					Basis for the Determination						
Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Air Quality		Bytnerowicz, A., M.E. Fenn, and J.W. Long. 2014. Air Quality Chapter 8 in Long, Jonathan W.; Quinn-Davidson, Lenya, and Skinner, Carl N., tech. editors. Science Synthesis to support Forest Plan Revision in the Sierra Nevada and Southern Cascades. Final Report. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 471 p.	Plan Decision or Plan	Grey literature	Measurement of conditions with statistical evaluation	Published but not peer-reviewed	Same in space and time to plan area	Yes	n/a	n/a	Influential
Air Quality		Hurteau, M.D., A.L. Westerling, C. Wiedinmyer, and B.P. Bryant. 2014. Projected Effects of Climate and Development on California Wildfire Emissions through 2100. Environmental Science and Technology. 48, 2298-2304.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Air Quality		Lui, X., Huey, G.L., Yokelson, R.J, Selimovic, V., Simpson, I.J., Mülller, M., Jimenez, J.L, Campunzano-Jost, P., Beyersdorf, A.J., Blake, D.R, Butterfield, Z., Choi, Y., Crounse, J.D., Day, D.A., Diskin, G.S., Dubey, M.K., Fortner, E., Hanisco, T.F, Hu, W., King, L.E, Kleinman, L., Meinardi, S., Mikoviny, T., Onasch, T.B., Palm, B.B., Peischl, J., Pollack, I.B., Ryerson, T.B., Sachse, G.W., Sedlacek, A.J., Shilling, J.E., Springston, S., St. Clair, J.M., Tanner, D.J., Teng, A.P., Wennberg, P.O., Wisthaler, A., M.Wolfe (2017) Airbone measurements of western U.S. wildfire emissions: Comparison with prescribed burning and air quality implications. *Journal of Geophysical Research: Atmospheres, 122.*	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Air Quality	Historical estimates of smoke production	Stephens, S.L., R.E. Martin, and N.E. Clinton. 2007 Prehistoric fire area and emissions from California's forests, woodlands, shrublands and grasslands. Forest Ecology and Management 251: 205–216	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Air Quality		Tarnay, L.W. and J.A. Lutz. 2011. Sustainable fire: preserving carbon stocks and protecting air quality as the Sierra Nevada warm. Park Science 28(1): 48-55.	Plan Decision or Plan	Grey literature	Measurement of conditions with statistical evaluation	Published but not peer-reviewed	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Air Quality		Vaillant, N.M., A.L. Reiner and E.K. Noonan-Wright. 2013. Prescribed fire effects on field-derived and simulated forest carbon stocks over time. Forest Ecology and Management, 310: 711-719.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Air Quality		Wiedinmyer, C. and M.D. Hurteau. 2010. Prescribed fire as a means of reducing forest carbon emissions in the western U.S. Environmental Science and Technology 44, 1926–1932.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Animal and Plant Species	Sage grouse	Coates, P, Prochazka, BG, Ricca, M, Halstead, BJ, Casazza, ML, Blomberg, E., Brussee, BE, Wichman, L, Tebbenkamp, J, and SC Gardner. 2018. The relative importance of intrinsic and extrinsic drivers to population growth vary among local populations of greater sage-grouse: an integrated population modeling approach. The Auk, vol. 135 pgs 240-261.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	yes	Incorporates Bi-state population data up to 2015, Conclude that the Bi-State DPS as a whole appears stable and buffered somewhat from environmental stochasticity by the robust Bodie Hills subpopulation. Used 13 years worth of data from 2003-2015; telemetered birds		
Animal and Plant Species	Bi-State sage-grouse	USDA. 2013a. Inyo National Forest Topic Paper (November 2013). Chapter 1: Terrestrial, Aquatic, and Riparian Ecosystems 103 pp. USDA. 2013b. Inyo National Forest Assessment Topic Paper (May 2013 draft). Chapter 5: At-Risk Species. 55 pp. USDA. 2013c. Final Inyo National Forest assessment. Document number R5-MB-266. Vallejo, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Region. December 2013. 229 p. USDA. 2013d. Inyo National Forest Assessment Topic Paper (November 2013).Chapter 3: System Drivers and Stressors. 62 pp.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Evaluation of expert	Same in space and time to plan area	Yes	n/a	Legal authorities	Not Influencial
Animal and Plant Species	Bighorn sheep	Baumer, A. et al. 2009. A process for identifying and managing risk of contact between Sierra Nevada bighorn sheep and deomestic sheep. (2009).	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions without statistical evaluation	Evaluation of expert	Same in space and time to plan area	Yes	Opinion of experts	Experience of land managers	Not Influencial
Animal and Plant Species	Sage-grouse and fire	Beck, J.L., J.W. Connelly, and K.P. Reese. 2009. Recovery of greater sage-grouse habitat features in Wyoming big sagebrush following prescribed fire. Restoration Ecology 17:393-403.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a		
Animal and Plant Species	Animal-Bighorn Sheep/Pack Goat Association	Besser TE, Cassirer EF, Potter KA, Foreyt WJ (2017) Exposure of bighorn sheep to domestic goats colonized with Mycoplasma ovipneumoniae induces sub-lethal pneumonia. PLoS ONE 12(6): e0178707. https://doi.org/10.1371/journal.pone.0178707 AND 24 Jan 2018: Besser TE, Cassirer EF, Potter KA, Foreyt WJ (2018) Correction: Exposure of bighorn sheep to domestic goats colonized with Mycoplasma ovipneumoniae induces sub-lethal pneumonia. PLOS ONE 13(1): e0192006.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	Two companion citations, same BASI, with the second as a "correction" - both must accompany each other	Public input	Not Influencial

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Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Animal and Plant Species	Bi-State sage-grouse	Bi-State Technical Advisory Committee Nevada and California. 2012. Bi-State Action Plan For Conservation of the Greater Sage-Grouse Bi-State Distinct Population Segment. Bi-State Executive Oversight Committee for Conservation of Greater Sage-Grouse. 158 pp.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Similar in space or time to plan area	Yes	n/a	Legal authorities	Not Influencial
Animal and Plant Species	California spotted owl	Blakesley, J.A., B.R. Noon, and D.R. Anderson. 2005. Site occupancy, apparent survival, and reproduction of California spotted owls in relation to forest stand characteristics. Journal of Wildlife Management 69:1554-1564.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	Supports retention of large trees and high BA in the nest stand.	Experience of land managers	Not Influencial
Animal and Plant Species	Yellow-legged frog	Brown, Cathy, Marc P. Hayes, Gregory A. Green, and Diane C. Macfarlane. 2014. Mountain Yellow-Legged Frog Conservation Assessment for the Sierra Nevada Mountains of California, USA. United States Department of Agriculture, Forest Service, Pacific Southwest Region.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Same in space and time to plan area	Yes	n/a	Experience of land managers	Not Influencial
Animal and Plant Species	Yosemite toad	Brown, Cathy, Marc P. Hayes, Gregory A. Green, Diane C. Macfarlane, and Amy J. Lind. 2015. Yosemite Toad Conservation Assessment. United States Department of Agriculture, Forest Service, Pacific Southwest Region.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Same in space and time to plan area	Yes	Opinion of experts	Experience of land managers	Not Influencial
Animal and Plant Species	Fire effects	Buchalski, M.R., J.B. Fontaine, P.A. Heady III, J.P. Hayes, and W.F. Frick. 2013. Bat response to differing fire severity in mixed-conifer forest, California, USA. PLoS ONE 8: e57884	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Animal and Plant Species	Animal-Bighorn Sheep/Pack Goat Association	Cahn, M.L, M.M. Conner, O.J. Schmitz, T.R. Stephenson, J.D. Wehausen, H.E. Johnson. 2011. Disease, population viability, and recovery of endangered Sierra Nevada bighorn sheep. Journal of wildlife management, 75(8). https://doi.org/10.1002/jwmg.232|	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	Supports citation from USFWS	Public input	Not Influencial
Animal and Plant Species		California Department of Fish and Wildlife, Natural Diversity Database. August 2018. Special Animals List. Periodic publication. 66 pp (available at file:///C:/Users/JAugustine/Downloads/CNDDB_Special_Animals_List%20(2).pdf	Plan Decision or Plan	Federal or state data	Measurement of conditions without statistical evaluation	Documented but not published	Same in space or time to plan area	No	The S2 ranking has not changed from the previous (2016) list used to inform the SCC rationale.	Experience of land managers	Not Influencial
Animal and Plant Species	Yellow-legged frog	California Department of Fish and Wildlife. 2017. Rana sierrae/muscosa Populations and Native Species Restoration Opportunities, 18 Management Units displayed North to South. edited by Region 6 North Inland Deserts.	Plan Decision or Plan	Federal or state data	Estimation of condition or trend	Documented but not published	Same in space and time to plan area	Yes	n/a	Experience of land managers	Not Influencial
Animal and Plant Species	Black-backed woodpecker	Casas, A., M. Garcia, R.B. Siegel, C. Ramirez, A. Koltunov, and S.L. Ustin. 2016. Burned forest characterization at single-tree level with Airborne Laser Scanning for wildlife habitat assessment. Remote Sensing of Environment 175: 231–241	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Peer reviewed	Similar in space or time to plan area	Yes	See Tingley et al. 2014.	Experience of land managers	Not Influencial
Animal and Plant Species	Bighorn sheep	Clifford, D. L. et al. 2007. modeling risks of disease transmission from domestic sheep to bighorn sheep: implications for the persistence and restoration of an endangered endemic ungulate. University of California at Davis, Wildlife Health Center, Davis, California and California Department of Gish and Game Resource Assessment Program, Bishop California. 29 pp. plus appendices.	Plan and Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Opinion of experts	n/a	Not Influencial
Animal and Plant Species	Sage grouse	Coates, Peter S., Brian J. Halstead, Erik J. Blomberg, Brianne Brussee, Kristy B. Howe, Lief Wiechman, Joel Tebbenkamp, Kerry P. Reese, Scott C. Gardner, and Michael L. Casazza. 2014. A hierarchical integrated population model for greater sage-grouse (*Centrocercus urophasianus*) in the Bi-State Distinct Population Segment, California and Nevada. In Open-File Report. Reston, VA.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	More recent article by same authors incorporates population data up to 2015: Coates, P, Prochazka, BG, Ricca, M, Halstead, BJ, Casazza, ML, Blomberg, E., Brussee, BE, Wichman, L, Tebbenkamp, J, and SC Gardner. The relative importance of intrinsic and extrinsic drivers to population growth vary among local populations of greater sage-grouse: an integrated population modeling approach. The Auk, vol. 135 pgs 240-261. The same authors are preparing an updated integrated population model using population data from up to the 2018 season. The updated publication has not yet been released for citation but will be incorporated as soon as it is available.		Should we add the Auk article to the FEIS and the BASI table?

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Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Animal and Plant Species	California spotted owl	Conner, M.M., J.J. Keane, C.V. Gallagher, T.E. Munton, and P.A. Shaklee. 2016. Comparing estimates of population change from occupancy and mark-recapture models for a territorial species. Ecosphere 7:1-20.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	No	See Berigan et al. 2018.	Experience of land managers	Not Influencial
Animal and Plant Species	Animal-Bighorn Sheep/Pack Goat Association	Drew ML, Weiser GC (2017) Potential disease agents in domestic goats and relevance to bighorn sheep (Ovis canadensis) management. PLoS ONE 12(3): e0173396.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	Provides citation of supporting opinion in FEIS	Public input	Not Influencial
Animal and Plant Species	Sage grouse	Dwyer, J.F F. and Doloughan, K.W. 2014. Testing systems of avian perch deterrents on electric power distribution poles in sage-brush habitat. Human–Wildlife Interactions: Vol. 8 : Iss. 1 , Article 5	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	no	Study took place in WA state some perch deterrents appear to be effective, the best available science is inconclusive overall, study compared the relative effectiveness of various recently developed perch deterrents-found some to be effective, but can also have negative unintended consequences oin raptors (electrocution),; more study needed.		This study actually conflicts with the objectors comemnt--does not actually supportt.
Animal and Plant Species	California spotted owl	Eyes, S.A., S.L. Roberts, and M.D. Johnson. 2017. California Spotted Owl (Strix occidentalis occidentalis) habitat use patterns in a burned landscape. The Condor 119:375-388.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	No	Study done in Yosemite where logging has not occurred-conclude high severity burned edge may be better habitat than high severity interior patches.	Experience of land managers	Not Influencial
Animal and Plant Species	Black-backed woodpecker	Fogg, AM; Roberts, LJ; Burnett, RD. 2014. Occurrence patterns of Black-backed Woodpeckers in green forest of the Sierra Nevada Mountains, California, USA. Avian Conservation and Ecology 9(2): 3	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Peer reviewed	Similar in space or time to plan area	No	n/a		Not Influencial
Animal and Plant Species	California spotted owl	Gutiérrez, R.J.; P.N. Manley, and P.A. Stine. 2017. The California spotted owl: current state of knowledge. General Technical Report PSWGTR- 254. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 294 p.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	No	Synthesis GTR with latest science	Experience of land managers	Not Influencial
Animal and Plant Species	Sage grouse	Holloran, M.J. 2005. Greater sage-grouse (Centrocercus urophasianus) population response to natural gas field development in western Wyoming. Dissertation, Department of Zoology and Physiology, University of Wyoming, Laramie, Wyoming.	Plan Decision or Plan	Grey literature	Measurement of conditions with statistical evaluation	Evaluation of expert	Similar in space or time to plan area	Yes	One of few studies examining SG response to road development related to oil and gas fields		
Animal and Plant Species	Bi-State sage-grouse	Humbodlt-Toiyabe National Forest 2016. Greater Sage Grouse Bi-State Distinct Population Segment Forest Plan Amendment	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Similar in space or time to plan area	No	Referenced as a stating point for Inyo National Forest bi-state sage grouse plan components, and incorporated as appropriate, often with changes considering Inyo National Forest conditions.	Experience of land managers	Not Influencial
Animal and Plant Species	California spotted owl	Jones, G.M., R.J. Gutiérrez, D.J. Tempel, S.A. Whitmore, W.L. Berigan, and M.Z. Peery. 2016. Megafires: an emerging threat to old-forest species. Frontiers in Ecology and the Environment 14:300-306.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space and time to plan area	No	Referenced in the 2019 CSO strategy. See Eyes et al. 2017, Ganey et al. 2017, Rockweit et al. 2017 for supporting citations.	Experience of land managers	Not Influencial
Animal and Plant Species	California spotted owl	Jones. G.M., J.J. Keane, R.J. Gutiérrez, and M.Z. Peery. 2018. Declining old-forest species as a legacy of large trees lost. Diversity and Distributions DOI: 10.1111/ddi.12682.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	See Lindenmayer, D. B. (2017). Conserving large old trees as small natural features. Biological Conservation, 211, 51–59. https://doi.org/10.1016/j.biocon.2016.11.012	Experience of land managers	Not Influencial
Animal and Plant Species	Bi-State sage-grouse	Knick, S. and Connelly, J.W. eds., 2011. Greater sage-grouse: ecology and conservation of a landscape species and its habitats (Vol. 38). Univ of California Press.	Plan Decision or Plan	Grey literature	Measurement of conditions without statistical evaluation	Published but not peer-reviewed	Same in space or time to plan area	Yes	n/a	n/a	Not Influencial

