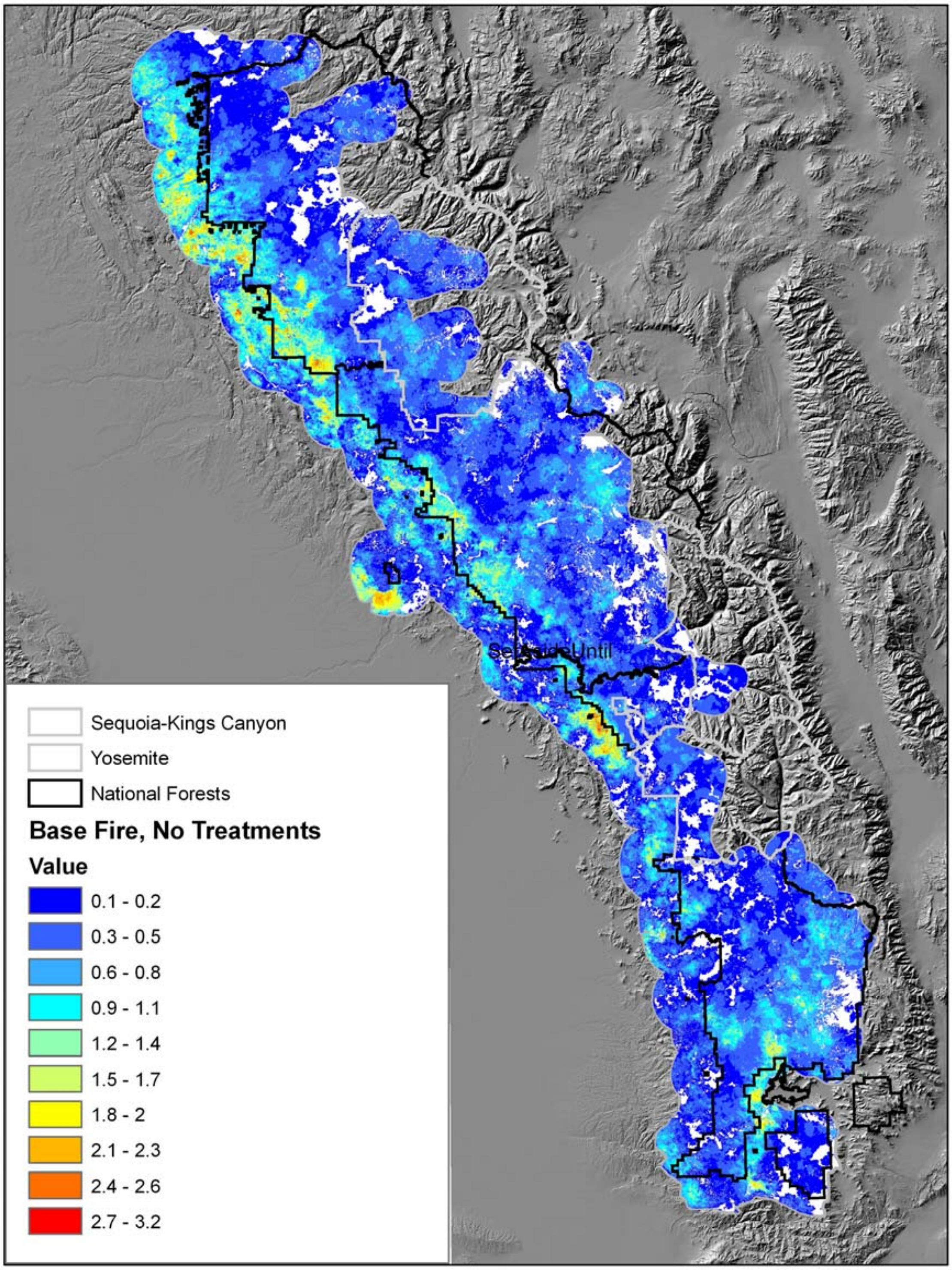
Figures:

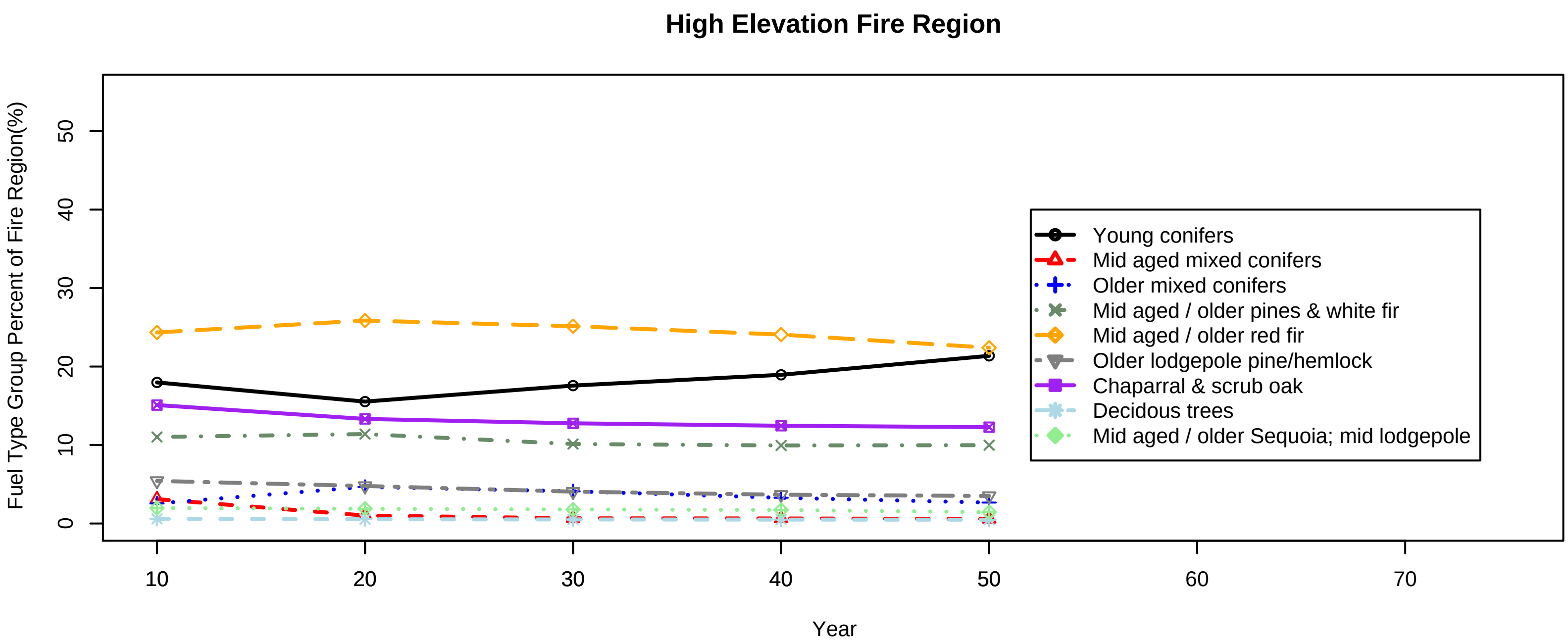
Figure 1. Fire frequency map based on 50 years of simulated fire and 10 replicates. White areas within the study area indicate that the area was never burned.

Figures 2, 3, 4. Mean proportion of a fire region occupied by fuel type groups (10 replicates) for the three fire regions over 50 simulation years.

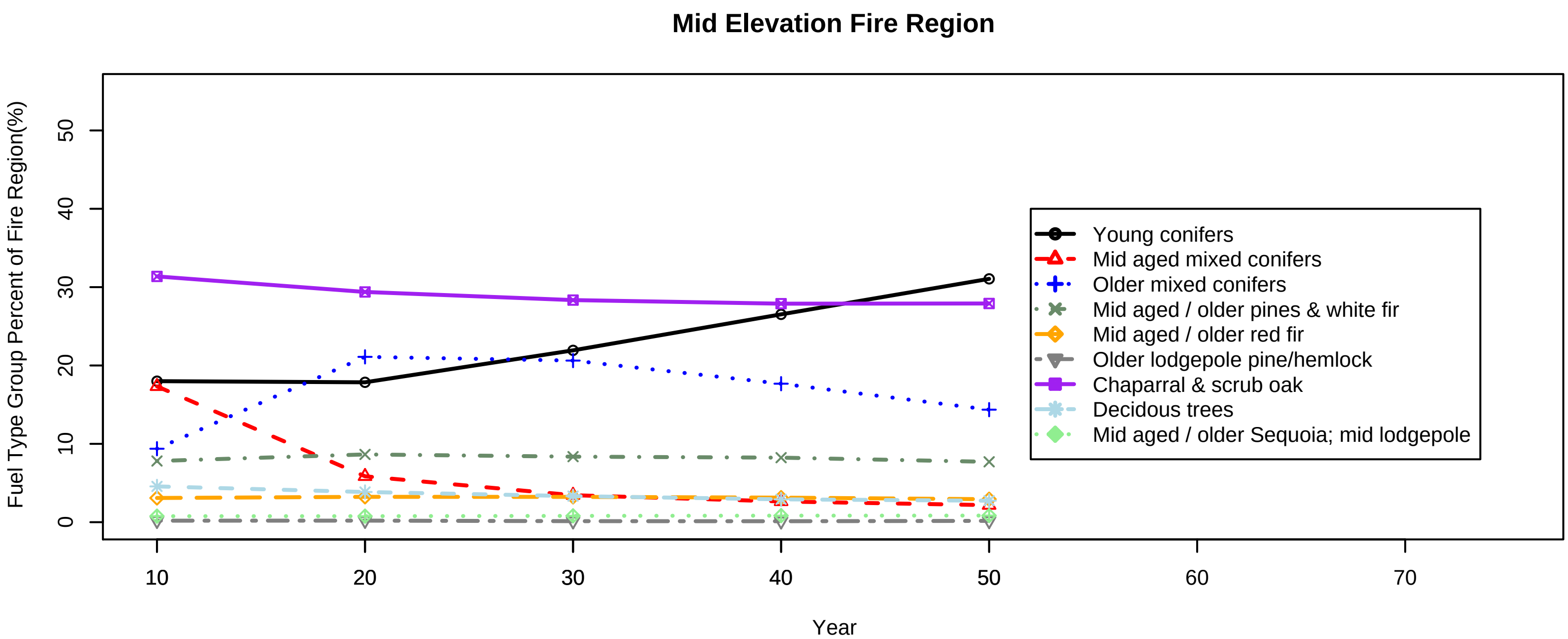
Figure 5, 6, 7, 8. Mean number of hectares for two age classes of four species (10 replicates): White fir, Ponderosa pine, Doug fir, Black oak.

Figure 1

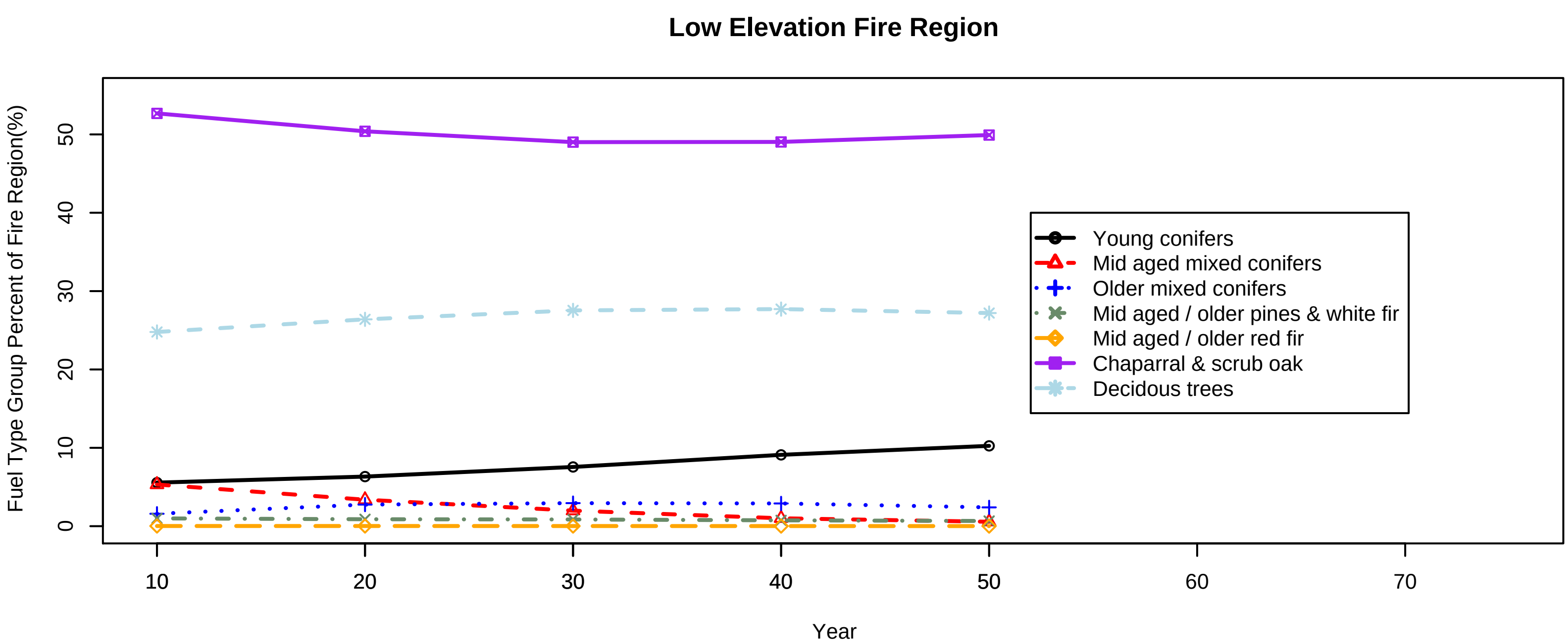

Sequoia-Kings Canyon
Yosemite
National Forests
Base Fire, No Treatments
Value
0.1 - 0.2
0.3 - 0.5
0.6 - 0.8
0.9 - 1.1
1.2 - 1.4
1.5 - 1.7
1.8 - 2
2.1 - 2.3
2.4 - 2.6
2.7 - 3.2



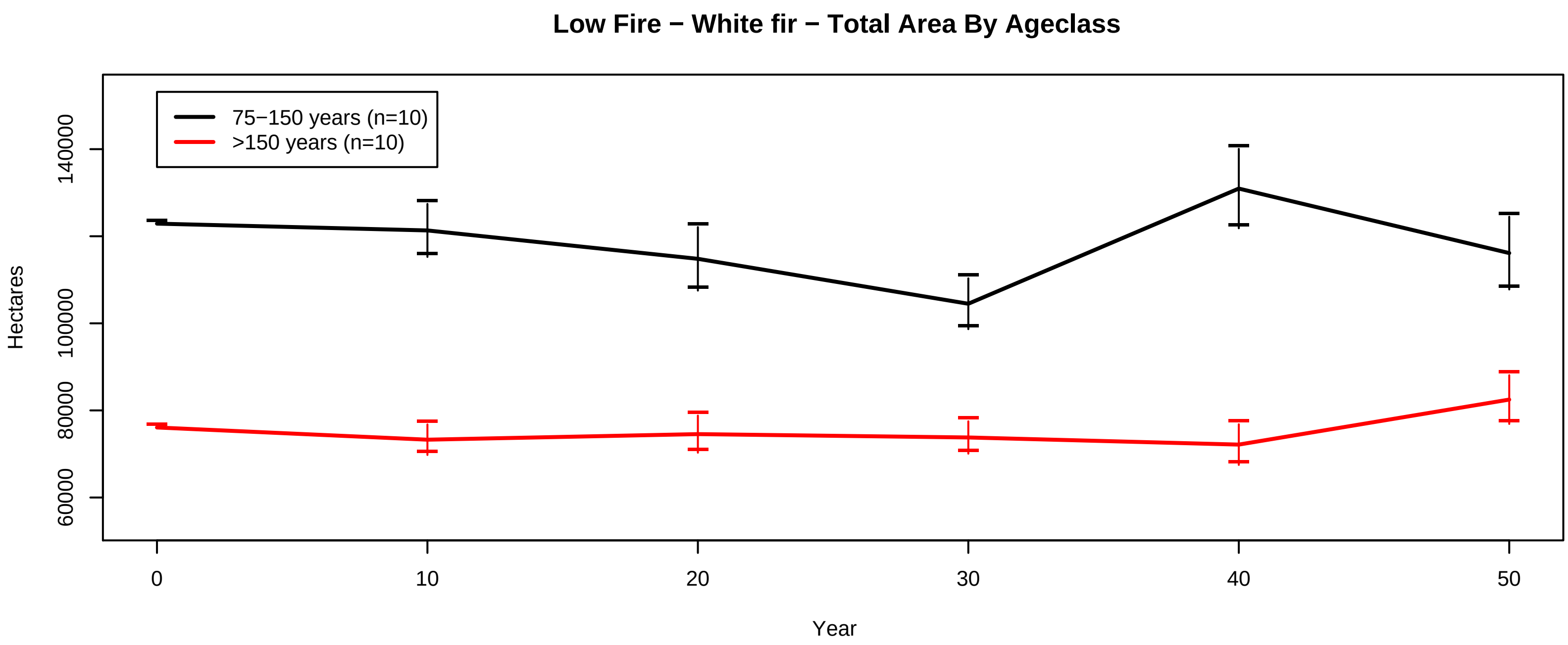
High Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Older lodgepole pine/hemlock
Chaparral & scrub oak
Decidous trees
Mid aged / older Sequoia; mid lodgepole

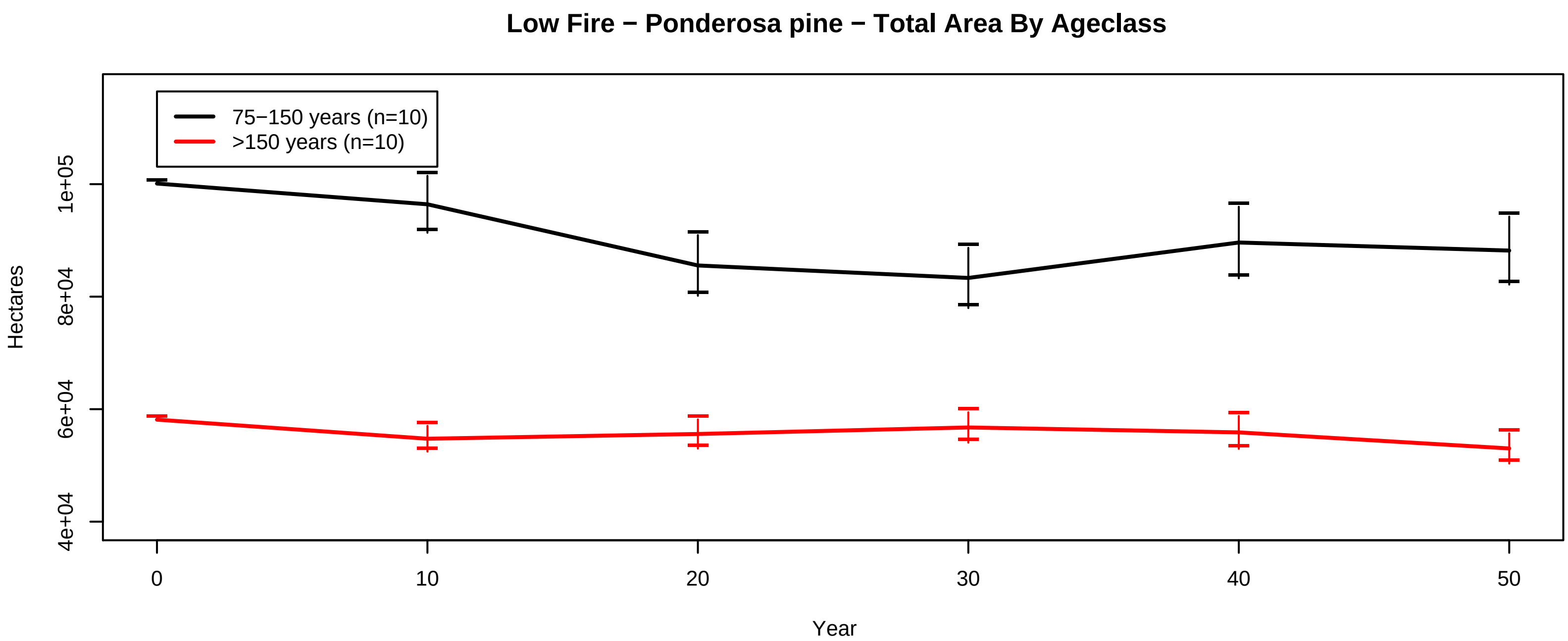


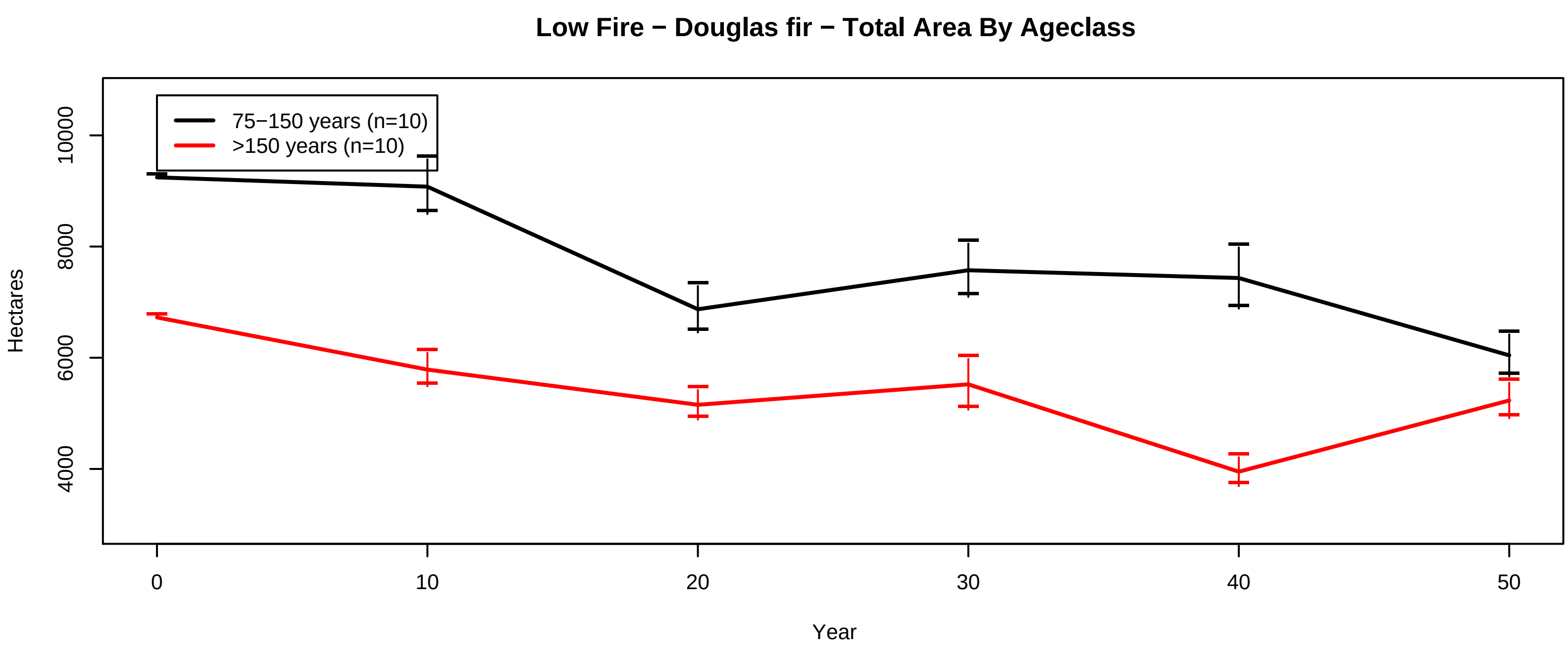
Mid Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Older lodgepole pine/hemlock
Chaparral & scrub oak
Decidous trees
Mid aged / older Sequoia; mid lodgepole

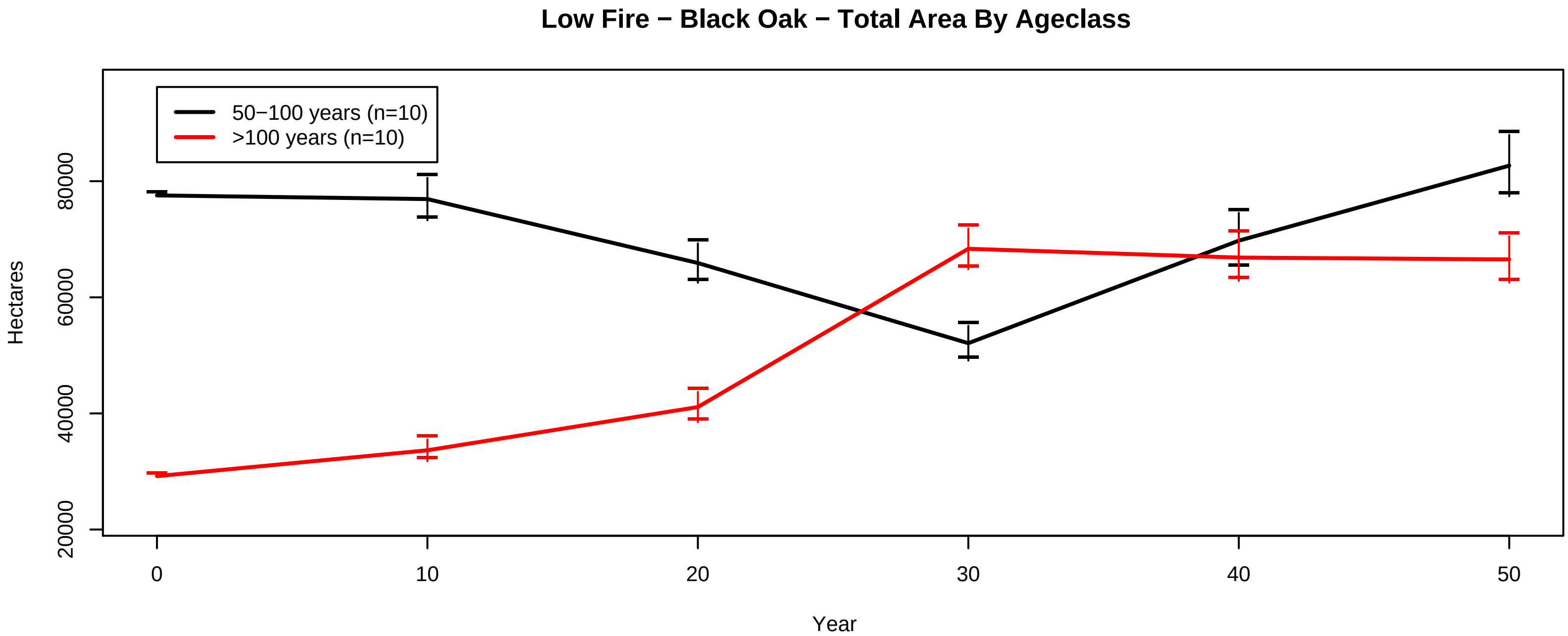


Low Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Chaparral & scrub oak
Decidous trees


Low Fire − White fir − Total Area By Ageclass
75−150 years (n=10)
>150 years (n=10)
Hectares
60000
80000
100000
140000
0
10
20
30
40
50
Year


Low Fire − Ponderosa pine − Total Area By Ageclass
75−150 years (n=10)
>150 years (n=10)
Hectares
4e+04
6e+04
8e+04
1e+05
0
10
20
30
40
50
Year


Low Fire − Douglas fir − Total Area By Ageclass
75−150 years (n=10)
>150 years (n=10)
Hectares
4000
6000
8000
10000
0
10
20
30
40
50
Year


Low Fire − Black Oak − Total Area By Ageclass
50−100 years (n=10)
>100 years (n=10)
Hectares
20000
40000
60000
80000
0
10
20
30
40
50
Year

APPENDIX H

Scenario Parameters:

Baseline Fire Regime
Fuel Treatment Rate: 4% every 5 years
Fuel Treatment Intensity: Light Intensity

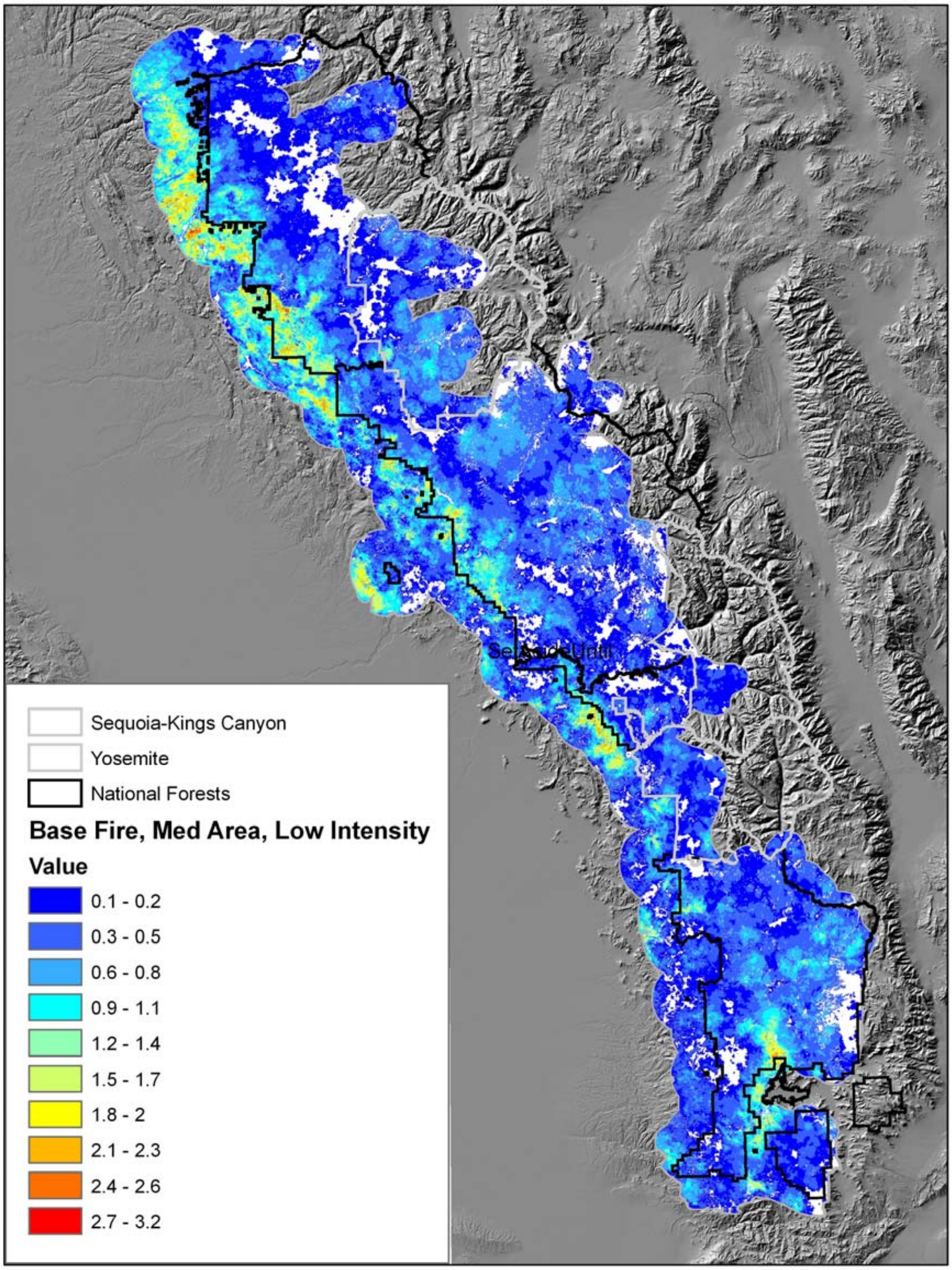
Figures:

Figure 1. Fire frequency map based on 50 years of simulated fire and 10 replicates. White areas within the study area indicate that the area was never burned.

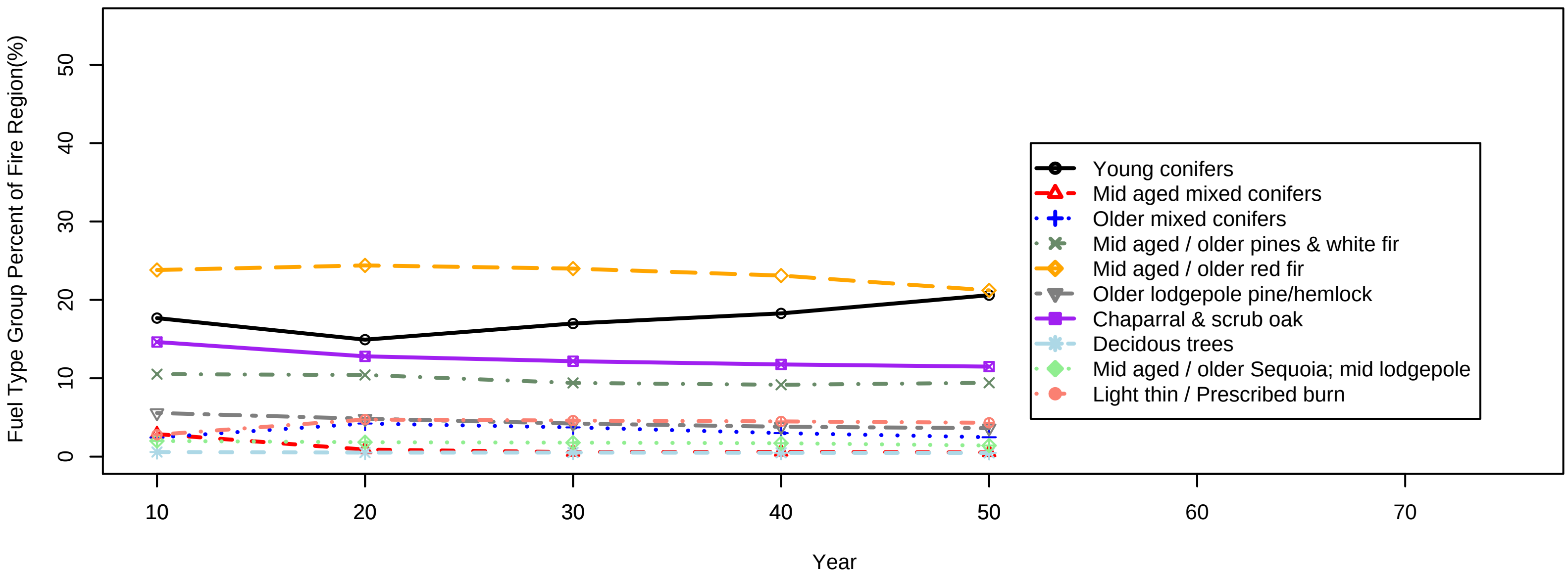
Figures 2, 3, 4. Mean proportion of a fire region occupied by fuel type groups (10 replicates) for the three fire regions over 50 simulation years.

Figure 5, 6, 7, 8. Mean number of hectares for two age classes of four species (10 replicates): White fir, Ponderosa pine, Doug fir, Black oak.