					Basis for the Determination						
Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Animal and Plant Species	Sage grouse	Lammers, W.M. and M.W. Collopy. 2007. Effectiveness of avaian predator perch deterrents on electric transmission lines. Journal of Wildlife Management, 71(8).	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	No	Took place in great Basin Nevada. Looked at anti-perching devices on transmission lines. Concluded that perch deterrents were not entirely effective (dependent on species and hunting method) but that more monitoring was necessary. This is consistent with other studies (see Dwyer and Doloughan 2014). In general found that perch deterrents not effective for "sit and wait" predators, and in some cases predators actually used devices for perching because they sought out highest points for hunting.	.	This study actually conflicts with the objectors comment--does not actually supportt.
Animal and Plant Species	Black-backed woodpecker	Lorenz, T.J., K.T. Vierling, T.R. Johnson, and P.C. Fischer. 2015. The role of wood hardness in limiting nest site selection in avian cavity excavators. Ecological Applications 25: 1016–1033	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Peer reviewed	Similar in space or time to plan area	No	Some studies suggest woodpeckers do not select on soft wood but create it once they strat drilling-Farris et al. 2004.	Experience of land managers	Not Influencial
Animal and Plant Species	California spotted owl	North, M.P., J.T. Kane, V.R. Kane, G.P. Asner, W. Berigan, D.J. Churchill, S. Conway, R.J. Gutiérrez, S. Jeronimo, J. Keane, A. Koltunov, T. Mark, M. Moskal, T. Munton, Z. Peery, C. Ramirez, R. Sollmann, A.M. White, and S. Whitmore. 2017. Cover of tall trees best predicts California spotted owl habitat. Forest Ecology and Management 405:166-178.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	This paper is cited in the 2019 CSO cons. strategy. Supports high canopy cover findings of Temple et al. 2014; Temple et al. 2015, and North et al. 2000.	Experience of land managers	Not Influencial
Animal and Plant Species	Sage grouse	Reisner, M.D., J.B. Grace, D.A. Pyke, P.S. Doescher. 2013. Conditions favoring Bromus tectorum dominance of endangered sagebrush steppe ecosystems. Journal of Applied Ecology, 50(4).	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	yes	Large study site (n=75) in northern great Basin; Oregon. Found that cattle grazing contributed to cheat grass expasion by trampling and breaking up connectivity of natural bunch grasses (diminishes native grass ability to out compete with cheatgrass).		
Animal and Plant Species	California spotted owl	Roberts S.L., J.W. van Wagtendonk, A.K. Miles, and D.A. Kelt. 2011. Effects of fire on spotted owl site occupancy in a late-successional forest. Biological Conservation 144:610-619.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	Spotted owl densities similar in burned vs unburned sites in areas of low to moderate fire severity. Cited in Conservation objectives report for CSO (FWS 2017) and also cited in the 2019 CSO conservation strategy for nest stand requirements.	Experience of land managers	Not Influencial
Animal and Plant Species	California spotted owl	Rockweit, J.T., A.B. Franklin, and P.C. Carlson. 2017. Differential impacts of wildfire on the population dynamics of an old-forest species. Ecology 98:1574-1582.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	No	This paper is cited in the 2019 CSO Cons. Strategy. See Jones et al. 2016;Ganey et al. 2017; Peery et al. 2019 for supporting info.	Experience of land managers	Not Influencial
Animal and Plant Species	California spotted owl	Seamans M.E., and R.J. Gutiérrez. 2007. Habitat selection in a changing environment: the relationship between habitat alteration and spotted owl territory occupancy and breeding dispersal. The Condor 109:566-576.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	Cited in the CSO strategy (2019) and also the FWS (2017) Conservation Objectives Repot. Informs habitat requirments at the territory scale,mature forest is correlated with spotted owl territory selection.	Experience of land managers	Not Influencial

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Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Animal and Plant Species	Black-backed woodpecker	Siegel et al. 2018. A Conservation Strategy for the Black-backed Woodpecker (Picoides arcticus) in California - Version 2.0	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Gray literature	Similar in space or time to plan area	No	Strategy document with literature review.	Experience of land managers	Not Influencial
Animal and Plant Species	Black-backed woodpecker	Siegel, R.B., M.W. Tingley, and R.L. Wilkerson. 2014. Assessing home-range size and habitat needs of Black-backed Woodpeckers in California: report for the 2013 field season. Report to U.S.D.A. Forest Service Pacific Southwest Region. The Institute for Bird Populations, Point Reyes Station, CA	Plan Decision or Plan	Grey literature	Measurement of conditions with statistical evaluation	Gray literature	Similar in space and time to plan area	No	The data from this report and also the Siegel et al. 2013 report were used in the Tingley et al 2014 document.	Experience of land managers	Not Influencial
Animal and Plant Species	Black-backed woodpecker	Siegel, R.B., M.W. Tingley, R.L. Wilkerson, C.A. Howell, M. Johnson, and P. Pyle. 2016. Age structure of Black-backed Woodpecker populations in burned forests. The Auk: Ornithological Advances 133: 69–78	Plan Decision or Plan	Peer-reviewed articl	Estimation of condition or trend	Peer reviewed	Similar in space or time to plan area	No	See Siegel et al 2018.		Not Influencial
Animal and Plant Species	Black-backed woodpecker	Siegel, R.B., M.W. Tingley, R.L. Wilkerson, M.L. Bond, and C.A. Howell. 2013. Assessing home range size and habitat needs of Black-backed Woodpeckers in California: Report for the 2011 and 2012 field seasons. Institute for Bird Population	Plan Decision or Plan	Grey literature	Measurement of conditions with statistical evaluation	Gray literature	Similar in space and time to plan area	No	n/a	Experience of land managers	Not Influencial
Animal and Plant Species	Golden trout	State of California The Resources Agency Department of Fish and Game, Restoration of the California Golden Trout in the Southe Fork Kern River, Kern Plateau, Tulare County, California, 1966-2004, with Reference to Golden Trout Creek. By E. P. (Phil) Pister, Inland Deserts Region, Central Region Administrative Report No. 2008-1	Plan Decision or Plan	Federal or state data	Estimation of condition or trend	Evaluation of expert	Same in space and time to plan area	Yes	Opinion of experts	Experience of land managers	Not Influencial
Animal and Plant Species	California spotted owl	Tempel, D.J., J.J. Keane, R.J. Gutierres, J.D. Wolfe, G.M. Jones, A. Koltunov, C.M. Ramirez, W.J. Berijan, C.V. Gallagher, T.E. Munton, P.A. Shaklee, S.A. Whitmore, and MZ. Peery. 2016. Meta-analysis of California spotted owl (Strix occidentalis occidentalis) territory occupancy in the Sierra Nevada: Habitat associations and their implications for forest management. The Condor 118:747-765	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluatio	Published peer-reviewed article	Similar in space or time to plan area	Yes	Cited in CSO conserv. Strategy 2019. See (Bias and Guti´errez 1992, Guti´errez et al. 1992, Bond et al. 2004)) for supporting info.	Experience of land managers	Not Influencial
Animal and Plant Species	California spotted owl	Tempel, D.J., R.J. Gutiérrez, S.A. Whitmore, M.J. Reetz, R.E. Stoelting, W.J. Berigan, M.E. Seamans, and M.Z. Peery. 2014. Effects of forest management on California spotted owls: implications for reducing wildfire risk in fire-prone forests. Ecological Applications 24:2089- 2106.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Gray literature	Similar in space or time to plan area	Yes	Supported in GTR PSW-GTR-254 (Peeery et al. 2016); Cited in 2019 CSO Con Strategy, and FWS (2017 COR.	Experience of land managers	Not Influencial
Animal and Plant Species	Black-backed woodpecker	Tingley, M.W., R.L. Wilkerson ,M.L. Bond, C.A. Howell, and R.B. Siegel. 2014. Variation in home-range size of black-backed woodpeckers. The Condor 116: 325–340	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Peer reviewed	Similar in space or time to plan area	No	See Siegel et al 2014.		Not Influencial
Animal and Plant Species	Paiute cutthroat trout	U.S. Fish and Wildlife Service. 2004. Revised Recovery Plan for the Paiute Cutthroat Trout (*Oncorhynchus clarkia seleniris*). Portland, Oregon. Ix+105pp.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Similar in space or time to plan area	Yes	Opinion of experts	Legal authorities	Not Influencial
Animal and Plant Species	Sage grouse	U.S. Fish and Wildlife Service. 2013. Greater Sage-grouse (Centrocercus urophasianus) Conservation Objectives: Final Report. U.S. Fish and Wildlife Service, Denver, CO. February 2013.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Evaluation of expert	Similar in space or time to plan area		Conservation objectives report with reccomended conservation measures.		
Animal and Plant Species	California spotted owl	U.S. Fish and Wildlife Service. 2017. California spotted owl (Strix occidentalis occidentalis) Conservation Objectives Report. U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office, Sacramento, CA. October 2017.	Plan Decision or Plan	Grey literature	Measurement of conditions with statistical evaluation	Documented but not published	Similar in space or time to plan area	No	This paper is cited in the 2019 CSO Cons. Strategy.	Experience of land managers	Not Influencial
Animal and Plant Species	Yellow-legged frog & Yosemite toad	United States Department of Interior, Fish, and Wildlife Service. 2015. Programmatic Biological Opinion on Nine Forest Programs on Nine National Forests in the Sierra Nevada of California for the Endangered Sierra Nevada Yellow-legged Frog, Endangered Northern Distinct Population Segment of the Mountain Yellow-legged Frog, and Threatened Yosemite Toad.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Evaluation of expert	Same in space and time to plan area	No	Opinion of experts	Experience of land managers	Not Influencial
Animal and Plant Species	Lahontan cutthroat trout	United States Department of the Interior, Fish and Wildlife Service. 1995a&b. Lahontan cutthroat trout (Oncorhynchus clarki henshawi) Recovery Plan. Portland, Oregon.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Similar in space or time to plan area	Yes	Opinion of experts	Legal authorities	Not Influencial
Animal and Plant Species	Bighorn sheep	United States Department of the Interior, Fish and Wildlife Service. 2007. Recovery Plan for the Sierra Nevada Bighorn Sheep. Sacramento, California: California/Nevada Operations Office.	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Published but not peer-reviewed	Same in space and time to plan area	Yes	Opinion of experts	Legal authorities	Not Influencial

					Basis for the Determination						
Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Animal and Plant Species	Bighorn sheep	United States Department of the Interior, Fish and Wildlife Service. 2008a. "Designation of Critical Habitat for the Sierra Nevada Bighorn Sheep (Ovis canadensis sierrae) and Taxonomic Revision; Final RuleDesignation of Critical Habitat for the Sierra Nevada Bighorn Sheep (Ovis canadensis sierrae) and Taxonomic Revision; Final Rule." Federal Register 73 (151):45534-45604.	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Published but not peer-reviewed	Same in space and time to plan area	Yes	Opinion of experts	Legal authorities	Not Influencial
Animal and Plant Species	Bighorn sheep	United States Department of the Interior, Fish and Wildlife Service. 2008c&d. Sierra Nevada Bighorn Sheep Ovis canadensis californiana (=Ovis canadensis sierrae) 5-Year Review: Summary and Evaluation Sierra Nevada Bighorn Sheep Ovis canadensis californiana (=Ovis canadensis sierrae) 5-Year Review: Summary and Evaluation. Ventura, California: Ventura Fish and Wildlife Office.	Plan Decision or Plan	Federal or state data	Estimation of condition or trend	Published but not peer-reviewed	Same in space and time to plan area	Yes	Opinion of experts	n/a	Not Influencial
Animal and Plant Species	Lahontan cutthroat trout	United States Department of the Interior, Fish and Wildlife Service. 2009a. Lahontan Cutthroat Trout (Onchrhynchus clarkii henshawi) 5-Year Review: Summary and Evaluation. Reno, Nevada: Nevada Fish and Wildlife Office.	Plan Decision or Plan	Federal or state data	Estimation of condition or trend	Published but not peer-reviewed	Similar in space or time to plan area	Yes	Opinion of experts	n/a	Not Influencial
Animal and Plant Species	Paiute cutthroat trout	United States Department of the Interior, Fish and Wildlife Service. 2013b. Paiute Cutthroat Trout (Oncorhynchus clarkii seleniris) 5-Year Review: Summary and Evaluation. Reno, Nevada: Nevada Fish and Wildlife Office.	Plan Decision or Plan	Federal or state data	Estimation of condition or trend	Published but not peer-reviewed	Similar in space or time to plan area	Yes	Opinion of experts	n/a	Not Influencial
Animal and Plant Species	Yellow-legged frog & Yosemite toad	United States Department of the Interior, Fish and Wildlife Service. 2014b. "Endangered Species Status for Sierra Nevada Yellow-Legged Frog and Northern Distinct Population Segment of the Mountain Yellow-Legged Frog, and Threatened Species Status for Yosemite Toad; Final Rule " Federal Register 79 (82):24256-24310.	Plan Decision or Plan	Grey literature	Measurement of conditions with statistical evaluation	Published but not peer-reviewed	Same in space and time to plan area	Yes	Transmission previously controversial. Infection of disease from Bd to amphibians is still under investigation as to how it infests areas causing amphibian die offs.	Legal authorities	Not Influencial
Animal and Plant Species	Bi-State sage-grouse	United States Department of the Interior, Fish and Wildlife Service. 2015b. "Withdrawal of the Proposed Rule To List the Bi-State Distinct Population Segment of Greater Sage-Grouse and Designate Critical Habitat; Proposed Rule." Federal Register 80 (78):22827-22866.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Same in space and time to plan area	Yes	n/a	Legal authorities	Not Influencial
Animal and Plant Species	Yellow-legged frog & Yosemite toad	United States Department of the Interior, Fish and Wildlife Service. 2016a. "Designation of Critical Habitat for the Sierra Nevada Yellow-Legged Frog, the Northern DPS of the Mountain Yellow-Legged Frog, and the Yosemite Toad; Final Rule." Federal Register 81 (166):59046-59119.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Same in space and time to plan area	No	Opinion of experts	Legal authorities	Not Influencial
Animal and Plant Species	Great gray owl	USDA 2013a. Inyo National Forest Topic Paper (November 2013). Chapter 1: Terrestrial, Aquatic, and Riparian Ecosystems 103 pp. USDA 2013b. Final Inyo National Forest assessment. Document number R5-MB-266. Vallejo, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Region. December 2013. 229 p. USDA 2013c. Inyo National Forest Assessment Topic Paper (November 2013).Chapter 3: System Drivers and Stressors. 62 pp.	Plan and Monitoring Program	Grey literature	Estimation of condition or trend	Evaluation of expert	Same in space and time to plan area	No	No clear consensus of use by this spp on INF which drives monitoring.	Experience of land managers	Not Influencial
Animal and Plant Species	California spotted owl	USDA, Forest Service. January 2001. Sierra Nevada Forest Plan Amendment Final Environmental Impact Statement and Record of Decision. Pacific Southwest Region, San Francisco, California.	Plan and Monitoring Program	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Animal and Plant Species	Sierra marten	USDA. 2013a. Inyo National Forest Topic Paper (November 2013). Chapter 1: Terrestrial, Aquatic, and Riparian Ecosystems 103 pp. USDA. 2013b. Inyo National Forest Assessment Topic Paper (May 2013 draft). Chapter 5: At-Risk Species. 55 pp. USDA. 2013c. Final Inyo National Forest assessment. Document number R5-MB-266. Vallejo, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Region. December 2013. 229 p. USDA. 2013d. Inyo National Forest Assessment Topic Paper (November 2013).Chapter 3: System Drivers and Stressors. 62 pp.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Same in space and time to plan area	Yes	Opinion of experts	Experience of land managers	Not Influencial
Animal and Plant Species	California spotted owl	Wood, C.M., S.A. Whitmore, R.J. Gutiérrez, S.C. Sawyer, J.J. Kean, and M.Z. Peery. 2018. Using metapopulation models to assess species conservation-ecosystem restoration trade-offs. Biological Conservation 224:248-257.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluatio	Published peer-reviewed article	Similar in space or time to plan area	No	Cited in CSO conserv. Strategy 2019.	Experience of land managers	Not Influencial
Aquatic ecosystems		Critical Aquatic Refuges, USDA Forest Service, Pacific Southwest Region, Remote Sensing Lab, July 7, 2006, available athttp://www.fs.fed.us/r5/rsl/projects/frdb/layers/cars.html	Plan Decision or Plan	Federal or state data	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial

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Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Aquatic ecosystems	runoff	Dettinger, M.D. and Cayan, D.R., 1995. Large-scale atmospheric forcing of recent trends toward early snowmelt runoff in California. Journal of Climate, 8(3), pp.606-623.	Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Aquatic ecosystems		Dickard, M., M. Gonzalez, W. Elmore, S. Leonard, D. Smith, S. Smith, J. Staats, P. Summers, D. Weixelman, S. Wyman. 2015. Riparian area management: Proper functioning condition assessment for lotic areas. Technical Reference 1737-15. U.S. Department of the Interior, Bureau of Land Management, National Operations Center, Denver, CO.	Monitoring Program	Grey literature	Measurement of conditions without statistical evaluation	Published but not peer-reviewed	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Aquatic ecosystems		Grantham, T. E., Fesenmyer, K. A., Peek, R., Holmes, E., Quiñones, R. M., Bell, A., Santos, N., Howard, J. K., Viers, J. H. and Moyle, P. B. (2017), Missing the Boat on Freshwater Fish Conservation in California. CONSERVATION LETTERS, 10: 77–85. doi:10.1111/conl.12249	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space or time to plan area	Yes	n/a	n/a	Not Influencial
Aquatic ecosystems		Howard, J.K., Klausmeyer, K.R., Fesenmyer, K.A. et al. (2015). Patterns of freshwater species richness, endemism, and vulnerability in California. PLoS ONE, 10, e0130710	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Aquatic ecosystems		Hunsaker, C., and J. Long, Forested riparian areas. Chapter 6.2, in Long, Jonathan W.; Quinn-Davidson, Lenya; Skinner, Carl N. 2014. Science Synthesis To Support Socioecological Resilience In The Sierra Nevada And Southern Cascade Range. Gen. Tech. Rep. PSW-GTR-247. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 723 p.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Influencial
Aquatic ecosystems	Water quality	Investigating Water Quality in the Pacific Southwest Region, Best Management Practices Evaluation Program (BMPEP) User's Guide, USDA Forest Service, Pacific Southwest Region, June 2002.	Plan and Monitoring Program	Federal or state data	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Aquatic ecosystems		Kattelmann, R., and M. Embury, 1996, Riparian areas and wetlands, Sierra Nevada Ecosystem Project: Final report to Congress, Vol. II, Assessments and scientific basis for management options: Davis, CA, University of California, Centers for Water and Wildland Resources.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Aquatic ecosystems		Knapp, R. A., and K. R. Matthews, 2000, Effects of nonative fishes on wilderness lake ecosystems in the Sierra Nevada and recommendations for reducing impacts, USDA Forest Service Proceedings RMRS-P-15-Vol-5, p. 312-317.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Aquatic ecosystems	Focal species	Mazor, R.D., A.C. Rehn, P.R. Ode, M. Engeln, K.C. Schiff, E.D. Stein, D.J. Gillett, D.B. Herbst and C.P. Hawkins. 2016. Bioassessment in complex environments: designing an index for consistent meaning in different settings. Freshwater Science 35(1): 249-271	Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Aquatic ecosystems		Moyle, P.B. Potential Aquatic Diversity Management Areas. Chapter 57 in Sierra Nevada Ecosystem Project, Final Report to Congress, vol. II, Assessments and Scientific Basis for Management Options. Davis: University of California, Centers for Water and Wildland Resources, 1996.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Aquatic ecosystems		Perry, L. G., Reynolds, L. V., Beechie, T. J., Collins, M. J., & Shafroth, P. B. (2015). Incorporating climate change projections into riparian restoration planning and design. Ecohydrology.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space or time to plan area	Yes	n/a	n/a	Not Influencial
Aquatic ecosystems		Reeves, Gordon H.; Pickard, Brian R.; Johnson, K. Norman. 2016. An initial evaluation of potential options for managing riparian reserves of the Aquatic Conservation Strategy of the Northwest Forest Plan. Gen. Tech. Rep. PNW-GTR-937. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 97 p	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space or time to plan area	Yes	n/a	n/a	Not Influencial
Aquatic ecosystems		Rieman, B.E., Hessburg, P.F., Luce, C., Dare, M. (2010). Wildfire and Management of Forests and Native Fishes: Conflict or Opportunity for Convergent Solutions? BioScience 60: 460–468	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space or time to plan area	Yes	n/a	n/a	Not Influencial
Aquatic ecosystems		Rieman, B.E., Lee, D.C., Hessburg, P.F., Sedell, J.R. 2000. Toward an Integrated Classification of Ecosystems: Defining Opportunities for Managing Fish and Forest Health. Environmental Management (25:4): 425-444.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space or time to plan area	Yes	n/a	n/a	Not Influencial

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Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Aquatic ecosystems		USFWS 2015. Programmatic Biological Opinion on Nine Forest Programs on Nine National Forests in the Sierra Nevada of California for the Endangered Sierra Nevada Yellow-legged Frog, Endangered Northern Distinct Population Segment of the Mountain Yellow-legged Frog, and Threatened Yosemite Toad.	Plan and Monitoring Program	Grey literature	Measurement of conditions with statistical evaluation	Published but not peer-reviewed	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Aquatic ecosystems		van Wagtendonk, J.W.; Fites-Kaufman, J. 2006. Sierra Nevada bioregion. In Sugihara, N.G.; van Wagtendonk, J.W.; Shaffer, K.E.; Fites-Kaufman, J.; Thode, A.E., eds. Fire in California's Ecosystems. Berkeley, CA: University of California Press: 264–294.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Aquatic ecosystems		Viers, J. H., & Rheinheimer, D. E. (2011). Freshwater conservation options for a changing climate in California's Sierra Nevada. Marine and Freshwater Research, 62(3), 266-278	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Aquatic ecosystems	special habitats	Weixelman, DA, and DJ Cooper. 2009. Assessing proper functioning condition for fen areas in the Sierra Nevada and southern cascade ranges in California. USDA. R5-TP-028. April 2009	Monitoring Program	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Aquatic ecosystems	special habitats	Weixelman, DA, B Hill, DJ Cooper, EL Berlow, JH Viers, SE Purdy, AG Merrill, and SE Gross. 2011. Meadow hydrogeomorphic types for the Sierra Nevada and southern Cascade ranges in California. USDA. R5-TP-034. December 2011.	Monitoring Program	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Aquatic ecosystems		Westerling, AL, HG Hidalgo, DR Cayan, and TW Swetnam. 2006. Warming and earlier spring increases western U.S. forest wildfire activity. Science 313: 940-943	Plan and Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space or time to plan area	Yes	n/a	n/a	Not Influencial
Aquatic ecosystems		Williams, JE, AL Haak, HM Neville, and WT Colyer. 2009. Potential consequences of climate change to persistence of cutthroat trout populations. North American Journal of Fisheries Management 29: 533-548	Plan and Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space or time to plan area	Yes	n/a	n/a	Not Influencial
Aquatic ecosystems	runoff	Zimmerman JKH, Carlisle DM, MayJT, et al. Patterns and magnitude of flow alteration in California, USA. Freshwater Biol. 017;00:1–15. https://doi.org/10.1111/fwb.13058	Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space or time to plan area	Yes	n/a	n/a	Not Influencial
Climate change and other stressors	Climate vulnerability and adaptation	Kershner, JM. 2014. "A climate change vulnerability assessment for focal resources of the Sierra Nevada." EcoAdapt, Bainbridge Island, Washington, USA.	Plan Decision or Plan	NGO data	Estimation of condition or trend	Documented but not published	Same in space and time to plan area	No	Lack of consensus for some inherent uncertainty in climate model projections, especially for precipitation; certainty in other trends, such as increases in temperature, decreased snowpack	n/a	Not Influencial
Climate change and other stressors	Forest ecosystems	Millar, Constance I, Nathan L Stephenson, and Scott L Stephens. 2007. "Climate change and forests of the future: managing in the face of uncertainty." Ecological applications 17 (8):2145-2151.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Climate change and other stressors	Forest ecosystems	Millar, Constance I., and Nathan L. Stephenson. 2015. "Temperate forest health in an era of emerging megadisturbance." Science (New York, N.Y.) 349 (6250):823-6.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Climate change and other stressors	Climate vulnerability and adaptation	Peterson, D.L., C.I. Millar, L.A. Joyce, M.J. Furniss, J.E. Halofsky, R.P. Neilson, and T.L. Morelli. 2011. Responding to climate change in national forests: a guidebook for developing adaptation options. In Gen. Tech. Rep. PNW-GTR-855. Portland, OR: USDA Forest Service.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	No	See above	n/a	Not Influencial
Climate change and other stressors		Safford, H.D., M.P. North, and M.D. Meyer. 2012. Climate change and the relevance of historical forest conditions. In Managing Sierra Nevada forests, edited by M. P. North. Albany, CA: USDA Forest Service Pacific Southwest Research Station.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	No	See above	n/a	Not Influencial
Climate change and other stressors	Climate vulnerability and adaptation	Schwartz, M.D., K.R. Nydick, J.H. Thorne, and A.J. Holguin. 2013a. Southern Sierra ecoregional fire management exercise based on modeling plausible future scenarios: vegetation climate vulnerability section. California Cooperative Ecosystem Studies Unit, National Park Service.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Documented but not published	Same in space and time to plan area	No	n/a	n/a	Not Influencial

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Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Climate change and other stressors	Climate vulnerability assessment	Southern Sierra Partnership. 2010. Framework for cooperative conservation and climate adaptation for the southern Sierra Nevada and Tehachapi Mountains, Volume I. Edited by Audubon California The Nature Conservancy, Sequoia Riverlands Trust, Sierra Business Council. 96 p.	Plan Decision or Plan	NGO data	Estimation of condition or trend	Published but not peer-reviewed	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Climate change and other stressors	Forest ecosystems	Stephens, S.L., J.K. Agee, P.Z. Fule, M.P. North, W.H. Romme, T.W. Swetnam, M.G. Turner. 2013. Managing forests and fire in changing climates. Science 342: 41-42.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Stephens et al. 2010	n/a	Not Influencial
Climate change and other stressors	Fire regimes	Stephens, Scott L, Constance I Millar, and Brandon M Collins. 2010. "Operational approaches to managing forests of the future in Mediterranean regions within a context of changing climates." Environmental Research Letters 5 (2):024003.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Climate change and other stressors	Climate vulnerability and adaptation	Thorne, J.H., H. Choe, R.M. Boynton, J. Bjorkman, W. Albright, K. Nydick, A.L. Flint, L.E. Flint, and M.W. Schwartz. 2017. "The impact of vegetation change uncertainty on California's vegetation and adaptive management." Ecosphere 8 (12):e02021.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	No	n/a	n/a	Not Influencial
Climate change and other stressors	Fire regimes	van Wagtendonk, J.W.; Fites-Kaufman, J. 2006. Sierra Nevada bioregion. In Sugihara, N.G.; van Wagtendonk, J.W.; Shaffer, K.E.; Fites-Kaufman, J.; Thode, A.E., eds. Fire in California's Ecosystems. Berkeley, CA: University of California Press: 264–294.	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Climate change and other stressors	Climate vulnerability assessment	Viers, J,H., Purdy, S.E., Peek, R.A., Fryjoff-Hung, A., Santos, N.R., Katz, J.V.E., Emmons, J.D., Dolan, D.V., Yarnell, S.M. 2013. Montane Meadows in the Sierra Nevada: Changing Hydroclimatic Conditions and Concepts for Vulnerability Assessment. Center for Watershed Sciences Technical Report (CWS -2013-01), University of California, Davis. 63 pgs.	Plan Decision or Plan	Grey literature	Measurement of conditions with statistical evaluation	Published but not peer-reviewed	Same in space and time to plan area	Yes	n/a	Agency policies	Not Influencial
Climate change and other stressors	Watersheds	Viers, J. H., & Rheinheimer, D. E. (2011). Freshwater conservation options for a changing climate in California's Sierra Nevada. Marine and Freshwater Research, 62(3), 266-278.	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Climate change and other stressors	Fire regimes	Westerling, A. L., B.P. Bryant, H.K. Preisler, T.P. Holmes, H.G. Hidalgo, T. Das, and S.R. Shrestha. 2011. "Climate change and growth scenarios for California wildfire." Climatic Change 109 (1 SRC - GoogleScholar):445-463.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Westerling & Bryant (2006, 2008) and Westerling et al. (2003)	n/a	Not Influencial
Climate change and other stressors	Fire regimes	Westerling, AL, HG Hidalgo, DR Cayan, and TW Swetnam. 2006. Warming and earlier spring increases western U.S. forest wildfire activity. Science 313: 940-943	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Climate change and other stressors	Cutthroat trout	Williams, JE, AL Haak, HM Neville, and WT Colyer. 2009. Potential consequences of climate change to persistence of cutthroat trout populations. North American Journal of Fisheries Management 29: 533-548	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Cultural Resources		USFS Staff with guidance from FSM 2360, FSH 2309.12	Plan Decision or Plan	Expert opinion or observation	Estimation of condition or trend	Evaluation of expert	Same in space and time to plan area	Yes	n/a	Experience of land managers	Not Influencial
Energy		USFS staff with Forest Assessment and Need-to-Change documents	Plan Decision or Plan	Expert opinion or observation	Estimation of condition or trend	Evaluation of expert	Same in space and time to plan area	Yes	n/a	Experience of land managers	Not Influencial
Fire		B. W. Butler, 2014. Wildland firefighter safety zones: a review of past science and summary of future needs. International Journal of Wildland Fire 295–308	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Fire		Bret W. Butler and Jack D. Cohen, 1998 Firefighter Safety Zones: How Big Is Big Enough? Fire Management Notes Volume 58 No. 1 1998	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Fire		Incident Response Pocket Guide National Wildfire Coordinating Group PMS 932, January 2014	Plan Decision or Plan	Federal or state data	Estimation of condition or trend	Published but not peer-reviewed	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial

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Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Fire		Joe H. Scott, Elizabeth D. Reinhardt, 2001. Assessing Crown Fire Potential by Linking Models of Surface and Crown Fire Behavior. USDA Forest Service Rocky Mountain Research Station Research Paper RMRS-RP-29 September 2001	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Fire		Joe H. Scott, Matthew P. Thompson, David E. Calkin 2013, A Wildfire Risk Assessment Framework for Land and Resource Management, USDA Forest Service Rocky Mountain Research Station General Technical Report RMRS-GTR-315 October 2013	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	Traditional ecological knowledge	Not Influencial
Fire		John S. Crosby and Craig C. Chandler 2004. Get the Most from your Windspeed Observations Fire, Management Today Volume 64 No. 1 Winter 2004	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Fire	Invasive species	Keeley, Jon E. 2006. "Fire management impacts on invasive plants in the western United States." Conservation biology : the journal of the Society for Conservation Biology 20 (2):375-84.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Fire		Marc D. Meyer, Susan L. Robert, Robin Wills, Matthew Brooks, Eric M. Winford 2015. Principle of Effective USA Federal Fire Management Plans: Fire Ecology Volume 11, Issue 2, 2015	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Fire		Matthew P. Thompson, Phil Bowden, April Brough, Joe H. Scott, Julie Gilbertson-Day, Alan Taylor, Jennifer Anderson, Jessica R. Haas 2015. Application of Wildfire Risk Assessment Results to Wildfire Response Planning in the Southern Sierra Nevada, California, USA: Forests — Open Access Forestry Journal	Plan and Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	Experience of land managers	Not Influencial
Fire	Fire regimes	Miller, C, and GH Aplet. 2016. "Progress in Wilderness Fire Science: Embracing Complexity." Journal of Forestry 114 (3):373-383. doi: 10.5849/jof.15-008.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	Experience of land managers	Not Influencial
Fire	Fire Trends	Parisien, M. A., S. Snetsinger, J.A. Greenberg, C.R. Nelson, T. Schoennagel, S.Z. Dobrowski, and M.A. Moritz. 2012. "Spatial variability in wildfire probability across the western United States " International Journal of Wildland Fire 21:313-327.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Parisien et al. (2007, 2010)	n/a	Not Influencial
Fire		Patricia L. Andrews, Faith Ann Heinsch, and Luke Schelvan, 2011. How to Generate and Interpret Fire Characteristics Charts for Surface and Crown Fire Behavior General Technical Report RMRS-GTR-253 March 2011	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Fire	Tree mortality and fire	Reiner, Alicia, Matthew Dickenson, Jennifer Anderson, Brandon Smith, Cally Davidson, Scott Dailey, and Carol Ewell. 2017. Fire Behavior in Tree Mortality Summary Report. Sequoia National Forest and Giant Sequoia National Monument, Pier Fire. USDA Forest Service, Enterprise Program, Fire Behavior Assessment Team.	Plan Decision or Plan	Federal or state data	Estimation of condition or trend	Documented but not published	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Fire	Tree mortality and fire	Stephens, S.L., B.M. Collins, C.J. Fettig, M.A. Finney, C.A. Hoffman, E.E. Knapp, M.P. North, H. Safford, and R.B. Wayman. 2018. "Drought, wildfire, and tree mortality in forests adapted to frequent fire." Bioscience XX:1-38. doi: https://doi.org/10.1093/biosci/bix146.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Fire		USDA Forest Service health and safety code handbook 1999. USDA Forest Service, Effective December 1, 1999	Plan Decision or Plan	Federal or state data	Estimation of condition or trend	Published but not peer-reviewed	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Fire		van Wagtendonk, J.W.; Fites-Kaufman, J. 2006. Sierra Nevada bioregion. In Sugihara, N.G.; van Wagtendonk, J.W.; Shaffer, K.E.; Fites-Kaufman, J.; Thode, A.E., eds. Fire in California's Ecosystems. Berkeley, CA: University of California Press: 264–294.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	Experience of land managers	Not Influencial
Geology and Minerals		USFS staff with Forest Assessment and Need-to-Change documents	Plan Decision or Plan	Expert opinion or observation	Estimation of condition or trend	Evaluation of expert	Same in space and time to plan area	Yes	n/a	Experience of land managers	Not Influencial
Infrastructure	Fire effects	Scott, J.H., M.P. Thompson, and J.W. Gilbertson-Day. 2016. Examining alternative fuel management strategies and the relative contribution of National Forest System land to wildfire risk to adjacent homes – A pilot assessment on the Sierra National Forest, California, USA. Forest Ecology and Management 362: 29–37	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Modeling study with limitations but focused on Sierra NF	n/a	Not Influencial