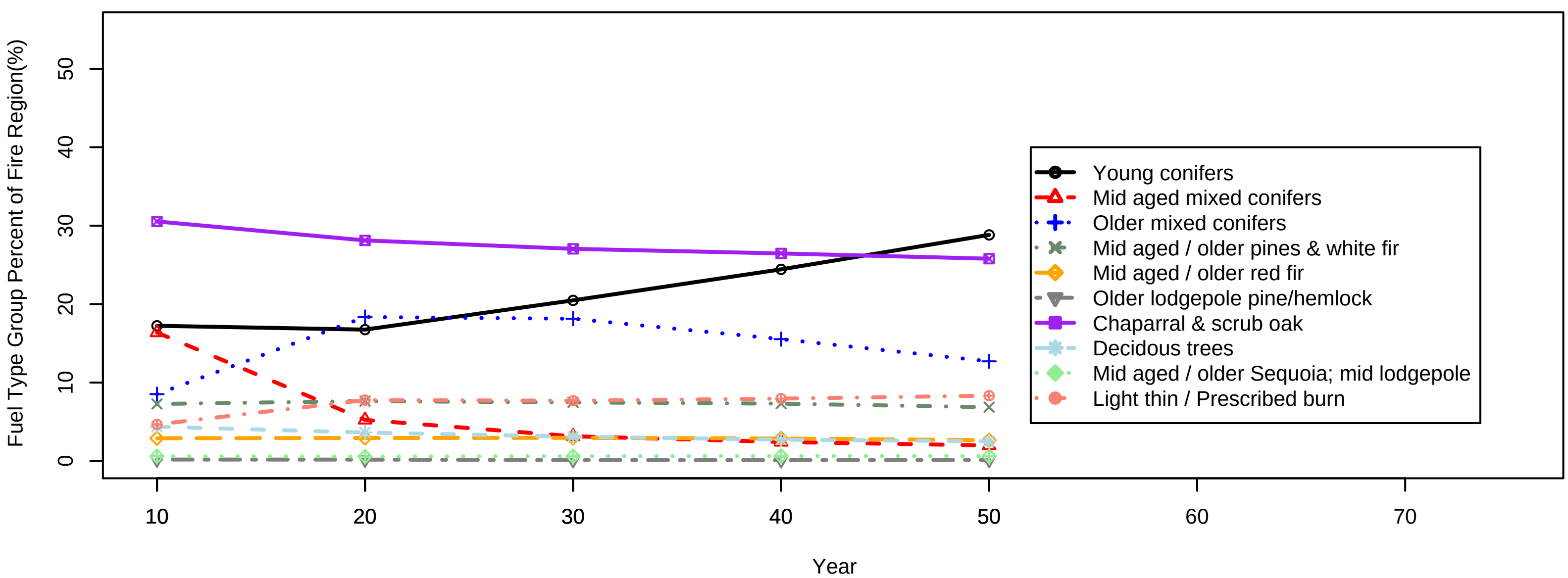
Figure 1


Sequoia-Kings Canyon
Yosemite
National Forests
Base Fire, Med Area, Low Intensity
Value
0.1 - 0.2
0.3 - 0.5
0.6 - 0.8
0.9 - 1.1
1.2 - 1.4
1.5 - 1.7
1.8 - 2
2.1 - 2.3
2.4 - 2.6
2.7 - 3.2

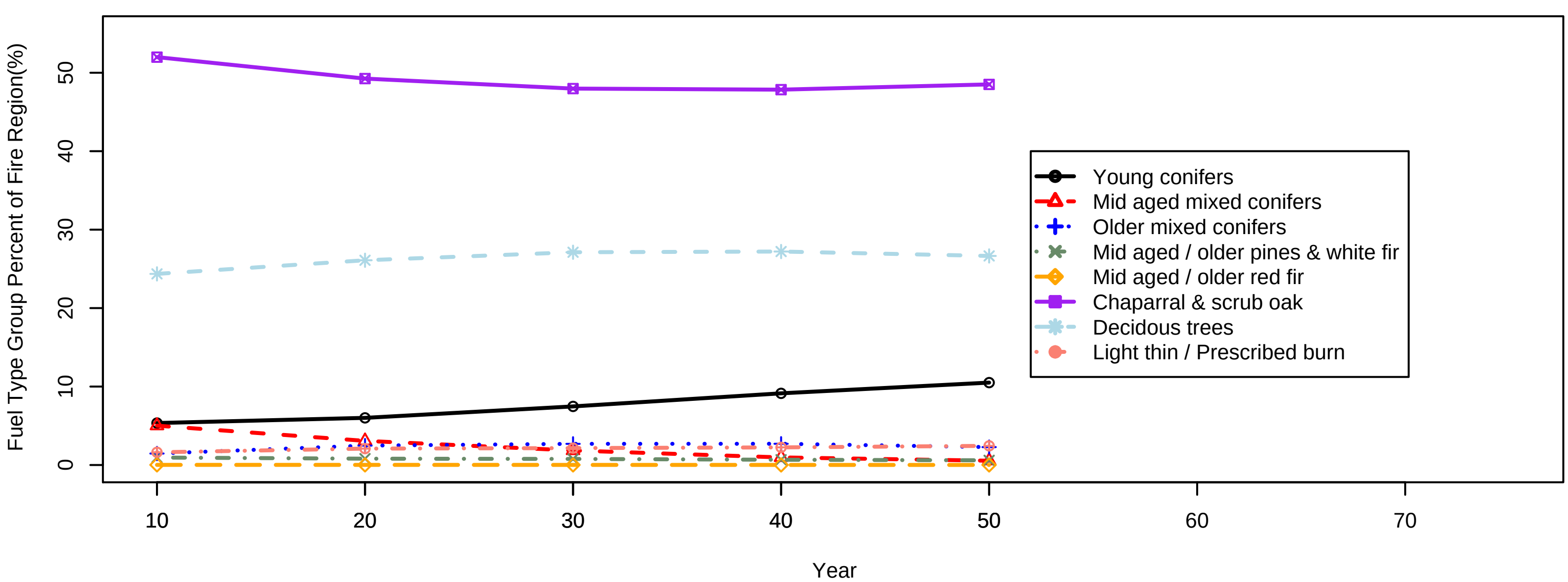
High Elevation Fire Region

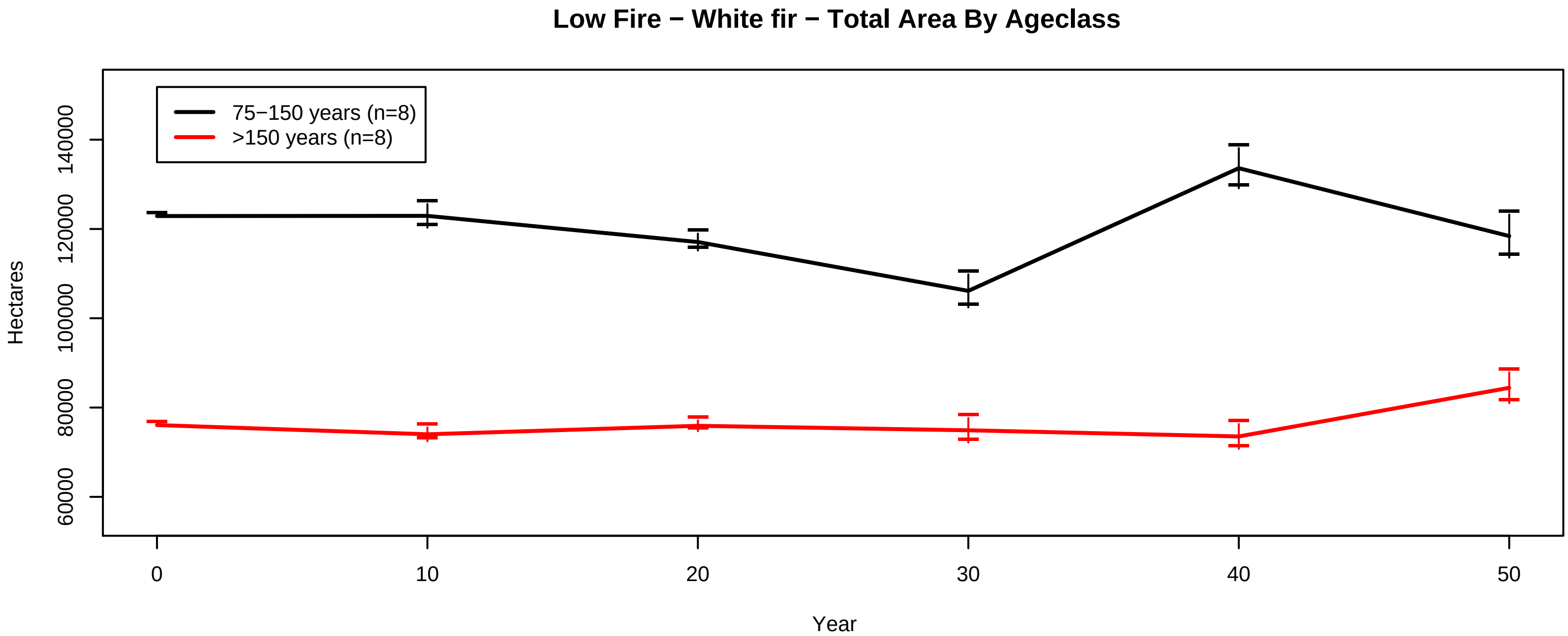


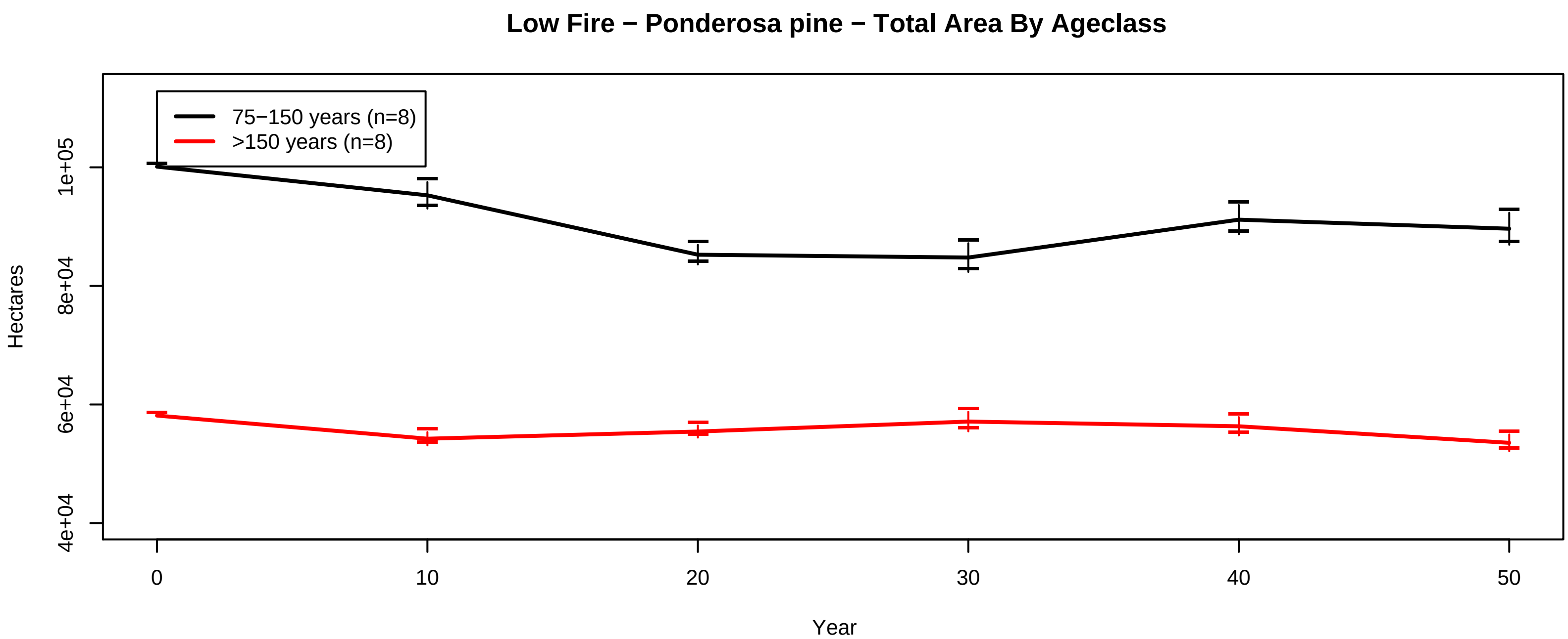
Mid Elevation Fire Region

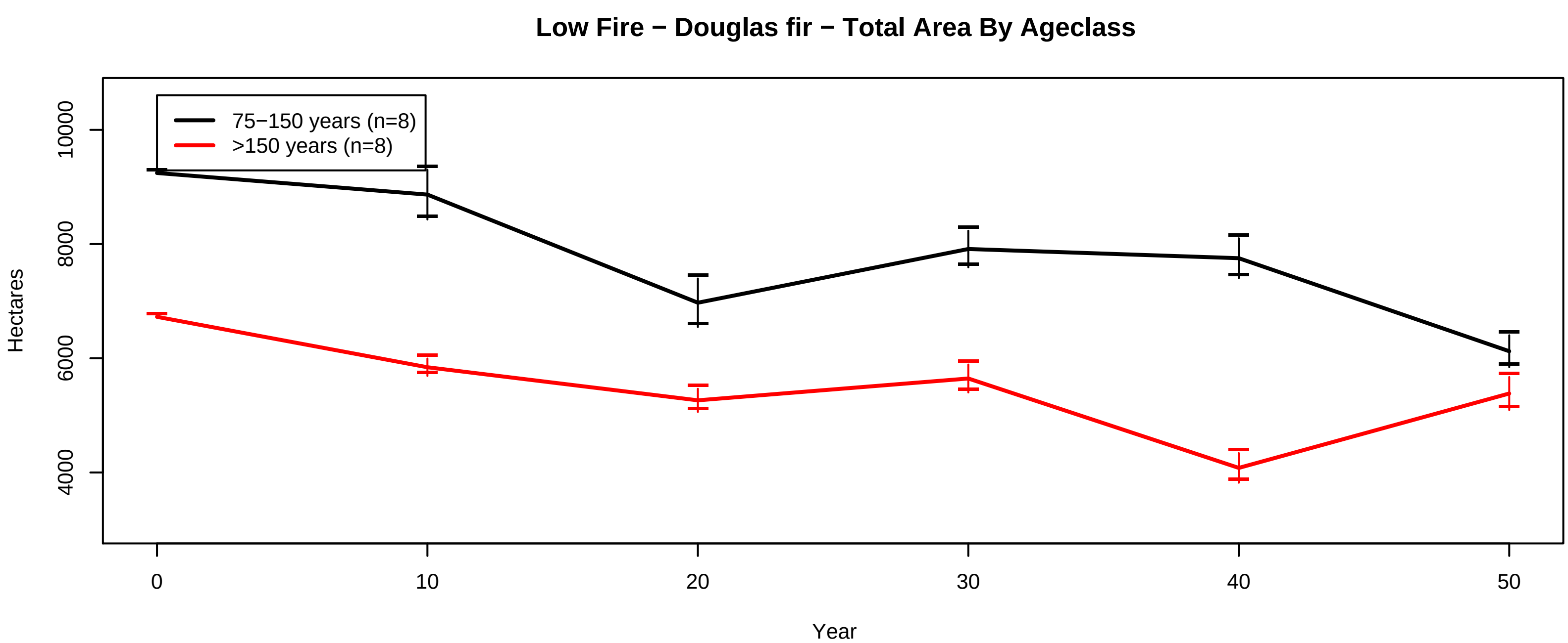


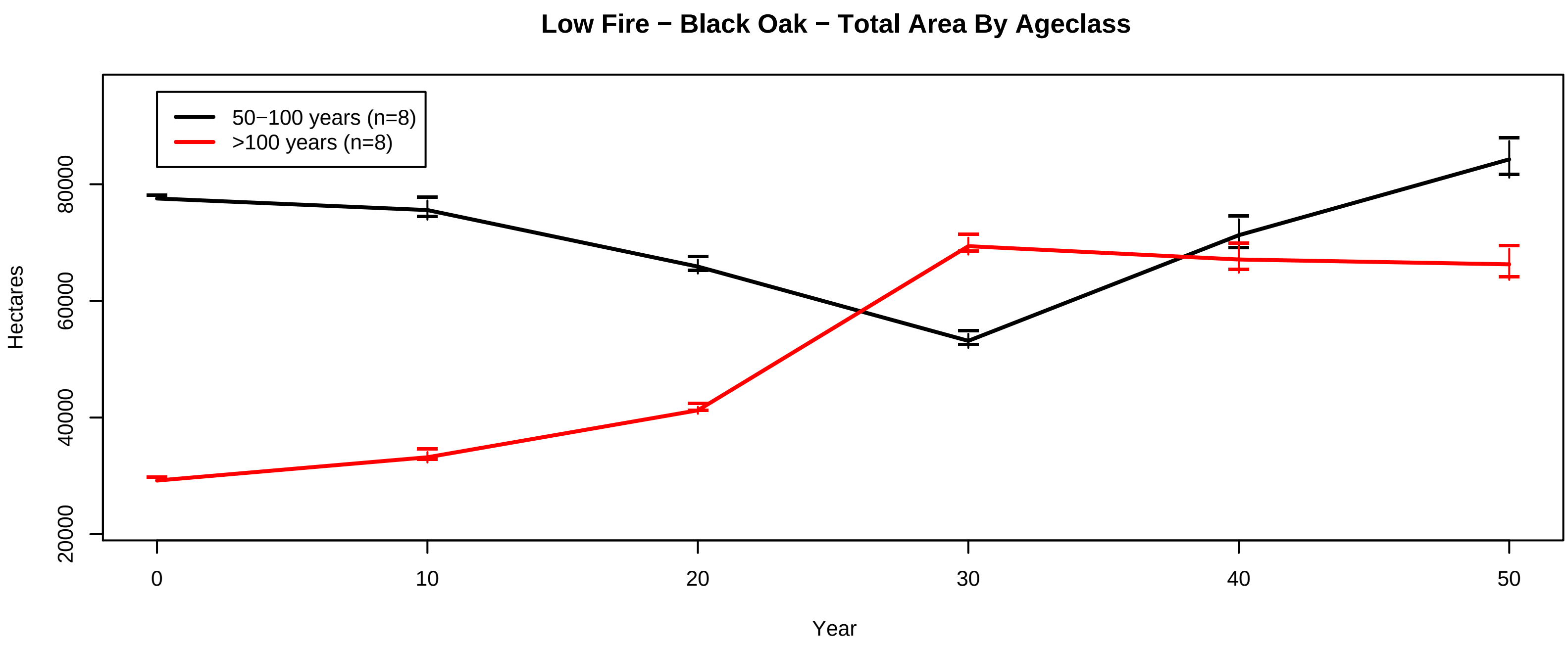
Low Elevation Fire Region




Low Fire − White fir − Total Area By Ageclass
75−150 years (n=8)
>150 years (n=8)
Hectares
60000
80000
100000
120000
140000
0
10
20
30
40
50
Year


Low Fire − Ponderosa pine − Total Area By Ageclass
75−150 years (n=8)
>150 years (n=8)
Hectares
4e+04
6e+04
8e+04
1e+05
0
10
20
30
40
50
Year


Low Fire − Douglas fir − Total Area By Ageclass
75−150 years (n=8)
>150 years (n=8)
Hectares
4000
6000
8000
10000
0
10
20
30
40
50
Year


Low Fire − Black Oak − Total Area By Ageclass
50−100 years (n=8)
>100 years (n=8)
Hectares
20000
40000
60000
80000
0
10
20
30
40
50
Year

APPENDIX I

Scenario Parameters:

Baseline Fire Regime
Fuel Treatment Rate: 4% every 5 years
Fuel Treatment Intensity: Medium Intensity

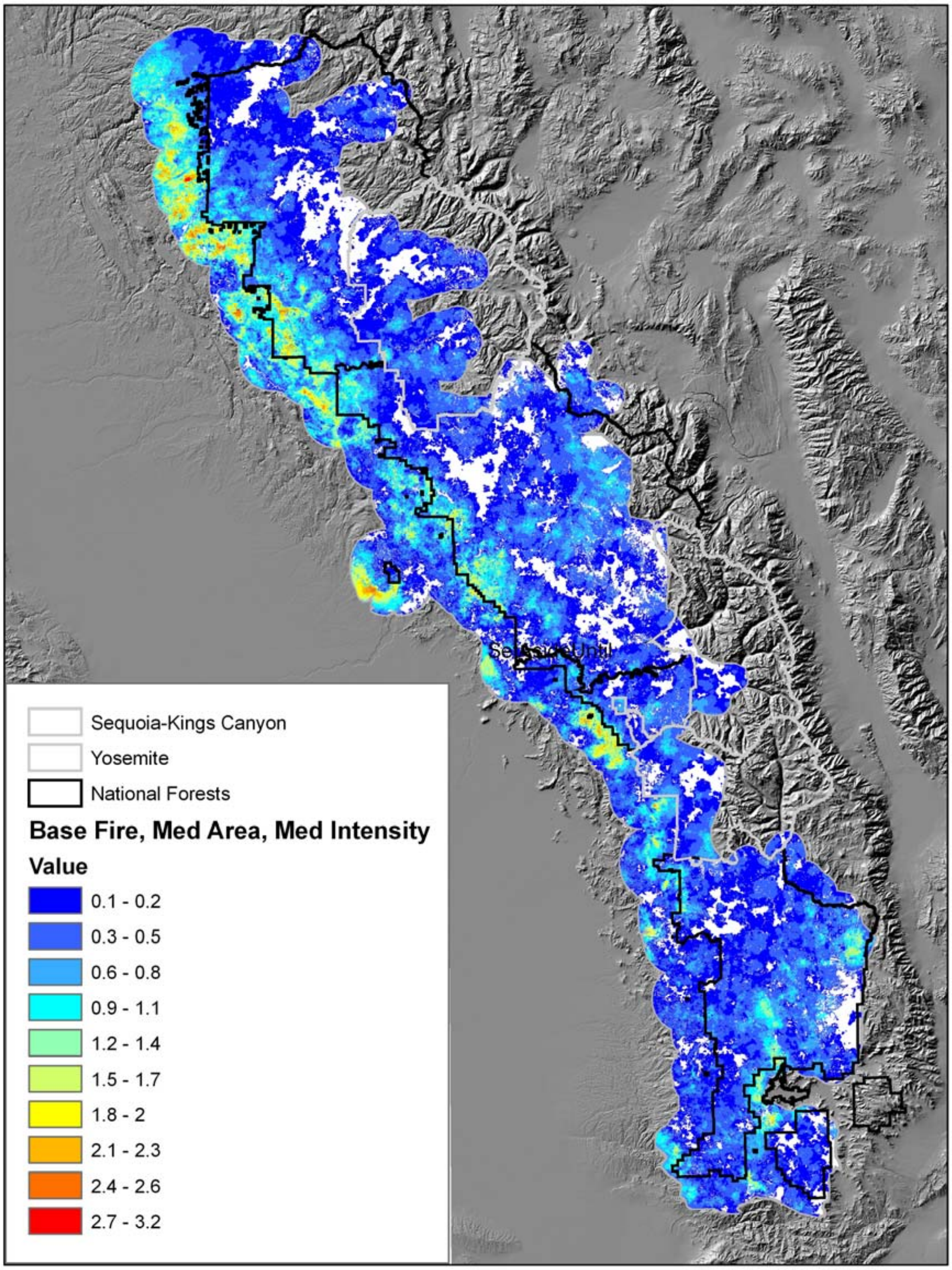
Figures:

Figure 1. Fire frequency map based on 50 years of simulated fire and 10 replicates. White areas within the study area indicate that the area was never burned.

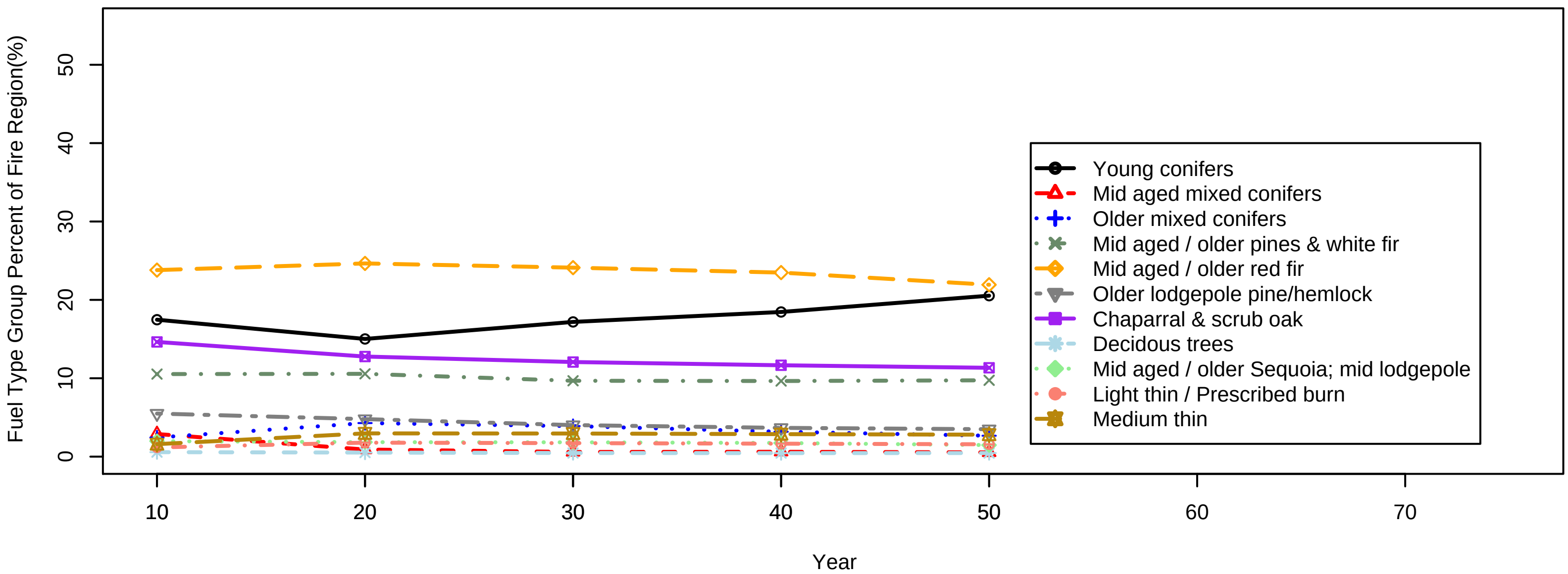
Figures 2, 3, 4. Mean proportion of a fire region occupied by fuel type groups (10 replicates) for the three fire regions over 50 simulation years.

Figure 5, 6, 7, 8. Mean number of hectares for two age classes of four species (10 replicates): White fir, Ponderosa pine, Doug fir, Black oak.

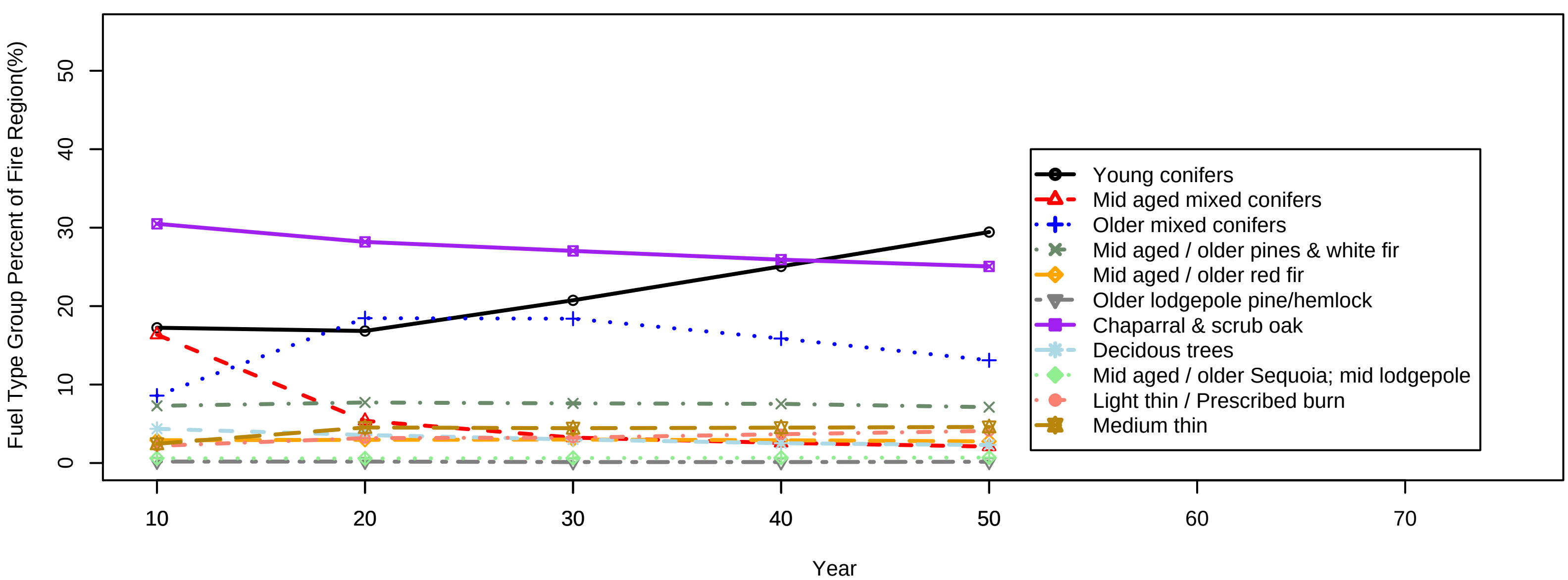
Figure 1


Sequoia-Kings Canyon
Yosemite
National Forests
Base Fire, Med Area, Med Intensity
Value
0.1 - 0.2
0.3 - 0.5
0.6 - 0.8
0.9 - 1.1
1.2 - 1.4
1.5 - 1.7
1.8 - 2
2.1 - 2.3
2.4 - 2.6
2.7 - 3.2

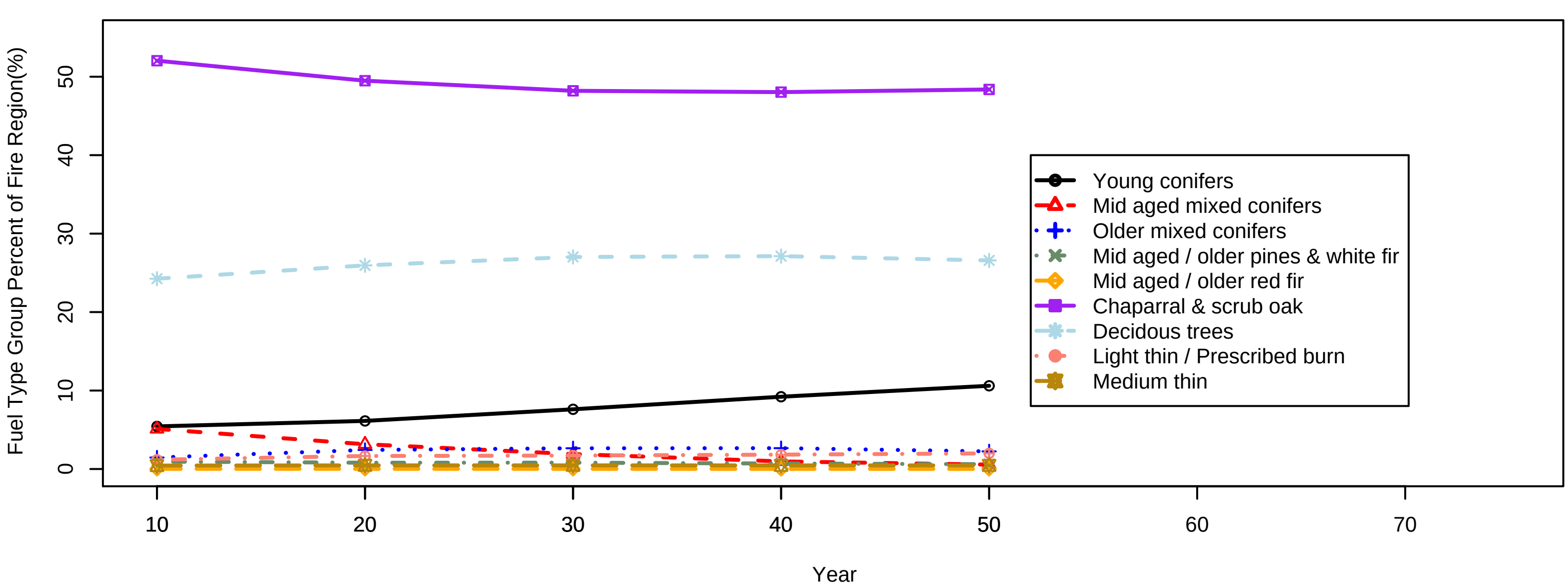
High Elevation Fire Region

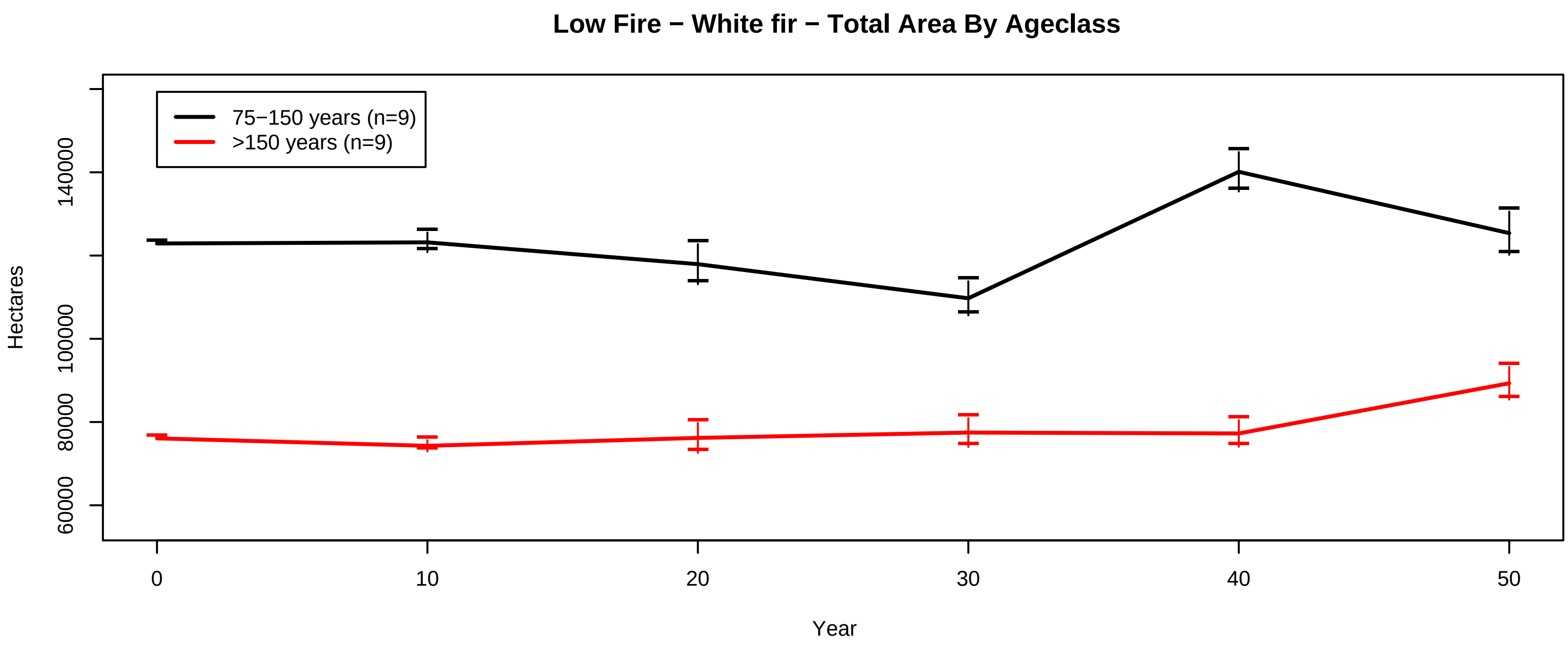


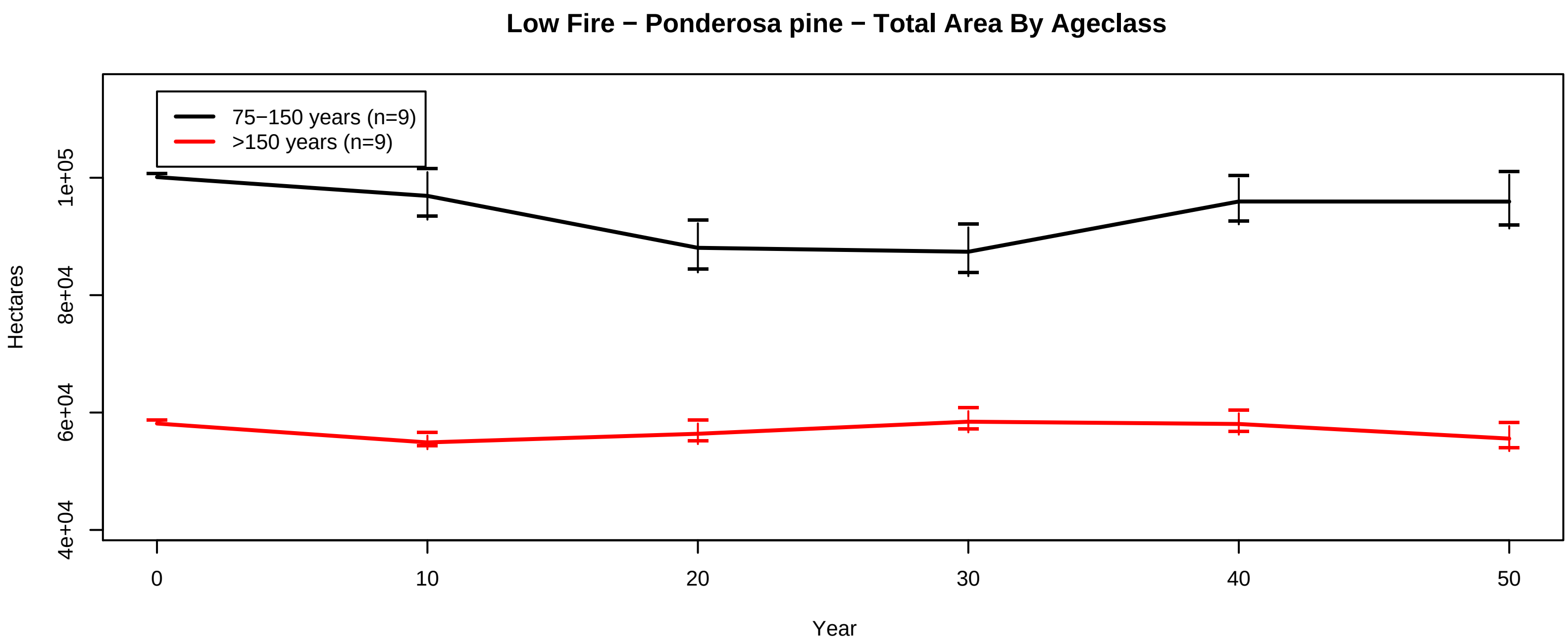
Mid Elevation Fire Region

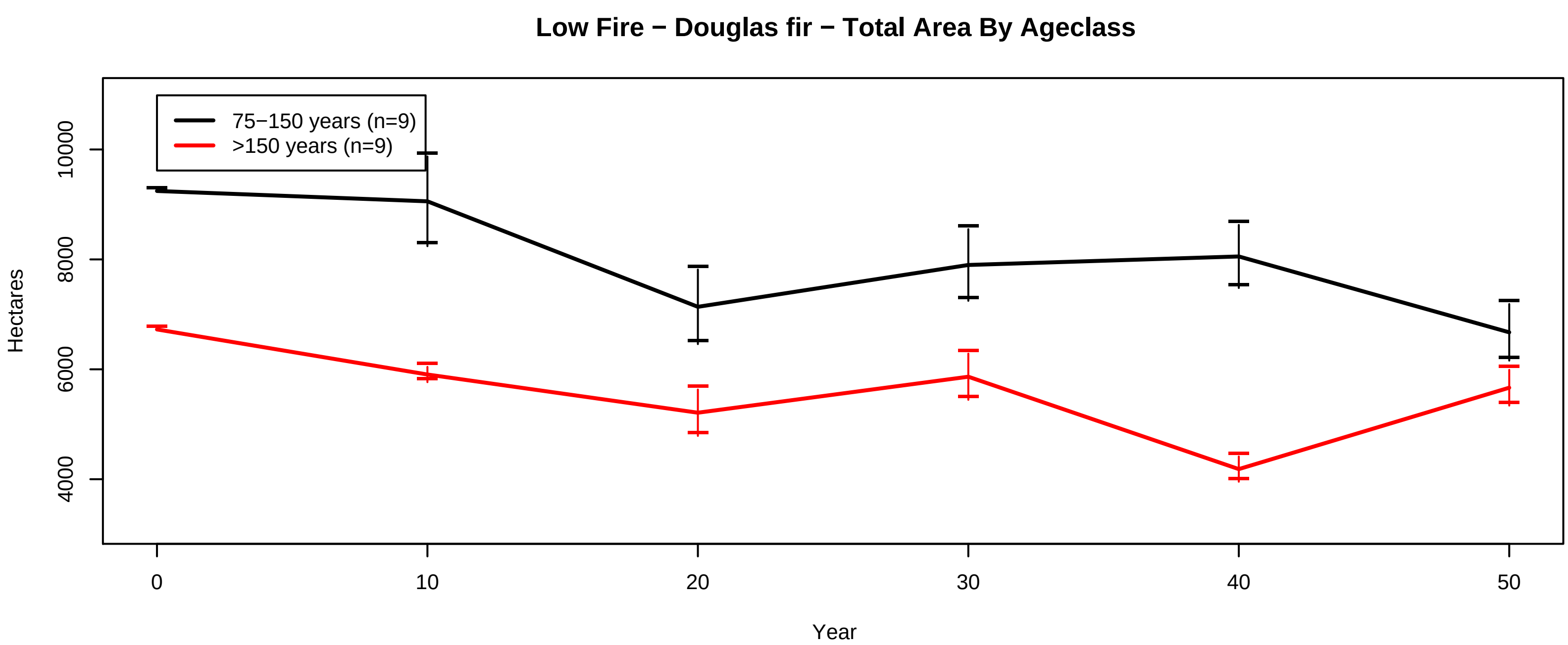


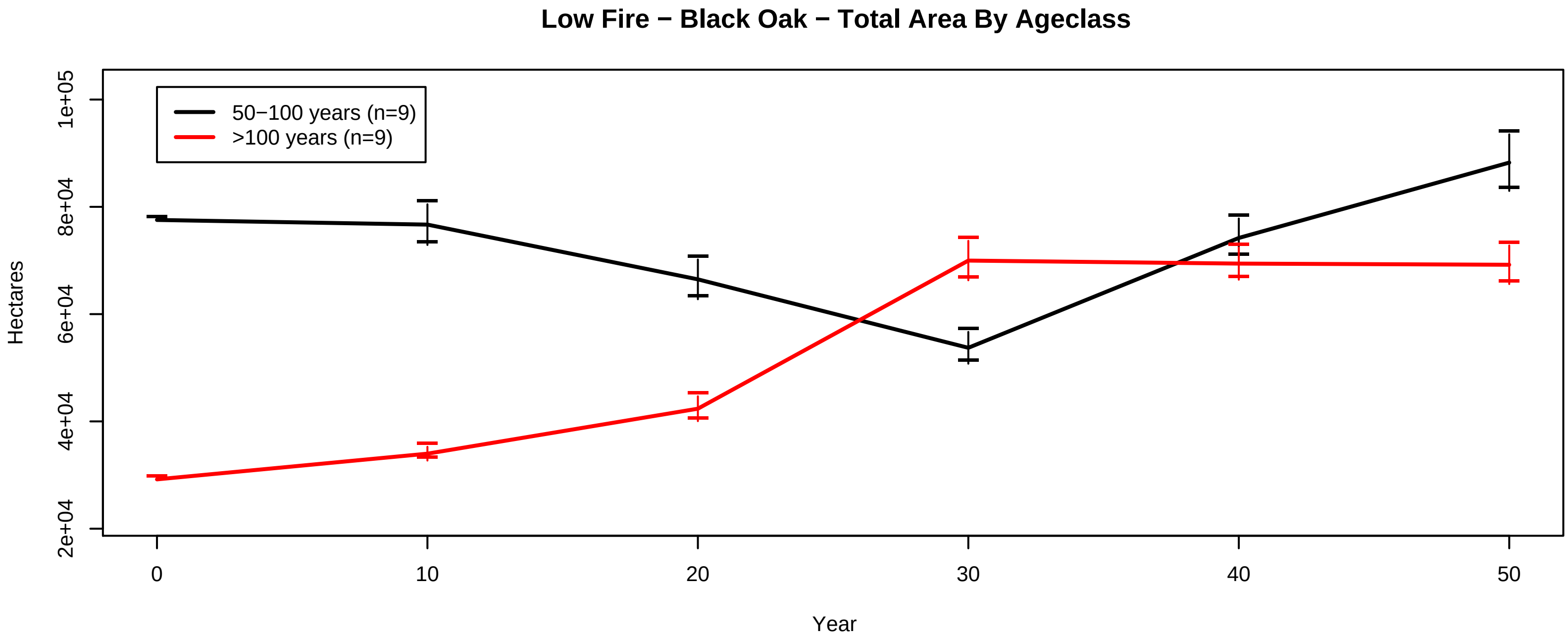
Low Elevation Fire Region




Low Fire − White fir − Total Area By Ageclass
75−150 years (n=9)
>150 years (n=9)
Hectares
60000
80000
100000
140000
0
10
20
30
40
50
Year