					Basis for the Determination						
Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Infrastructure		USFS staff with Forest Assessment and Need-to-Change documents	Plan Decision or Plan	Expert opinion or observation	Estimation of condition or trend	Evaluation of expert	Same in space and time to plan area	Yes	n/a	Experience of land managers	Not Influencial
Lands		USFS staff with Forest Assessment and Need-to-Change documents	Plan Decision or Plan	Expert opinion or observation	Estimation of condition or trend	Evaluation of expert	Same in space and time to plan area	Yes	n/a	Experience of land managers	Not Influencial
Local Communities	Economics	Dean Runyan and Associates. 2012. California Travel Impacts by County, 1992-2010 2011 Preliminary State & Regional Estimates April 2012 p.149.	Plan and Monitoring Program	Expert opinion or observation	Measurement of conditions without statistical evaluation	Published but not peer-reviewed	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Local Communities	Economics	Headwaters Economics, 2018, Economic Profile System, https://headwaterseconomics.org/tools/economic-profile-system/tech-info/, Bozeman MT date visited January 12, 2018.	Monitoring Program	Federal or state data	Measurement of conditions without statistical evaluation	Documented but not published	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Local Communities	Economics	IMPLAN Group LLC, 2016. IMPLAN System (data and software). 16905 Northcross Dr., Suite 120, Huntersville, NC 28078. www.IMPLAN.com.	Plan and Monitoring Program	Expert opinion or observation	Estimation of condition or trend	Evaluation of expert	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Local Communities	Economics	USFS staff with guidance from the USDA-FS. 2010. Economics Impact Technical Guide July 2010.	Plan and Monitoring Program	Expert opinion or observation	Estimation of condition or trend	Evaluation of expert	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Rangeland Livestock Grazing	Invasive Species dispersal	Bartuszevige, A. M. and Endress, B. A. 2008. Do ungulates facilitate native and exotic plant spread? Seed dispersal by cattle, elk and deer in northeastern Oregon. Journal of Arid Environments, 72: 904-913.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Experience of land managers	Not Influencial
Rangeland Livestock Grazing	Riparian, Aquatic Ecosystems	Batchelor, J. L., Ripple, W. J., Wilson, T. M. and Painter, L. E. 2015. Restoration of Riparian Areas Following the Removal of Cattle in the Northwestern Great Basin. Environmental management, 55(4): 930-942.	Plan Decision or Plan	Federal or state data	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Public input	Not Influencial
Rangeland Livestock Grazing	Soil and Watershed Conditions	Belnap, J., R. Rosentreter, S. Leonard, J.H. Kaltenecker, J. Williams, and D. Eldridge. 2001. Biological soil crusts: ecology and management. Technical Reference 1730-2. USDA BLM National Science and Technology Center Information and Communications Group, P.O. Box 25047, Denver, CO 80225-0047.	Plan Decision or Plan	Federal or state data	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	Agency guide with published federal Inter-agency protocols.	Agency policies	Not Influencial
Rangeland Livestock Grazing	Invasive Species dispersal	Belsky, J. and Gelbard, J. L. 2000. Livestock Grazing and Weed Invasions in the Arid West. Oregon National Desert Association, Bend, OR. 1-31.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Similar in space or time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Experience of land managers	Not Influencial
Rangeland Livestock Grazing	Rangeland Vegetation, Riparian and Meadow Ecosystems	Bengeyfield, P., 2006. Managing Cows With Streams in Mind. Rangelands, Vol. 28, pgs 3-6.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Similar in space or time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Agency policies	Not Influencial
Rangeland Livestock Grazing	Climate change	Beschta, R. L., DellaSala, D. A., Donahue, D. L., Rhodes, J. J., Karr, J. R. O'Brien, M. H., Fleischner, T. L. and Deacon-Willams, C. 2012. Adapting to climate change on western public lands: addressing the impacts of domestic, wild and feral ungulates. Environmental Management, DOI 10.1007/s00267-012-9964-9.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Similar in space or time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Experience of land managers	Not Influencial
Rangeland Livestock Grazing	Climate change	Beschta, R. L., Donahue, D. L., DellaSala, D. A., Rhodes, J. J., Karr, J. R., O'Brien, M. H., Fleischner, T. L. and Williams, C. D. 2014. Reducing Livestock Effects on Public Lands in the Western United States as the Climate Changes: A Reply to Svejcar et al. Environmental Management, 53(6): 1039-1042	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Similar in space or time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Experience of land managers	Not Influencial
Rangeland Livestock Grazing	Soil and Watershed Conditions	Deines, L., Rosentreter, R., Eldridge, D. J. and Serpe, M. D. 2007. Germination and establishment of two annual grasses on lichen-dominated biological soil crusts. Plant Soil, 295(1-2): 23-35.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Experience of land managers	Not Influencial
Rangeland Livestock Grazing	Climate change	Derlet, R. W., Goldman, C. and Connor, M. J. 2010. Reducing the Impact of Summer Cattle Grazing on Water Quality in the Sierra Nevada Mountains of California: A Proposal. Journal of Water and Health. 8(2): 326-333.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Similar in space or time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Public input	Not Influencial

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Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Rangeland Livestock Grazing	Soil and Watershed Conditions, Invasive Species dispersal, Riparian and Aquatic Ecosystems	Fleischner, T. L. 1994. Ecological costs of livestock grazing in western North America. Conservation Biology, 8: 629-644.	Plan Decision or Plan	Grey literature	Measurement of conditions without statistical evaluation	Published but not peer-reviewed	Similar in space or time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Public input	Not Influencial
Rangeland Livestock Grazing	Rangeland Vegetation, Riparian and Meadow Ecosystems	Jones, B. et al. 2005. Effectiveness Monitoring of Aspen Regeneration on Managed Rangelands. *IN* R5-EM-TP-004, March 1997 Suppl. October 2017. Pacific Southwest Region 5, Vallejo, CA.	Plan Decision or Plan	Federal or state data	Measurement of conditions with statistical evaluation	Documented but not published	Same in space and time to plan area	Yes	Regional guide with published federal Inter-agency protocols.	Agency policies	Not Influencial
Rangeland Livestock Grazing	Fire Ecology, Riparian and Meadow Ecosystems	Kaczynski, K. and D. Cooper. 2014. Post-fire response of riparian vegetation in a heavily browsed environment. Forest Ecol. Mgt. 338(2015) 14-19	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Experience of land managers	Not Influencial
Rangeland Livestock Grazing	Rangeland Vegetation, Riparian and Meadow Ecosystems	Long, J.W.; Pope, K. 2014. Wet meadows. In: Long, J.W.; Quinn-Davidson, L.; Skinner, C.N., eds. Science synthesis to support socioecological resilience in the Sierra Nevada and southern Cascade Range. Gen. Tech. Rep. PSW-GTR-247. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station: 341-372. Chap. 6.3.	Plan Decision or Plan	Federal or state data	Estimation of condition or trend	Published peer-reviewed article	Similar in space or time to plan area	No	A Science Synthesis of ongoing monitoring and restoration efforts.	Experience of land managers	Not Influencial
Rangeland Livestock Grazing	Rangeland Vegetation, Riparian and Meadow Ecosystems	Lorenzana, J. D. Weixelman and S. Gross. 2017. R5-TP-042 Plant Guide for Resource Managers: Field reference for common plant species in the Pacific Southwest Region *IN* R5-EM-TP-004, March 1997 Suppl. October 2017. Pacific Southwest Region 5, Vallejo, CA.	Plan Decision or Plan	Federal or state data	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Regional guide with published federal Inter-agency protocols.	Agency policies	Not Influencial
Rangeland Livestock Grazing	Riparian, Aquatic Ecosystems	Matthews, K. 2016. Water temperature, disolved oxygen, flow, and shade measurements in the three stream sections of the Golden Trout Wilderness PSW-RN-427, US Forest Service, Albany, CA.	Plan Decision or Plan	Grey literature	Measurement of conditions with statistical evaluation	Published but not peer-reviewed	Same in space and time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Experience of land managers	Not Influencial
Rangeland Livestock Grazing	Invasive species, Fire	Merriam, K. E., Keeley, J. E. and Beyers, J. L. 2007. The role of fuel breaks in the invasion of nonnative plants: U.S. Geological Survey Scientific Investigations Report 2006-5185, 69 pp.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Experience of land managers	Not Influencial
Rangeland Livestock Grazing	Rangeland Vegetation, Riparian and Meadow Ecosystems	Merriam, K.E., Markwith, S.H., Coppoletta, M., 2017. Livestock exclusion alters plant species composition in fen meadows. Applied Vegetation Science, pgs. 1-10. DOI: 10.1111/avsc.12333© 2017 International Association for Vegetation Science.	Plan Decision or Plan	Grey literature	Measurement of conditions with statistical evaluation	Published but not peer-reviewed	Similar in space or time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Agency policies	Not Influencial
Rangeland Livestock Grazing	Rangeland Vegetation, Riparian and Meadow Ecosystems	Nussle, S., K. R. Matthews, and S. M. Carlson. 2017. Patterns and dynamics of vegetation recovery following grazing cessation in the California golden trout habitat. Ecosphere 8(7):e01880	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Experience of land managers	Not Influencial
Rangeland Livestock Grazing	Climate change	Opdam, O. and Wascher, D. 2004. Climate change meets habitat fragmentation: linking landscape and biogeographical scale levels in research and conservation. Biological Conservation, 117: 285-297. http://research.eeescience.utoledo.edu/lees/Teaching/EEES4760_07/Opdam.PDF	Plan Decision or Plan	NGO data	Measurement of conditions without statistical evaluation	Published but not peer-reviewed	Similar in space or time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Experience of land managers	Not Influencial
Rangeland Livestock Grazing	Riparian, Aquatic Ecosystems	Pollock, M., T. Beechie, J. Wheaton, C. Jordan, N. Bouwes, N. Weber, and C. Volk. 2014. Using beaver dams to restore incised stream ecosystems. BioScience vol. XX(X).	Plan Decision or Plan	Grey literature	Measurement of conditions without statistical evaluation	Published but not peer-reviewed	Similar in space or time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Experience of land managers	Not Influencial
Rangeland Livestock Grazing	Soil and Watershed Conditions	Ponzetti, J., McCune, B., Pyke, D. A. 2007. Biotic soil crusts in relation to topography, cheatgrass and fire in the Columbia Basin, Washington. Bryologist, 110(4): 706-722.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Experience of land managers	Not Influencial

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Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Rangeland Livestock Grazing	Rangeland Vegetation, Riparian and Meadow Ecosystems	Ratliff, R. 1984. Meadows in the Sierra Nevada of California: state of knowledge, GTR-PSW-84. 1984. *IN* R5-EM-TP-004, March 1997 Suppl. October 2017. Pacific Southwest Region 5, Vallejo, CA.	Plan Decision or Plan	Federal or state data	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Regional guide with published federal Inter-agency protocols.	Agency policies	Not Influencial
Rangeland Livestock Grazing	Invasive Species dispersal	Reisner, M. D., Grace, J. B., Pyke, D. A. and Doescher, P. S. 2013. Conditions favouring Bromus tectorum dominance of endangered sagebrush steppe ecosystems. Journal of Applied Ecology, 50(4): 1039-1049. doi: 10.1111/1365-2664.12097.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Experience of land managers	Not Influencial
Rangeland Livestock Grazing	Riparian, Aquatic Ecosystems	Small, B., J. Frey, C. Gard. 2016. Livestock grazing limits beaver restoration in northern New Mexico. Restoration Ecology doi: 10.1111/rec.12364.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Experience of land managers	Not Influencial
Rangeland Livestock Grazing	Rangeland Vegetation, Riparian and Meadow Ecosystems	USDA Forest Service. 2004. Browsed Plant Method for Young Quaking Aspen. *IN* R5-EM-TP-004, March 1997 Suppl. October 2017. Pacific Southwest Region 5, Vallejo, CA.	Plan Decision or Plan	Federal or state data	Estimation of condition or trend	Documented but not published	Same in space and time to plan area	Yes	Regional guide with published federal Inter-agency protocols.	Agency policies	Not Influencial
Rangeland Livestock Grazing	Rangeland Vegetation, Riparian and Meadow Ecosystems	USDA Forest Service. 2012. GTR-WO-86a Groundwater-Dependent Ecosystems: Level I Inventory Field Guide *IN* R5-EM-TP-004, March 1997 Suppl. October 2017. Pacific Southwest Region 5, Vallejo, CA.	Plan and Monitoring Program	Federal or state data	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Regional guide with published federal Inter-agency protocols.	Agency policies	Not Influencial
Rangeland Livestock Grazing	Rangeland Vegetation, Riparian and Meadow Ecosystems	USDA Forest Service. 2017. Range Analysis and Planning Guide R5-EM-TP-004, March 1997 Suppl. October 2017. Pacific Southwest Region 5, Vallejo, CA.	Plan Decision or Plan	Federal or state data	Estimation of condition or trend	Published but not peer-reviewed	Same in space and time to plan area	Yes	Regional guide with published federal Inter-agency protocols.	Agency policies	Not Influencial
Rangeland Livestock Grazing	Rangeland Vegetation, Riparian and Meadow Ecosystems	USDI Bureau of Land Management. 1999. Sampling Vegetation Attributes, TR-1734-04 *IN* R5-EM-TP-004, March 1997 Suppl. October 2017. Pacific Southwest Region 5, Vallejo, CA.	Plan Decision or Plan	Federal or state data	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	Regional guide with published federal Inter-agency protocols.	Agency policies	Not Influencial
Rangeland Livestock Grazing	Rangeland Vegetation, Riparian and Meadow Ecosystems	USDI Bureau of Land Management. 1999. Utilization Studies and Residual Measurements, TR-1734-03 *IN* R5-EM-TP-004, March 1997 Suppl. October 2017. Pacific Southwest Region 5, Vallejo, CA.	Plan Decision or Plan	Federal or state data	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Regional guide with published federal Inter-agency protocols.	Agency policies	Not Influencial
Rangeland Livestock Grazing	Rangeland Vegetation, Riparian and Meadow Ecosystems	USDI Bureau of Land Management. 2003. TR-1737-16 Riparian Area Management: A users guide to assessing proper functioning condition and the supporting science for lentic areas. *IN* R5-EM-TP-004, March 1997 Suppl. October 2017. Pacific Southwest Region 5, Vallejo, CA.	Plan Decision or Plan	Federal or state data	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	Regional guide with published federal Inter-agency protocols.	Agency policies	Not Influencial
Rangeland Livestock Grazing	Rangeland Vegetation, Riparian and Meadow Ecosystems	USDI Bureau of Land Management. 2005. Interpreting Indicators of Rangeland Health ver. 4, TR-1734-06 *IN* R5-EM-TP-004, March 1997 Suppl. October 2017. Pacific Southwest Region 5, Vallejo, CA.	Plan and Monitoring Program	Federal or state data	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Regional guide with published federal Inter-agency protocols.	Agency policies	Not Influencial
Rangeland Livestock Grazing	Rangeland Vegetation, Riparian and Meadow Ecosystems	USDI Bureau of Land Management. 2011. TR-1737-23 Multiple Indicator Monitoring (MIM) of Stream Channels and Streamside Vegetation *IN* R5-EM-TP-004, March 1997 Suppl. October 2017. Pacific Southwest Region 5, Vallejo, CA.	Plan and Monitoring Program	Federal or state data	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Regional guide with published federal Inter-agency protocols.	Agency policies	Not Influencial
Rangeland Livestock Grazing	Rangeland Vegetation, Riparian and Meadow Ecosystems	USDI Bureau of Land Management. 2015. TR-1737-15 Proper Functioning Condition Assessment for Lotic Areas *IN* R5-EM-TP-004, March 1997 Suppl. October 2017. Pacific Southwest Region 5, Vallejo, CA.	Plan and Monitoring Program	Federal or state data	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Regional guide with published federal Inter-agency protocols.	Agency policies	Not Influencial
Rangeland Livestock Grazing	Rangeland Vegetation, Riparian and Meadow Ecosystems	Weixelman, D. 2014. Field Methods for Condition Assessment Using Rooted Frequency Vegetation Sampling and Soil Measurements in Meadows. *IN* R5-EM-TP-004, March 1997 Suppl. October 2017. Pacific Southwest Region 5, Vallejo, CA.	Plan and Monitoring Program	Federal or state data	Measurement of conditions with statistical evaluation	Documented but not published	Same in space and time to plan area	Yes	Regional guide with published federal Inter-agency protocols.	Agency policies	Not Influencial
Rangeland Livestock Grazing	Rangeland Vegetation, Riparian and Meadow Ecosystems	Weixelman, D. and D. Copper. 2009. Assessing Proper Functioning Condition for Fen Areas in the Sierra Nevada and Southern Cascade Ranges in California *IN* R5-EM-TP-004, March 1997 Suppl. October 2017. Pacific Southwest Region 5, Vallejo, CA.	Plan and Monitoring Program	Federal or state data	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	Regional guide with published federal Inter-agency protocols.	Agency policies	Not Influencial