Low Fire − Ponderosa pine − Total Area By Ageclass
75−150 years (n=9)
>150 years (n=9)
Hectares
4e+04
6e+04
8e+04
1e+05
0
10
20
30
40
50
Year


Low Fire − Douglas fir − Total Area By Ageclass
75−150 years (n=9)
>150 years (n=9)
Hectares
4000
6000
8000
10000
0
10
20
30
40
50
Year


Low Fire − Black Oak − Total Area By Ageclass
50−100 years (n=9)
>100 years (n=9)
Hectares
1e+05
8e+04
6e+04
4e+04
2e+04
0
10
20
30
40
50
Year

APPENDIX J

Scenario Parameters:

Baseline Fire Regime
Fuel Treatment Rate: 8% every 5 years
Fuel Treatment Intensity: Light Intensity

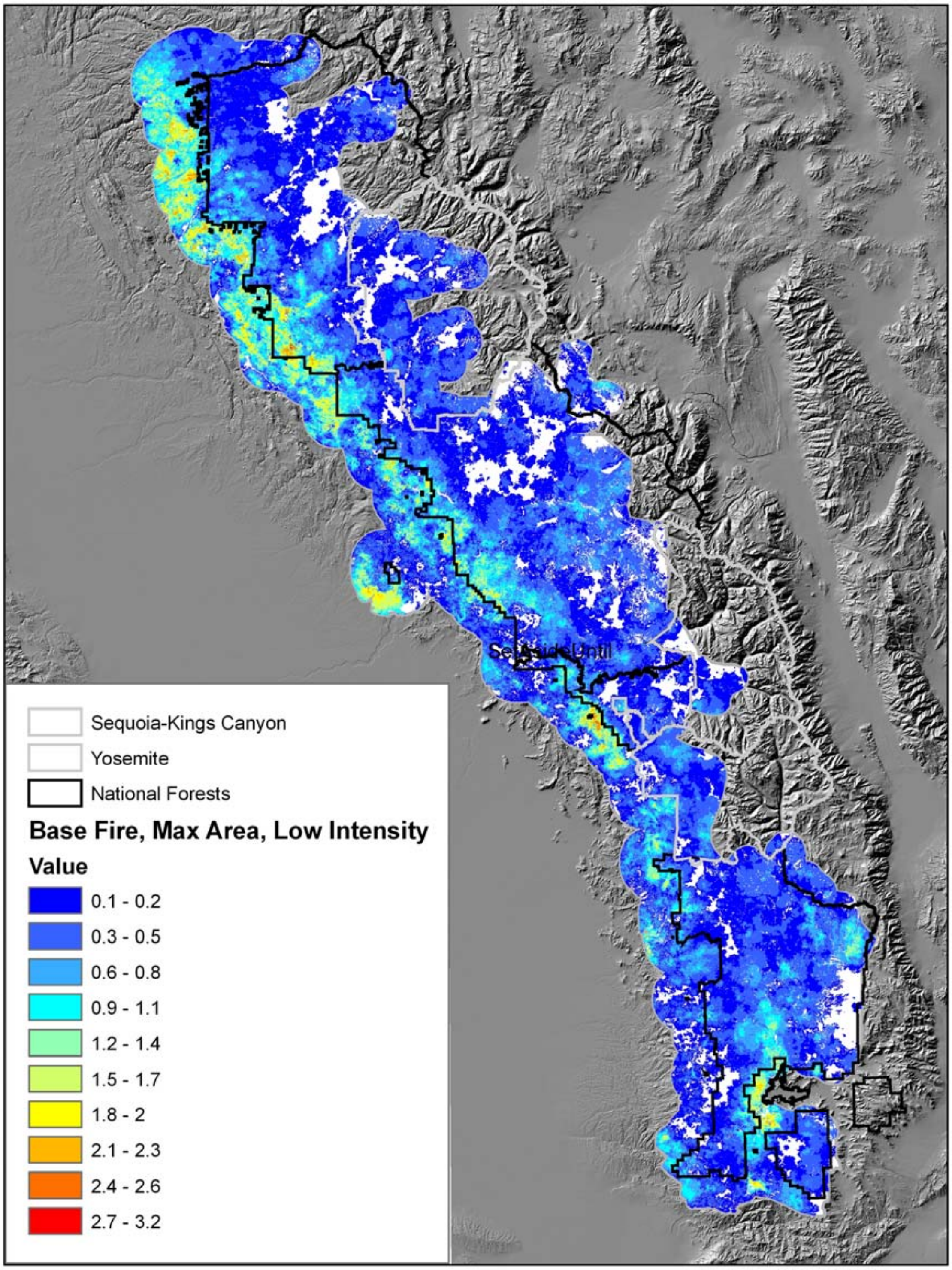
Figures:

Figure 1. Fire frequency map based on 50 years of simulated fire and 10 replicates. White areas within the study area indicate that the area was never burned.

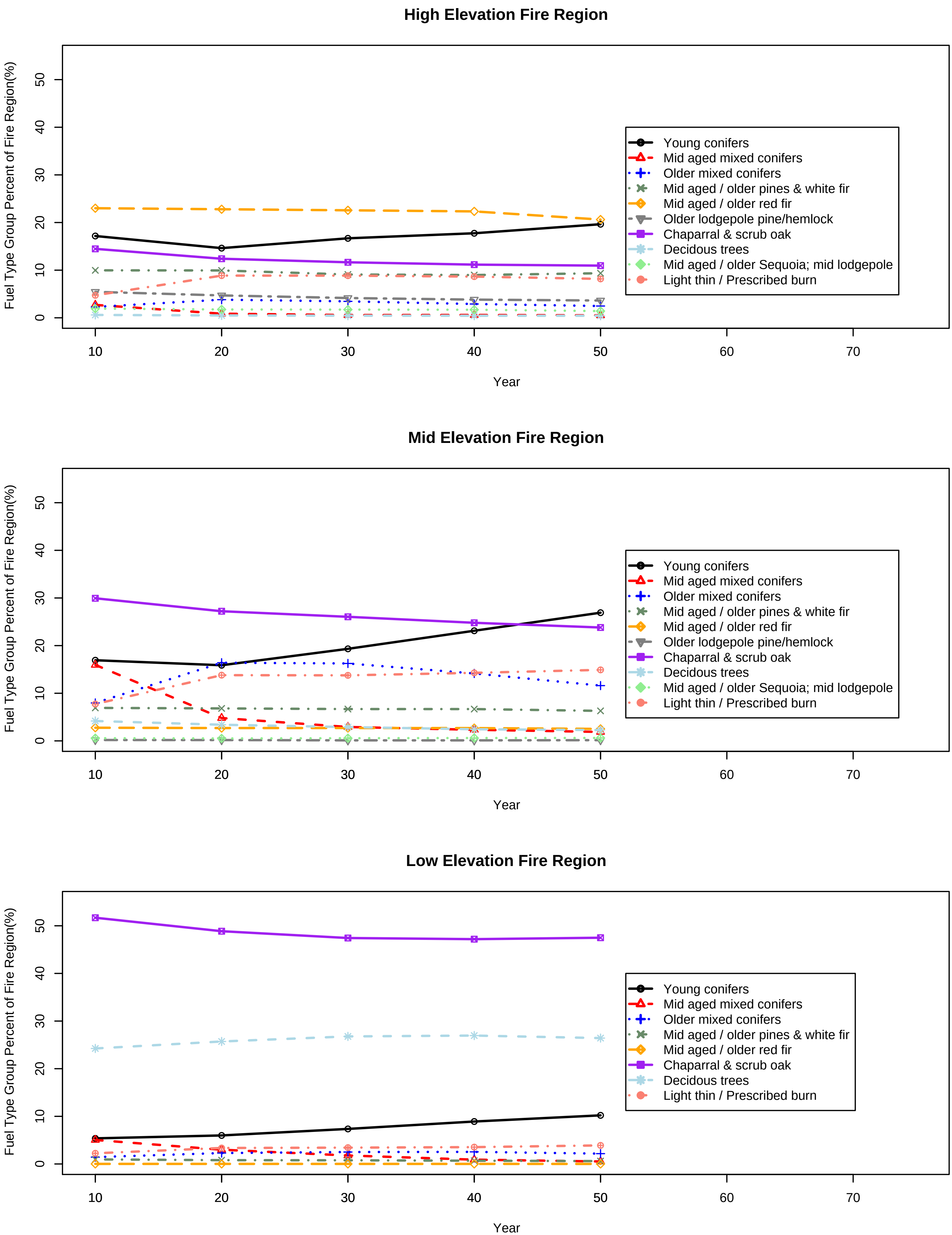
Figures 2, 3, 4. Mean proportion of a fire region occupied by fuel type groups (10 replicates) for the three fire regions over 50 simulation years.

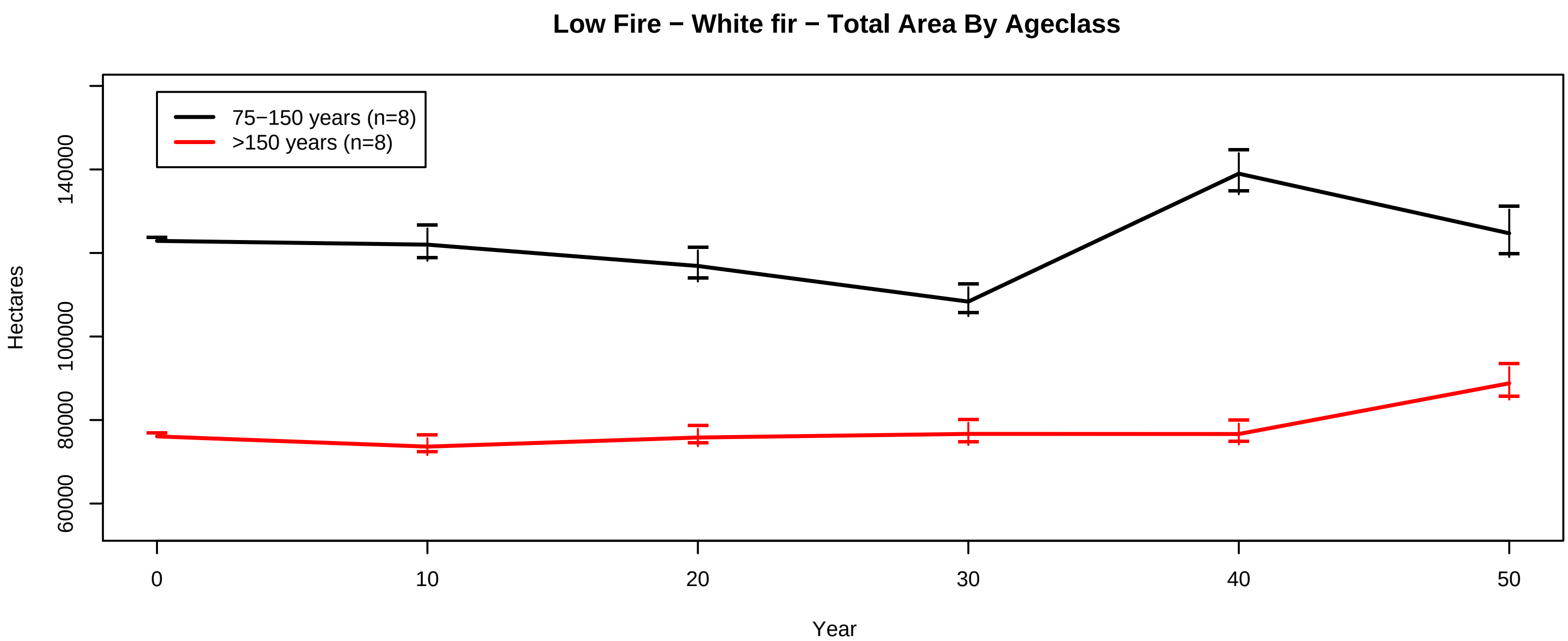
Figure 5, 6, 7, 8. Mean number of hectares for two age classes of four species (10 replicates): White fir, Ponderosa pine, Doug fir, Black oak.

Figure 1.

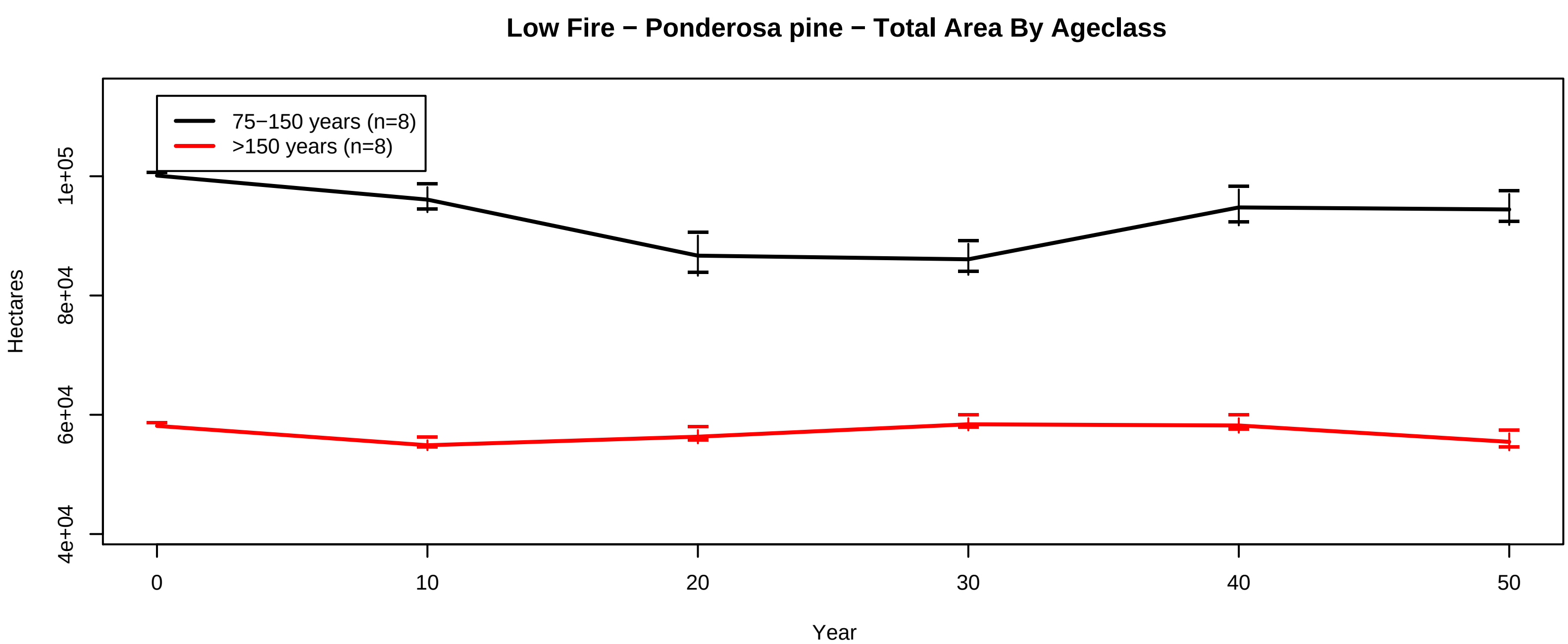


Sequoia-Kings Canyon
Yosemite
National Forests
Base Fire, Max Area, Low Intensity
Value
0.1 - 0.2
0.3 - 0.5
0.6 - 0.8
0.9 - 1.1
1.2 - 1.4
1.5 - 1.7
1.8 - 2
2.1 - 2.3
2.4 - 2.6
2.7 - 3.2

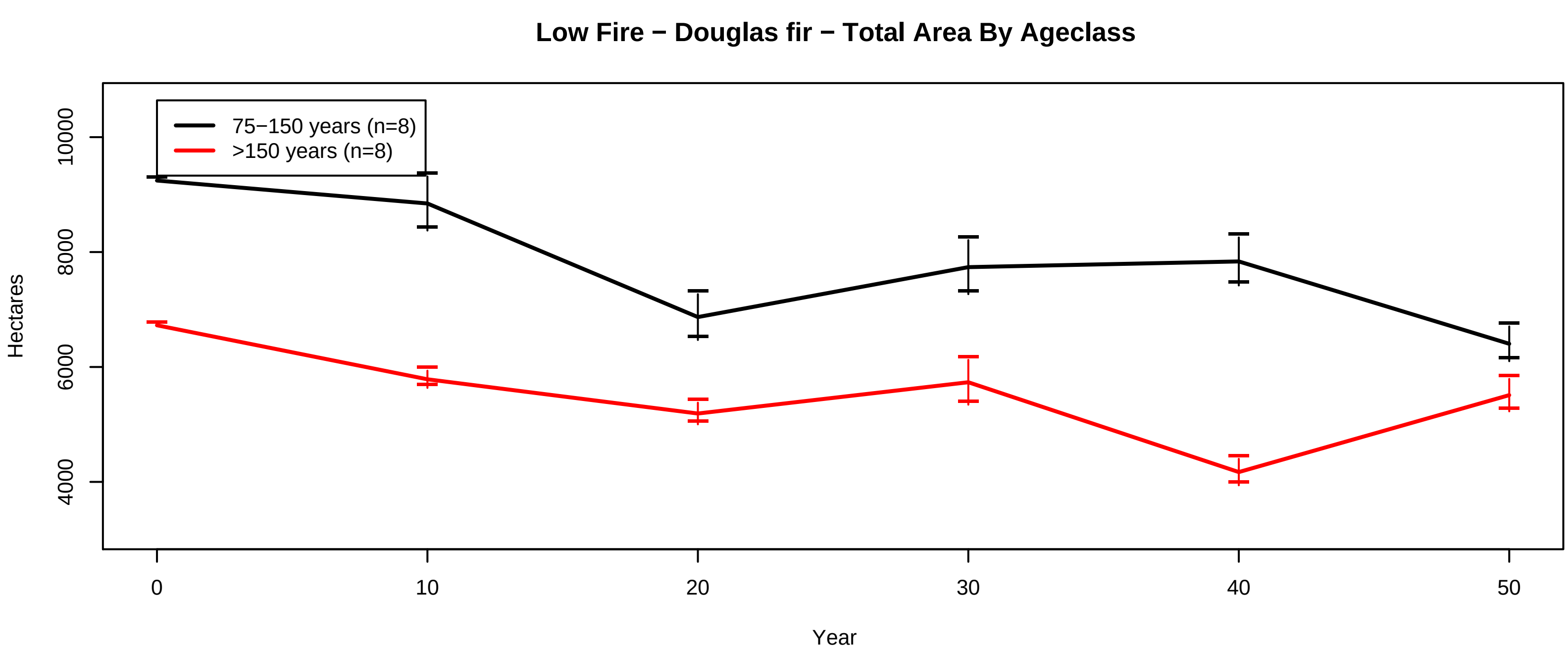

High Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
0
10
20
30
40
50
10
20
30
40
50
60
70
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Older lodgepole pine/hemlock
Chaparral & scrub oak
Decidous trees
Mid aged / older Sequoia; mid lodgepole
Light thin / Prescribed burn
Mid Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
0
10
20
30
40
50
10
20
30
40
50
60
70
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Older lodgepole pine/hemlock
Chaparral & scrub oak
Decidous trees
Mid aged / older Sequoia; mid lodgepole
Light thin / Prescribed burn
Low Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
0
10
20
30
40
50
10
20
30
40
50
60
70
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Chaparral & scrub oak
Decidous trees
Light thin / Prescribed burn



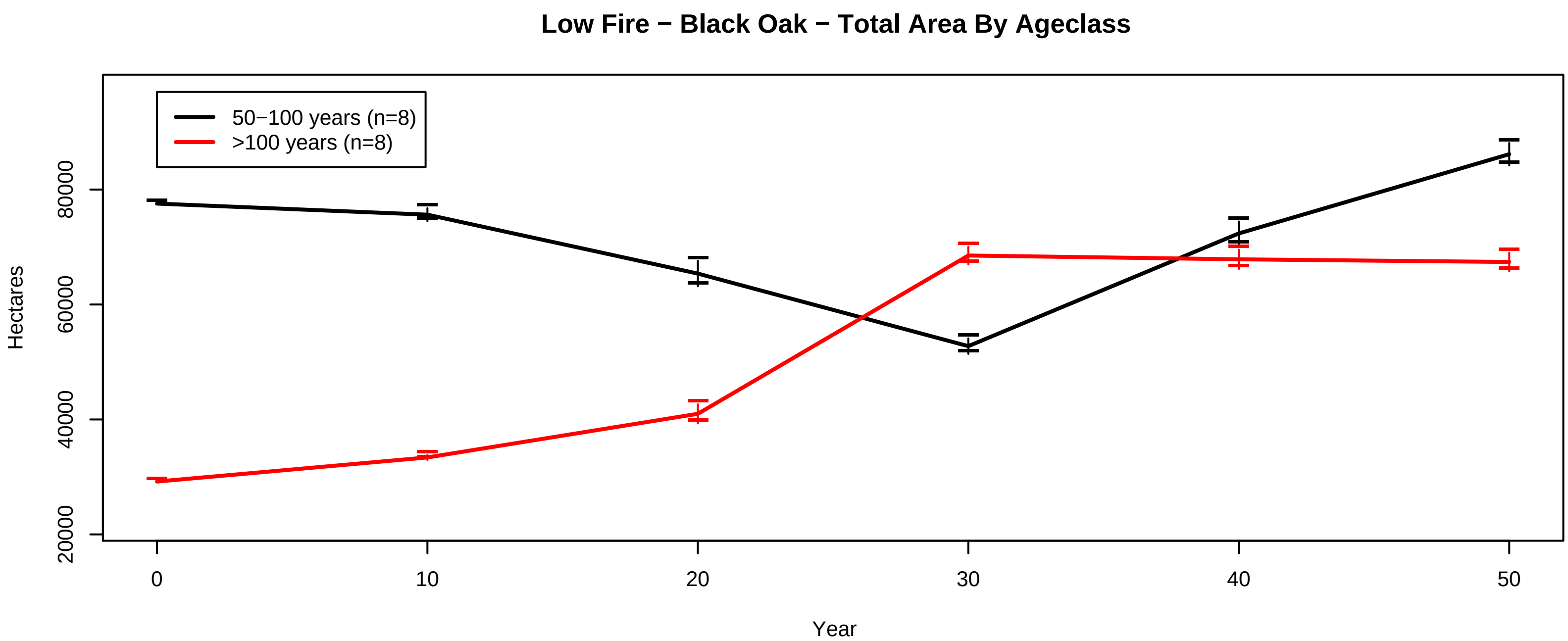
Low Fire − White fir − Total Area By Ageclass
75−150 years (n=8)
>150 years (n=8)
Hectares
60000
80000
100000
140000
0
10
20
30
40
50
Year



Low Fire − Ponderosa pine − Total Area By Ageclass
75−150 years (n=8)
>150 years (n=8)
Hectares
4e+04
6e+04
8e+04
1e+05
0
10
20
30
40
50
Year



Low Fire − Douglas fir − Total Area By Ageclass
75−150 years (n=8)
>150 years (n=8)
Hectares
4000
6000
8000
10000
0
10
20
30
40
50
Year


Low Fire − Black Oak − Total Area By Ageclass
50−100 years (n=8)
>100 years (n=8)
Hectares
20000
40000
60000
80000
0
10
20
30
40
50
Year

APPENDIX K

Scenario Parameters:

Baseline Fire Regime
Fuel Treatment Rate: 8% every 5 years
Fuel Treatment Intensity: Medium Intensity

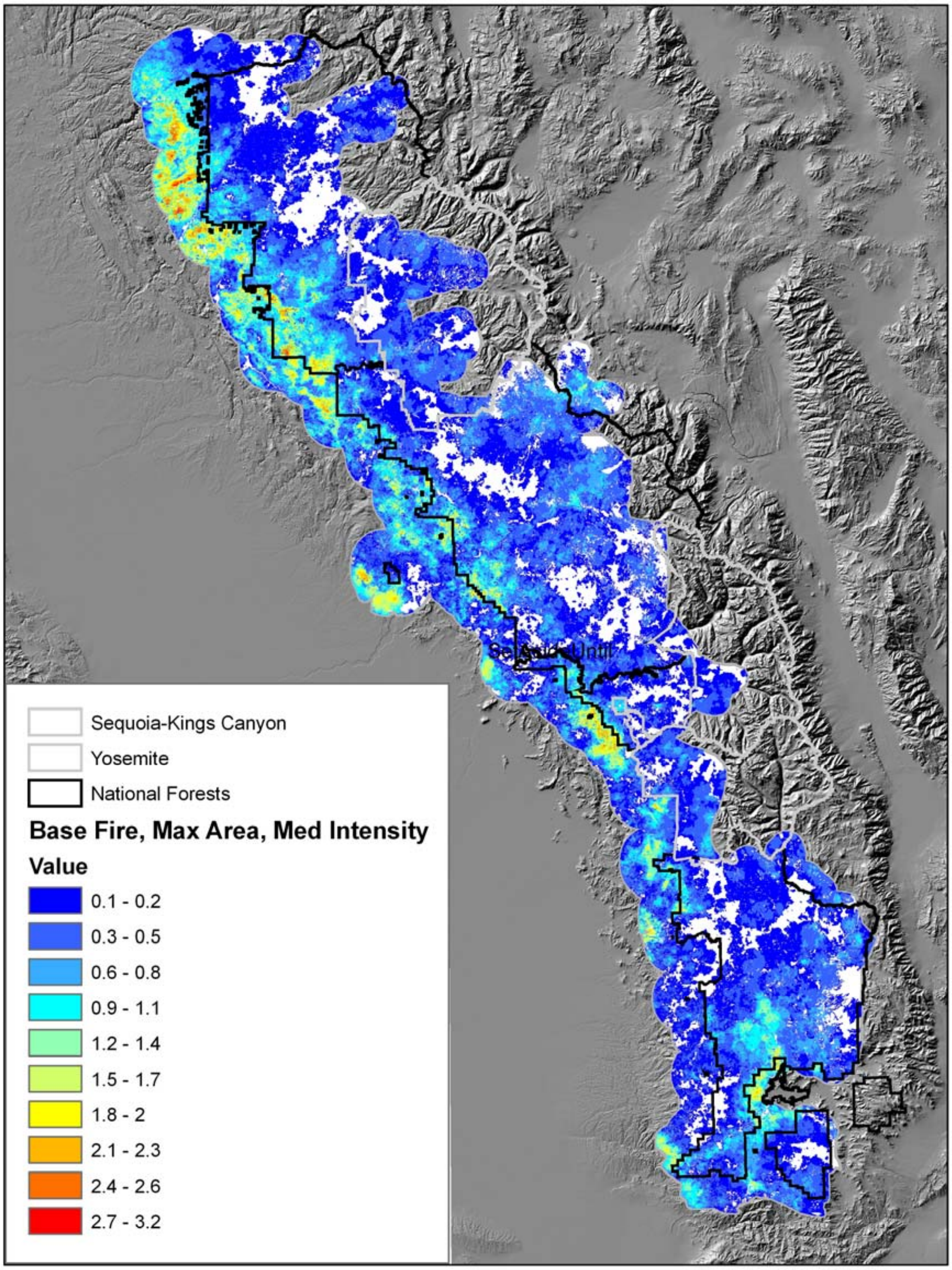
Figures:

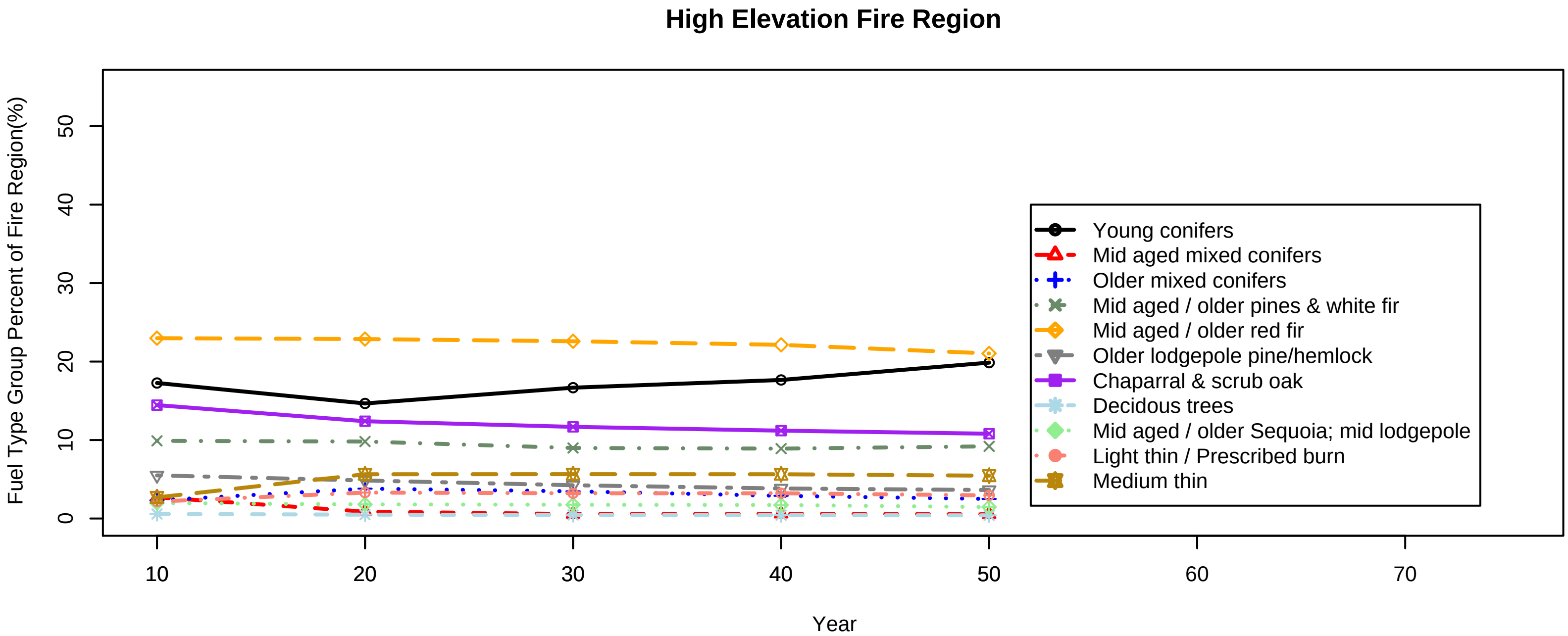
Figure 1. Fire frequency map based on 50 years of simulated fire and 10 replicates. White areas within the study area indicate that the area was never burned.

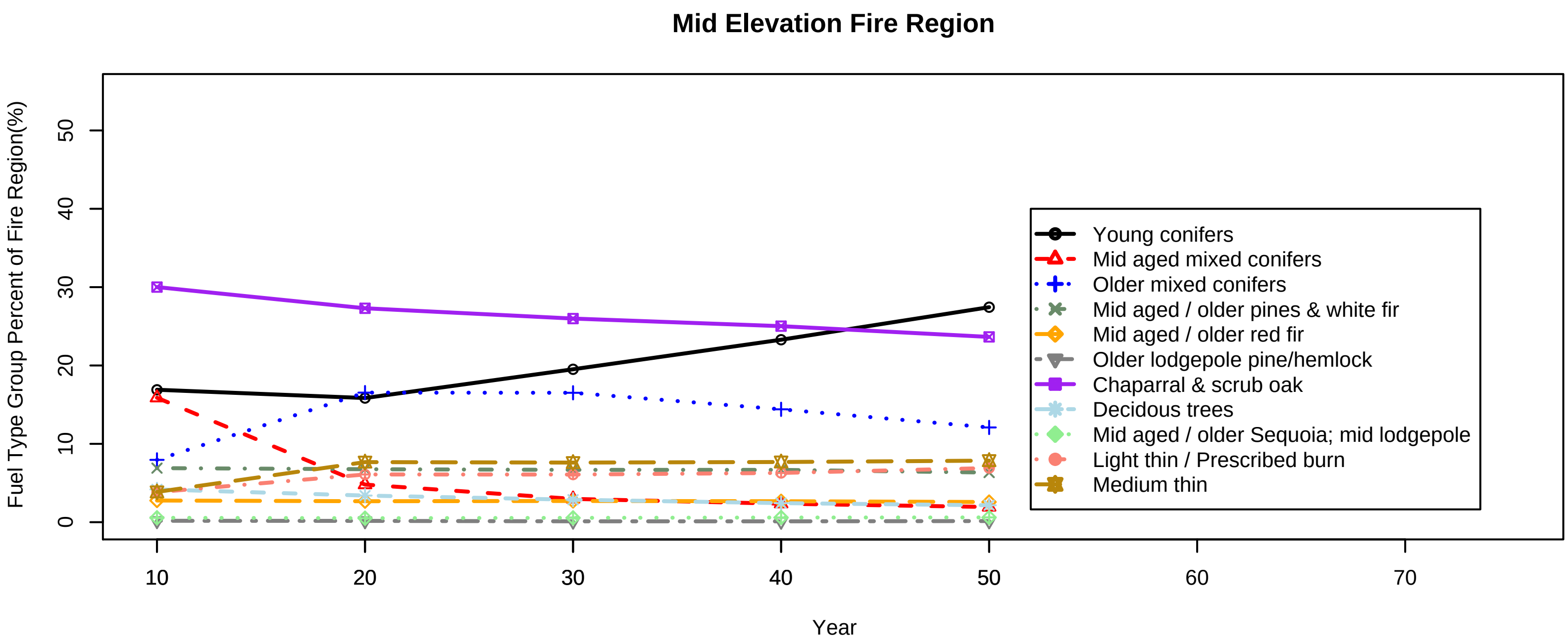
Figures 2, 3, 4. Mean proportion of a fire region occupied by fuel type groups (10 replicates) for the three fire regions over 50 simulation years.

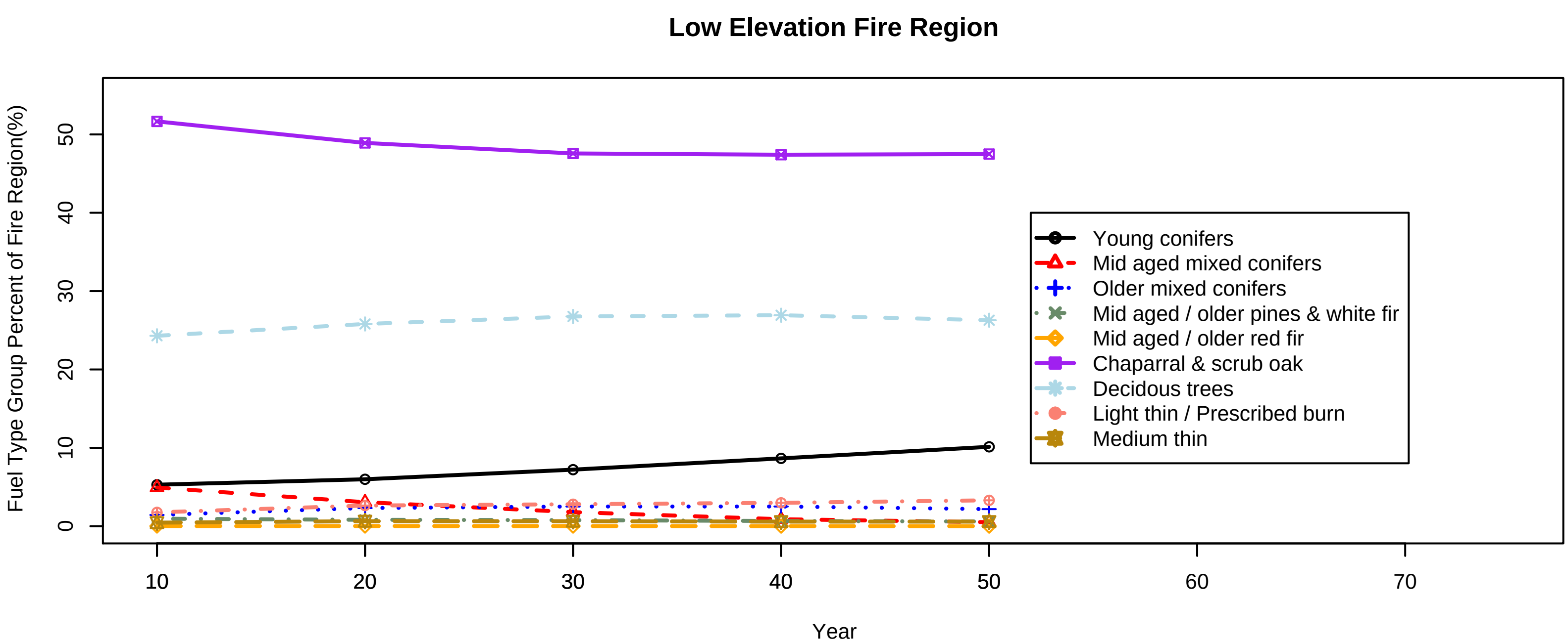
Figure 5, 6, 7, 8. Mean number of hectares for two age classes of four species (10 replicates): White fir, Ponderosa pine, Doug fir, Black oak.

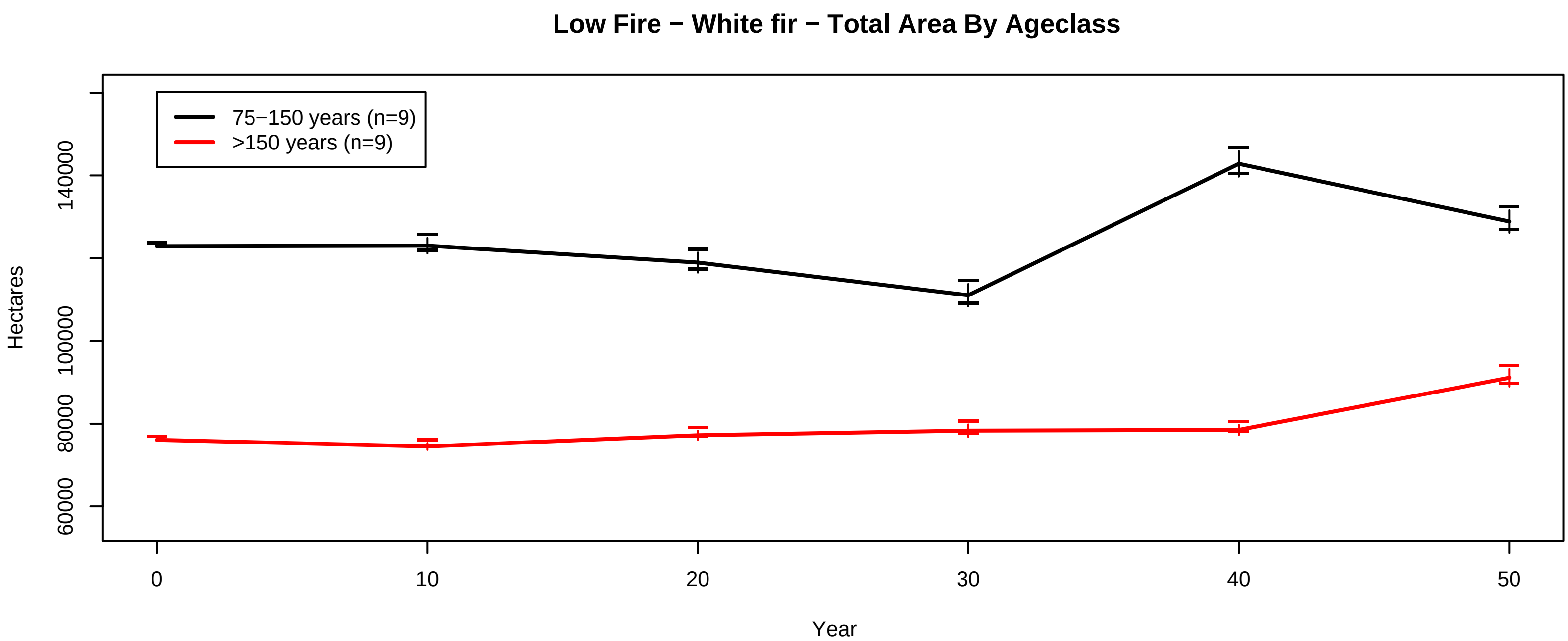
Figure 1.

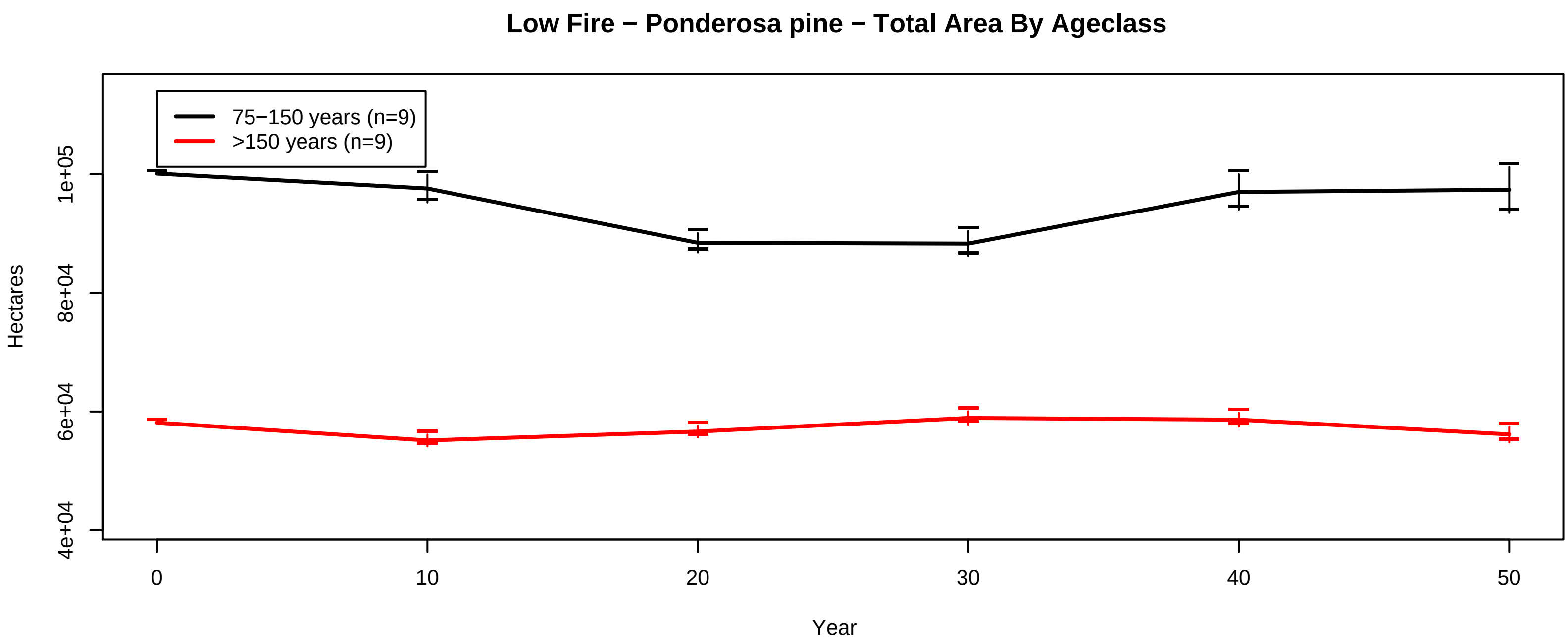

Sequoia-Kings Canyon
Yosemite
National Forests
Base Fire, Max Area, Med Intensity
Value
0.1 - 0.2
0.3 - 0.5
0.6 - 0.8
0.9 - 1.1
1.2 - 1.4
1.5 - 1.7
1.8 - 2
2.1 - 2.3
2.4 - 2.6
2.7 - 3.2

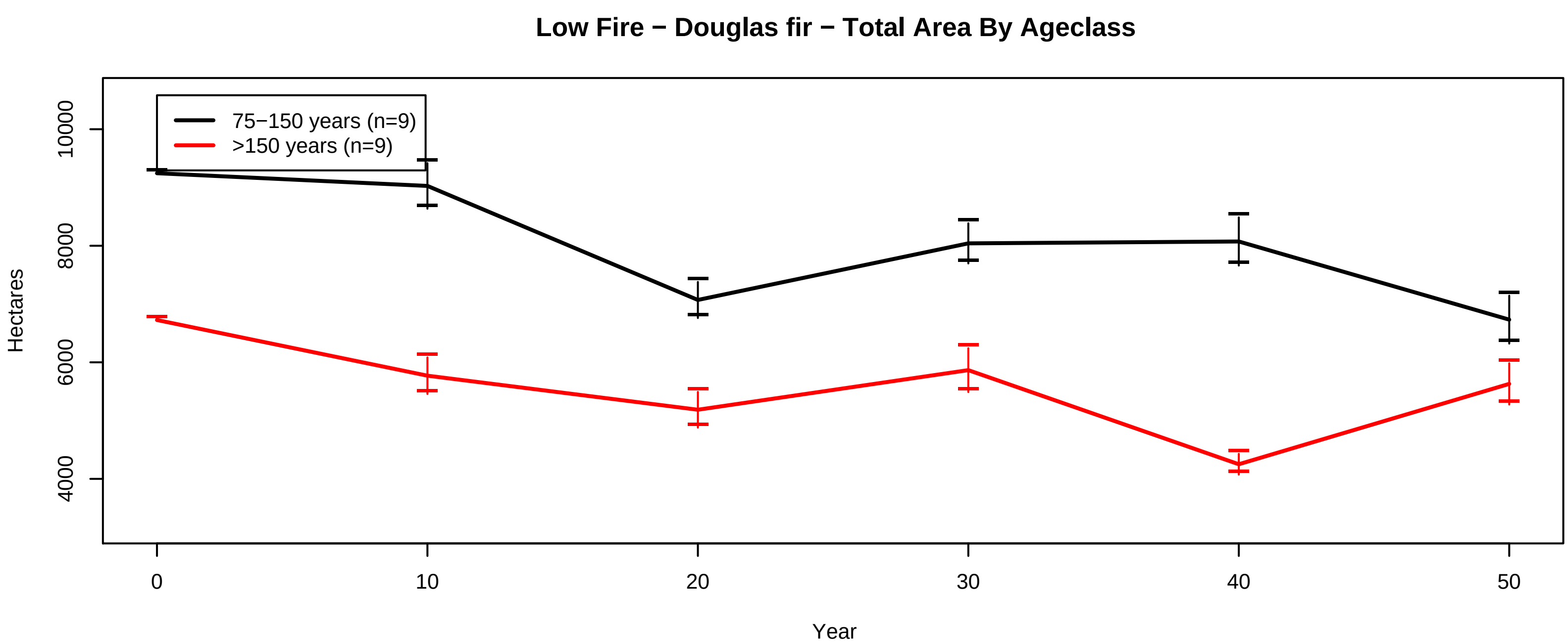

High Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
0
10
20
30
40
50
10
20
30
40
50
60
70
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Older lodgepole pine/hemlock
Chaparral & scrub oak
Decidous trees
Mid aged / older Sequoia; mid lodgepole
Light thin / Prescribed burn
Medium thin

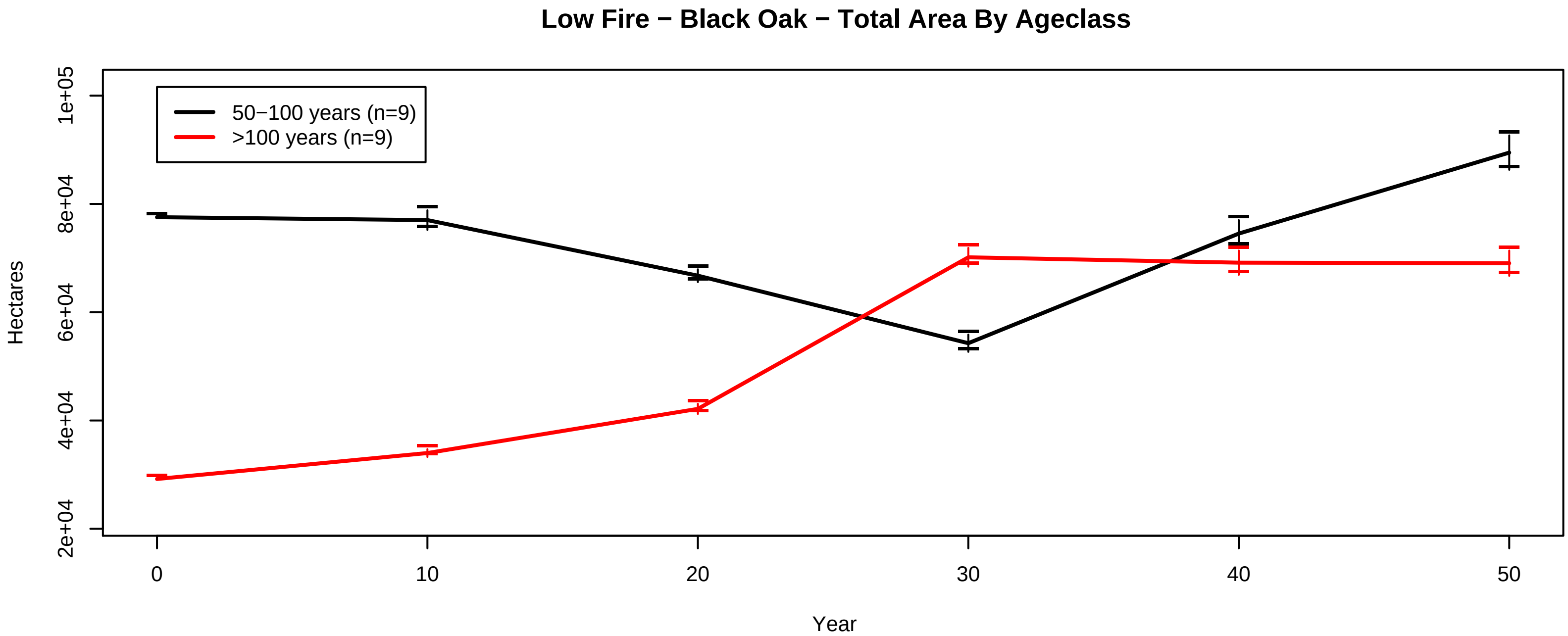

Mid Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
0
10
20
30
40
50
10
20
30
40
50
60
70
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Older lodgepole pine/hemlock
Chaparral & scrub oak
Decidous trees
Mid aged / older Sequoia; mid lodgepole
Light thin / Prescribed burn
Medium thin


Low Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
0
10
20
30
40
50
10
20
30
40
50
60
70
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Chaparral & scrub oak
Decidous trees
Light thin / Prescribed burn
Medium thin


Low Fire − White fir − Total Area By Ageclass
75−150 years (n=9)
>150 years (n=9)
Hectares
60000
80000
100000
140000
0
10
20
30
40
50
Year


Low Fire − Ponderosa pine − Total Area By Ageclass
75−150 years (n=9)
>150 years (n=9)
Hectares
4e+04
6e+04
8e+04
1e+05
0
10
20
30
40
50
Year


Low Fire − Douglas fir − Total Area By Ageclass
75−150 years (n=9)
>150 years (n=9)
Hectares
4000
6000
8000
10000
0
10
20
30
40
50
Year



Low Fire − Black Oak − Total Area By Ageclass
50−100 years (n=9)
>100 years (n=9)
Hectares
2e+04
4e+04
6e+04
8e+04
1e+05
0
10
20
30
40
50
Year

APPENDIX L

Scenario Parameters:

High Fire Regime
Fuel Treatment Rate: None
Fuel Treatment Intensity: None

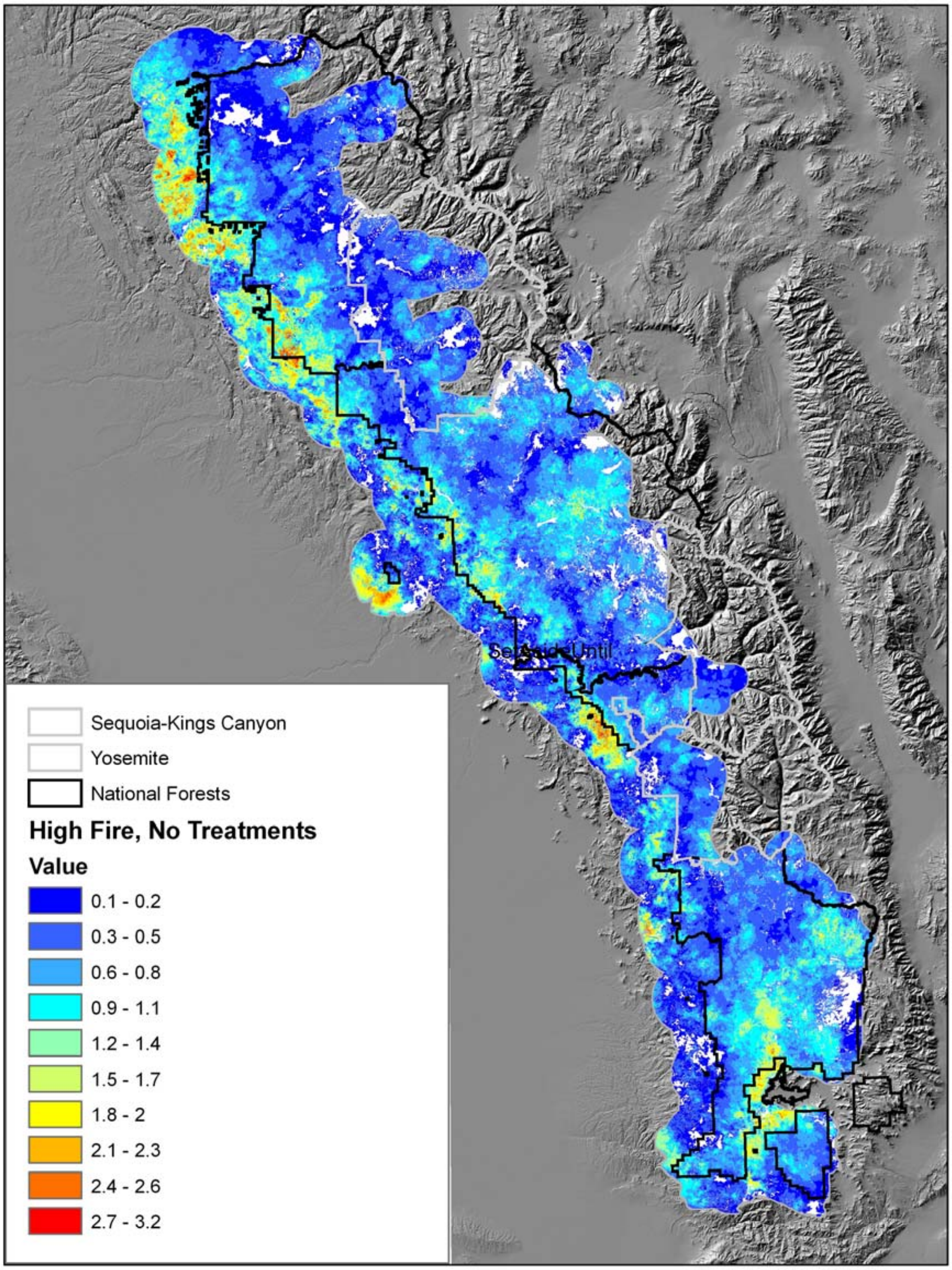
Figures:

Figure 1. Fire frequency map based on 50 years of simulated fire and 10 replicates. White areas within the study area indicate that the area was never burned.

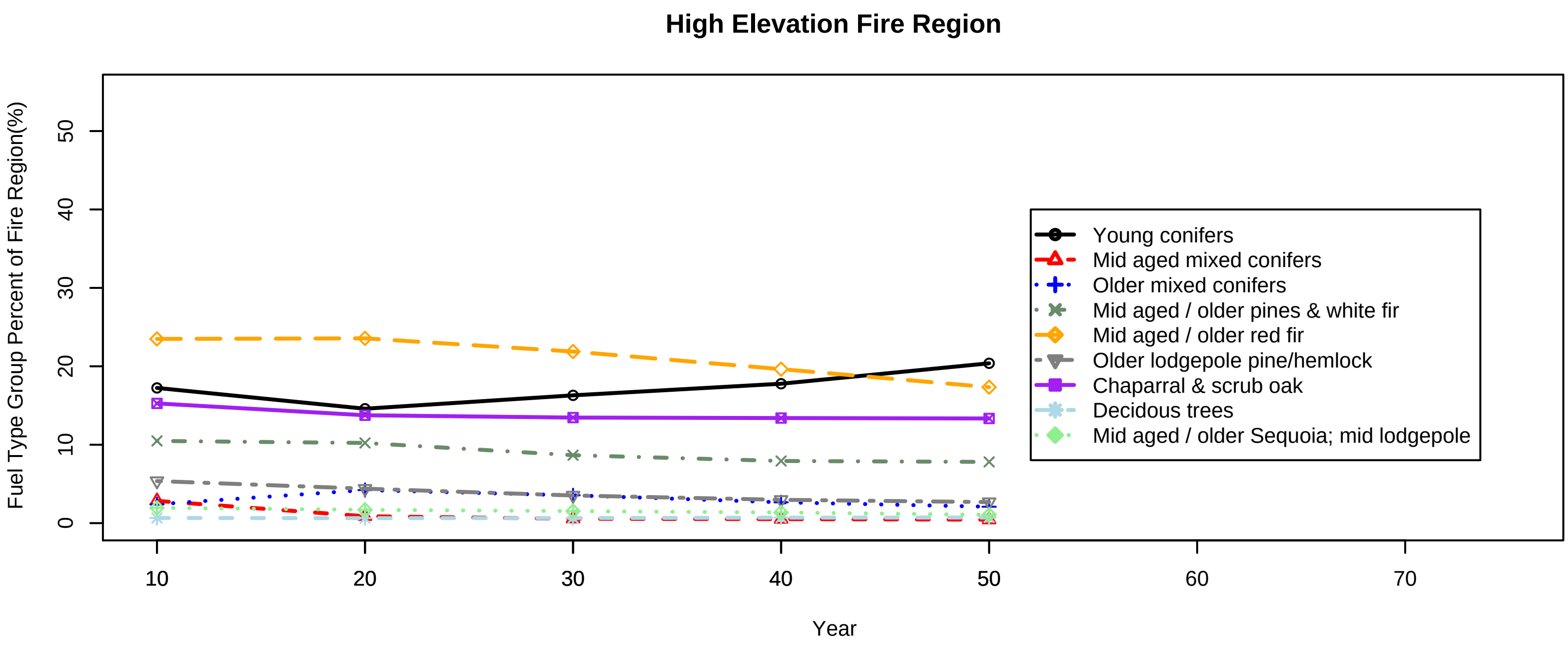
Figures 2, 3, 4. Mean proportion of a fire region occupied by fuel type groups (10 replicates) for the three fire regions over 50 simulation years.

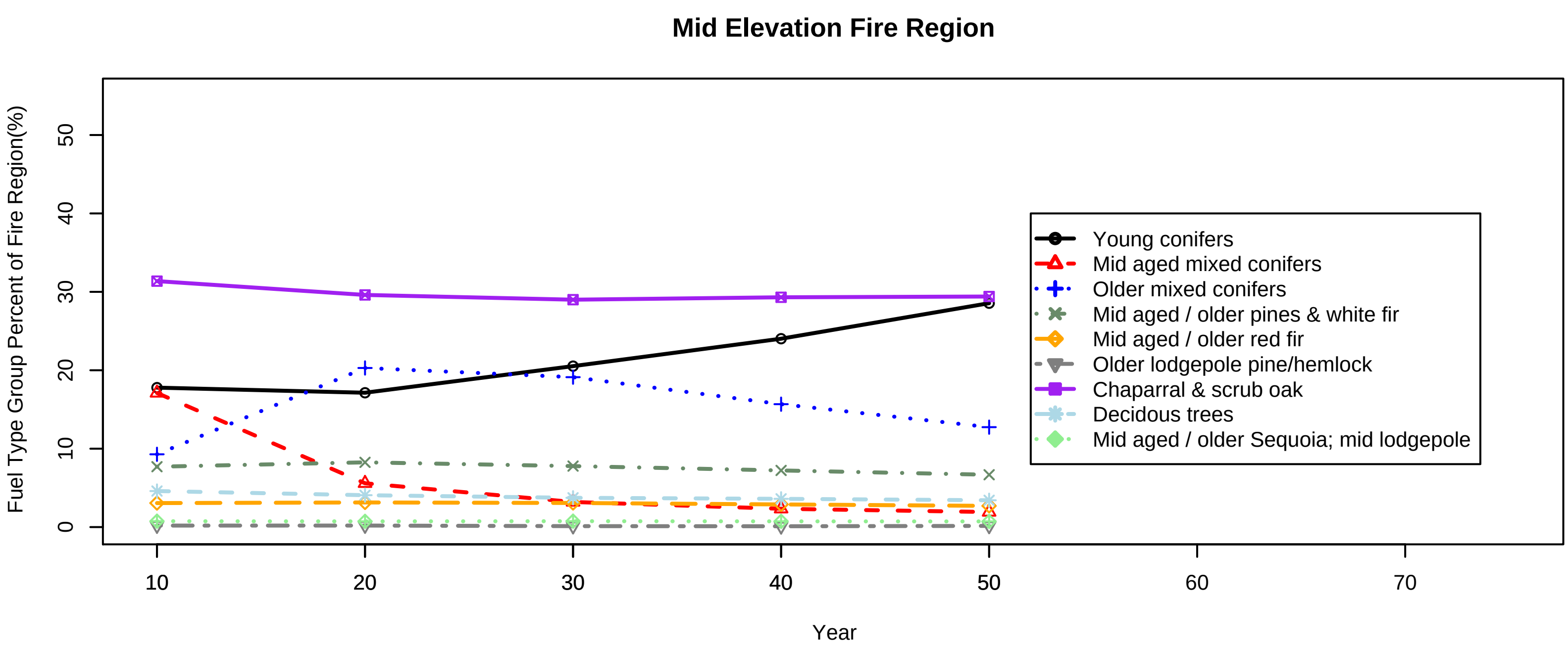
Figure 5, 6, 7, 8. Mean number of hectares for two age classes of four species (10 replicates): White fir, Ponderosa pine, Doug fir, Black oak.

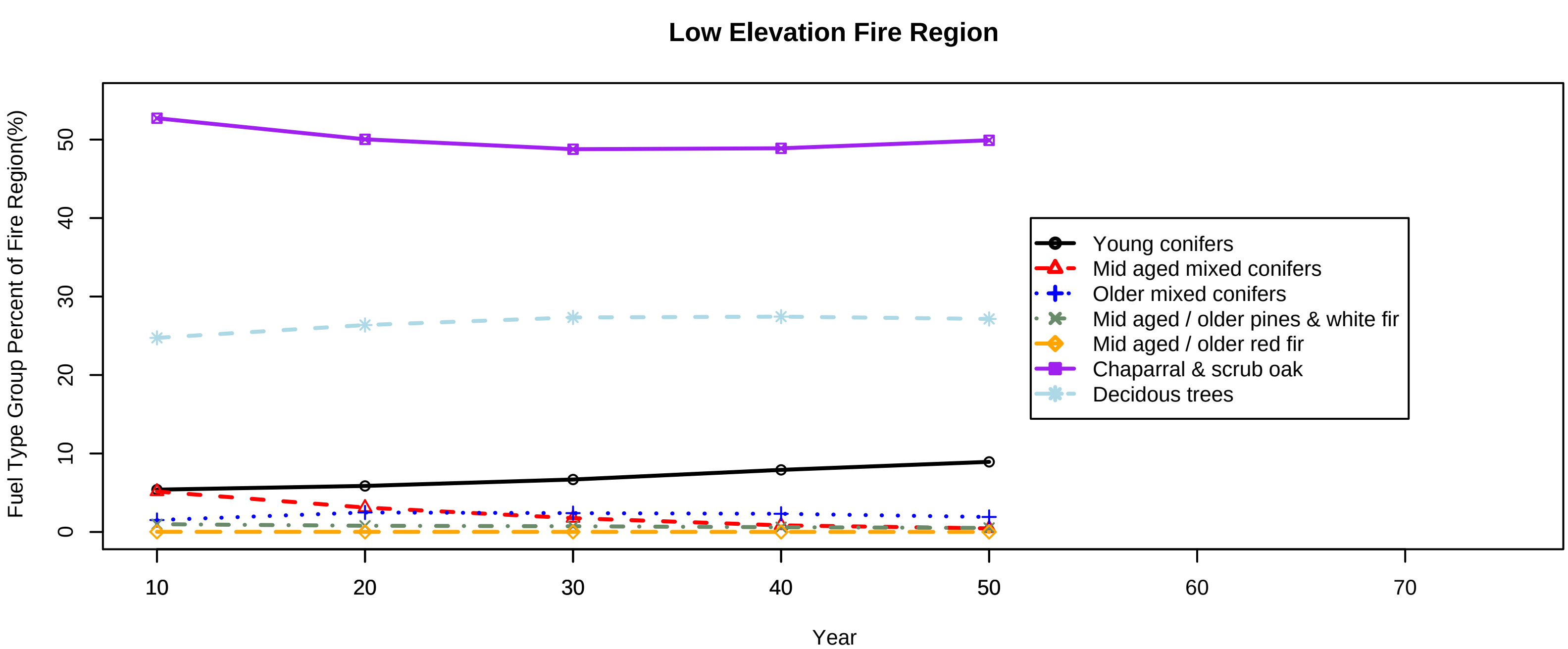
Figure 1

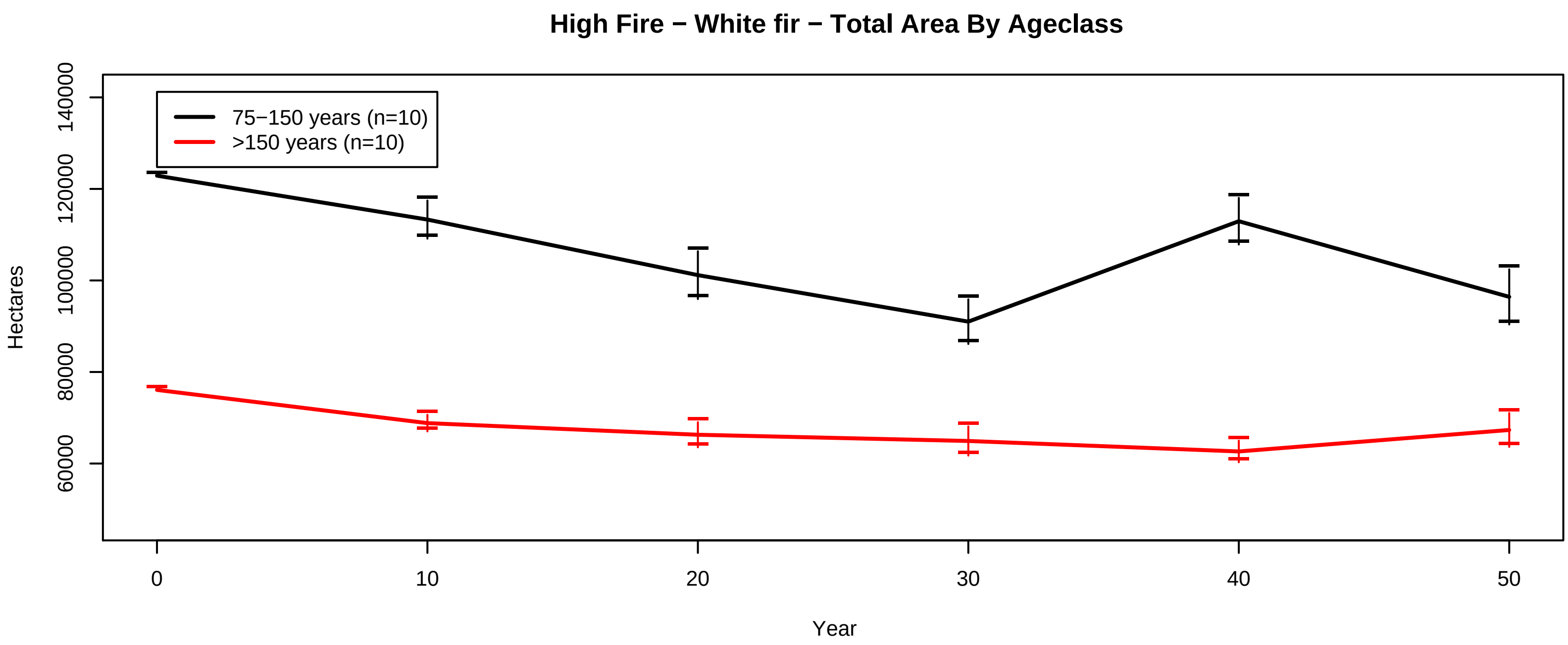


Sequoia-Kings Canyon
Yosemite
National Forests
High Fire, No Treatments
Value
0.1 - 0.2
0.3 - 0.5
0.6 - 0.8
0.9 - 1.1
1.2 - 1.4
1.5 - 1.7
1.8 - 2
2.1 - 2.3
2.4 - 2.6
2.7 - 3.2

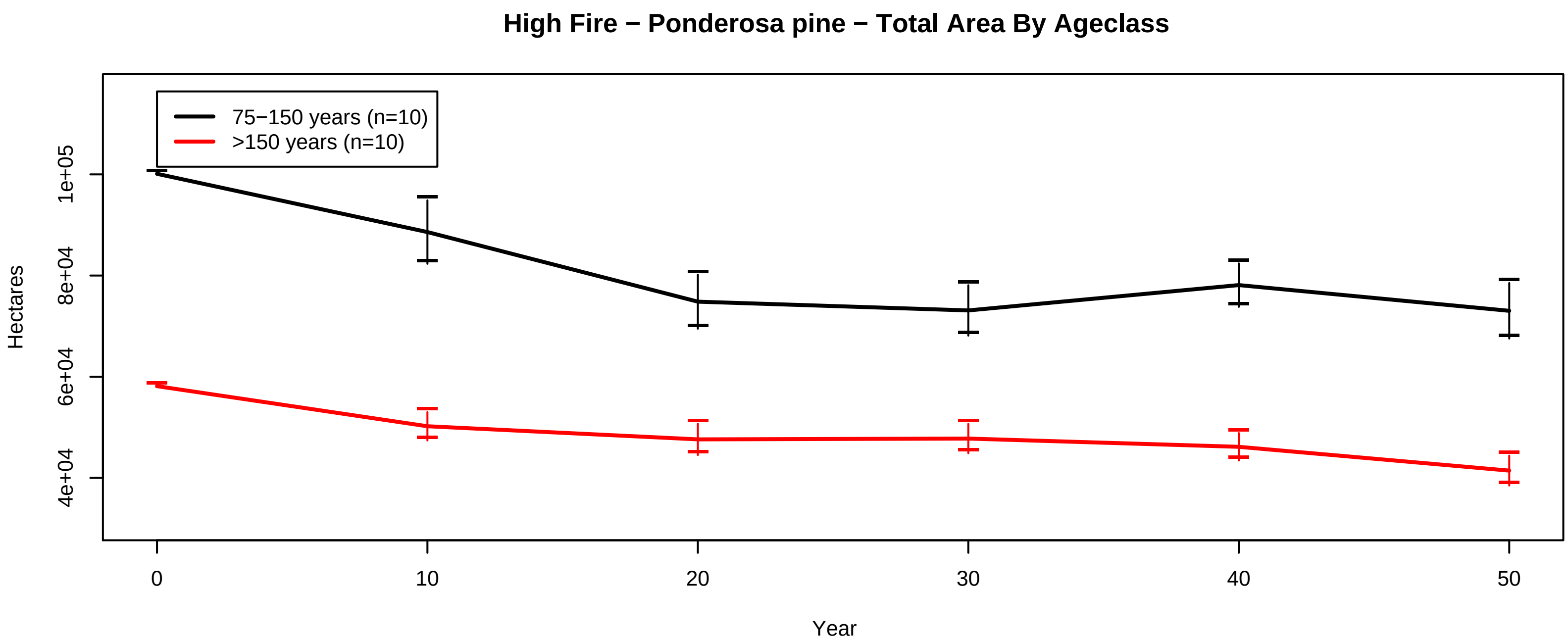

High Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Older lodgepole pine/hemlock
Chaparral & scrub oak
Decidous trees
Mid aged / older Sequoia; mid lodgepole


Mid Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Older lodgepole pine/hemlock
Chaparral & scrub oak
Decidous trees
Mid aged / older Sequoia; mid lodgepole