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Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Rangeland Livestock Grazing	Rangeland Vegetation, Riparian and Meadow Ecosystems	Weixelman, D. et al. 2011. Meadow Hydrogeomorphic Types for the Sierra Nevada and Southern Cascade Ranges in California, R5-TP-034. 2011. *IN* R5-EM-TP-004, March 1997 Suppl. October 2017. Pacific Southwest Region 5, Vallejo, CA.	Plan Decision or Plan	Federal or state data	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Regional guide with published federal Inter-agency protocols.	Agency policies	Not Influencial
Rangeland Livestock Grazing	Rangeland Vegetation, Riparian and Meadow Ecosystems	Winward, A. 2000. RMRS-GTR-47 Monitoring the Vegetation Resources in Riparian Areas *IN* R5-EM-TP-004, March 1997 Suppl. October 2017. Pacific Southwest Region 5, Vallejo, CA.	Plan and Monitoring Program	Federal or state data	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space or time to plan area	Yes	Regional guide with published federal Inter-agency protocols.	Agency policies	Not Influencial
Rangeland Vegetation Types	Soil and Watershed Conditions	Anderson, J. E. and Inouye, R. S. 2001. Landscape-Scale Changes in Plant Species Abundance and Biodiversity of a Sagebrush Steppe Over 45 Years. Ecological Monographs, 71(4), 2001, pp. 531-556.	Plan Decision or Plan	Grey literature	Measurement of conditions without statistical evaluation	Published but not peer-reviewed	Similar in space or time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Experience of land managers	Not Influencial
Rangeland Vegetation Types	Soil and Watershed Conditions	Beymer, R. J., and Klopatek, J. M. 1992. Effects of Grazing on Biological soil Crusts in Pinyon-Juniper Woodlands in Grand Canyon National Park. American Midland Naturalist 127:139-148.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	No	Lack of consensus due to site specific conditions and project goals.	Experience of land managers	Not Influencial
Scenery		USFS staff with guidance from the Landscape Aesthetics - A Handbook for Scenery Management (Agriculture Handbook 701) and FSM 2380.	Plan Decision or Plan	Expert opinion or observation	Estimation of condition or trend	Evaluation of expert	Same in space and time to plan area	Yes	n/a	Public input	Not Influencial
Sustainable Recreation	ROS	Clark, R.N. and Stankey, G.H., 1979. The recreation opportunity spectrum: a framework for planning, management, and research. Pacific Northwest Forest and Range Experiment Station. Gen. Tech. Rep. GTR-PNW-98. December 1979.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Evaluation of expert	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Sustainable Recreation	Visitor use	English, D.B., Kocis, S.M., Zarnoch, S.J. and Arnold, J.R., 2002. Forest Service national visitor use monitoring process: research method documentation. Gen. Tech. Rep. SRS-57. Asheville, NC: US Department of Agriculture, Forest Service, Southern Research Station. 14 p.	Plan and Monitoring Program	Federal or state data	Measurement of conditions without statistical evaluation	Documented but not published	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Sustainable Recreation	Visitor use	Interagency Visitor Use Management Council. 2016. Visitor use management framework: A guide to providing sustainable outdoor recreation. Edition One, July 2016.	Plan and Monitoring Program	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Sustainable Recreation	Wilderness	Landres, P., Boutcher, S., Merigliano, L., Barns, C., Davis, D., Hall, T., Henry, S., Hunter, B., Janiga, P., Laker, M. and McPherson, A., 2005. Monitoring selected conditions related to wilderness character: a national framework. RMRS-GTR-151. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.	Monitoring Program	Federal or state data	Measurement of conditions without statistical evaluation	Documented but not published	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Sustainable Recreation	ROS	United States Department of Agriculture, Forest Service. 1990. ROS primer and field guide, R6-REC-021-90. Washington, D.C.: U.S. Dept. of Agriculture, Forest Service.	Plan and Monitoring Program	Grey literature	Estimation of condition or trend	Evaluation of expert	Same in space or time to plan area	Yes	n/a	n/a	Not Influencial
Sustainable Recreation		USFS staff with guidance from the Visitor Use Mangement Framework: A guide to providing sustainable outdoor recreation, July 2016; The Visitor Experience and Resource Protection (VERP) Framework: A handbook for planners and managers, September 1997.	Plan and Monitoring Program	Expert opinion or observation	Estimation of condition or trend	Evaluation of expert	Similar in space or time to plan area	Yes	n/a	Experience of land managers	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	Anderson, M. K. 2006. The use of fire by Native Americans in California. Fire in California's ecosystems. Berkeley, California, USA: University of California Press.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Anderson and Moratto (1996)	Traditional ecological knowledge	Not Influencial
Terrestrial Ecosystems and Vegetation	Traditional ecological knowledge	Anderson, M.K., and M.J. Moratto. 1996b. "Native American land-use practices and ecological impacts." In Sierra Nevada Ecosystem Project (SNEP): Final Report to Congress, 187-206. Davis, CA: University of California, Centers for Water and Wildland Resources	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	Traditional ecological knowledge	Not Influencial
Terrestrial Ecosystems and Vegetation	Riparian	Arkle, Robert S, and David S Pilliod. 2010. "Prescribed fires as ecological surrogates for wildfires: a stream and riparian perspective." Forest Ecology and Management 259 (5):893-903.	Plan Decision or Plan	Vegetation Composition, Structure and Function	Measurement of conditions with statistical evaluation	Documented but not published	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Old forests	Barbour, M., E. Kelly, P. Maloney, D. Rizzo E. Royce, J. Fites-Kaufmann. 2002. Present and past old-growth forests of the Lake Tahoe Basin, Sierra Nevada, U.S. Journal of Vegetation Science 13:461-472.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Old forests	Bate, L.J., Garton, E.O. and Wisdom, M.J., 1999. Estimating snag and large tree densities and distributions on a landscape for wildlife management. PNW-GTR-425. USDA Forest Service, Pacific Northwest Research Station.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes and forest ecosystems	Beaty and Taylor 2008. Fire History and the structure and dynamics of mixed conifer forest landscape in the northern Sierra Nevada, Lake Tahoe Basin, California, USA	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	Article cited and summarized in PSW Science Synthesis	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	FIA	Bechtold, W.A. and Patterson, P.L., 2005. The enhanced forest inventory and analysis program: national sampling design and estimation procedures (Vol. 80). Asheville, North Carolina: US Department of Agriculture Forest Service, Southern Research Station.	Monitoring Program	Grey literature	Measurement of conditions with statistical evaluation	Published but not peer-reviewed	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial

					Basis for the Determination						
Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Terrestrial Ecosystems and Vegetation	Fire regimes and forest ecosystems	Bekker, M.F. and A.H. Taylor. 2001. Gradient Analysis of fire regimes in montane forests of the Southern Cascade Range, Thousand Lakes Wilderness, Califronia, USA.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	Article cited and summarized in PSW Science Synthesis	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes and forest ecosystems	Bekker, M.F. and A.H. Taylor. 2010. Fire disturbance, forest structure, and stand dynamics in montane forest of the southern Cascades, Thousand Lakes Wilderness, California, USA. Ecoscience 17: 59–72	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	Article cited and summarized in the red fir NRV Assessment	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Complex early seral and post-fire management	Bohlman, GN, M North, and HD Safford. 2016. "Shrub removal in reforested post-fire areas increases native plant species richness." Forest Ecology and Management 374:195-210. doi: 10.1016/j.foreco.2016.05.008.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	No	n/a	Public input	Not Influencial
Terrestrial Ecosystems and Vegetation	Arid shrublands	Brooks, M.L., and R.A. Minnich. 2006. Southeastern Deserts Bioregion. P. 391-414 In: Sugihara, N.G., J.W. van Wagtendonk, K.E. Shaffer, J. Fites-Kaufman, and A.E. Thode (editors). Fire in California's Ecosystems. The University of California Press, Berkeley.	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Invasive species	Chambers, Jeanne C, Bruce A Roundy, Robert R Blank, Susan E Meyer, and A Whittaker. 2007. "What makes Great Basin sagebrush ecosystems invasible by Bromus tectorum?" Ecological Monographs 77 (1):117-145.	Plan and Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by: Booth et al. 2003; Jones et al. 2015; Keeley 2006; Knick et al. 2011; USDA-FS 2013-1, 5, 6	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Eastside shrublands and woodlands - restoration	Chambers, Jeanne C, David A Pyke, Jeremy D Maestas, Mike Pellant, Chad S Boyd, Steven B Campbell, Shawn Espinosa, Douglas W Havlina, Kenneth E Mayer, and Amarina Wuenschel. 2014. "Using resistance and resilience concepts to reduce impacts of invasive annual grasses and altered fire regimes on the sagebrush ecosystem and greater sage-grouse: A strategic multi-scale approach." General Technical Report. RMRS-GTR-326. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 73 p.	Plan and Monitoring Program	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by: Anderson 2005, 2006; Anderson and Moratto 1996; Arkle et al. 2014; Johnson and Miller 2008; Brooks et al. 2013; Mcliver et al. 2014; Miller et al. 2014, 2015; Pyke 2011; Rau et al. 2011, 2014; Roundy et al. 2014; Steers and Allen 2010; Still and Richardson 2015	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire effects	Cocking M.I., J.M. Varner JM, and E.E. Knapp. 2014. Long-term effects of fire severity on oak-conifer dynamics in the southern Cascades. Ecological Applications 24: 94–107	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space or time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	Collins, B. , and C.N. Skinner. 2014a. Chapter 4.1 Fire and Fuels. In Science Synthesis to Support Socioecological Resilience in the Sierra Nevada and Southern Cascades, edited by J.W. Long, L. Quinn-Davidson and C.N. Skinner. Albany, CA: USDA Forest Service, Pacific Southwest Research Station.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Safford and Stevens (2017)	n/a	Influencial
Terrestrial Ecosystems and Vegetation	Old forests	Collins, B.M., Lydersen, J.M., Everett, R.G., Fry, D.L. and Stephens, S.L., 2015. Novel characterization of landscape-level variability in historical vegetation structure. Ecological Applications, 25(5), pp.1167-1174.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Collins et al. (2011)	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	Collins, B.M., M. Kelly, J.W. van Wagtendonk, and S.L. Stephens. 2007. Spatial patterns of large natural fires in Sierra Nevada wilderness areas. Landscape Ecology 22:545-557.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by: Collins et al. 2009, Collins and Stephens 2010, and Kolden et al. 2012	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Complex early seral and post-fire management	Collins, Brandon M, and Gary B Roller. 2013. "Early forest dynamics in stand-replacing fire patches in the northern Sierra Nevada, California, USA." Landscape Ecology 28 (9):1801-1813.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	No	n/a	Public input	Not Influencial
Terrestrial Ecosystems and Vegetation	Complex early seral and post-fire management	Coppoletta, Michelle, Kyle E. Merriam, and Brandon M. Collins. 2016. "Post-fire vegetation and fuel development influences fire severity patterns in reburns." Ecological Applications 26 (3):686-699. doi: 10.1890/15-0225.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	No	n/a	Public input	Not Influencial
Terrestrial Ecosystems and Vegetation	Old forests	Das, A., J. Battles, and N.L. Stephenson. 2011. The contribution of competition to tree mortality in old growth coniferous forests. Forest Ecology and Management 261(7):1203-1213.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Jeffrey pine and mixed conifer forests	Dolanc, Christopher R, Hugh D Safford, James H Thorne, and Solomon Z Dobrowski. 2014. "Changing forest structure across the landscape of the Sierra Nevada, CA, USA, since the 1930s." Ecosphere 5 (8):1-26.	Plan and Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Dolanc et al. 2014, Lutz et al. 2009, and McIntyre et al. 2015	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Aspen ecology	Estes, B. 2013b. Historic range of variation for aspen in the Sierra Nevada and Southern Cascades. Vallejo, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Region.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Documented but not published	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Old forests	Fites, J. A., Chapel, M., Corbin, B., Newman, M., Ratcliff, T., & Thomas, D. 1992. Preliminary ecological old-growth definitions for mixed conifer (SAF type 243) in California. Unpublished document on file, US Forest Service, Pacific Southwest Regional Office, available in project file.	Plan Decision or Plan	Federal or state data	Estimation of condition or trend	Documented but not published	Same in space and time to plan area	Yes	Also supported by Smith 1992	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Complex early seral	Fogg, Alissa M, L Jay Roberts, and Ryan D Burnett. 2014. "Occurrence patterns of Black-backed Woodpeckers in green forest of the Sierra Nevada Mountains, California, USA." Avian Conservation and Ecology 9 (3).	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	Public input	Not Influencial
Terrestrial Ecosystems and Vegetation	Complex early seral	Fontaine, JB, and PL Kennedy. 2012. "Meta-analysis of avian and small-mammal response to fire severity and fire surrogate treatments in U.S. fire-prone forests." Ecological Applications 22 (5):1547-1561.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Betts et al. 2010 and Saab et al. 2011	Public input	Not Influencial

					Basis for the Determination						
Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Terrestrial Ecosystems and Vegetation		Forest Ecosystem Management Assessment Team (US). Forest Ecosystem Management: An Ecological, Economic, and Social Assessment: Report of the Forest Ecosystem Management Assessment Team. 1993	Plan Decision or Plan	Federal or state data	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space or time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Old forests	Franklin, J. F., and J. Fites-Kaufman. 1996. "Assessment of late-successional forests of the Sierra Nevada." Sierra Nevada Ecosystem Project: Final Report to Congress. Volume II: Assessments and scientific basis for management options:627-635	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Same in space or time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Old forests	Franklin, J.F. and Johnson, K.N., 2012. A restoration framework for federal forests in the Pacific Northwest. Journal of Forestry, 110(8), pp.429-439.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Old forests	Franklin, J.F., J.A. Fites-Kaufman. 1996. Assessment of late-successional forests of the Sierra Nevada. In: Sierra Nevada Ecosystem Project. Final report to Congress. Davis, CA: University of California, Centers for Water and Wildland Resources 2: 627–662.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Old forests	Fry, D.L., Stephens, S.L., Collins, B.M., North, M.P., Franco-Vizcaíno, E. and Gill, S.J., 2014. Contrasting spatial patterns in active-fire and fire-suppressed Mediterranean climate old-growth mixed conifer forests. PloS one, 9(2), p.e88985.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	Fulé, Peter Z, Thomas W Swetnam, Peter M Brown, Donald A Falk, David L Peterson, Craig D Allen, Gregory H Aplet, Mike A Battaglia, Dan Binkley, and Calvin Farris. 2014. "Unsupported inferences of high-severity fire in historical dry forests of the western United States: response to Williams and Baker." Global Ecology and Biogeography 23 (7):825-830.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Publication provides strong arguments and evidence why Baker 2014 (contradictory citation) is not BASI (methodological and scientific inference issues)	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Old forests	Guarin, A., and A. H. Taylor. 2005. Drought triggered tree mortality in mixed conifer forests in Yosemite National Park, California, USA. Forest Ecology and Management 218: 229–244.	Plan and Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Habitat Connectivity	Gutierrez, R.J., P.N. Manley, and P.A. Stine, tech eds. 2017. The California spotted owl: current state of knowledge. General Technical Report PSW-GTR-254. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 294 p.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	See also section on Wildlife habitat and old forests	Budget	Not Influencial
Terrestrial Ecosystems and Vegetation	Complex early seral	Harris, Lucas, and Alan Taylor. 2017. "Previous burns and topography limit and reinforce fire severity in a large wildfire." Ecosphere 8 (11):e02019. doi: 10.1002/ecs2.2019.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	Public input	Not Influencial
Terrestrial Ecosystems and Vegetation	Carbon sequestration and stocks	Heath, L.S., Smith, J.E., Woodall, C.W., Azuma, D.L. and Waddell, K.L., 2011. Carbon stocks on forestland of the United States, with emphasis on USDA Forest Service ownership. Ecosphere, 2(1), pp.1-21.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Fried and Zhou 2008, Woodall et al. 2015, and Bachelet et al. 2001	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation		Hessburg, P.F., Churchill, D.J., Larson, A.J. et al. 2015. Restoring fire-prone Inland Pacific landscapes: seven core principles. Landscape Ecology 30:1805-1835.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space or time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Yellow pine and mixed conifer forests and fire regimes	Hood, S.M., McHugh, C.W., Ryan, K.C., Reinhardt, E. and Smith, S.L., 2008. Evaluation of a post-fire tree mortality model for western USA conifers. International Journal of Wildland Fire, 16(6), pp.679-689.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Schmidt et al. 2006	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Old forests	Hunter Jr, M.L. and White, A.S., 1997. Ecological thresholds and the definition of old-growth forest stands. Natural Areas Journal, 17(4), pp.292-296.	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Hunter 1989	n/a	
Terrestrial Ecosystems and Vegetation	Carbon sequestration and stocks	Hurteau, M.D., and M.L. Brooks. 2011. Short and long term effects of fire on carabon in US dry temperate forest systems. Bioscience 61(2):139-146.	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by: Kurz et al. (2008)	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Carbon sequestration and stocks	Hurteau, Matthew D, Anthony L Westerling, Christine Wiedinmyer, and Benjamin P Bryant. 2014. "Projected effects of climate and development on California wildfire emissions through 2100." Environmental science & technology 48 (4):2298-2304.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by: Stephens et al. 2009; Tarnay and Lutz 2011, Vaillant et al. 2013; Wiedinmyer and Hurteau. 2010;	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Carbon sequestration and stocks	Hurteau, Matthew, and Malcolm North. 2009. "Fuel treatment effects on tree-based forest carbon storage and emissions under modeled wildfire scenarios." Frontiers in Ecology and the Environment 7 (8):409-414.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by: Hurteau et al. 2008, 2015 and Weichman et al. 2015		Not Influencial
Terrestrial Ecosystems and Vegetation	Fire and fuels	Innes, J., M. North, and N. Williamson. 2006. Effect of thinning and prescribed fire restoration treatments on woody debris and snag dynamics in a Sierran old-growth mixed-conifer forest. Canadian Journal of Forest Research 36: 3183-3193.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Invasive species	Jones, Rachel O, Jeanne C Chambers, David I Board, Dale W Johnson, and Robert R Blank. 2015. "The role of resource limitation in restoration of sagebrush ecosystems dominated by cheatgrass (Bromus tectorum)." Ecosphere 6 (7):1-21.	Plan and Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial