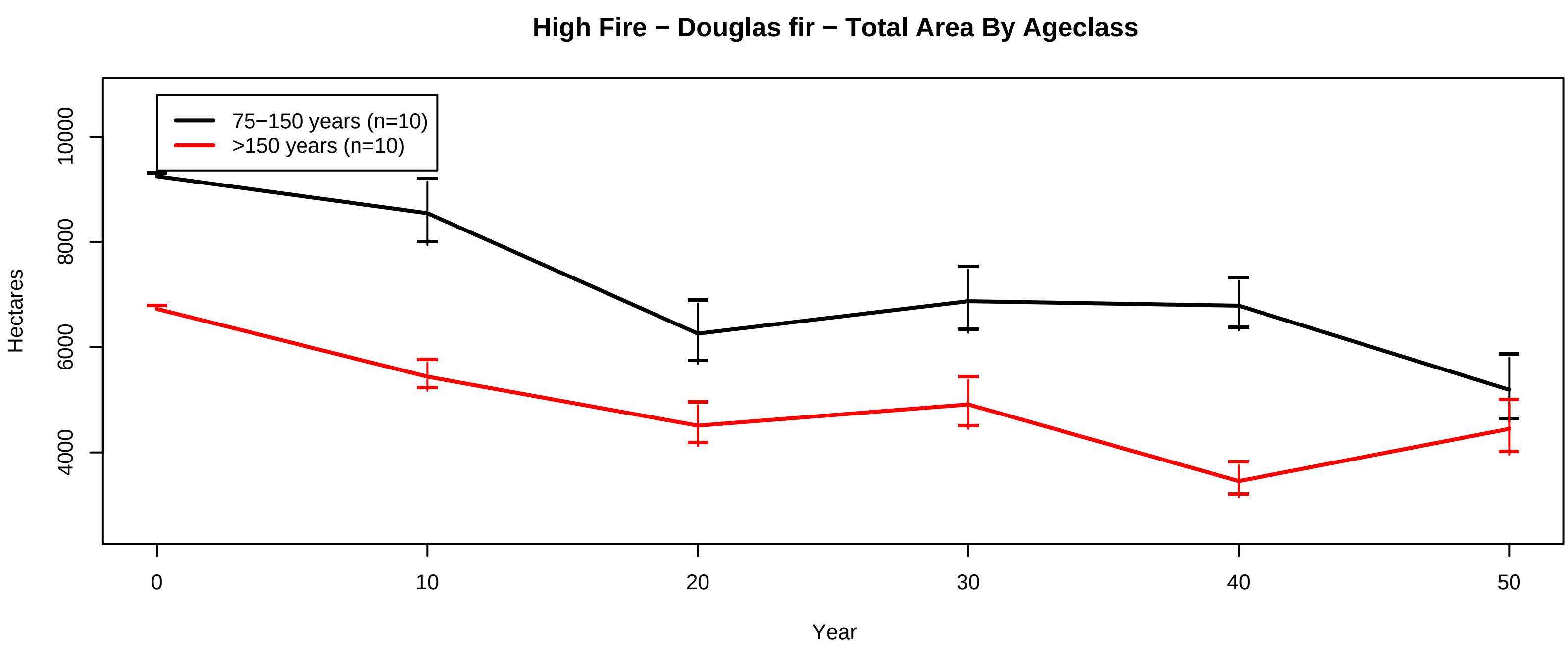

Low Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Chaparral & scrub oak
Decidous trees



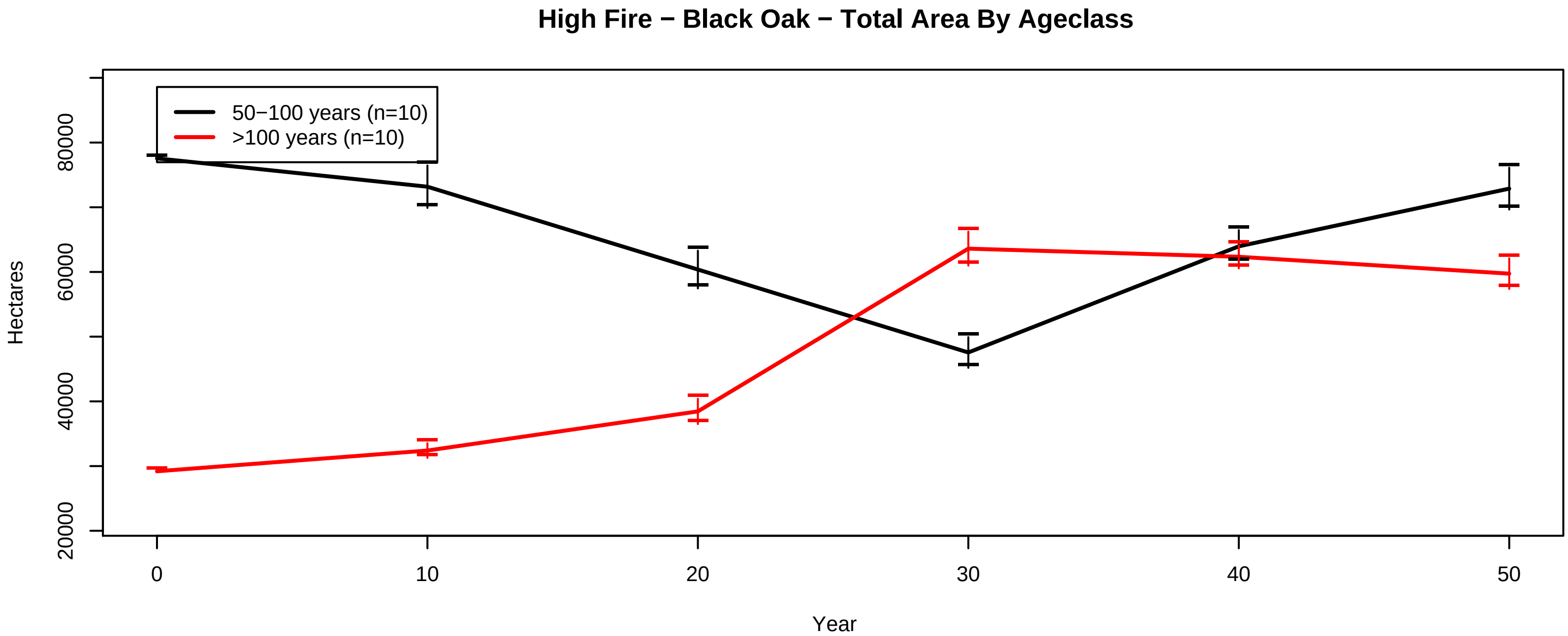
High Fire − White fir − Total Area By Ageclass
75−150 years (n=10)
>150 years (n=10)
Hectares
60000
80000
100000
120000
140000
0
10
20
30
40
50
Year



High Fire − Ponderosa pine − Total Area By Ageclass
75−150 years (n=10)
>150 years (n=10)
Hectares
4e+04
6e+04
8e+04
1e+05
0
10
20
30
40
50
Year



High Fire − Douglas fir − Total Area By Ageclass
75−150 years (n=10)
>150 years (n=10)
Hectares
4000
6000
8000
10000
0
10
20
30
40
50
Year


High Fire − Black Oak − Total Area By Ageclass
50−100 years (n=10)
>100 years (n=10)
Hectares
20000
40000
60000
80000
0
10
20
30
40
50
Year

APPENDIX M

Scenario Parameters:

High Fire Regime
Fuel Treatment Rate: 4% every 5 years
Fuel Treatment Intensity: Light Intensity

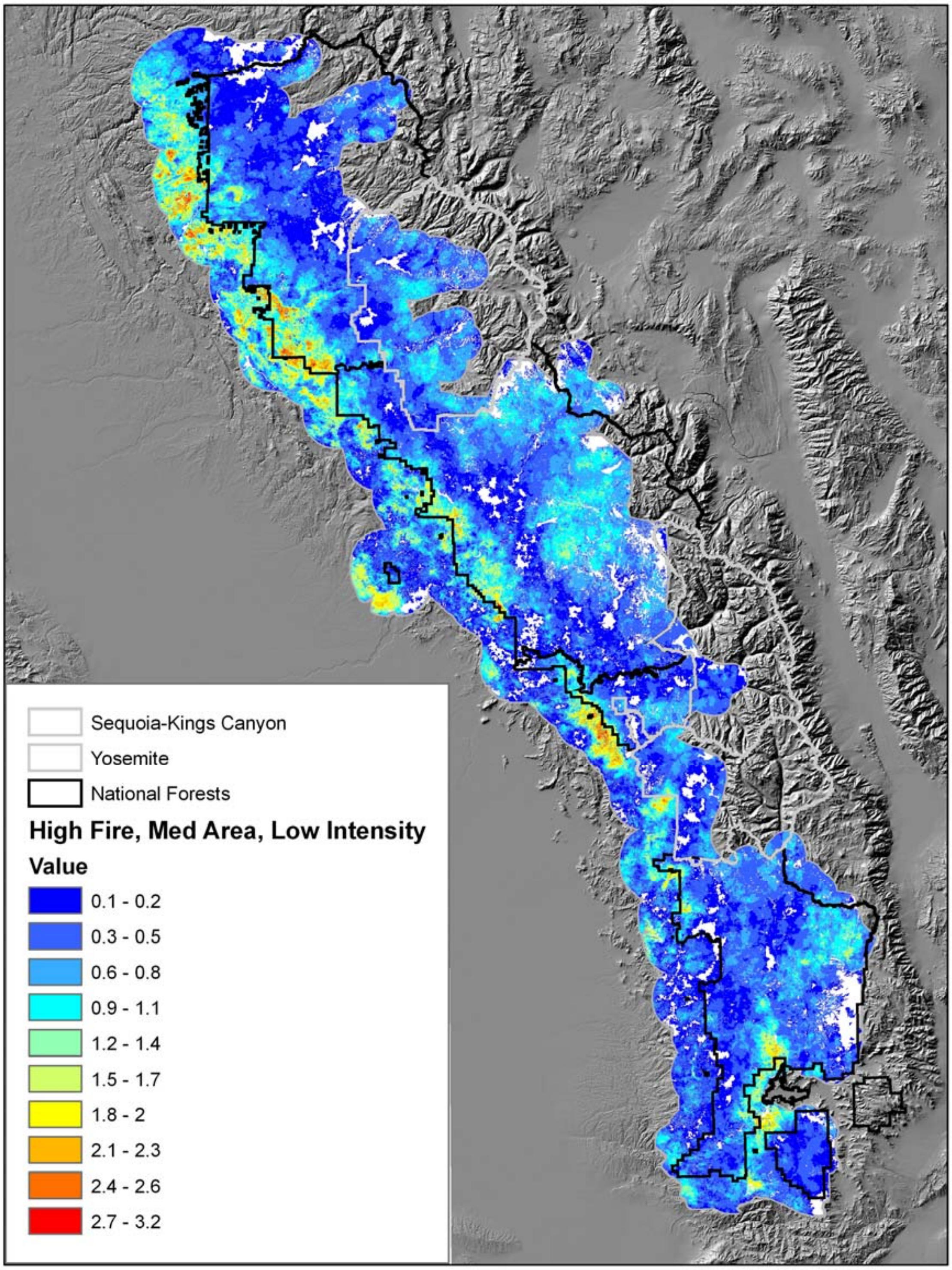
Figures:

Figure 1. Fire frequency map based on 50 years of simulated fire and 10 replicates. White areas within the study area indicate that the area was never burned.

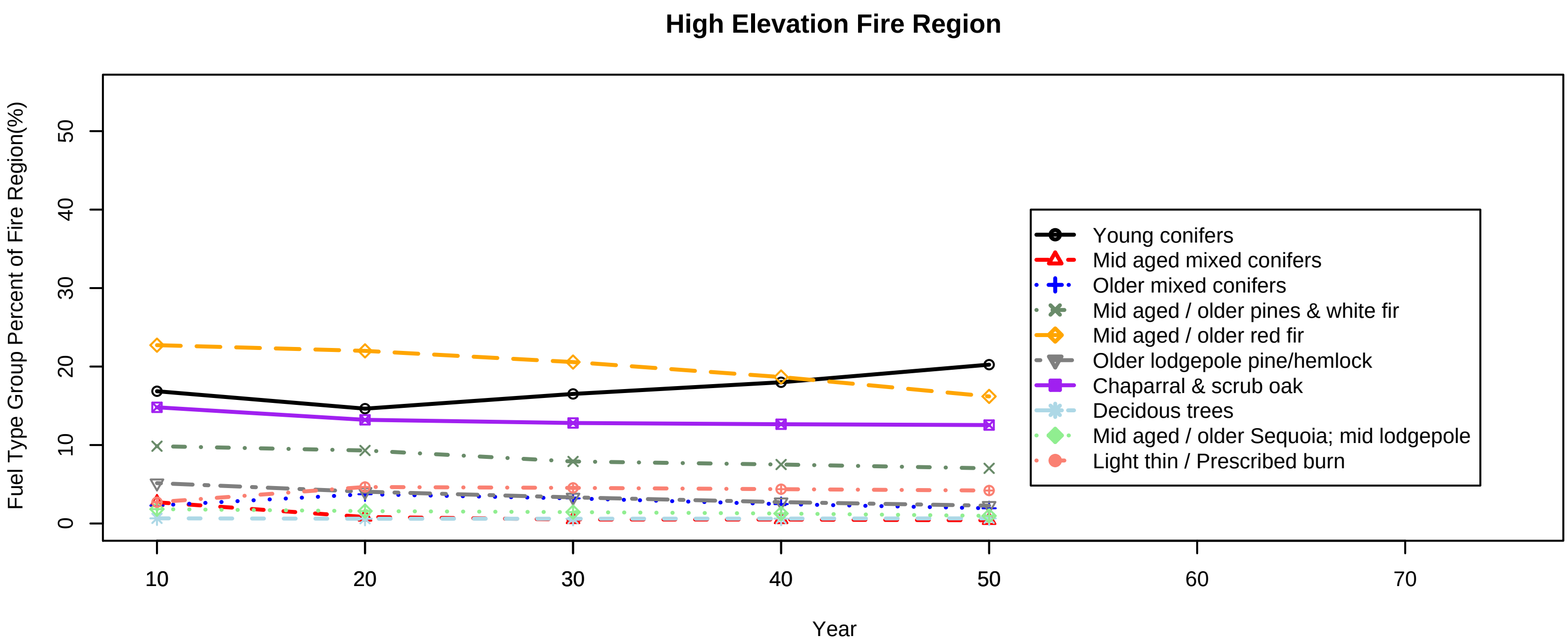
Figures 2, 3, 4. Mean proportion of a fire region occupied by fuel type groups (10 replicates) for the three fire regions over 50 simulation years.

Figure 5, 6, 7, 8. Mean number of hectares for two age classes of four species (10 replicates): White fir, Ponderosa pine, Doug fir, Black oak.

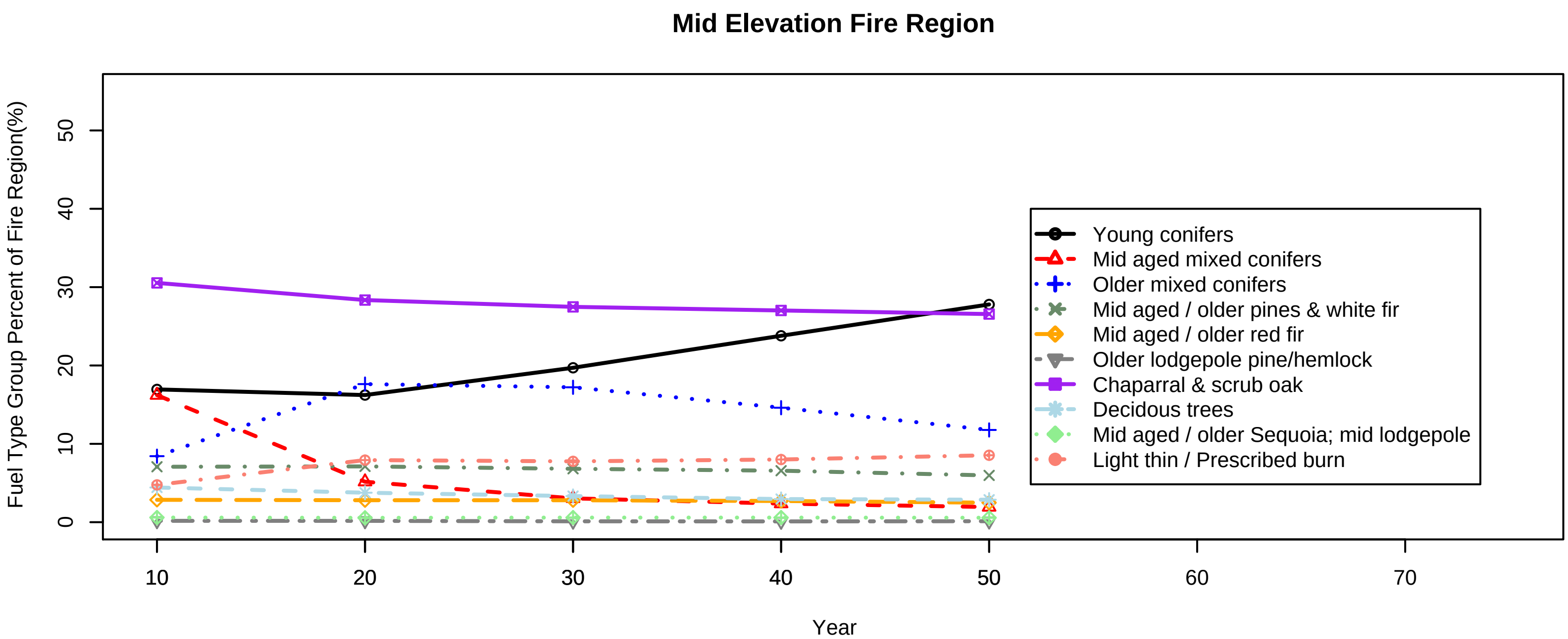
Figure1.



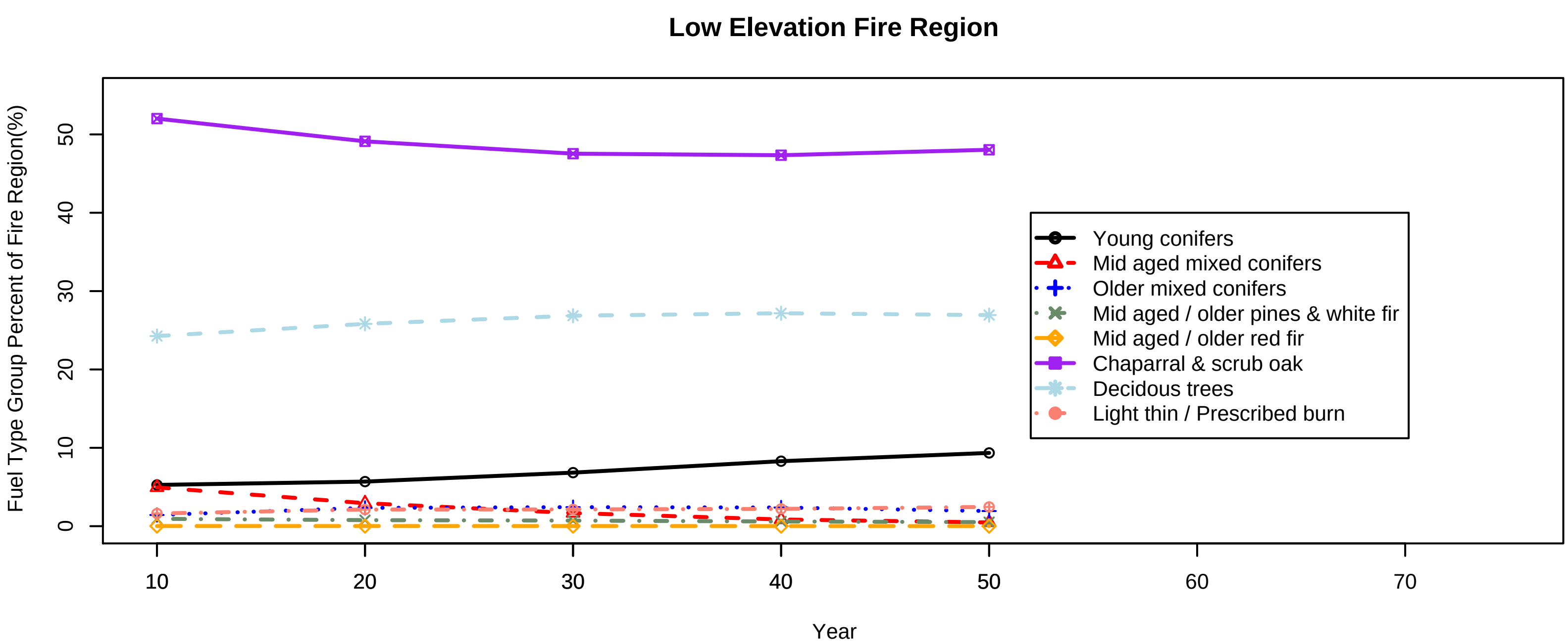
Sequoia-Kings Canyon
Yosemite
National Forests
High Fire, Med Area, Low Intensity
Value
0.1 - 0.2
0.3 - 0.5
0.6 - 0.8
0.9 - 1.1
1.2 - 1.4
1.5 - 1.7
1.8 - 2
2.1 - 2.3
2.4 - 2.6
2.7 - 3.2



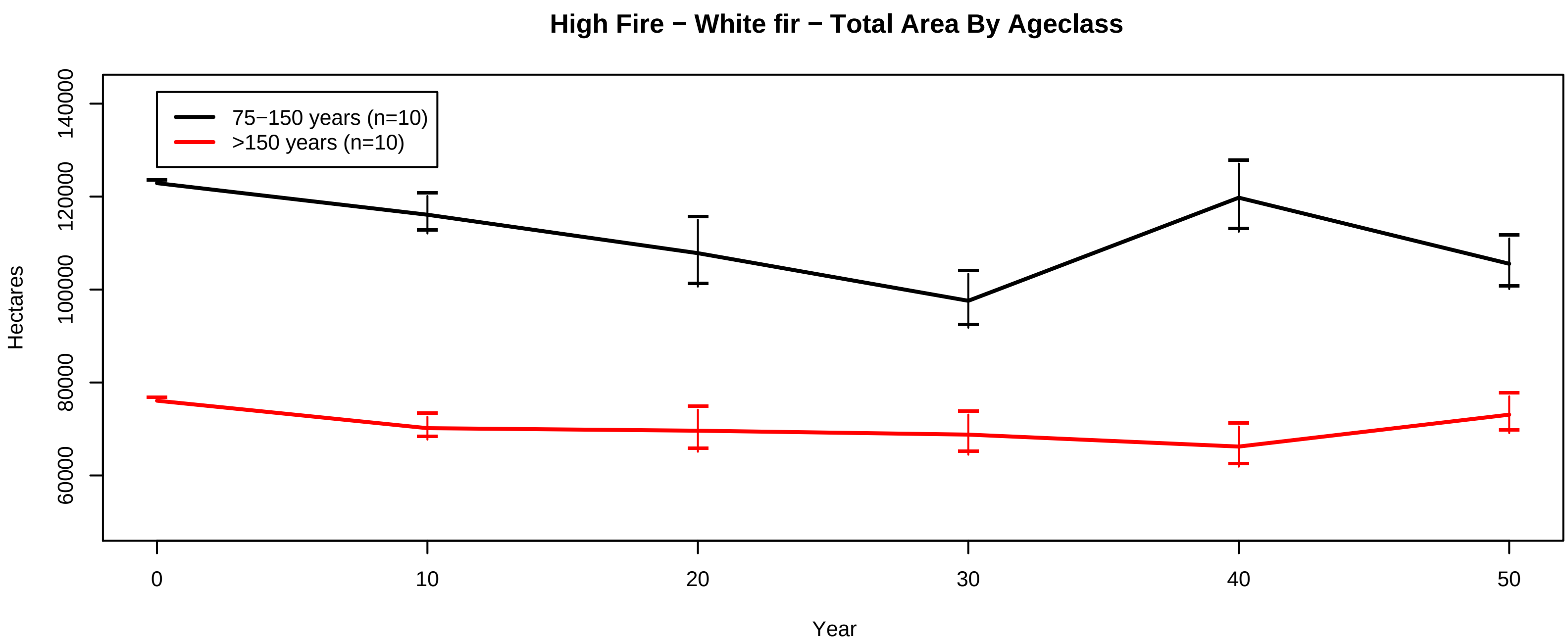
High Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Older lodgepole pine/hemlock
Chaparral & scrub oak
Decidous trees
Mid aged / older Sequoia; mid lodgepole
Light thin / Prescribed burn

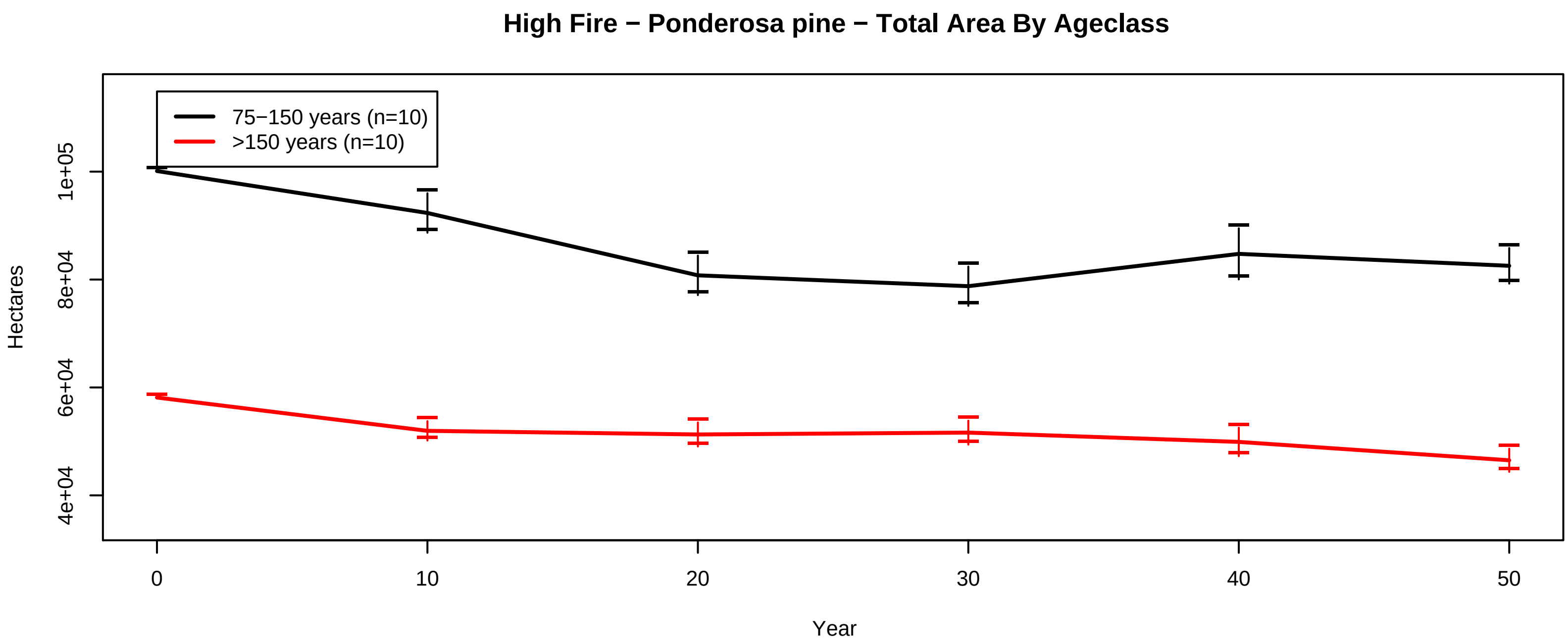


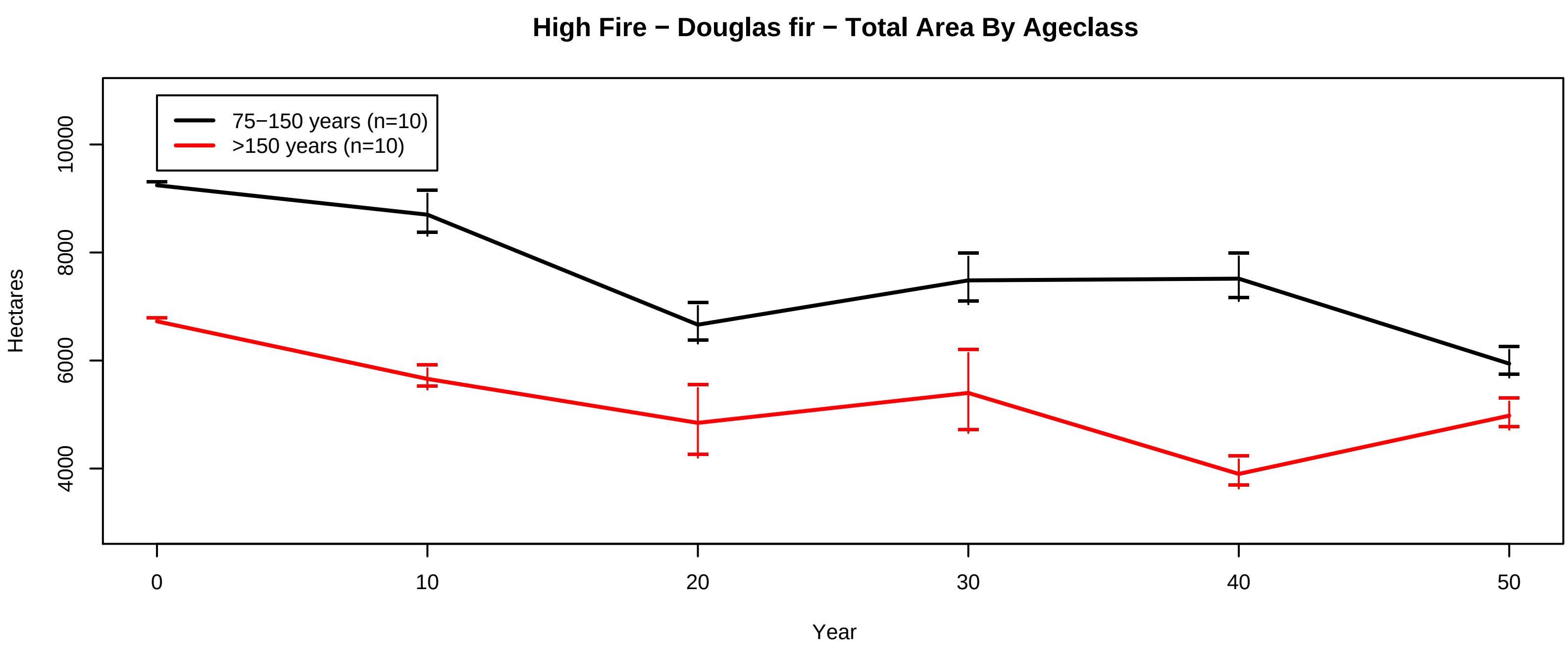
Mid Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Older lodgepole pine/hemlock
Chaparral & scrub oak
Decidous trees
Mid aged / older Sequoia; mid lodgepole
Light thin / Prescribed burn

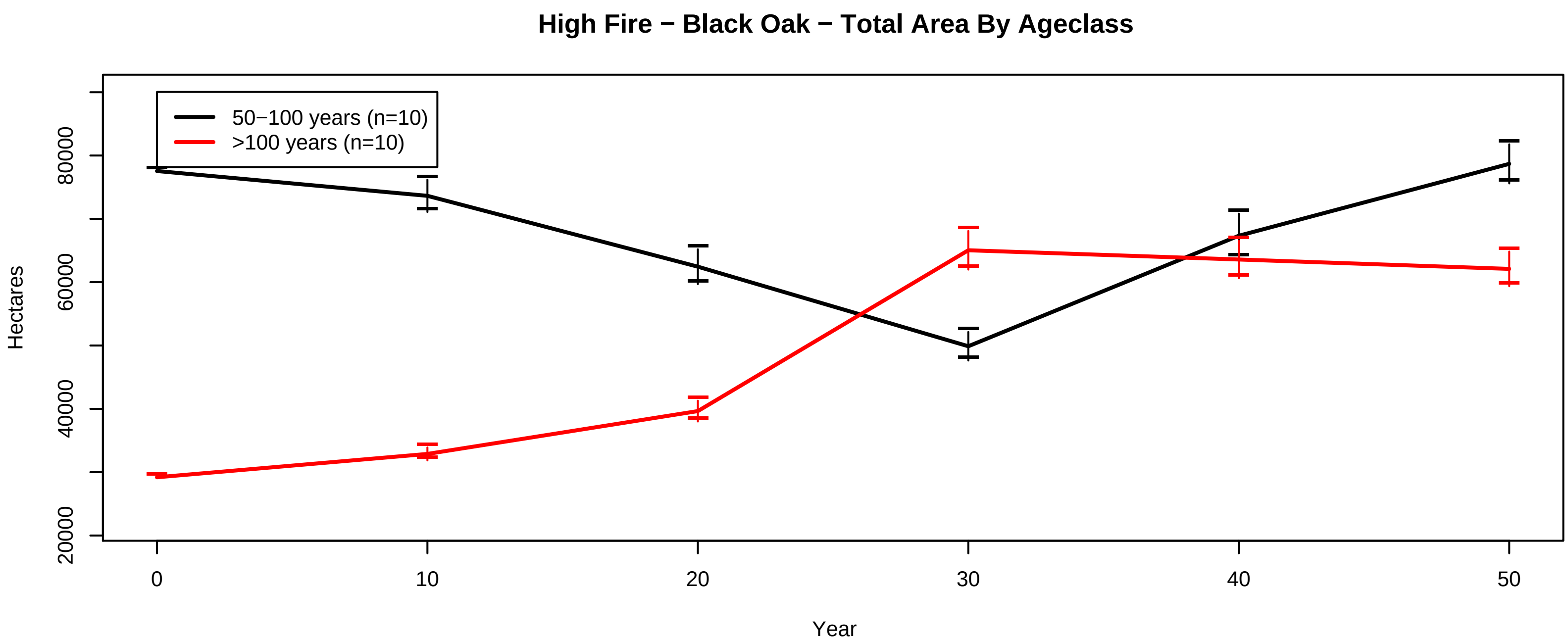


Low Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Chaparral & scrub oak
Decidous trees
Light thin / Prescribed burn


High Fire − White fir − Total Area By Ageclass
75−150 years (n=10)
>150 years (n=10)
Hectares
60000
80000
100000
120000
140000
0
10
20
30
40
50
Year


High Fire − Ponderosa pine − Total Area By Ageclass
75−150 years (n=10)
>150 years (n=10)
Hectares
4e+04
6e+04
8e+04
1e+05
0
10
20
30
40
50
Year


High Fire − Douglas fir − Total Area By Ageclass
75−150 years (n=10)
>150 years (n=10)
Hectares
4000
6000
8000
10000
0
10
20
30
40
50
Year



High Fire − Black Oak − Total Area By Ageclass
50−100 years (n=10)
>100 years (n=10)
Hectares
20000
40000
60000
80000
0
10
20
30
40
50
Year

APPENDIX N

Scenario Parameters:

High Fire Regime
Fuel Treatment Rate: 4% every 5 years
Fuel Treatment Intensity: Medium Intensity

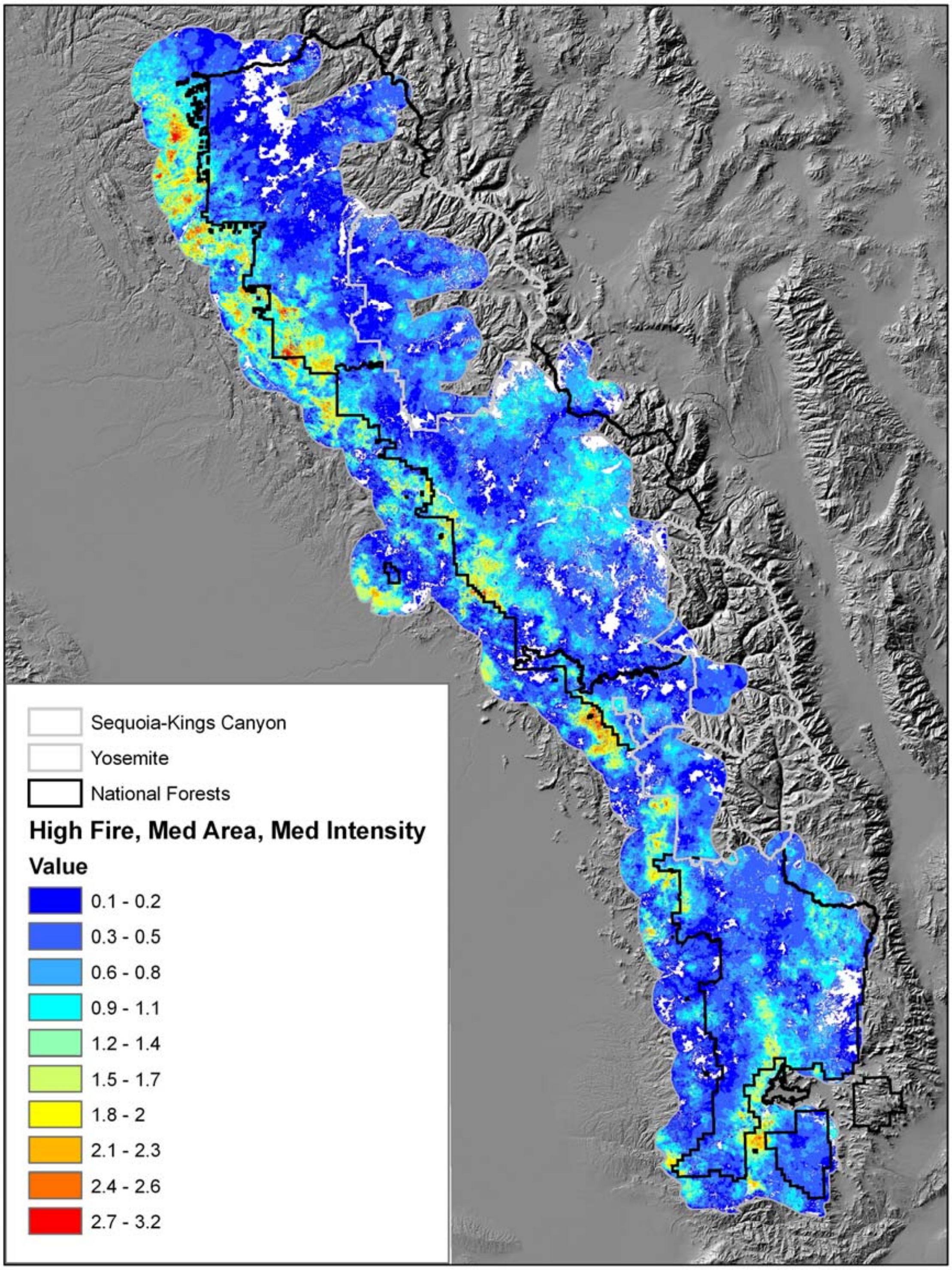
Figures:

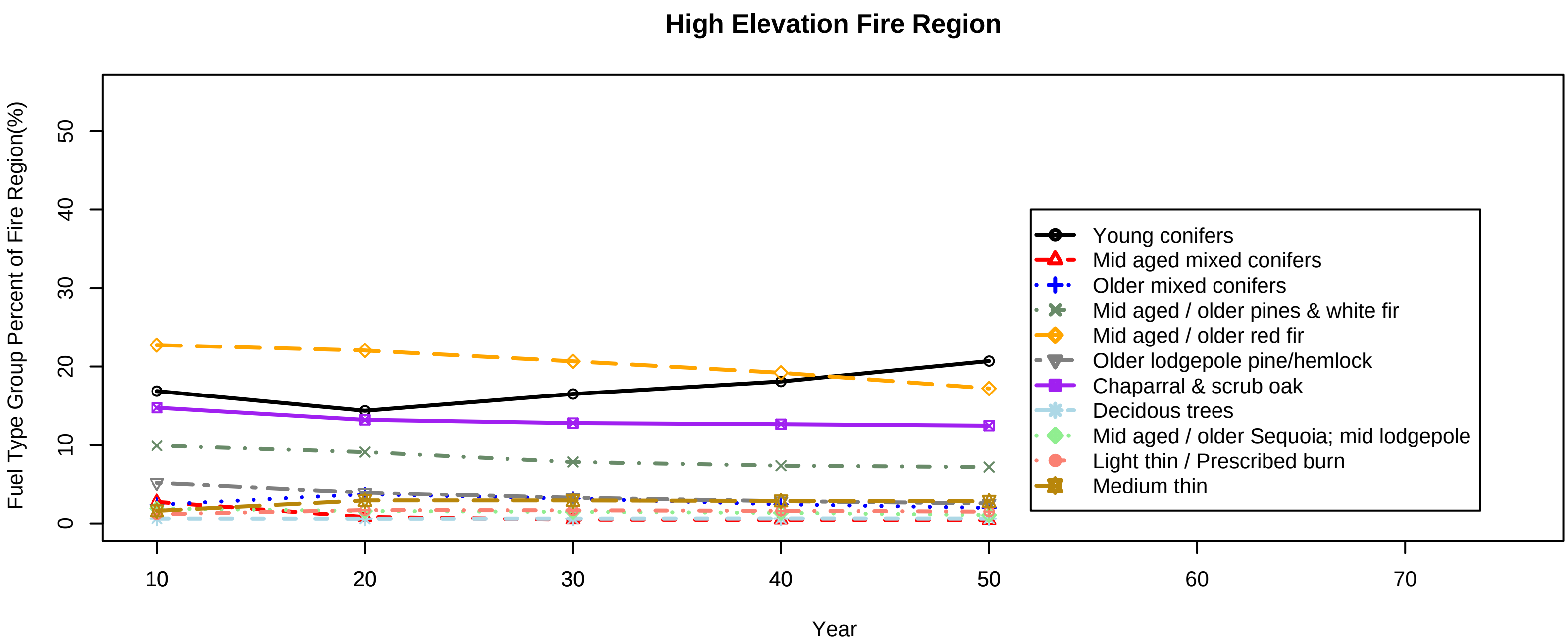
Figure 1. Fire frequency map based on 50 years of simulated fire and 10 replicates. White areas within the study area indicate that the area was never burned.

Figures 2, 3, 4. Mean proportion of a fire region occupied by fuel type groups (10 replicates) for the three fire regions over 50 simulation years.

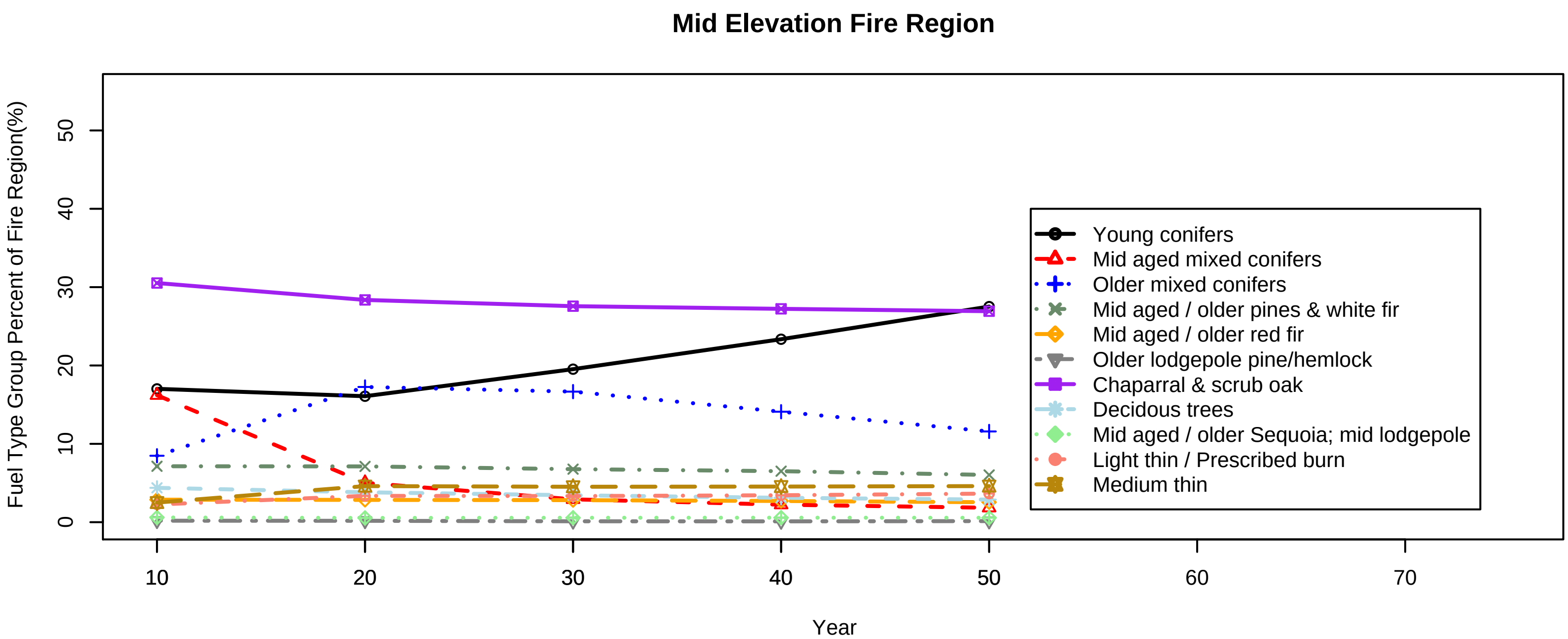
Figure 5, 6, 7, 8. Mean number of hectares for two age classes of four species (10 replicates): White fir, Ponderosa pine, Doug fir, Black oak.

Figure 1.

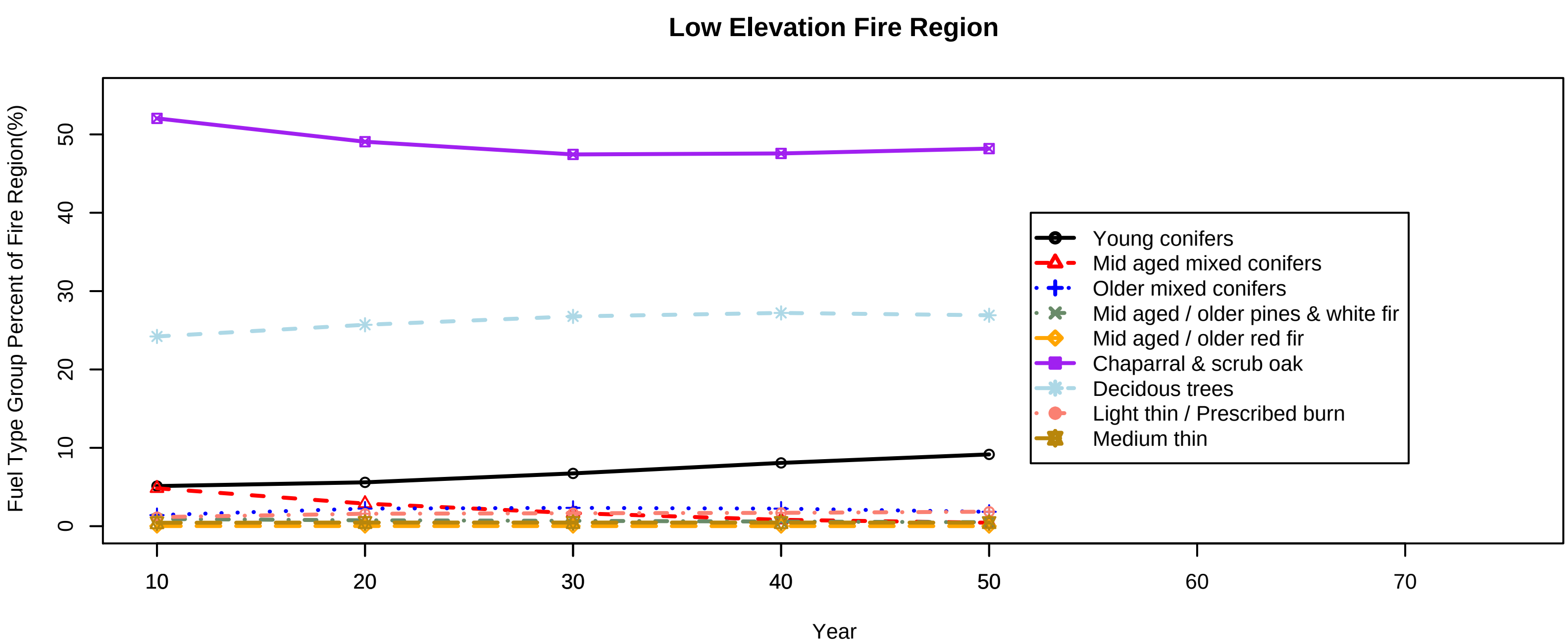

Sequoia-Kings Canyon
Yosemite
National Forests
High Fire, Med Area, Med Intensity
Value
0.1 - 0.2
0.3 - 0.5
0.6 - 0.8
0.9 - 1.1
1.2 - 1.4
1.5 - 1.7
1.8 - 2
2.1 - 2.3
2.4 - 2.6
2.7 - 3.2



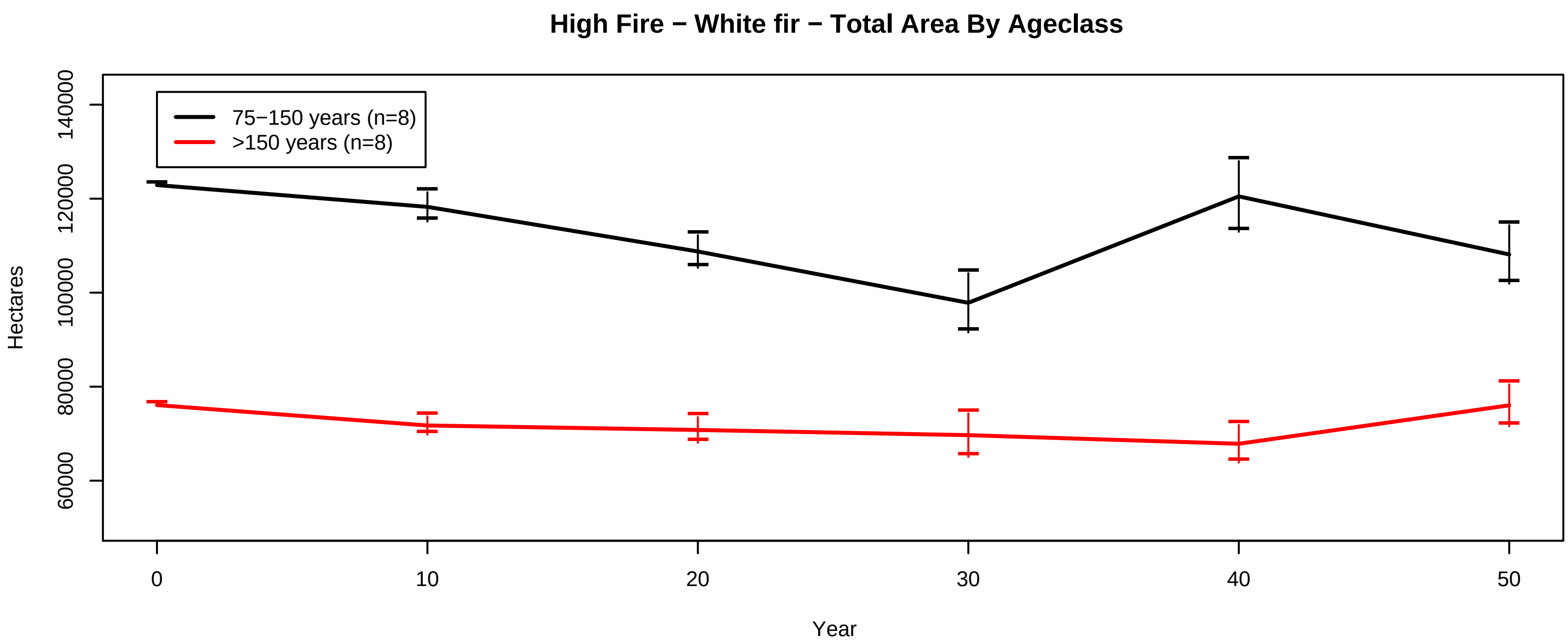
High Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Older lodgepole pine/hemlock
Chaparral & scrub oak
Decidous trees
Mid aged / older Sequoia; mid lodgepole
Light thin / Prescribed burn
Medium thin



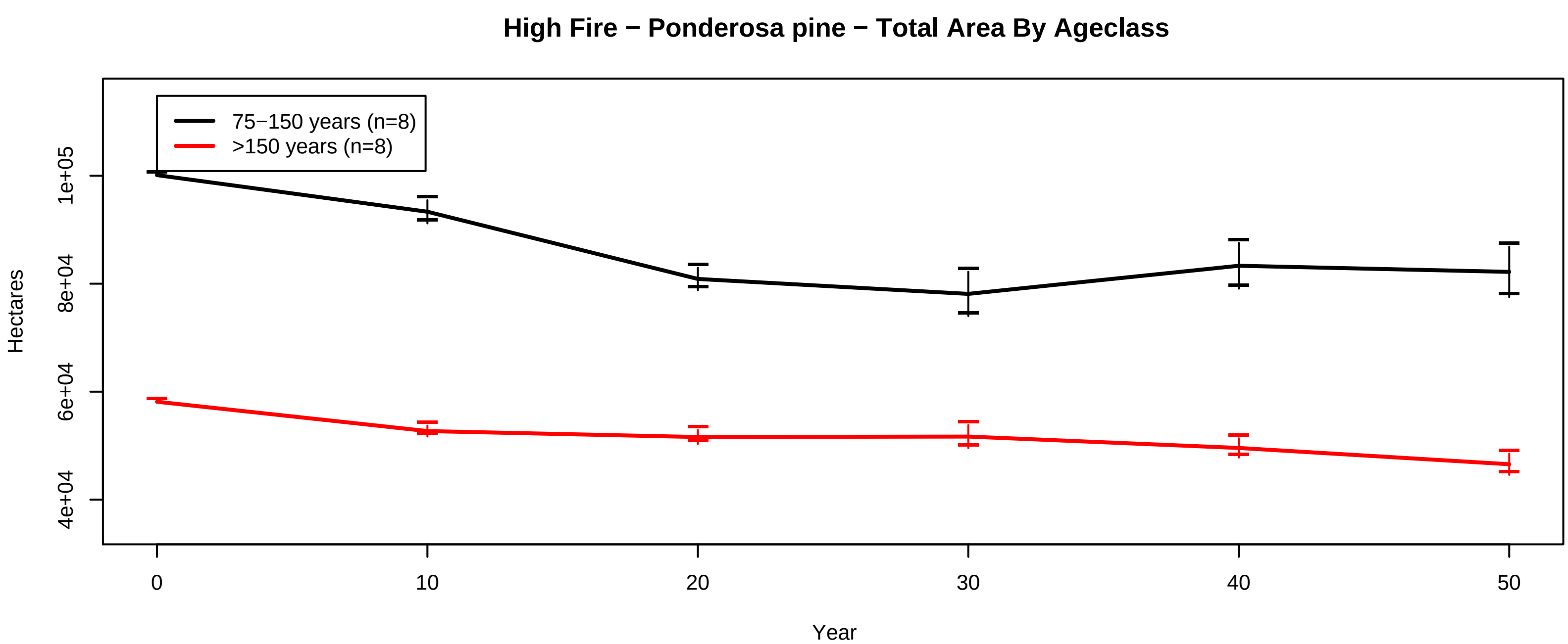
Mid Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Older lodgepole pine/hemlock
Chaparral & scrub oak
Decidous trees
Mid aged / older Sequoia; mid lodgepole
Light thin / Prescribed burn
Medium thin



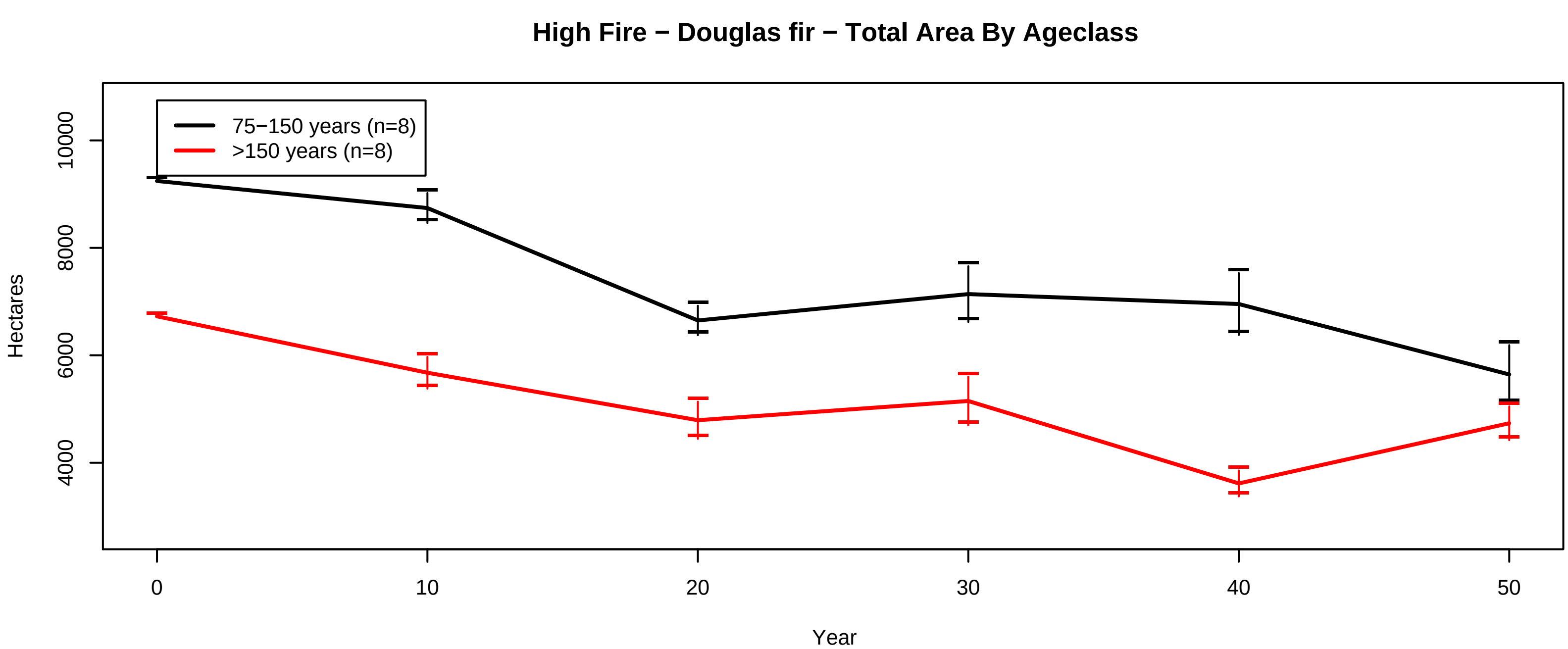
Low Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Chaparral & scrub oak
Decidous trees
Light thin / Prescribed burn
Medium thin



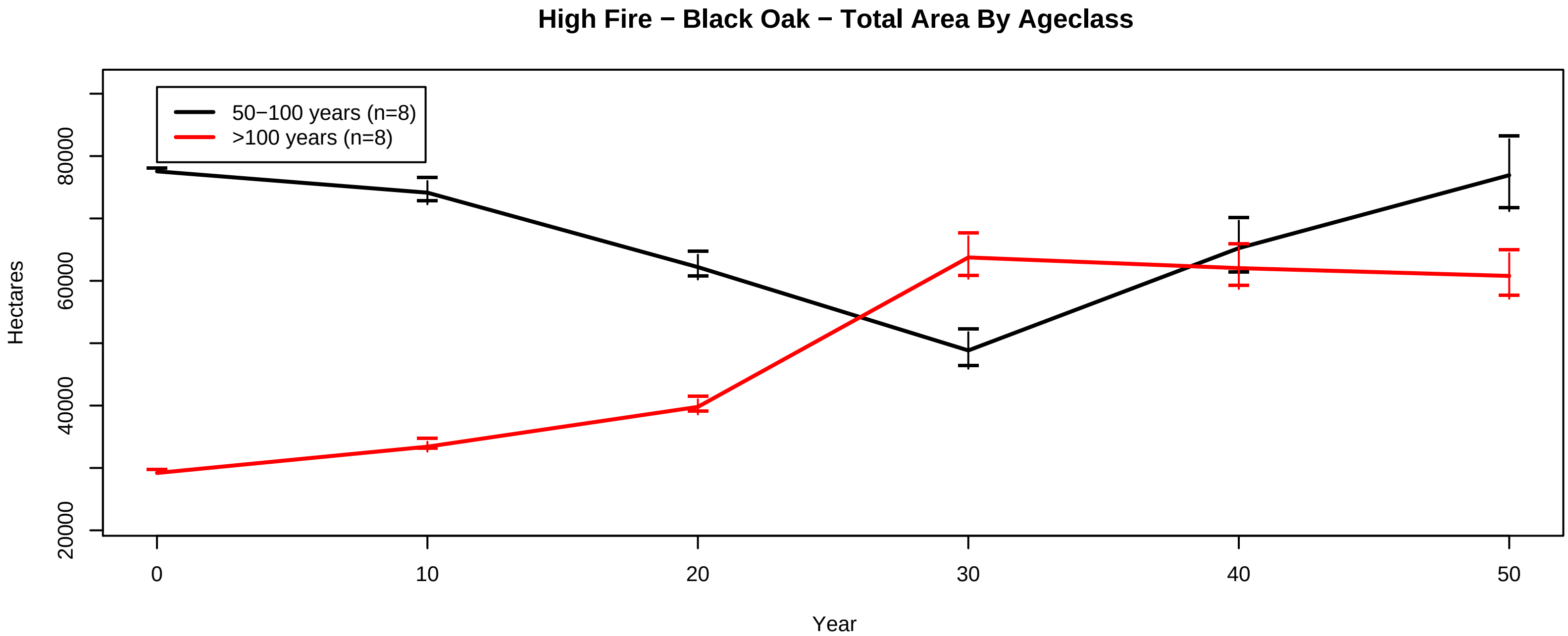
High Fire − White fir − Total Area By Ageclass
75−150 years (n=8)
>150 years (n=8)
Hectares
60000
80000
100000
120000
140000
0
10
20
30
40
50
Year



High Fire − Ponderosa pine − Total Area By Ageclass
75−150 years (n=8)
>150 years (n=8)
Hectares
4e+04
6e+04
8e+04
1e+05
0
10
20
30
40
50
Year



High Fire − Douglas fir − Total Area By Ageclass
75−150 years (n=8)
>150 years (n=8)
Hectares
4000
6000
8000
10000
0
10
20
30
40
50
Year


High Fire − Black Oak − Total Area By Ageclass
50−100 years (n=8)
>100 years (n=8)
Hectares
20000
40000
60000
80000
0
10
20
30
40
50
Year

APPENDIX O

Scenario Parameters:

High Fire Regime
Fuel Treatment Rate: 8% every 5 years
Fuel Treatment Intensity: Light Intensity

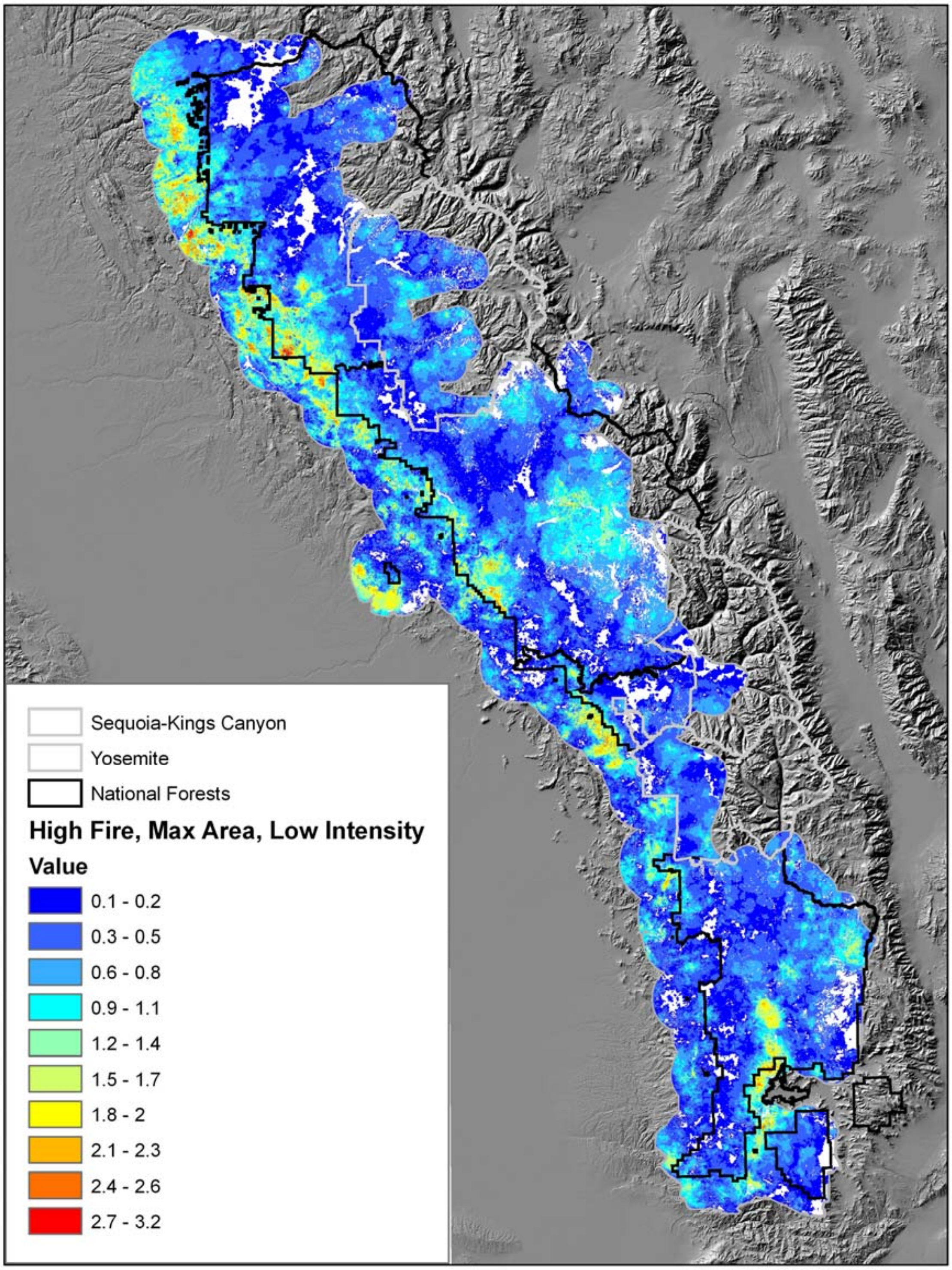
Figures:

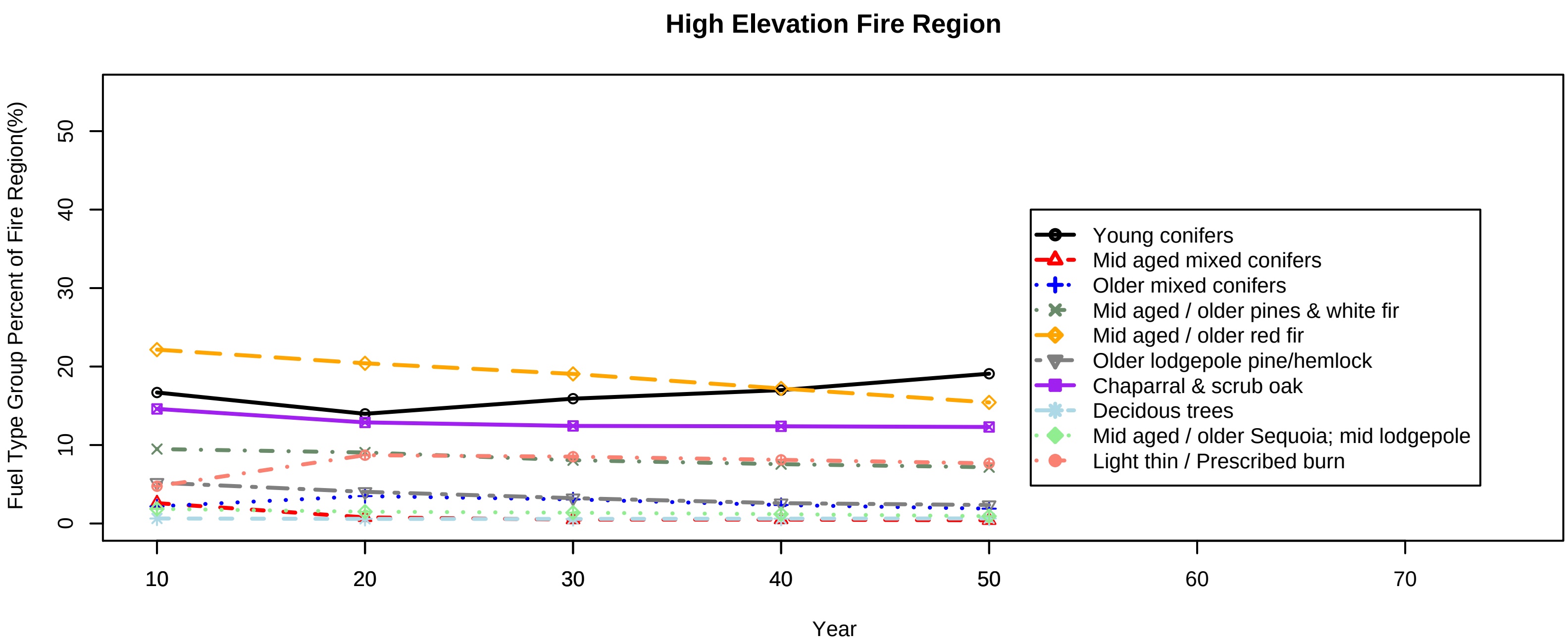
Figure 1. Fire frequency map based on 50 years of simulated fire and 10 replicates. White areas within the study area indicate that the area was never burned.

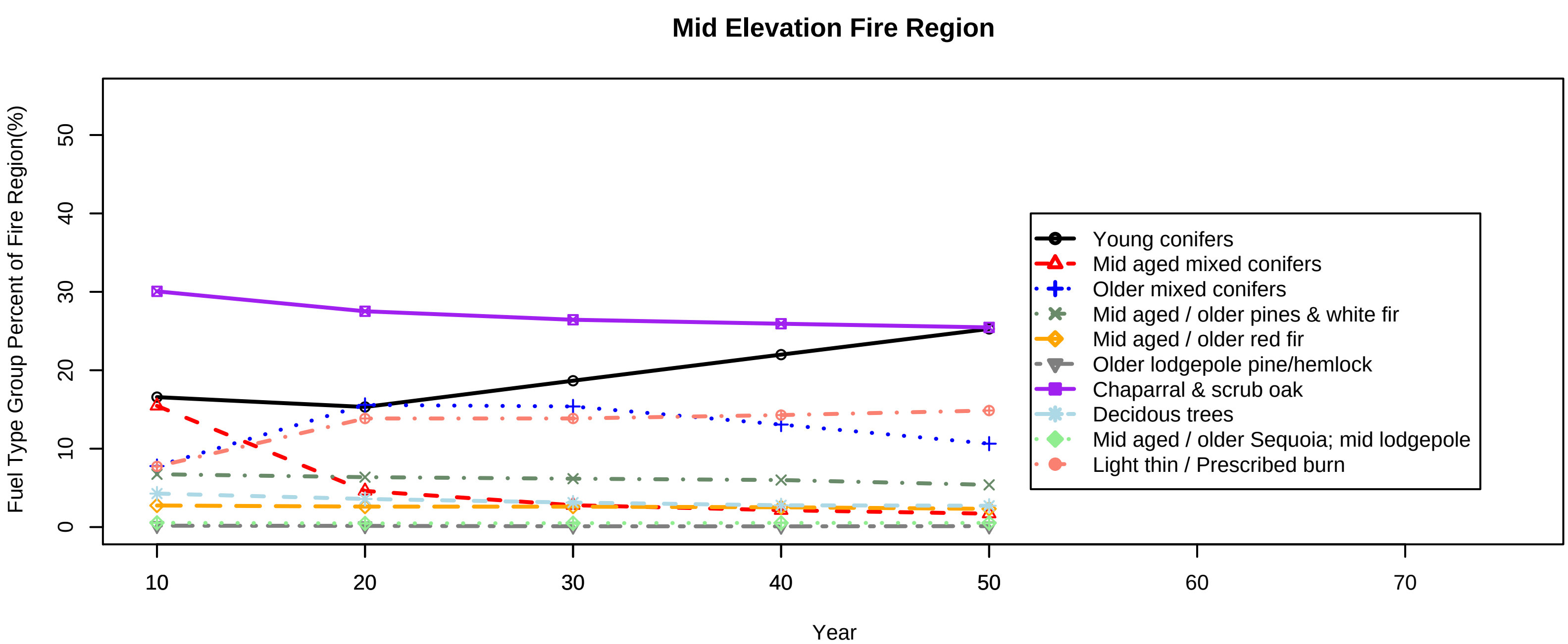
Figures 2, 3, 4. Mean proportion of a fire region occupied by fuel type groups (10 replicates) for the three fire regions over 50 simulation years.

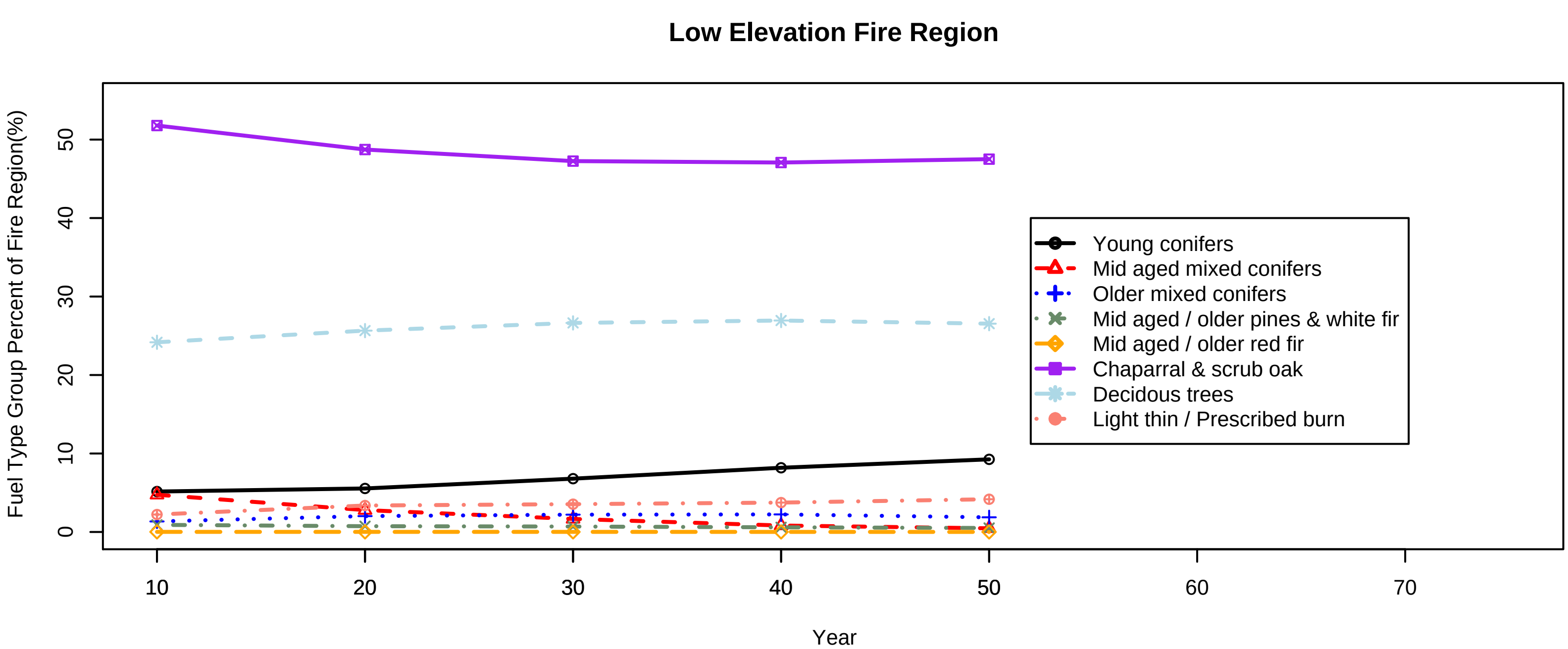
Figure 5, 6, 7, 8. Mean number of hectares for two age classes of four species (10 replicates): White fir, Ponderosa pine, Doug fir, Black oak.