					Basis for the Determination						
Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Terrestrial Ecosystems and Vegetation	Vegetation structure	Kane, Van R, James A Lutz, Susan L Roberts, Douglas F Smith, Robert J McGaughey, Nicholas A Povak, and Matthew L Brooks. 2013. "Landscape-scale effects of fire severity on mixed-conifer and red fir forest structure in Yosemite National Park." Forest Ecology and Management 287:17-31.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Kane et al. 2014 and Kane et al. 2015	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation		Kane, Van R, James A Lutz, Susan L Roberts, Douglas F Smith, Robert J McGaughey, Nicholas A Povak, and Matthew L Brooks. 2013. "Landscape-scale effects of fire severity on mixed-conifer and red fir forest structure in Yosemite National Park." Forest Ecology and Management 287:17-31.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Kane et al. 2014, 2015	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Wildlife habitat: Old forests	Keane, J.J. 2014. California spotted owl: Scientific considerations for forest planning. In Chapter 7.2 in Science synthesis to support sociological resilience in the Sierra Nevada and Southern Cascade Range: USDA Forest Service.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by: Blakesley 2005; Bond et al. 2004; Guiterrez et al. 1992; Moen and Gutierrez 1997; North et al. 2000; North and Manley 2012; Roberts et al. 2011; Eyes et al. 2017	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Habitat connectivity	Kindlmann, Pavel, and Francoise Burel. 2008. Connectivity measures: a review. Landscape Ecology 23 (8):879-890.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	Additional citations supporting consensus: Cushman et al. 2012; Cushman and Landguth 2012; Hannah 2011;Metzger and Décamps 1997; Rudnick et al. 2012.	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire and fuels	Knapp, E.E.; Keeley, J.E.; Ballenger, E.A.; Brennan, T.J. 2005. Fuel reduction and coarse woody debris dynamics with early season and late season prescribed fire in a Sierra Nevada mixed conifer forest. 4342 Forest Ecology and Management 208(1–3): 383-397.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by: Innes et al. 2006; Kaufman and Martin 1989; Kilgore and Sando 1975; Knapp et al. 2005; Stephens and Fule 2005, Stephens et al. 2008	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Complex early seral and post-fire management	Knapp, EE, and MW Ritchie. 2016. "Response of understory vegetation to salvage logging following a high-severity wildfire." Ecosphere 7 (11). doi: 10.1002/ecs2.1550.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	No	n/a	Public input	Not Influencial
Terrestrial Ecosystems and Vegetation	Forest heterogeneity and restoration	Knapp, Eric, Jamie Lyderson, Malcolm North, and Brandon Collins. 2017. "Efficacy of variable density thinning and prescribed fire for restoring forest heterogeneity to mixed-conifer forest in the central Sierra Nevada, CA." Forest Ecology and Management 406:228-241. doi: 10.1016/j.foreco.2017.08.028.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Knapp et al. 2012	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Sagebrush	Knick, S. T., S. E. Hanser, R. F. Miller, D. A. Pyke, M. J. Wisdom, S. P. Finn, E. T. Rinkes, and C. J. Henny. 2011. Ecological influence and pathways of land use in sagebrush. Pages 203-251 in S. T. Knick and J. W. Connelly, editors. Greater sage-grouse ecology and conservation of a landscape species and its habitats. Studies in Avian Biology 38. University of California Pres, Berkeley, CA.	Monitoring Program	Grey literature	Measurement of conditions with statistical evaluation	Published but not peer-reviewed	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	Lake, Frank K, and Jonathan W Long. 2014a. Chapter 4.2-Fire and tribal cultural resources. In Science synthesis to support socioecological resilience in the Sierra Nevada and southern Cascade Range, edited by Long et al.	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	Traditional ecological knowledge	Influencial
Terrestrial Ecosystems and Vegetation	Traditional ecological knowledge	Lake, Frank K, and Jonathan W Long. 2014a. Chapter 4.2-Fire and tribal cultural resources. In Science synthesis to support socioecological resilience in the Sierra Nevada and southern Cascade Range, edited by Long et al.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	Traditional ecological knowledge	Influencial
Terrestrial Ecosystems and Vegetation	Traditional ecological knowledge	Lake, Frank K. 2011. "Working with American Indian tribes on wildland fires: protecting cultural heritage sites in northwestern California." Fire Management Today 71 (3):14-21.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	Traditional ecological knowledge	Not Influencial
Terrestrial Ecosystems and Vegetation	Forest heterogeneity and restoration	Larson, A.J., and D. Churchill. 2012. Tree spatial patterns in fire-frequent forests of western North America, including mechanisms of pattern formation and implications for designing fuel reduction and restoration treatments. Forest Ecology and Management 267:74-92.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Lyderson and North (2012), Fry et al. (2014), and Larson and Churchill 2011	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	Levine, CR, CV Cogbill, BM Collins, AJ Larson, JA Lutz, MP North, CM Restaino, HD Safford, SL Stephens, and JJ Battles. 2017. "Evaluating a new method for reconstructing forest conditions from General Land Office survey records." Ecological Applications 27 (5):1498-1513.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Publication provides soild evidence why Baker 2014 (contradictory citation) is not BASI (several methodological issues)	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Complex early seral and post-fire management	Long, J.W., L. Quinn-Davidson, and C.N. Skinner. 2014. Chapter 4.3 Post-fire management. Pp. 187-220 In Science Synthesis to Support Socioecological Resilience in the Sierra Nevada and Southern Cascades, PSW-GTR-247, edited by J. W. Long, L. N. Quinn-Davidson and C. N. Skinner. Albany, CA: Pacific Southwest Research Station, USDA Forest Service.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	No	Contradictory citation for this section: DellaSalla et al. 2014; provides contrasting post-fire management approaches	Public input	Influencial
Terrestrial Ecosystems and Vegetation		Lutz, J.A., J.W. van Wagtendonk, and J.F. Franklin. 2010. Climatic water deficit, tree species ranges, and climate change in Yosemite National Park. Journal of Biogeography 37:936-950.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Stephenson 1998	n/a	Not Influencial

					Basis for the Determination						
Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Terrestrial Ecosystems and Vegetation	Old forests	Lutz, J.A., Van Wagtendonk, J.W. and Franklin, J.F., 2009. Twentieth-century decline of large-diameter trees in Yosemite National Park, California, USA. Forest Ecology and Management, 257(11), pp.2296-2307.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Forest heterogeneity and restoration	Lydersen, Jamie M, Malcolm P North, Eric E Knapp, and Brandon M Collins. 2013. "Quantifying spatial patterns of tree groups and gaps in mixed-conifer forests: reference conditions and long-term changes following fire suppression and logging." Forest Ecology and Management 304:370-382.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Lyderson and North (2012), Fry et al. (2014), and Stephens et al. (2008)	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	Mallek, Chris, Hugh Safford, Joshua Viers, and Jay Miller. 2013. "Modern departures in fire severity and area vary by forest type, Sierra Nevada and southern Cascades, California, USA." Ecosphere 4 (12):1-28.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	Marlon, J.R., Bartlein, P.J., Gavin, D.G., Long, C.J., Anderson, R.S., Briles, C.E., Brown, K.J., Colombaroli, D., Hallett, D.J., Power, M.J., Scharf, E.A., and M.K. Walsh. 2012. Long-term perspective on wildfires in the western USA. PNAS 109: E535–E543	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	Article summarized in PSW Science Synthesis; large temporal context over millenia (past 3,000 years)	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Vegetation classification	Mayer, K. E., and W. F. Laudenslayer Jr. 1988. "A guide to wildlife habitats of California." State of Department of Fish and Game.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Complex early seral and post-fire management	McGinnis, Thomas W, Jon E Keeley, Scott L Stephens, and Gary B Roller. 2010. "Fuel buildup and potential fire behavior after stand-replacing fires, logging fire-killed trees and herbicide shrub removal in Sierra Nevada forests." Forest Ecology and Management 260 (1):22-35.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	No	n/a	Public input	Not Influencial
Terrestrial Ecosystems and Vegetation		McIntyre et al. 2015. Twentieth-century shifts in forest structure in California: Denser forests, smaller trees, and increased dominance of oaks. Proceedings of the National Academy of Sciences 112(5): 1458-1463.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Article already cited in the Old Forests Supplemental Report	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Eastside shrublands and woodlands - restoration	McIver, James, Mark Brunson, Steve Bunting, Jeanne Chambers, Paul Doescher, James Grace, April Hulet, Dale Johnson, Steve Knick, and Richard Miller. 2014. "A synopsis of short-term response to alternative restoration treatments in sagebrush-steppe: the SageSTEP Project." Rangeland Ecology & Management 67 (5):584-598.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Old forests	Mckelvey, Kevin S, and James D Johnston. 1992a. Historical perspectives on forests of the Sierra Nevada and the transverse ranges of southern California: Forest conditions at the turn of the century. In The California Spotted Owl: A Technical Assessment of its Current Status, edited by J. Verner, K.S. McKelvey, B.R. Noon, J.R. Gutierrez, G.I. Gould Jr and T.W. Beck. Albany, CA: USDA Forest Service, Pacific Southwest Research.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Oaks	Merriam, K. 2013. Natural Range of Variation in Hardwood Vegetation in the Sierra Nevada, California over the Holocene Epoch. USDA Forest Service Pacific Southwest Region, Vallejo, CA.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Documented but not published	Same in space and time to plan area	Yes	n/a	Traditional ecological knowledge	Not Influencial
Terrestrial Ecosystems and Vegetation	Red fir forests and fire regimes	Meyer, M. D. 2013a. Natural range of variation (NRV) for red fir forests in the bioregional assessment area. USDA Forest Service.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Documented but not published	Same in space and time to plan area	Yes	Supported by Potter 2005, North et al. 2002, and Zhang et al. 2005 and 2006	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	White pine	Meyer, M. D. 2013b. Natural range of variation (NRV) for subalpine forests in the bioregional assessment area. USDA Forest Service.	Plan and Monitoring Program	Grey literature	Estimation of condition or trend	Documented but not published	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	Meyer, M. D. 2015a. "Forest fire severity patterns of resource objective wildfires in the southern Sierra Nevada." Journal of Forestry 113:49-56.	Plan and Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Valliant 2009	Experience of land managers	Not Influencial
Terrestrial Ecosystems and Vegetation	White pine	Meyer, MD, B Bulaon, M MacKenzie, and HD Safford. 2016. "Mortality, structure, and regeneration in whitebark pine stands impacted by mountain pine beetle in the southern Sierra Nevada." Canadian Journal of Forest Research 46(4):572-581.	Plan and Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	White pine	Millar, C.I., R.D. Westfall, D.L. Delany, M.J. Bokach, A.L. Flint., and L.E. Flint. 2012. Forest mortality in high-elevation whitebark pine (Pinus albicaulis) forests of eastern California, USA; influence of environmental context, bark beetles, climatic water deficit, and warming. Canadian Journal of Forest Research 42:749-765.	Plan and Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	Miller, J. D., and H. Safford. 2012. "Trends in wildfire severity 1984-2010 in the Sierra Nevada, Modoc Plateau and southern Cascades, California, USA." Fire Ecology 8 (3 SRC - GoogleScholar):41-57.	Plan and Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	Miller, J. D., B. M. Collins, J. A. Lutz, S. L. Stephens, J. W. van Wagtendonk, and D. A. Yasuda. 2012. "Differences in wildfires among ecoregions and land management agencies in the Sierra Nevada region, California, USA." Ecosphere 3 (9):80	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial

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Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Terrestrial Ecosystems and Vegetation	Fire regimes	Miller, J. D., E. E. Knapp, C. H. Key, C. N. Skinner, C. J. Isbell, R. M. Creasy, and J. W. Sherlock. 2009. "Calibration and validation of the relative differenced Normalized Burn Ratio (RdNBR) to three measures of fire severity in the Sierra Nevada and Klamath Mountains, California, USA." Remote Sensing of Environment 113 (3):645-656. doi: 10.1016/j.rse.2008.11.009.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Miller and Thode 2007	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	Miller, J. D., H. D. Safford, M. Crimmins, and A. E. Thode. 2009a. "Quantitative evidence for increasing forest fire severity in the Sierra Nevada and southern Cascade Mountains, California and Nevada, USA." Ecosystems 12:16-32.	Plan and Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Miller and Thode 2007	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	Miller, JD, and HD Safford. 2017. "Corroborating evidence of a pre-Euro-American low-to moderate-severity fire regime in yellow pine-mixed conifer forests of the Sierra Nevada, California, USA." Fire Ecology 13 (1):58-90. doi: 10.4996/fireecology.1301058	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Publication provides solid evidence why Odion et al. 2014 and Odion and Hanson 2015 (contradictory citations) are not BASI (several methodological issues)	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Eastside shrublands and woodlands - restoration	Miller, Richard F, Jeanne C Chambers, and Mike Pellant. 2014. A field guide for selecting the most appropriate treatment in sagebrush and pinon-juniper ecosystems in the Great Basin: Evaluating resilience to disturbance and resistance to invasive annual grasses, and predicting vegetation response. Fort Collins, CO: USDA Forest Service, Rocky Mountain Research Station.	Plan and Monitoring Program	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Red fir forests and fire regimes	Mortenson, L.A.; Gray, A.N.; Shaw, D.C. 2015. A forest health inventory assessment of red fir (Abies magnifica) in upper montane California, Écoscience 22: 47-58.	Plan and Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Documented but not published	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire effects	Nagel, T.A. and A. H. Taylor. 2005. Fire and persistence of montane chaparral in mixed conifer forest landscapes in the northern Sierra Nevada, Lake Tahoe Basin, California,USA. J. Torrey Bot. Soc.132: 442–457	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	Article cited in PSW Science Synthesis and NRV assessments, but study is limited in geographic scope	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	North, M, BM Collins, and S Stephens. 2012. "Using Fire to Increase the Scale, Benefits, and Future Maintenance of Fuels Treatments." Journal of Forestry 110 (7):392-401. doi: 10.5849/jof.12-021.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation		North, M. 2014. Forest ecology. In Science synthesis to support socioecological resilience in the Sierra Nevada and southern Cascade Range, edited by J.W. Long, L.N. Quinn-Davidson and C.N. Skinner. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Influencial
Terrestrial Ecosystems and Vegetation	Old forests	North, M., J. Chen, B. Oakley, B. Song, M. Rudnicki, A. Gray, and J. Innes. 2004. Forest stand structure and pattern of old-growth western hemock/Douglas-fir and mixed-conifer forests. Forest Science 50(3):299-311.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Yellow pine and mixed conifer forests and fire regimes	North, M., J. Innes, and H. Zald. 2007. "Comparison of thinning and prescribed fire restoration treatments to Sierran mixed-conifer historic conditions." Canadian Journal of Forest Research-Revue Canadienne De Recherche Forestiere 37 (2 SRC - GoogleScholar):331-342.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Carbon sequestration and stocks	North, Malcolm P, and Matthew D Hurteau. 2011. "High-severity wildfire effects on carbon stocks and emissions in fuels treated and untreated forest." Forest Ecology and Management 261 (6):1115-1120.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by: North et al. 2009 (Ecol Applications), Earles et al. (2014)	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Yellow pine and mixed conifer forests: restoration	North, Malcolm, April Brough, Jonathan Long, Brandon Collins, Phil Bowden, Don Yasuda, Jay Miller, and Neil Sugihara. 2015. "Constraints on mechanized treatment significantly limit mechanical fuels reduction extent in the Sierra Nevada." Journal of Forestry 113 (1):40-48.	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Yellow pine and mixed conifer forests: restoration	North, Malcolm, ed. 2012. Managing Sierra Nevada forests. Gen. Tech. Rep. PSW-GTR-237. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 184 p.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	See above	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Yellow pine and mixed conifer forests: restoration	North, Malcolm; Stine, Peter; O'Hara, Kevin; Zielinski, William; Stephens, Scott 2009. An ecosystem management strategy for Sierran mixed-conifer forests. Gen. Tech. Rep. PSW-GTR-220. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 49 p	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	See also: Anderson and Moratto 1996; North et al. 2009; Stephens and Gill 2005; Stephens et al. 2008; Stephens 2004; Vaillant and Stephens 2009; Vaillant et al. 2015	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Complex early seral	Noss, Reed F, Jerry F Franklin, William L Baker, Tania Schoennagel, and Peter B Moyle. 2006. "Managing fire-prone forests in the western United States." Frontiers in Ecology and the Environment 4 (9):481-487.	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Published peer-reviewed article	Similar in space or time to plan area	Yes	Also supported by Lindenmayer and Noss 2006	Public input	Not Influencial