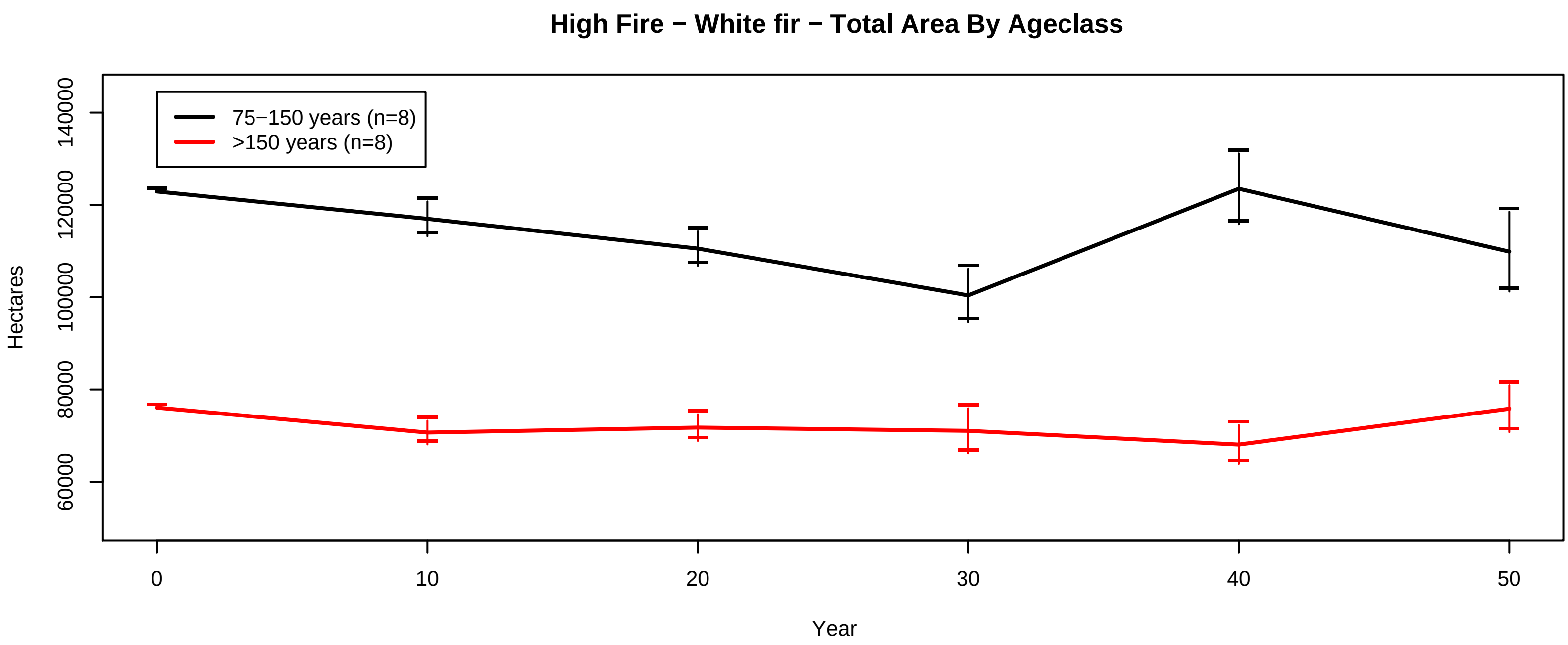
Figure 1.

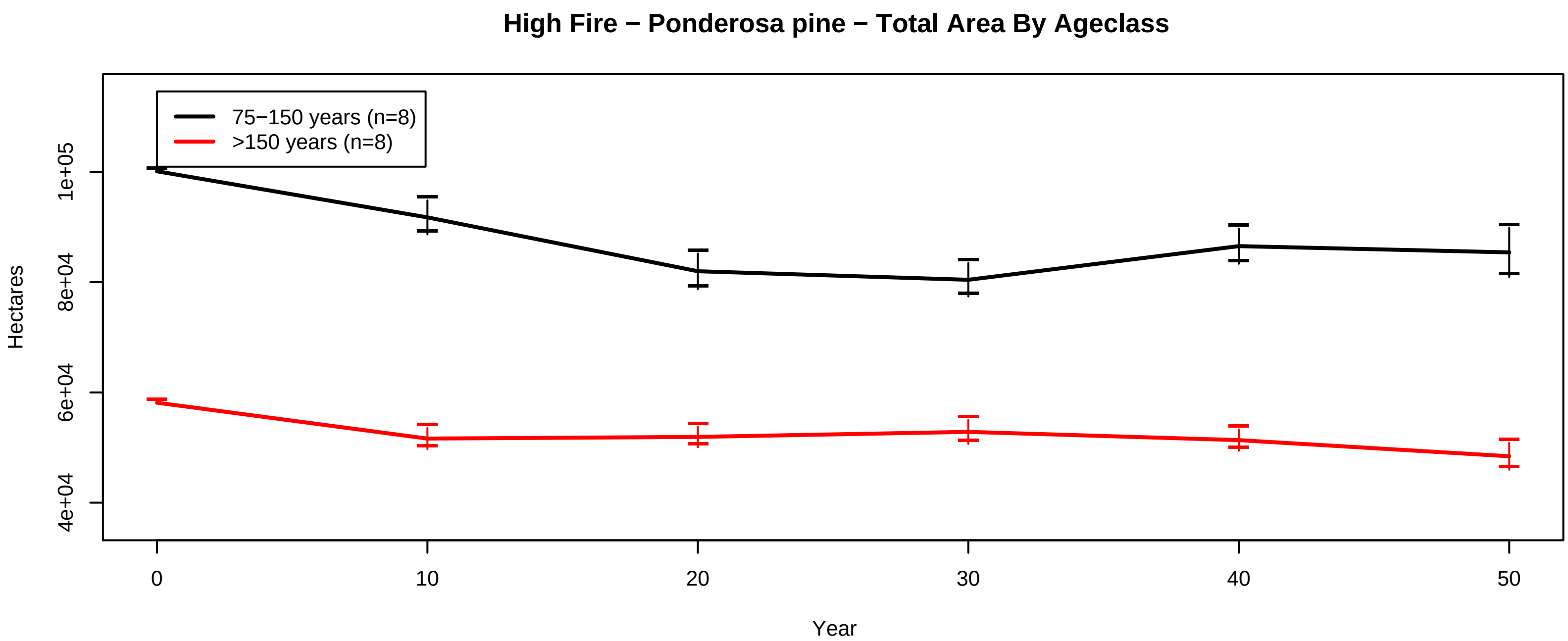

Sequoia-Kings Canyon
Yosemite
National Forests
High Fire, Max Area, Low Intensity
Value
0.1 - 0.2
0.3 - 0.5
0.6 - 0.8
0.9 - 1.1
1.2 - 1.4
1.5 - 1.7
1.8 - 2
2.1 - 2.3
2.4 - 2.6
2.7 - 3.2

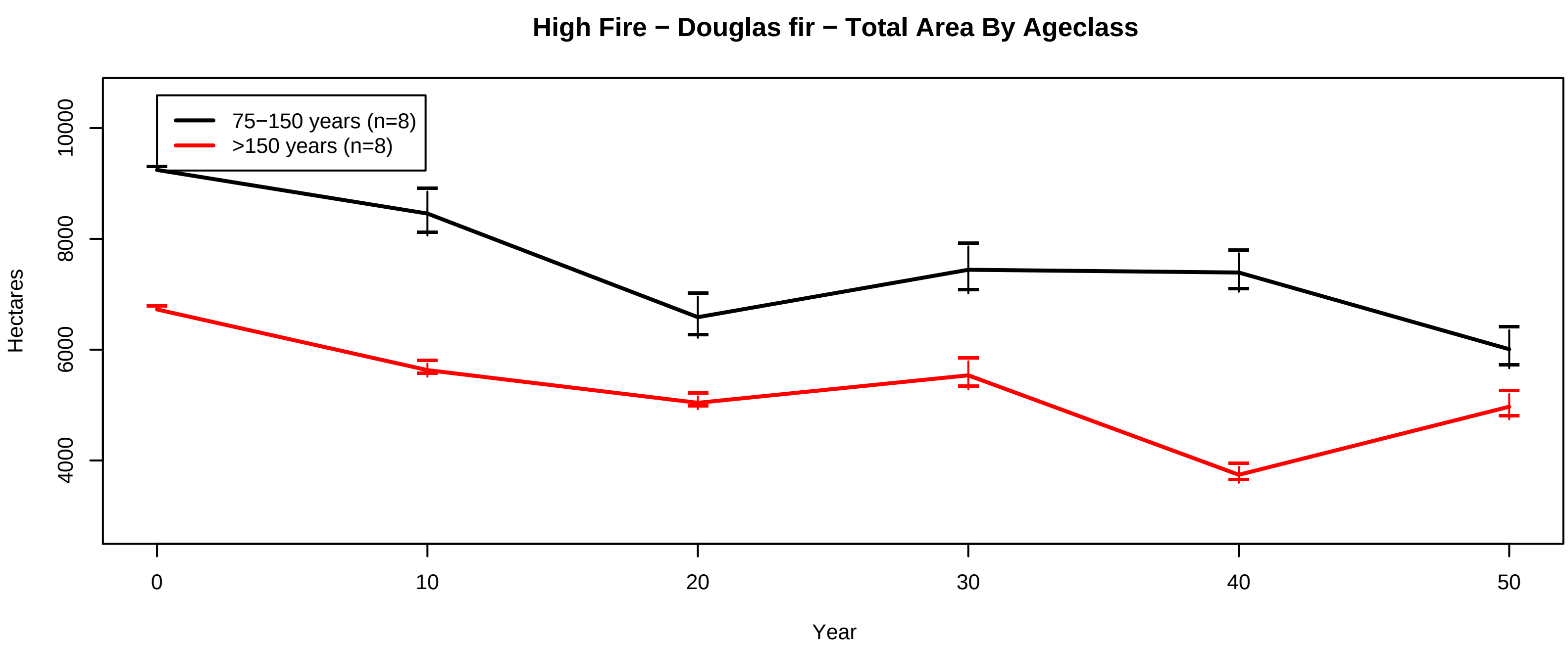

High Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Older lodgepole pine/hemlock
Chaparral & scrub oak
Decidous trees
Mid aged / older Sequoia; mid lodgepole
Light thin / Prescribed burn


Mid Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Older lodgepole pine/hemlock
Chaparral & scrub oak
Decidous trees
Mid aged / older Sequoia; mid lodgepole
Light thin / Prescribed burn

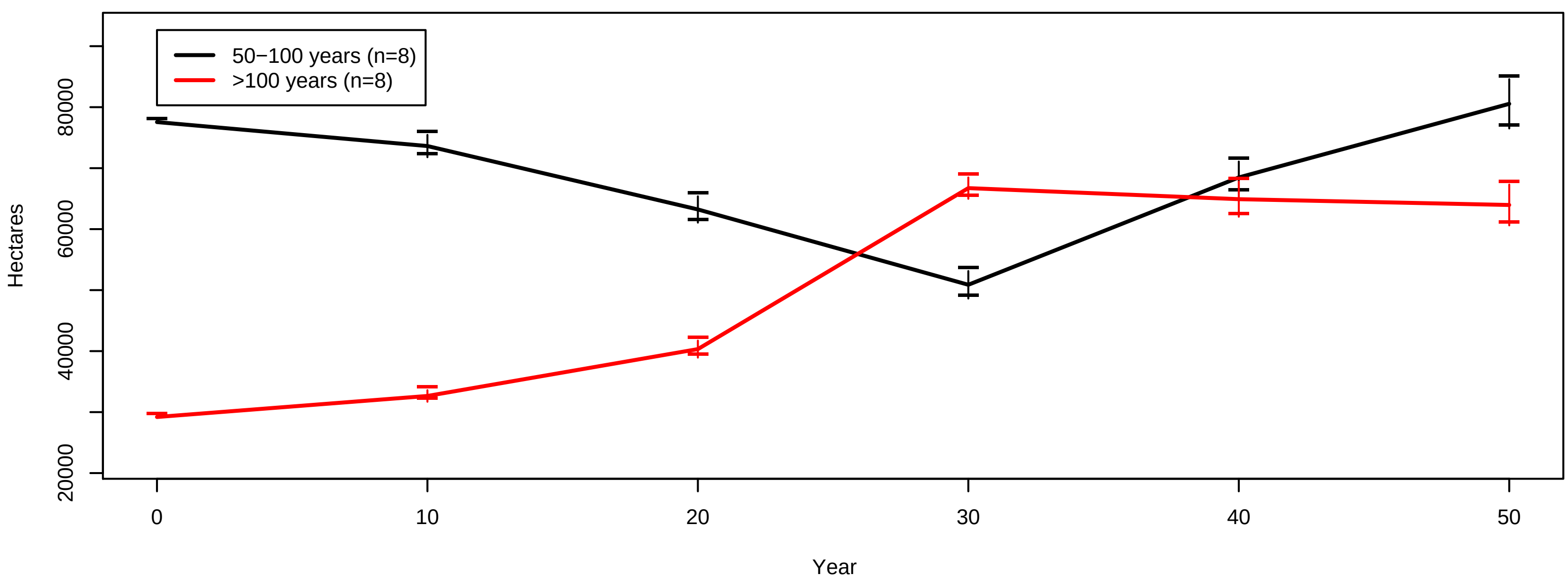

Low Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Chaparral & scrub oak
Decidous trees
Light thin / Prescribed burn


High Fire − White fir − Total Area By Ageclass
75−150 years (n=8)
>150 years (n=8)
Hectares
60000
80000
100000
120000
140000
0
10
20
30
40
50
Year


High Fire − Ponderosa pine − Total Area By Ageclass
75−150 years (n=8)
>150 years (n=8)
Hectares
4e+04
6e+04
8e+04
1e+05
0
10
20
30
40
50
Year


High Fire − Douglas fir − Total Area By Ageclass
75−150 years (n=8)
>150 years (n=8)
Hectares
4000
6000
8000
10000
0
10
20
30
40
50
Year

High Fire − Black Oak − Total Area By Ageclass



APPENDIX P

Scenario Parameters:

High Fire Regime
Fuel Treatment Rate: 8% every 5 years
Fuel Treatment Intensity: Medium Intensity

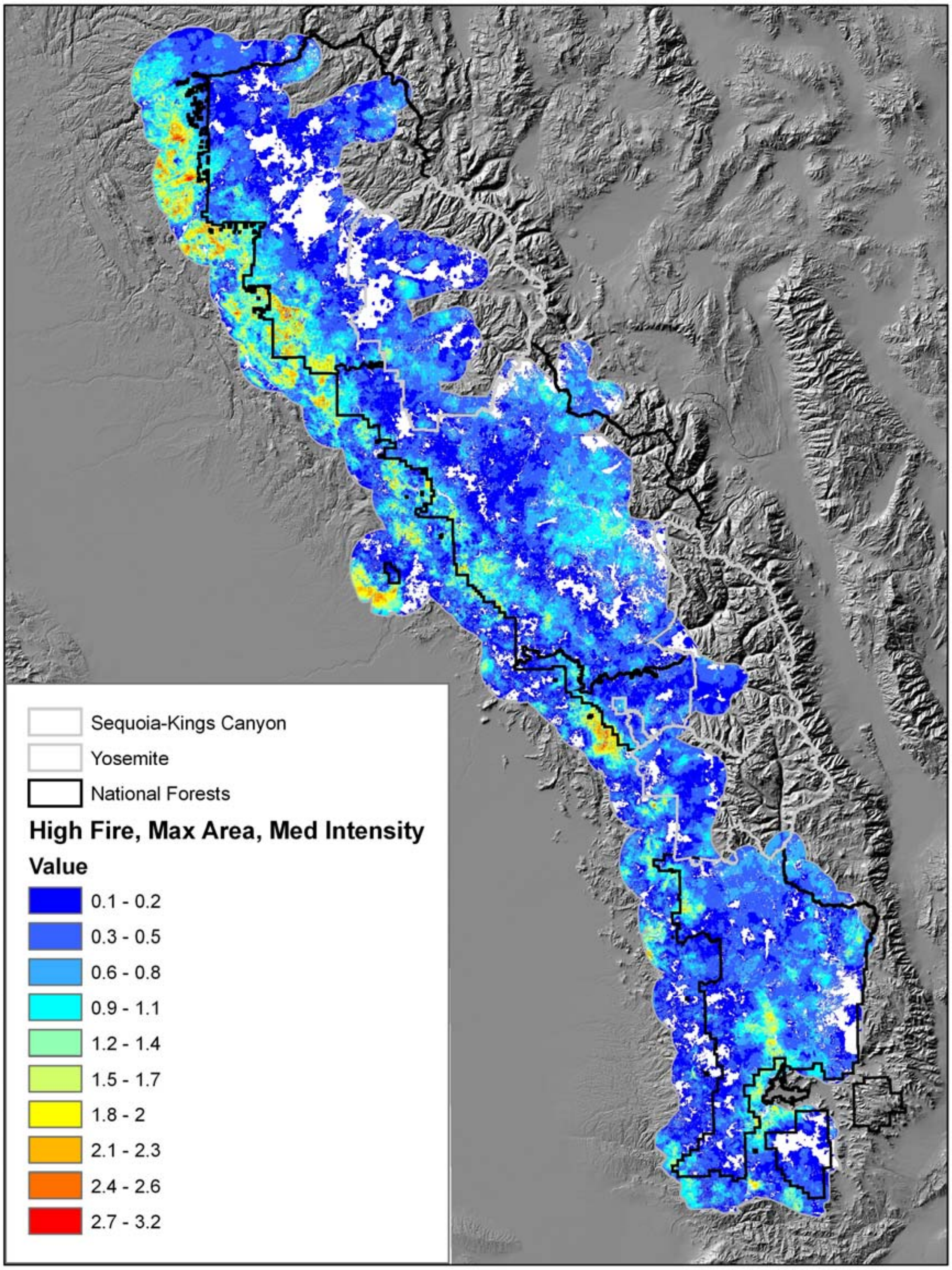
Figures:

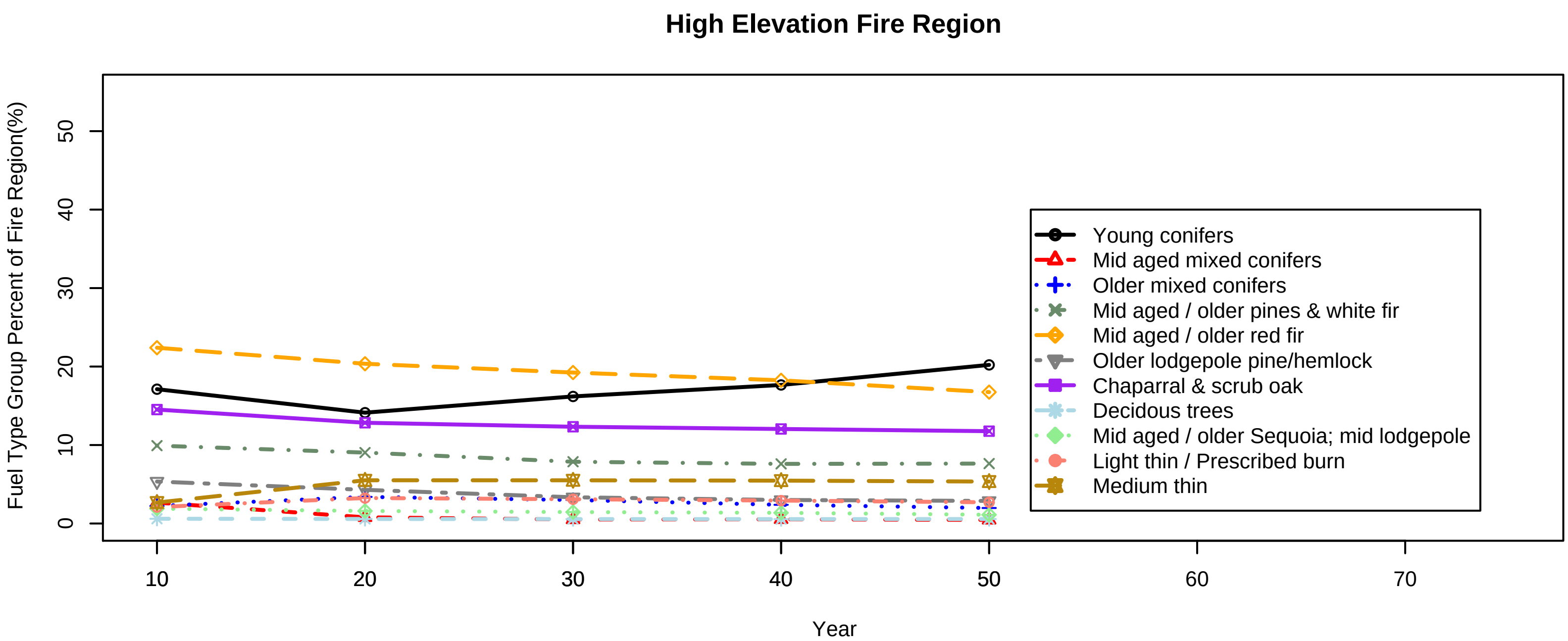
Figure 1. Fire frequency map based on 50 years of simulated fire and 10 replicates. White areas within the study area indicate that the area was never burned.

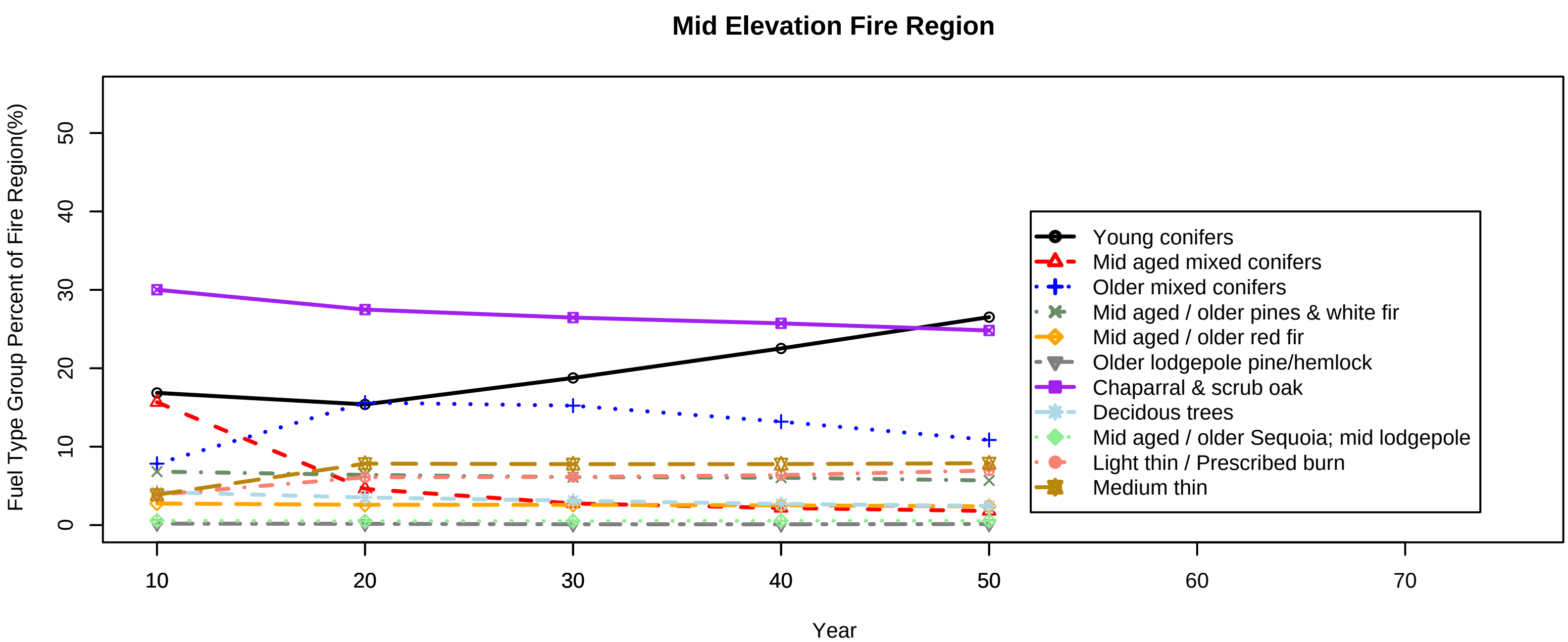
Figures 2, 3, 4. Mean proportion of a fire region occupied by fuel type groups (10 replicates) for the three fire regions over 50 simulation years.

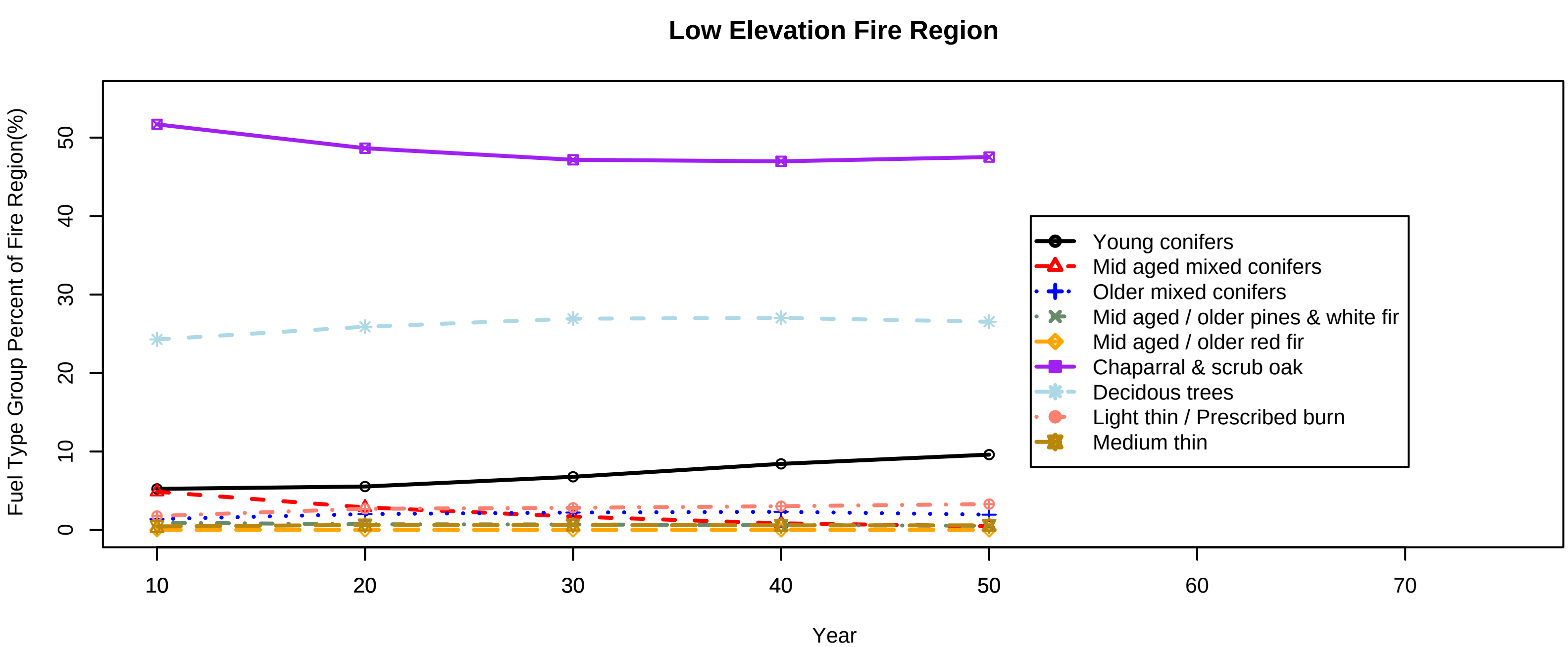
Figure 5, 6, 7, 8. Mean number of hectares for two age classes of four species (10 replicates): White fir, Ponderosa pine, Doug fir, Black oak.

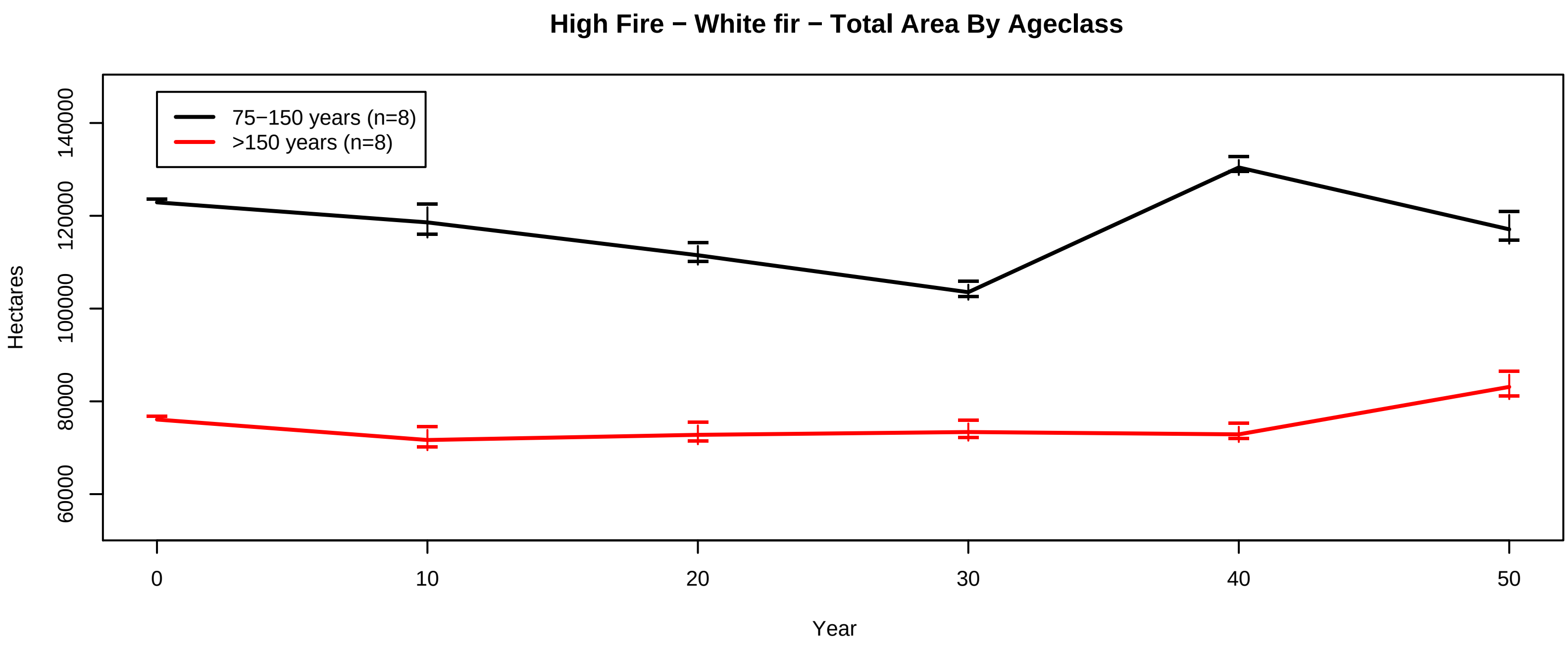
Figure 1.

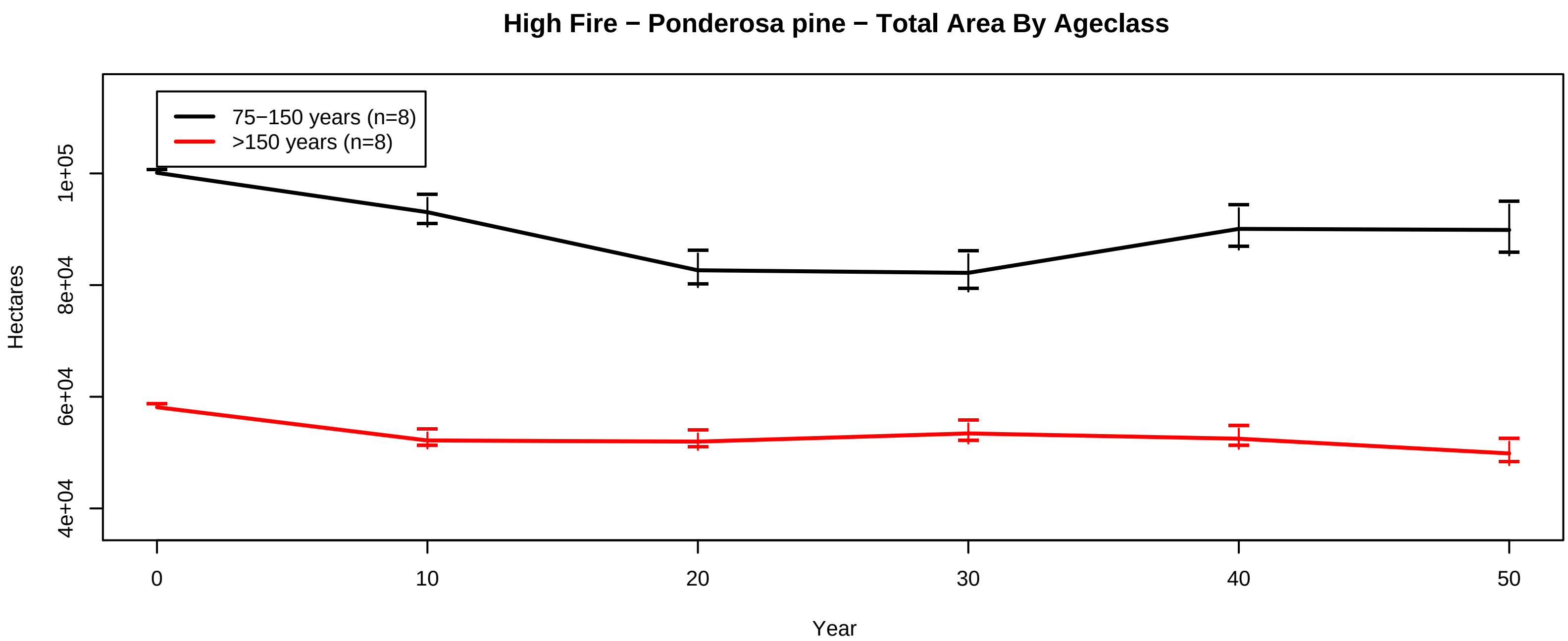

Sequoia-Kings Canyon
Yosemite
National Forests
High Fire, Max Area, Med Intensity
Value
0.1 - 0.2
0.3 - 0.5
0.6 - 0.8
0.9 - 1.1
1.2 - 1.4
1.5 - 1.7
1.8 - 2
2.1 - 2.3
2.4 - 2.6
2.7 - 3.2

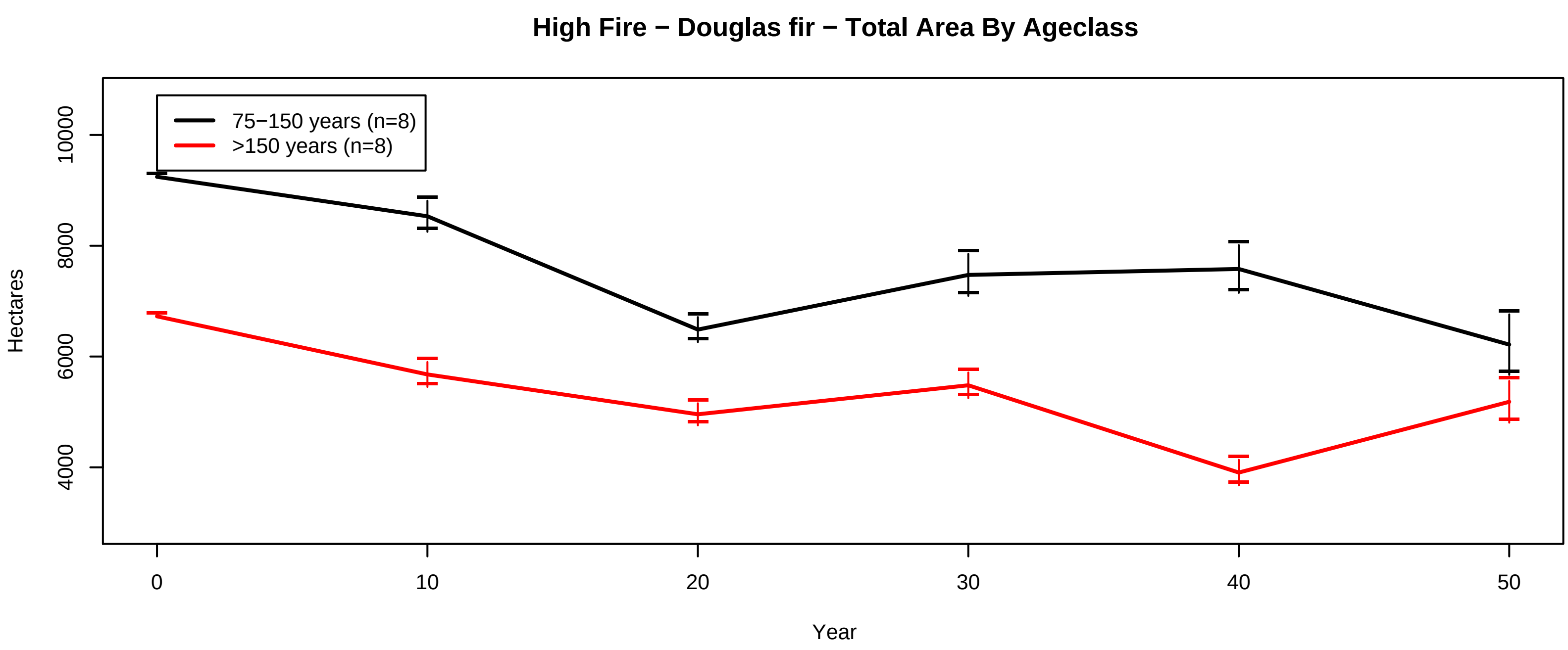

High Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Older lodgepole pine/hemlock
Chaparral & scrub oak
Decidous trees
Mid aged / older Sequoia; mid lodgepole
Light thin / Prescribed burn
Medium thin