					Basis for the Determination						
Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Terrestrial Ecosystems and Vegetation	Fire effects	Parks, S.A., C. Miller, J.T. Abatzoglou, L.M. Holsinger, M-A. Parisien, and S. Dobrowski. 2016. How will climate change affect wildland fire severity in the western US? Environmental Research Letters 11: 035002	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	Article is already cited in the FEIS.	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire effects	Parks, S.A., C. Miller, M-A Parisien, L.M. Holsinger, S.Z. Dobrowski, and J. Abatzoglou. 2015. Wildland fire deficit and surplus in the western United States, 1984–2012. Ecosphere 6: Article 275	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Complex early seral and post-fire management	Peterson, DW, EK Dodson, and RJ Harrod. 2015. "Post-fire logging reduces surface woody fuels up to four decades following wildfire." Forest Ecology and Management 338:84-91. doi: 10.1016/j.foreco.2014.11.016.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	No	Also supported by Peterson et al. (2009)	Public input	Not Influencial
Terrestrial Ecosystems and Vegetation	Riparian	Pettit, Neil E, and Robert J Naiman. 2007. "Fire in the riparian zone: characteristics and ecological consequences." Ecosystems 10 (5):673-687	Plan Decision or Plan	Vegetation Composition, Structure and Function	Measurement of conditions with statistical evaluation	Documented but not published	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Complex early seral	Ponisio, LC, K Wilkin, LK M'Gonigle, K Kulhanek, L Cook, R Thorp, T Griswold, and C Kremen. 2016. "Pyrodiversity begets plant-pollinator community diversity." Global Change Biology 22 (5):1794-1808. doi: 10.1111/gcb.13236.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	Public input	Not Influencial
Terrestrial Ecosystems and Vegetation	Old forests	Potter, D, M. Smith, T. Beck, B. Kermeen, W. Hance, S. Robertson. 1992. Ecological characteristics of old growth red fir in California. San Francisco, CA: Pacific Southwest Region, Forest Service, U.S. Department of Agriculture.	Plan Decision or Plan	Federal or state data	Estimation of condition or trend	Published but not peer-reviewed	Same in space and time to plan area	Yes	Also supported by Potter et al. (1998)	n/a	
Terrestrial Ecosystems and Vegetation	Eastside shrublands and woodlands - restoration	Pyke, David A, Scott E Shaff, Andrew I Lindgren, Eugene W Schupp, Paul S Doescher, Jeanne C Chambers, Jeffrey S Burnham, and Manuela M Huso. 2014. "Region-wide ecological responses of arid Wyoming big sagebrush communities to fuel treatments." Rangeland Ecology & Management 67 (5):455-467	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire effects	Raphael, M.G., M.L. Morrison, and M.P. Yoder-Williams. 1987. Breeding bird populations during twenty-five years of postfire succession in the Sierra Nevada. The Condor 89: 614–626	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Complex early seral	Raphael, Martin G, and Marshall White. 1984. "Use of snags by cavity-nesting birds in the Sierra Nevada." Wildlife monographs:3-66.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	Public input	Not Influencial
Terrestrial Ecosystems and Vegetation	Carbon sequestration and stocks	Rau, Benjamin M, Robin Tausch, Alicia Reiner, Dale W Johnson, Jeanne C Chambers, Robert R Blank, and Annmarrie Lucchesi. 2010. "Influence of prescribed fire on ecosystem biomass, carbon, and nitrogen in a pinyon juniper woodland." Rangeland Ecology & Management 63 (2):197-202.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space or time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Complex early seral and post-fire management	Ritchie, Martin W, Eric E Knapp, and Carl N Skinner. 2013. "Snag longevity and surface fuel accumulation following post-fire logging in a ponderosa pine dominated forest." Forest Ecology and Management 287:113-122.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	No	Also supported by Ritchie et al. 2014	Public input	Not Influencial
Terrestrial Ecosystems and Vegetation	Habitat Connectivity	Roberts, S.; North, M. 2012. California Spotted Owls. 2012. Managing Sierra Nevada forests. General Technical Report PSW-GTR-237. Albany, CA: US Department of Agriculture, Forest Service, Pacific Southwest Research Station.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	Budget	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire and fuels	Safford, H.D., J.T. Stevens, K. Merriam, M.D. Meyer, and A.M. Latimer. 2012. Fuel treatment effectiveness in California yellow pine and mixed conifer forests. Forest Ecology and Management 274:17-28.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Safford et al. (2009; Angora Fire)	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	Safford, HD, JD Miller, and BM Collins. 2015. "Differences in land ownership, fire management objectives and source data matter: a reply to Hanson and Odion (2014)." International Journal of Wildland Fire 24 (2):286-293. doi: 10.1071/WF14013.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Publication provides solid evidence why Hanson and Odion 2014 (contradictory citation) is not BASI	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	Safford, Hugh D, and Kip M Van de Water. 2014. "Using fire return interval departure (FRID) analysis to map spatial and temporal changes in fire frequency on national forest lands in California."	Plan and Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	Safford, Hugh D, Jay Miller, David Schmidt, Brent Roath, and Annette Parsons. 2008. "BAER soil burn severity maps do not measure fire effects to vegetation: a comment on Odion and Hanson (2006)." Ecosystems 11 (1):1-11.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Publication provides solid evidence why Odion and Hanson (2006) is not BASI (methodological issues)	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Jeffrey pine and mixed conifer forests and fire regimes	Safford, Hugh D.; Stevens, Jens T. 2017. Natural range of variation for yellow pine and mixed-conifer forests in the Sierra Nevada, southern Cascades, and Modoc and Inyo National Forests, California, USA. Gen. Tech. Rep. PSW-GTR-256. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 229 p.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by: Collins and Skinner 2013; Fry and Stephens 2010; van Wagtendonk and Fites-Kaufman 2006; NOTE: this reference replaces the earlier Safford et al. (2013) reference	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Complex early seral	Saracco, James F, Rodney B Siegel, and Robert L Wilkerson. 2011. "Occupancy modeling of Black-backed Woodpeckers on burned Sierra Nevada forests." Ecosphere 2 (3):1-17.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by: Siegel et al. 2015	Public input	Not Influencial

					Basis for the Determination						
Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Terrestrial Ecosystems and Vegetation	Riparian	Sawyer, S. 2013b. Natural range of variation of non-meadow riparian habitat in the Bioregional Assessment area. Vallejo, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Region.	Plan Decision or Plan	Vegetation Composition, Structure and Function	Estimation of condition or trend	Documented but not published	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Yellow pine and mixed conifer forests and fire regimes	Scholl, A.E., and A.H. Taylor. 2010. Fire regimes, forest change, and self-organization in and old-growth mixed-conifer forest, Yosemite National Park, USA. Ecological Applications 20(2):362-380.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Pinyon-Juniper	Shaw, J.D., Steed, B.E. and DeBlander, L.T., 2005. Forest inventory and analysis (FIA) annual inventory answers the question: what is happening to pinyon-juniper woodlands?. Journal of Forestry, 103(6), pp.280-285.	Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space or time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Aspen ecology and management	Shepperd, W.D., P.C. Rogers, D. Burton, and D.L. Bartos. 2006. Ecology, biodiversity, management, and restoration of aspen in the Sierra Nevada. General Technical Report, RMRS-GTR-178. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fort Collins, CO: 122 p.	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by: Bartos 1979; Berrill and Dagley 2012; Campos and Burnett 2014; DeByle 1990; Keyser et al. 2005; Krnasnow et al. 2012; Kulakowski et al. 2013; Long and Mock 2012; McCullough et al. 2013; Pierce and Taylor 2010; Potter 1998; Rogers et al. 2014; Shinneman et al. 2013.	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Pinyon-Juniper	Slaton, M., and H. Stone. 2015a. Pinyon-juniper natural range of variation. USDA Forest Service, Pacific Southwest Region.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Documented but not published	Same in space or time to plan area	Yes	n/a	Traditional ecological knowledge	Not Influencial
Terrestrial Ecosystems and Vegetation	Sagebrush	Slaton, M., and H. Stone. 2015b. Sagebrush natural range of variation. Vallejo, CA: USDA Forest Service, Pacific Southwest Region.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Documented but not published	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Old forests	Smith, T.F., Rizzo, D.M. and North, M., 2005. Patterns of mortality in an old-growth mixed-conifer forest of the southern Sierra Nevada, California. Forest Science, 51(3), pp.266-275.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Habitat Connectivity	Spencer, W. D. and H. Rustigian-Romsos. 2012. Decision-support maps and recommendations for conserving rare carnivores in the interior mountains of California. Conservation Biology Institute, Corvallis, Oregon. Available at https://d2k78bk4kdhbpr.cloudfront.net/media/reports/files/Report_Decision-support_maps_for_Sierra_Nevada_carnivores_8_21_12.pdf	Plan Decision or Plan	NGO data	Estimation of condition or trend	Documented but not published	Same in space and time to plan area	Yes	n/a	Budget	Not Influencial
Terrestrial Ecosystems and Vegetation	Habitat Connectivity	Spencer, W., S. Sawyer, H. Rosmos, W. Zielinski, C. Thompson, and S. Britting. 2016. Southern Sierra Nevada fisher conservation strategy. Unpublished report produced by Conservation Biology Institute.	Plan Decision or Plan	NGO data	Estimation of condition or trend	Documented but not published	Same in space and time to plan area	Yes	n/a	Budget	Not Influencial
Terrestrial Ecosystems and Vegetation	Habitat Connectivity	Spencer, W.D., S.C. Sawyer, H.L. Romsos, W.J. Zielinski, R.A. Sweitzer, C.M. Thompson, K.L. Purcell, D.L. Clifford, L. Cline, H.D. Safford, S.A. Britting, and J.M. Tucker. 2015. Southern Sierra Nevada fisher conservation assessment. Conservation Biology Institute.	Plan Decision or Plan	NGO data	Estimation of condition or trend	Documented but not published	Same in space and time to plan area	Yes	n/a	Budget	Not Influencial
Terrestrial Ecosystems and Vegetation	Old forests	Spies, T.A., 2004. Ecological concepts and diversity of old-growth forests. Journal of Forestry, 102(3), pp.14-20.	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Spies 1997	n/a	
Terrestrial Ecosystems and Vegetation	Fire regimes	Steel, Z. L., H.D. Safford, and J.H. Viers. 2015. "The fire frequency-severity relationship and the legacy of fire suppression in California forests." Ecosphere 6(1):8.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Yellow pine and mixed conifer forests: restoration	Stephens, S.L., J. Moghaddas, C. Edminster, et al. 2009a. Fire treatment effects on vegetation structure, fuels, and potential fire severity in western U.S. forests. Ecological Applications 19(2):305-320.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Stephens et al. 2009b, Stephens et al. 2012, and Valliant et al. 2013	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Yellow pine and mixed conifer forests: restoration	Stephens, S.L., J.D. McIver, R.E.J. Boerner, et al. 2012. The effects of forest-fuel reduction treatments in the United States. Bioscience 62(6):549-560.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire and fuels	Stephens, Scott L, and Jason J Moghaddas. 2005. "Experimental fuel treatment impacts on forest structure, potential fire behavior, and predicted tree mortality in a California mixed conifer forest." Forest Ecology and Management 215 (1):21-36.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by: Innes et al. 2006; Kaufman and Martin 1989; Kilgore and Sando 1975; Knapp et al. 2005; Stephens and Fule 2005, Stephens et al. 2007	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	Stephens, Scott L, Jamie M Lydersen, Brandon M Collins, Danny L Fry, and Marc D Meyer. 2015. "Historical and current landscape-scale ponderosa pine and mixed conifer forest structure in the Southern Sierra Nevada." Ecosphere 6 (5):1-63.	Plan and Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Collins et al. 2011, 2017; Provides evidence that Baker 2014 citation is erroneous	n/a	Not Influencial

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Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Terrestrial Ecosystems and Vegetation	Wildlife habitat: Old forests	Stephens, SL, JD Miller, BM Collins, MP North, JJ Keane, and SL Roberts. 2016. "Wildfire impacts on California spotted owl nesting habitat in the Sierra Nevada." Ecosphere 7 (11). doi: 10.1002/ecs2.1478.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Old forests	Stephens., S.L., S.J. Gill. 2005. Forest structure and mortality in an old-growth Jeffrey pine-mixed conifer forest in north-western Mexico. Forest Ecology and Management. 205(1) pp.15-28.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Stephens et al. 2001	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Carbon sequestration and stocks	Stephenson, N. L., Das, A. J., Condit, R., Russo, S. E., Baker, P. J., Beckman, N. G., Coomes, D. A., Lines, E. R., Morris, W. K., Ru¨ger, N., A´ lvarez, E., Blundo, C., Bunyavejchewin, S., Chuyong, G., Davies, S. J., Duque, A´ ., Ewango, C. N., Flores, O., Franklin, J. F., Grau, H. R., Hao, Z., Harmon, M. E., Hubbell, S. P., Kenfack, D., Lin, Y., Makana, J.-R., Malizia, A., Malizia, L. R., Pabst, R. J., Pongpattananurak, N., Su, S.-H., Sun, I-F., Tan, S., Thomas, D., van Mantgem, P. J., Wang, X., Wiser, S. K., and Zavala, M. A. 2014. Rate of tree carbon accumulation increases continuously with tree size. Nature, 507(7490), pp.90-93.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	Stevens, JT, HD Safford, MP North, JS Fried, AN Gray, PM Brown, CR Dolanc, SZ Dobrowski, DA Falk, CA Farris, JF Franklin, PZ Fule, RK Hagmann, EE Knapp, JD Miller, DF Smith, TW Swetnam, and AH Taylor. 2016. "Average Stand Age from Forest Inventory Plots Does Not Describe Historical Fire Regimes in Ponderosa Pine and Mixed-Conifer Forests of Western North America." Plos One 11 (5). doi: 10.1371/journal.pone.0147688.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Publication provides solid evidence why Odion et al. 2014 (contradictory citation) is not BASI (several methodological issues)	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Carbon sequestration and stocks	Stockmann, Keith, N. Anderson, J. Young, K. Skog, S. Healey, D. Leoffler, E. Butler, J. G. Jones and J. Morrison. 2014. Estimates of carbon stored in harvested wood products from United States Forest Service Pacific Southwest Region, 1909-2012. Climate Change Advisor's Office, Office of the Chief, USDA Forest Service. 28 p. Whitepaper. O:\OfficeOfTheChief\ClimateChange\Program\Carbon\CarbonAssessmentsNFS\HWP reports	Plan Decision or Plan	Federal or state data	Measurement of conditions without statistical evaluation	Published but not peer-reviewed	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Complex early seral	Swanson, M.E., Franklin, J.F., Beschta, R.L., Crisafulli, C.M., DellaSala, D.A., Hutto, R.L., Lindenmayer, D.B. and Swanson, F.J., 2011. The forgotten stage of forest succession: early-successional ecosystems on forest sites. Frontiers in Ecology and the Environment, 9(2), pp.117-125.	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	Public input	Not Influencial
Terrestrial Ecosystems and Vegetation	Complex early seral	Tepley, Alan, Jonathan Thompson, Howard Epstein, and Kristina Anderson-Teixeira. 2017. "Vulnerability to forest loss through altered postfire recovery dynamics in a warming climate in the Klamath Mountains." Global Change Biology:1-16. doi: DOI: 10.1111/gcb.13704.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	Public input	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire and fuels	Vaillant, Nicole M, Erin K Noonan-Wright, Alicia L Reiner, Carol M Ewell, Benjamin M Rau, Josephine A Fites-Kaufman, and Scott N Dailey. 2015. "Fuel accumulation and forest structure change following hazardous fuel reduction treatments throughout California." International Journal of Wildland Fire 24 (3):361-371.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	Van de Water, Kip M, and Hugh D Safford. 2011. "A summary of fire frequency estimates for California vegetation before Euro-American settlement." Fire Ecology 7 (3):26-58.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Old forests	Van Mantgem, P.J., Stephenson, N.L., Byrne, J.C., Daniels, L.D., Franklin, J.F., Fulé, P.Z., Harmon, M.E., Larson, A.J., Smith, J.M., Taylor, A.H. and Veblen, T.T., 2009. Widespread increase of tree mortality rates in the western United States. Science, 323(5913), pp.521-524.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by McIntyre et al. 2015	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Yellow pine and mixed conifer forests: restoration	Van Mantgem, Phillip J, Nathan L Stephenson, Eric Knapp, John Battles, and Jon E Keeley. 2011. "Long-term effects of prescribed fire on mixed conifer forest structure in the Sierra Nevada, California." Forest Ecology and Management 261 (6):989-994.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Schwilk et al. 2009	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Fire regimes	van Wagtendonk, J.W., K.A. van Wagtendonk, and A.E. Thode. 2012. Factors associated with the severity of interacting fires in Yosemite National Park, California, USA. Fire Ecology 8(1):11-31.	Plan Decision or Plan	Fire severity and fire dynamics	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Thode et al. (2011), Lutz et al. (2009, 2011)	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Understory composition and restoration treatments	Wayman, Rebecca Bewley, and Malcolm North. 2007. "Initial response of a mixed-conifer understory plant community to burning and thinning restoration treatments." Forest Ecology and Management 239 (1):32-44.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Understory composition and restoration treatments	Webster, Karen M, and Charles B Halpern. 2010. "Long-term vegetation responses to reintroduction and repeated use of fire in mixed-conifer forests of the Sierra Nevada." Ecosphere 1 (5):1-27.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Also supported by Skinner and Chang 1996	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Complex early seral and post-fire management	Welch, KR, HD Safford, and TP Young. 2016. "Predicting conifer establishment post wildfire in mixed conifer forests of the North American Mediterranean-climate zone." Ecosphere 7 (12). doi: 10.1002/ecs2.1609.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	No	n/a	Public input	Not Influencial

					Basis for the Determination						
Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Terrestrial Ecosystems and Vegetation	Carbon sequestration and stocks	Westerling, A.L., J. Milostan, and A.R. Keyser. 2015. Changing fire, fuels and climate in the Sierra Nevada. In Modeling Potential Fire Impacts with Landscape Vegetation Scenarios and Changing Climate for the Sierra Nevada and Other Areas in the Western U.S.: University of California Merced.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published but not peer-reviewed	Same in space and time to plan area	Yes	Also supported by Westerling et al. (2011)	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Complex early seral	White, A. M., P. N. Manley, G. L. Tarbill, T. W. Richardson, R. E. Russell, H. D. Safford, and S. Z. Dobrowski. 2016. "Avian community responses to post-fire forest structure: implications for fire management in mixed conifer forests." Animal Conservation 19 (3):256-264. doi: 10.1111/acv.12237	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	Public input	Not Influencial
Terrestrial Ecosystems and Vegetation	Carbon sequestration and stocks	Wiechmann, M. L., Hurteau, M. D., North, M.P., Koch, G.W., and Jerabkova, L. 2015. The carbon balance of reducing wildfire risk and restoring process: an analysis of 10-year post-treatment carbon dynamics in a mixed-conifer forest. Climatic Change, 132(4), pp 709-719.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Eastside shrublands and woodlands	Wisdom, Michael J, and Jeanne C Chambers. 2009. "A landscape approach for ecologically based management of Great Basin shrublands." Restoration Ecology 17 (5):740-749.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Terrestrial Ecosystems and Vegetation	Habitat Connectivity	Zielinski, W.J., 2014. The forest carnivores: marten and fisher. Long, J.W., L. Quinn-Davidson and C.N. Skinner., eds. 2014. Science synthesis to support socioecological resilience in the Sierra Nevada and southern Cascade Range. Gen. Tech. Rep. PSW-GTR-247. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 723 p.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	Budget	Influencial
Timber and Other Forest Products	Carbon sequestration and stocks	Black, T. A., & Harden, J. W. (1995). Effect of timber harvest on soil carbon storage at Blodgett Experimental Forest. California. Canadian Journal of Forest Research 25(8): 1385–1396	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	Experience of land managers	Not Influencial
Timber and Other Forest Products	Carbon sequestration and stocks	Campbell, John L. et al. 2011. Can fuel-reduction treatments really increase forest carbon storage in the western US by reducing future fire emissions? Frontiers in Ecology and the Environment doi:10.1890/11005	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Timber and Other Forest Products		Dixon, G.E. (Comp.), 2002. Essential FVS: A User's Guide to the Forest Vegetation Simulator. Internal Report. U.S. Department of Agriculture, Forest Service, Forest Management Service Center, Fort Collins, CO, 189 pp.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Timber and Other Forest Products		Franklin, Jerry F., Thomas A. Spies, Robert Van Pelt, Andrew B. Carey, Dale A. Thornburgh, Dean Rae Berg, David B. Lindenmayer, Mark E. Harmon, William S. Keeton, David C. Shaw, Ken Bible, and Jiquan Chen. 2002. Disturbances and structural development of natural forest ecosystems with silvicultural implications, using Douglas-fir forests as an example. Forest Ecology and Management 155 (1–3):399-423. doi: http://doi.org/10.1016/S0378-1127(01)00575-8.	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Timber and Other Forest Products		Latham, P., and J. Tappeiner. 2002. Response of old-growth conifers to reduction in stand density in western Oregon forests. Tree physiology 22 (2-3):137-146. doi: 10.1093/treephys/22.2-3.137.	Plan Decision or Plan	Peer-reviewed article	Estimation of condition or trend	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Timber and Other Forest Products		North, M. 2012. Managing Sierra Nevada Forests. Albany, CA: USDA Forest Service.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Timber and Other Forest Products		North, Malcolm, ed. 2012. Managing Sierra Nevada forests. Gen. Tech. Rep. PSW-GTR-237. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 184 p.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Similar in space or time to plan area	Yes	See above	n/a	Not Influencial
Timber and Other Forest Products		North, Malcolm, Peter Stine, Kevin O'Hara, William Zielinski, and Scott Stephens. 2009. An ecosystem management strategy for Sierran mixed-conifer forests. Albany, CA: USDA Forest Service.	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Timber and Other Forest Products		North, Malcolm; Stine, Peter; O'Hara, Kevin; Zielinski, William; Stephens, Scott 2009. An ecosystem management strategy for Sierran mixed-conifer forests. Gen. Tech. Rep. PSW-GTR-220. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 49 p	Plan Decision or Plan	Grey literature	Estimation of condition or trend	Published peer-reviewed article	Similar in space or time to plan area	Yes	See also: Anderson and Moratto 1996; North et al. 2009; Stephens and Gill 2005; Stephens et al. 2008; Stephens 2004; Vaillant and Stephens 2009; Vaillant et al. 2015	n/a	Not Influencial
Timber and Other Forest Products	Carbon sequestration and stocks	Powers, E.M., J.D. Marshall, J. Zhang, and L. Wei. 2013. Post-fire management regimes affect carbon sequestration and storage in a Sierra Nevada mixed conifer forest. Forest Ecology and Management 291: 268–277	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Tribal Relations and Uses		USFS Staff with guidance from FSM 1563, FSH 1509.13	Plan Decision or Plan	Expert opinion or observation	Estimation of condition or trend	Evaluation of expert	Same in space and time to plan area	Yes	n/a	Experience of land managers	Not Influencial
Volunteers, Interpretation, Partnerships and Stewardship		USFS staff with input from the Eastern Sierra Recreation Collaborative and Inyo County.	Plan and Monitoring Program	NGO data	Estimation of condition or trend	Evaluation of expert	Same in space and time to plan area	Yes	n/a	Public input	Not Influencial

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Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Watersheds		Bales, Roger C., John J. Battles, Yihsu Chen, Martha H. Conklin, Eric Holst, Kevin L. O'Hara, Phillip Saksa, & William Stewart, Forests and Water in the Sierra Nevada: Sierra Nevada Watershed Ecosystem Enhancement Project, UC Merced, November 29, 2011.	Plan Decision or Plan	Grey literature	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a		Not Influencial
Watersheds		Belsky, AJ, A Matzke, and S Uselman. 1999. Survey of livestock influences on stream and riparian ecosystems in the western United States. Journal of Soil and Water Conservation 54: 419-431.	Plan and Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Watersheds	conservation watersheds	Craighead, L. and Convis, C.L., Jr. (2103). Conservation Planning: Shaping the Future. ESRI Press.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Watersheds	water quality	Davies-Colley, RJ and DG Smity. 2001. Turbidity, suspended sediment, and water clarity: a review. J.American Water Resources Association 37: 1085-1101	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Watersheds	fens	Fens of the Sierra Nevada, California David J. Cooper, Ph.D. and Evan C. Wolf, M.S., Department of Forest, Rangeland and Watershed Stewardship, Colorado State University, 2006.	Plan and Monitoring Program	Federal or state data	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Watersheds		Frissell, C.A. M. Scurlock, and R. Kattelmann. 2012. SNEP Plus 15 Years: Ecological & Conservation Science for Freshwater Resource Protection & Federal Land Management in the Sierra Nevada. Pacific Rivers Council Science Publication 12-001. Portland, Oregon, USA.	Plan Decision or Plan	Grey literature	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Watersheds		Hubbert, Ken, Matt Bussey and Steve Overby, Effects of Pile Burning in the LTB on Soil and Water Quality, SNPLMA 12576 Final Report, 2013.	Plan and Monitoring Program	Grey literature	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Watersheds		Investigating Water Quality in the Pacific Southwest Region, Best Management Practices Evaluation Program (BMPEP) User's Guide, USDA Forest Service, Pacific Southwest Region, June 2002.	Plan Decision or Plan	Federal or state data	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Watersheds		LINKE, S., PRESSEY, R. L., BAILEY, R. C. and NORRIS, R. H. (2007), Management options for river conservation planning: condition and conservation re-visited. Freshwater Biology, 52: 918–938. doi:10.1111/j.1365-2427.2006.01690.x	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Watersheds		Margules, C.R. and Pressey, R.L. 2000. Systematic Conservation planning, Nature (Vol 405). Www.nature.com	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Similar in space or time to plan area	Yes	n/a	n/a	Not Influencial
Watersheds		Micheli, E. R., & Kirchner, J. W. (2002). Effects of wet meadow riparian vegetation on streambank erosion. 1. Remote sensing measurements of streambank migration and erodibility. Earth Surface Processes and Landforms, 27(6), 627-639.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Watersheds		Moghaddas E and K. Hubbert 2014 Chapter 5.1—Soils in Long, Jonathan W.; Quinn-Davidson, Lenya; Skinner, Carl N. 2014. Science Synthesis To Support Socioecological Resilience In The Sierra Nevada And Southern Cascade Range. Gen. Tech. Rep. PSW-GTR-247. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 723 p.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Influencial
Watersheds	conservation watersheds	Murphy, L., T. Ellsworth, L. Sims, K. Schlick, D. Pietrastana, and J. Regelbrugge. 2017. Development of Conservation Watersheds for the Inyo National Forest. July 17, 2017. 22 pages.	Plan Decision or Plan	Expert opinion or observation	Estimation of condition or trend	Evaluation of expert	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Watersheds	Fire effects	Neary, D. G., Ryan, K. C., & DeBano, L. F. (2005). Wildland fire in ecosystems: effects of fire on soils and water. Gen. Tech. Rep. RMRS-GTR-42-vol, 4, 250.	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Watersheds		Page-Dumroese, D., Abbott, A. M., Rice, T. M. 2009. USDA Forest soil disturbance monitoring protocol,volume 1 - rapid assessment. FS-WO-82a. Moscow, ID: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 29p	Monitoring Program	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Watersheds	Water quantity/supply	Podolak, K., D. Edelson, S. Kruse, B. Aylward, M. Zimring, and N. Wobbrock. 2015. Estimating the Water Supply Benefits from Forest Restoration in the Northern Sierra Nevada. An unpublished report of The Nature Conservancy prepared with Ecosystem Economics. San Francisco, CA.	Plan Decision or Plan	NGO data	Measurement of conditions with statistical evaluation	Documented but not published	Same in space or time to plan area	No	n/a	n/a	Not Influencial
Watersheds		U.S. Department of the Interior. 2015. Riparian area management: Proper functioning condition assessment for lotic areas. Technical Reference 1737-15. Bureau of Land Management, National Operations Center, Denver, CO	Monitoring Program	Peer-reviewed article	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Watersheds		United States Department of Agriculture Forest Service FS-977 May 2011Watershed Condition Framework: A Framework for Assessing and Tracking Changes to Watershed Condition	Plan and Monitoring Program	Grey literature	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial
Watersheds		United States Department of Agriculture Forest Service FS-978 May 2011. Watershed Condition Classification Technical Guide.	Plan and Monitoring Program	Grey literature	Measurement of conditions without statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	n/a	n/a	Not Influencial

					Basis for the Determination						
Plan Area Scientific Subject	**Subject sub-Topic (optional)**	**Citation**	**Process Phase**	**Information Source**	**Accurate**	**Reliable**	**Relevant**	**Is there clear scientific consensus?**	**Consensus Notes, Conflicting Science, or Supporting Citations**	**Other Relevant Factors Used in the Plan Decision**	**Data Quality Standards**
Watersheds		United States Department of Agriculture, Forest Service. 2012. National Best Management Practices for Water Quality Management on National Forest System Lands FS-990. April 2012.	Monitoring Program	Grey literature	Estimation of condition or trend	Published but not peer-reviewed	Same in space or time to plan area	Yes	n/a	n/a	Not Influencial
Watersheds		Westerling, AL, HG Hidalgo, DR Cayan, and TW Swetnam. 2006. Warming and earlier spring increases western U.S. forest wildfire activity. Science 313: 940-943	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space or time to plan area	Yes	n/a	n/a	Not Influencial
Watersheds	aquatic habitat/climate change	Williams, JE, AL Haak, HM Neville, and WT Colyer. 2009. Potential consequences of climate change to persistence of cutthroat trout populations. North American Journal of Fisheries Management 29: 533-548	Plan Decision or Plan	Peer-reviewed article	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space or time to plan area	Yes	n/a	n/a	Not Influencial
	Assessment of 15 forest resource areas	United States Department of Agriculture, Forest Service. 2013. Final Inyo National Forest assessment. Vallejo, CA. R5-MB-266. December 2013.	Assessment	Grey literature	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Assessment of 15 forest resource areas	n/a	Not Influencial
	Assessment of 15 forest resource areas	United States Department of Agriculture, Forest Service. 2014. Final Sierra Nevada bio-regional assessment. Vallejo, CA. R5-MB-268. February 2014.	Assessment	Grey literature	Measurement of conditions with statistical evaluation	Published peer-reviewed article	Same in space and time to plan area	Yes	Assessment of 15 forest resource areas	n/a	Not Influencial