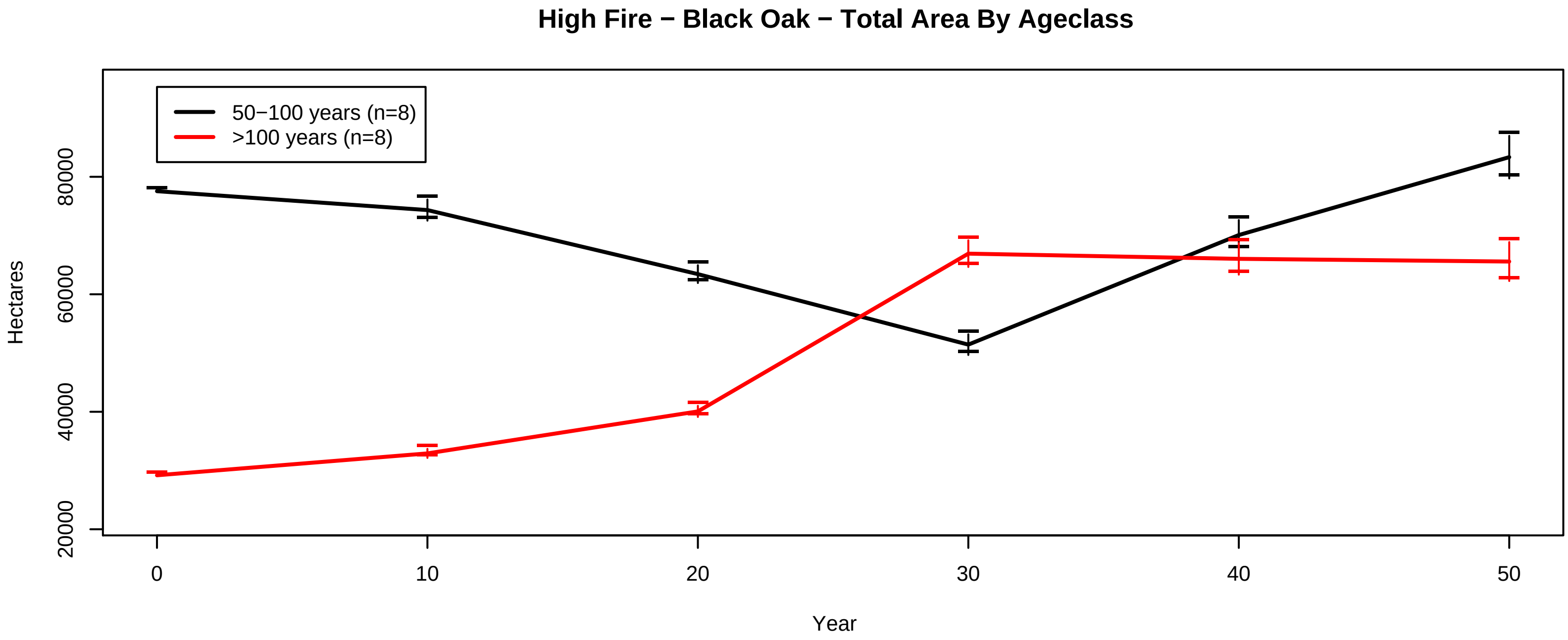

Mid Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Older lodgepole pine/hemlock
Chaparral & scrub oak
Decidous trees
Mid aged / older Sequoia; mid lodgepole
Light thin / Prescribed burn
Medium thin


Low Elevation Fire Region
Fuel Type Group Percent of Fire Region(%)
Year
Young conifers
Mid aged mixed conifers
Older mixed conifers
Mid aged / older pines & white fir
Mid aged / older red fir
Chaparral & scrub oak
Decidous trees
Light thin / Prescribed burn
Medium thin


High Fire − White fir − Total Area By Ageclass
75−150 years (n=8)
>150 years (n=8)
Hectares
60000
80000
100000
120000
140000
0
10
20
30
40
50
Year


High Fire − Ponderosa pine − Total Area By Ageclass
75−150 years (n=8)
>150 years (n=8)
Hectares
4e+04
6e+04
8e+04
1e+05
0
10
20
30
40
50
Year


High Fire − Douglas fir − Total Area By Ageclass
75−150 years (n=8)
>150 years (n=8)
Hectares
4000
6000
8000
10000
0
10
20
30
40
50
Year



High Fire − Black Oak − Total Area By Ageclass
50−100 years (n=8)
>100 years (n=8)
Hectares
20000
40000
60000
80000
0
10
20
30
40
50
Year

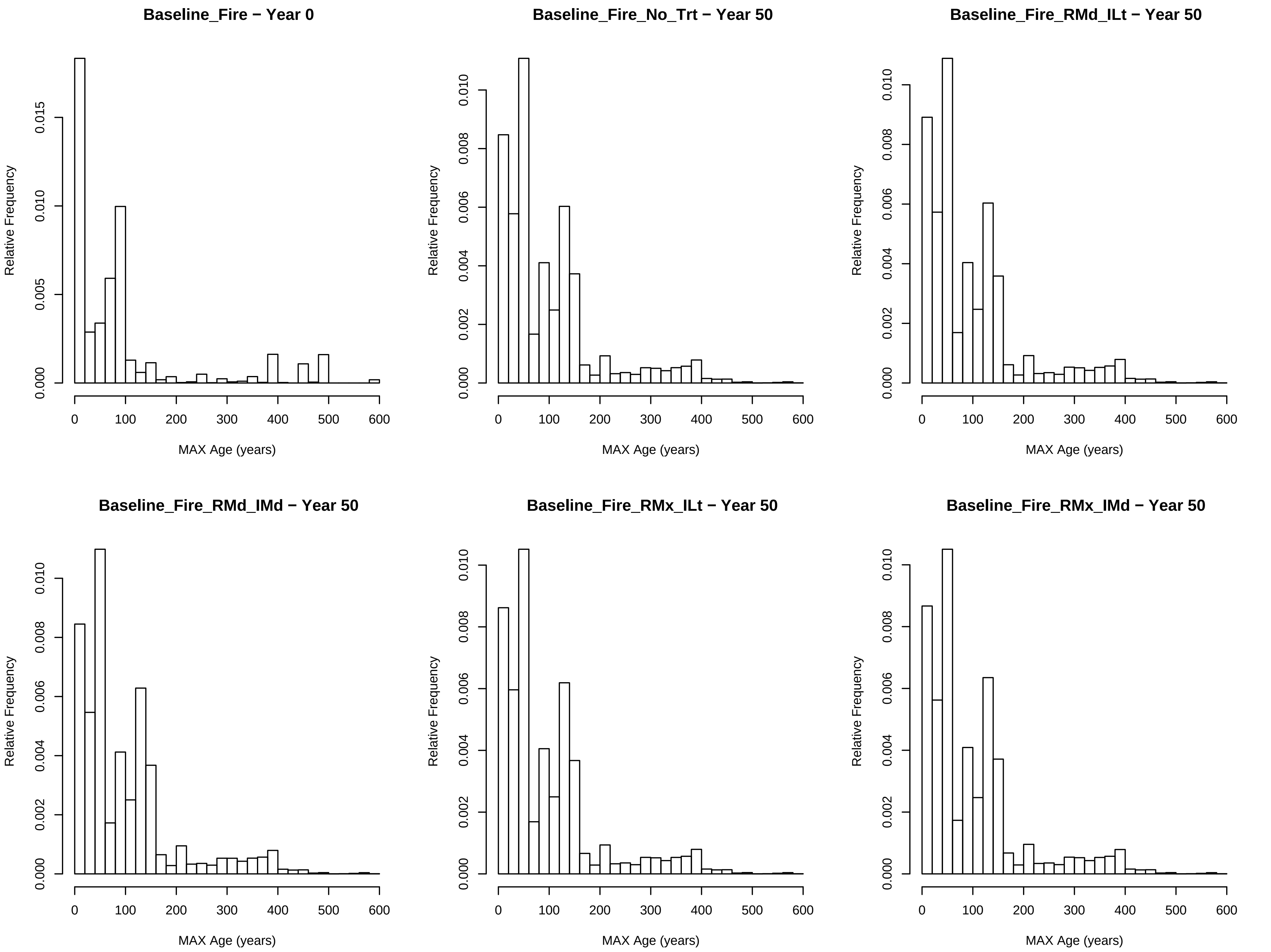
APPENDIX Q

Age distributions at year 0 (initial conditions) and at year 50. All distributions represent the full landscape.

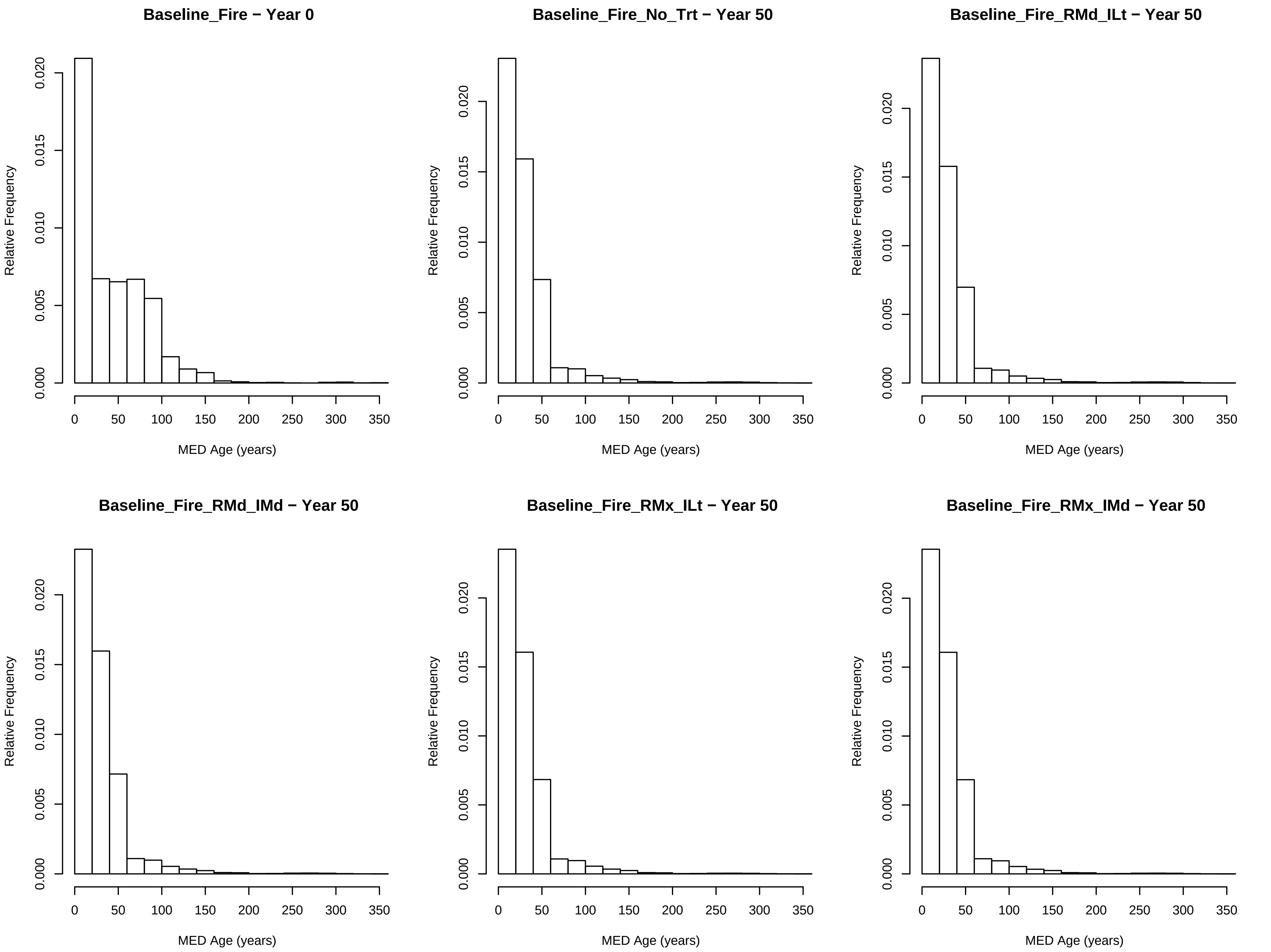
Sub-figures:
a) Initial conditions (year 0)
b) No fuel treatment
c) RMd_ILt = medium fuel treatment rate (4%/5 year) with light intensity
d) RMd_IMd = medium fuel treatment rate (4%/5 year) with medium intensity
e) RMx_ILt = high fuel treatment rate (8%/5 year) with light intensity
f) RMx_IMd = high fuel treatment rate (8%/5 year) with medium intensity

Figure 1. Distribution of maximum age for initial conditions and for 5 scenarios (codes above) under the **baseline** fire regime.
Figure 2. Distribution of median ages for initial conditions and for 5 scenarios (codes above) under the **baseline** fire regime.
Figure 3. Distribution of standard deviations (the standard deviation calculated from the age of each cohort at each site) for initial conditions and for 5 scenarios (codes above) under the **baseline** fire regime.

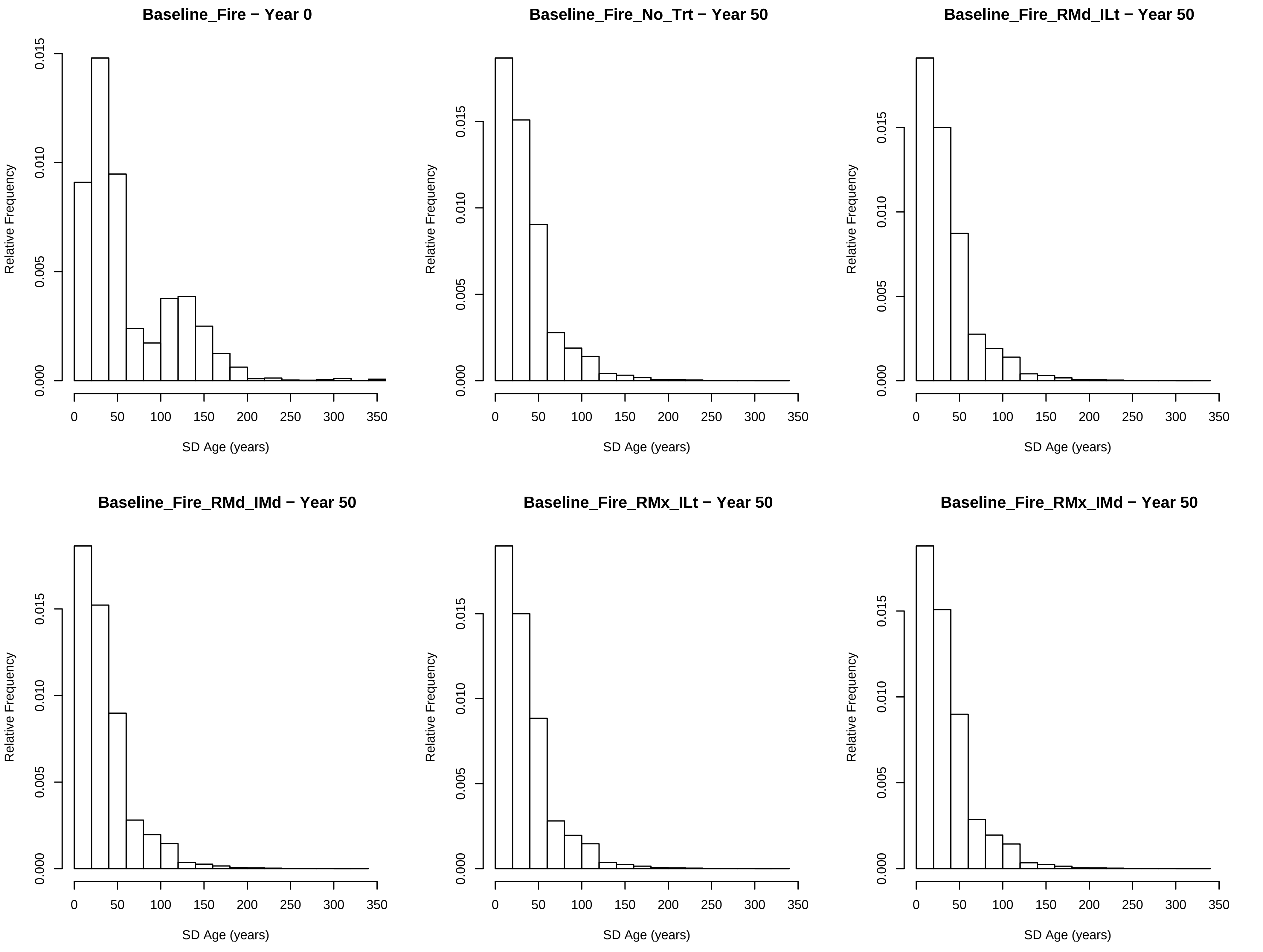
Figure 1. Distribution of maximum age for initial conditions and for 5 scenarios (codes above) under the **high** fire regime.
Figure 2. Distribution of median ages for initial conditions and for 5 scenarios (codes above) under the **high** fire regime.
Figure 3. Distribution of standard deviations (the standard deviation calculated from the age of each cohort at each site) for initial conditions and for 5 scenarios (codes above) under the **high** fire regime.

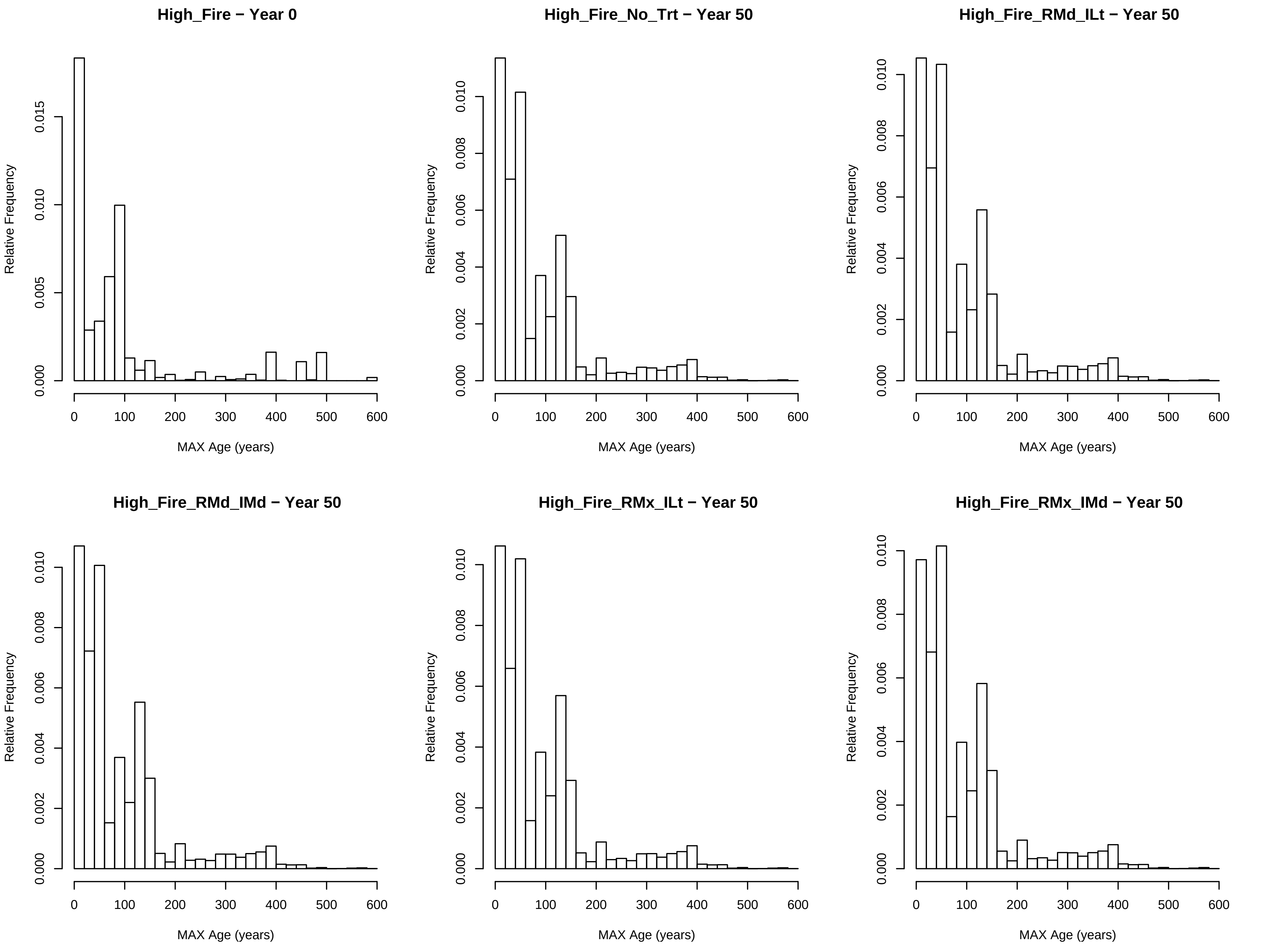


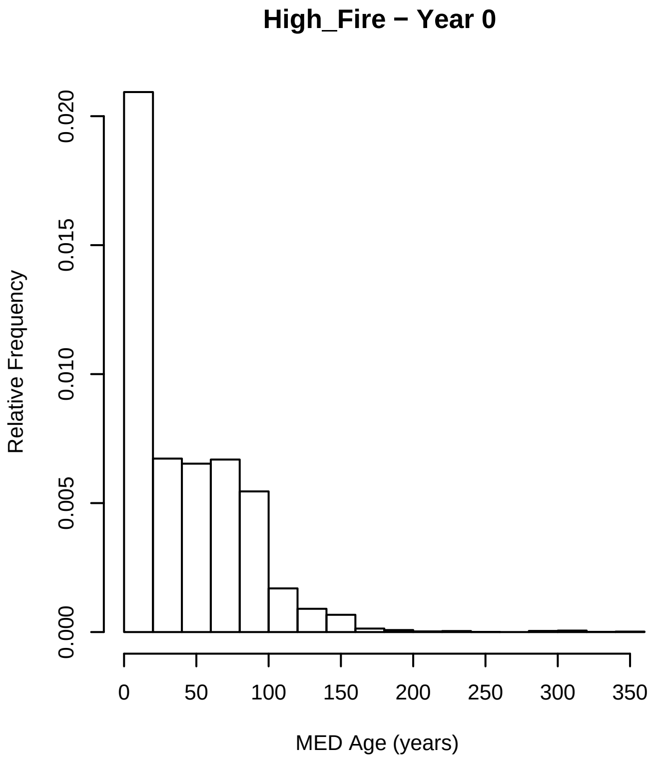
Baseline_Fire − Year 0
Baseline_Fire_No_Trt − Year 50
Baseline_Fire_RMd_ILt − Year 50
Baseline_Fire_RMd_IMd − Year 50
Baseline_Fire_RMx_ILt − Year 50
Baseline_Fire_RMx_IMd − Year 50
Relative Frequency
MAX Age (years)
0
100
200
300
400
500
600
0.000
0.005
0.010
0.015
0.002
0.004
0.006
0.008

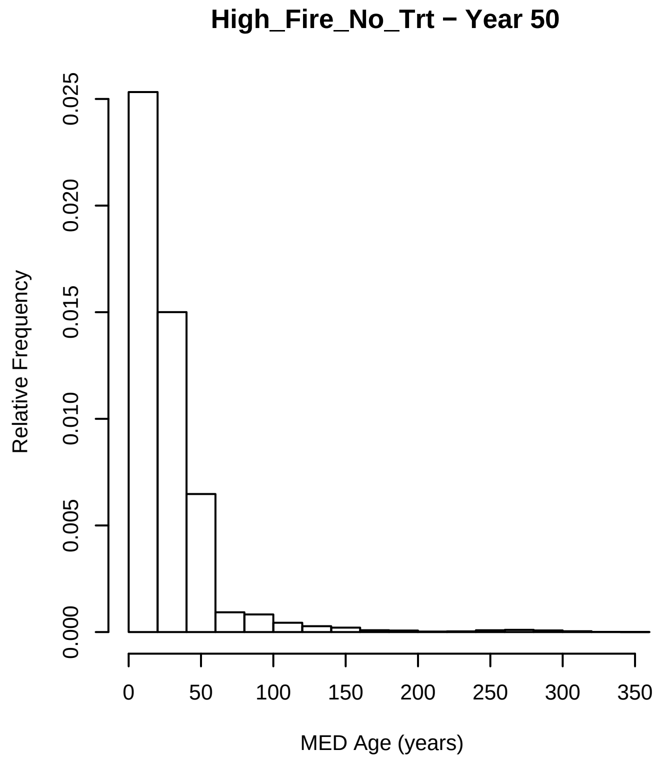


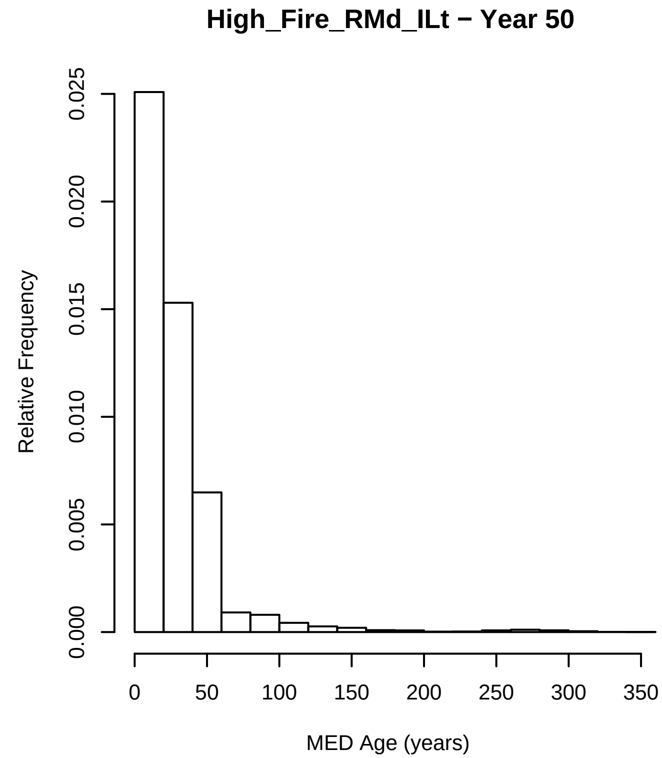
Baseline_Fire − Year 0
Baseline_Fire_No_Trt − Year 50
Baseline_Fire_RMd_ILt − Year 50
Baseline_Fire_RMd_IMd − Year 50
Baseline_Fire_RMx_ILt − Year 50
Baseline_Fire_RMx_IMd − Year 50
Relative Frequency
MED Age (years)
0.000
0.005
0.010
0.015
0.020
0
50
100
150
200
250
300
350

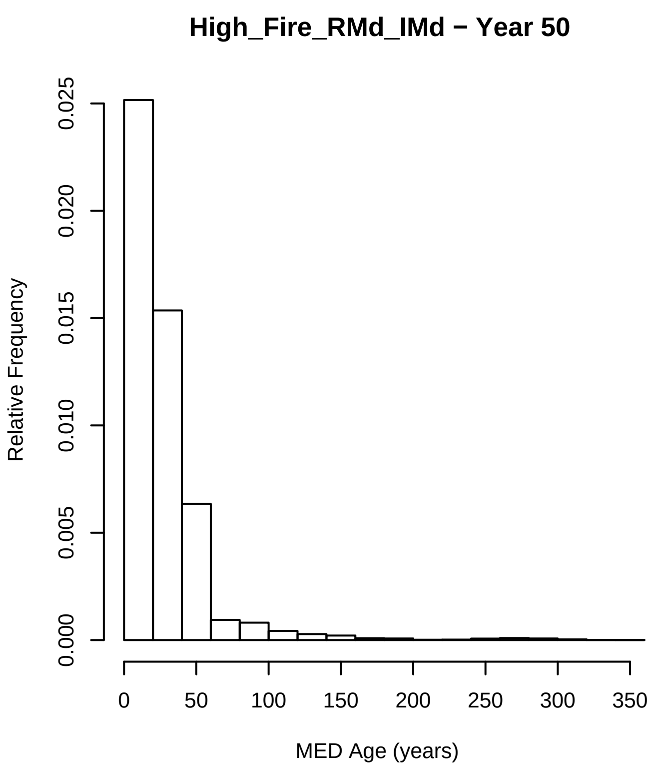

Baseline_Fire − Year 0
Baseline_Fire_No_Trt − Year 50
Baseline_Fire_RMd_ILt − Year 50
Baseline_Fire_RMd_IMd − Year 50
Baseline_Fire_RMx_ILt − Year 50
Baseline_Fire_RMx_IMd − Year 50
Relative Frequency
SD Age (years)
0.000
0.005
0.010
0.015
0
50
100
150
200
250
300
350

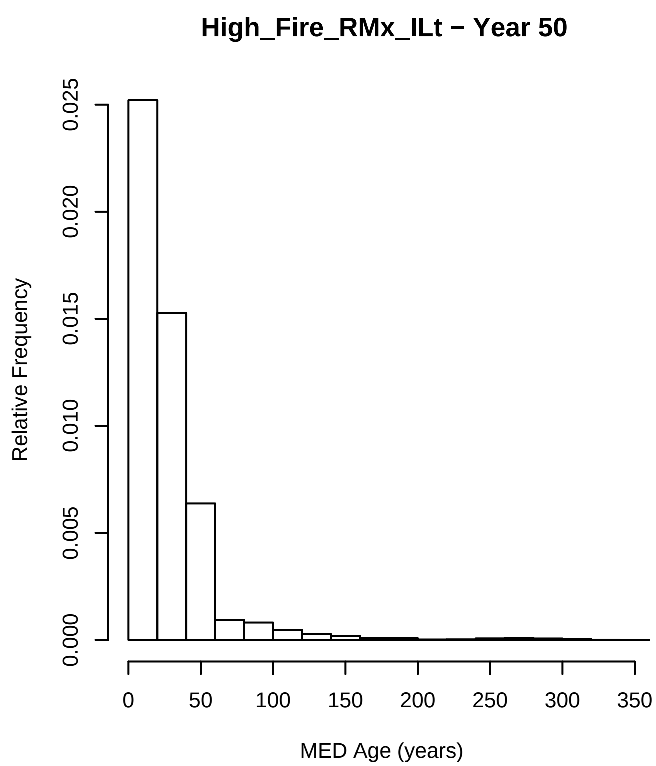

High_Fire − Year 0
Relative Frequency
0.000 0.005 0.010 0.015
0 100 200 300 400 500 600
MAX Age (years)
High_Fire_No_Trt − Year 50
Relative Frequency
0.000 0.002 0.004 0.006 0.008 0.010
0 100 200 300 400 500 600
MAX Age (years)
High_Fire_RMd_ILt − Year 50
Relative Frequency
0.000 0.002 0.004 0.006 0.008 0.010
0 100 200 300 400 500 600
MAX Age (years)
High_Fire_RMd_IMd − Year 50
Relative Frequency
0.000 0.002 0.004 0.006 0.008 0.010
0 100 200 300 400 500 600
MAX Age (years)
High_Fire_RMx_ILt − Year 50
Relative Frequency
0.000 0.002 0.004 0.006 0.008 0.010
0 100 200 300 400 500 600
MAX Age (years)
High_Fire_RMx_IMd − Year 50
Relative Frequency
0.000 0.002 0.004 0.006 0.008 0.010
0 100 200 300 400 500 600
MAX Age (years)

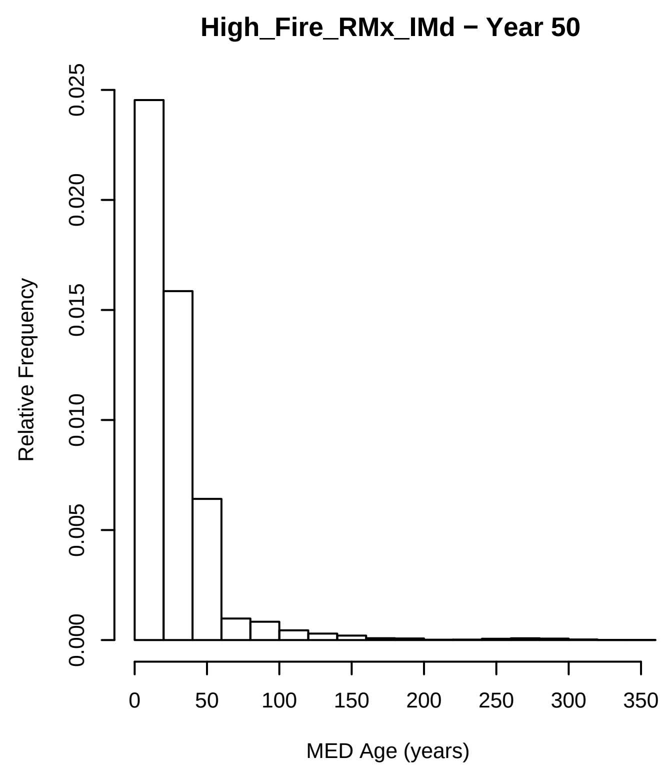

High_Fire − Year 0
Relative Frequency
0.000
0.005
0.010
0.015
0.020
0
50
100
150
200
250
300
350
MED Age (years)

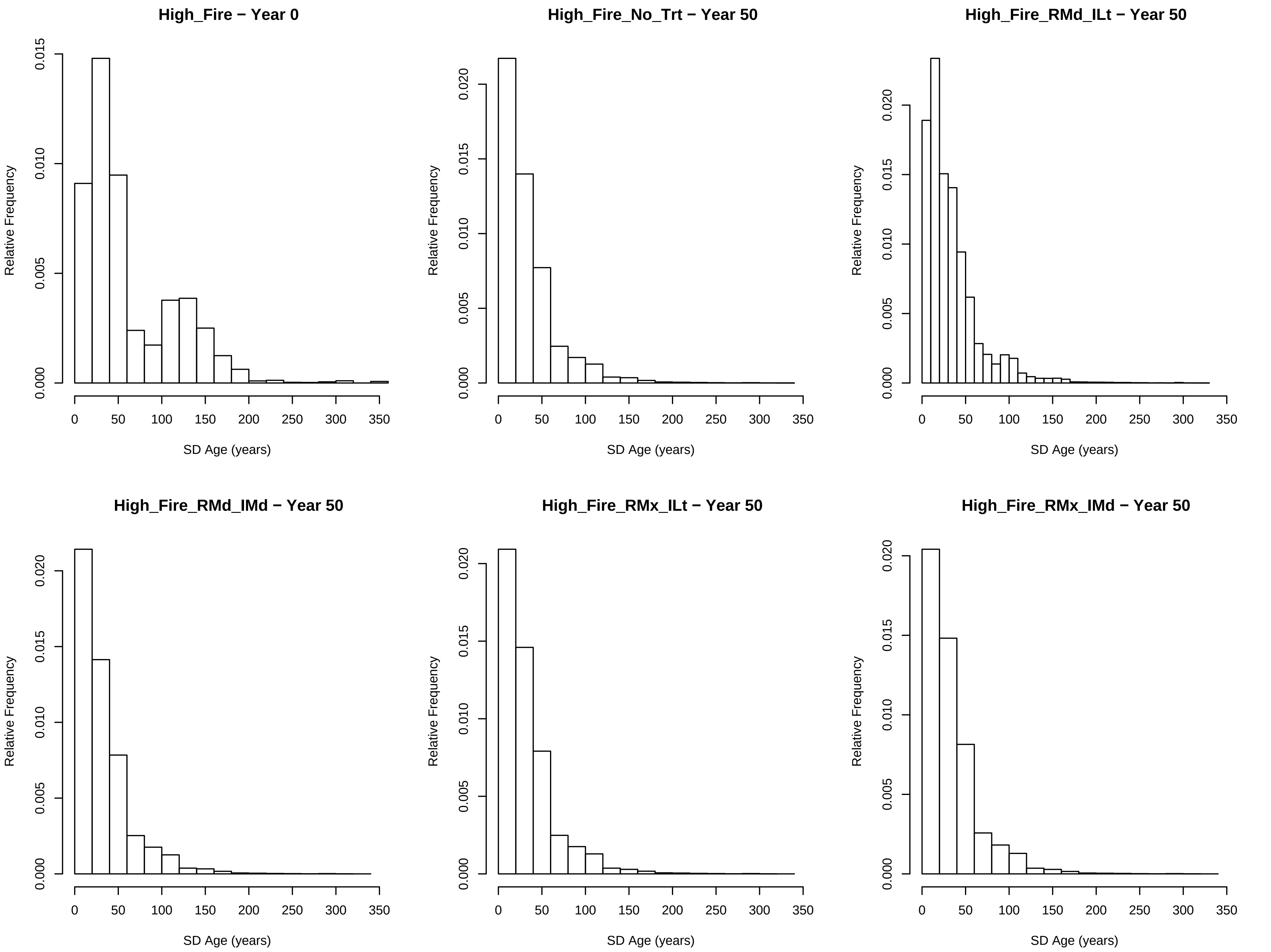

High_Fire_No_Trt − Year 50
Relative Frequency
0.000
0.005
0.010
0.015
0.020
0.025
0
50
100
150
200
250
300
350
MED Age (years)


High_Fire_RMd_ILt − Year 50
Relative Frequency
0.000
0.005
0.010
0.015
0.020
0.025
0
50
100
150
200
250
300
350
MED Age (years)


High_Fire_RMd_IMd − Year 50
Relative Frequency
0.000
0.005
0.010
0.015
0.020
0.025
0
50
100
150
200
250
300
350
MED Age (years)


High_Fire_RMx_ILt − Year 50
Relative Frequency
0.000
0.005
0.010
0.015
0.020
0.025
0
50
100
150
200
250
300
350
MED Age (years)


High_Fire_RMx_IMd − Year 50
Relative Frequency
0.000
0.005
0.010
0.015
0.020
0.025
0
50
100
150
200
250
300
350
MED Age (years)



High_Fire − Year 0
High_Fire_No_Trt − Year 50
High_Fire_RMd_ILt − Year 50
High_Fire_RMd_IMd − Year 50
High_Fire_RMx_ILt − Year 50
High_Fire_RMx_IMd − Year 50
Relative Frequency
SD Age (years)
0.000
0.005
0.010
0.015
0.020
0
50
100
150
200
250
300
350