

Appendix 12 Aquatic Habitat Assessments

Plan Number	# of pages	Aquatic Habitat Assessments			Specific to the Pilot Project Planning Watershed (Campbell Creek Planning Watershed)		Notes
		Qualitative?	Quantitative?	Spatial?	Other sources of information referenced		
1-15-107 MEN	28 pages - 7 pages of charts/diagrams, 8 pages of maps.	Yes, introduction, overview, methods (habitat, transition survey, salmonid presence, temperature monitoring), results (same categories), discussion and conclusion. For stream classification (Class I/II transition): "CG surveyors used qualitative observations of watercourse conditions such as habitat type, channel width, pool depth, availability of spawning gravels and observed flow." (page 321)	Yes, primarily tables and charts. Values from the tables were referenced in the narrative. One steelhead trout, two coho and seven steelhead redds per mile were recorded in Smith Creek.	Spawning and rearing habitat maps provided	Flosi, G., and F. L. Reynolds. 1998. California Salmonid Stream Habitat Restoration Manual. California Dept. of Fish and Game. Inland Fisheries Division.  Hines, D., and J. Ambrose. 2000. Evaluation of Stream Temperatures Based on Observations of Juvenile Coho Salmon in Northern California Streams. Georgia-Pacific West, Inc., Fort Bragg, California. Unpublished Report.  National Marine Fisheries Service. 1996. Making Endangered Species Act Determinations of Effect For Individual or Grouped Actions at the Watershed Scale. National Marine Fisheries Service. Environmental and Technical Services Division. Habitat Conservation Branch.  Welsh, H., G. Hodgson, and B. Harvey. 2001. Distribution of Juvenile Coho Salmon in Relation to Water Temperatures in Tributaries of the Mattole River, California. US Forest Service, Southwest Research Station, Redwood Sciences Laboratory, Arcata, California 95521. American Journal of Fisheries Management 21: 464-4470, 2001.	All of the discussion of watercourses appears to be within the Campbell Creek Planning Watershed. However, page 329 states: "...Because a full report on Campbell Creek was included in the Simpson Lacey THP, 2014, only CFS Class I/II survey and a brief summary of the habitat downstream of unit H of the THP will be included in the results section of this report." Page 331 discloses: "Due to time and staff constraints, we chose to modify the protocol. To accomplish our goal of sampling at least 50% of the total Class I habitat, we systematically selected stream reaches adjacent to the Dutchman West THP." Class I restorable habitat mapped and discussed.	
1-15-094 MEN	11 pages - 2 pages of text, 9 pages of maps (only 2 of the maps specific to Campbell Creek Planning Watershed)	Referred reader to the "South Fork Ten Mile River and Campbell Creek Aquatic Habitat Assessment" found on pages 336-459 of THP 1-14-126 MEN for a complete assessment.	From the 2012 CDFW South Fork Ten Mile River Stream Inventory Report provided: riffle, flatwater and pool mean widths and depths in feet in a table. Referred reader to Addendum 1 of the "South Fork Ten Mile River and Campbell Creek Aquatic Habitat Assessment" in THP 1-14-126 MEN. Addendum 1 is the CDFW 2012 South Fork Ten Mile River Stream Inventory Report (for 106,178 feet of stream).	Spawning and rearing habitat maps provided (only 2 of the 8 maps were in the Campbell Creek Planning Watershed).	California Department of Fish and Wildlife Stream Inventory Report for the South Fork Ten Mile River. 2012 (available as Appendix 1 in the "South Fork Ten Mile River and Campbell Creek Aquatic Habitat Assessment" (pages 375-416 in THP 1-14-126 MEN). The Aquatic Habitat Assessment from THP 1-14-126 MEN (pages 336-459 in that plan). The California Salmonid Stream Restoration Manual.	Study area mapped in the THP includes Campbell Creek, Little Valley Creek, and Inglehook Creek Planning Watersheds. Because of the seven (7) harvest units there were in the Inglehook Creek Planning Watershed, two were in the Little Valley Creek Planning Watershed and two were in the Campbell Creek Planning Watershed the majority of the page Aquatic Habitat Assessment was specific to areas outside of the Pilot Project area.	
1-14-126 MEN	124 pages - 13 pages of text, 5 pages of figures, 17 pages of maps, 41 pages of CDFW 2012 Stream Inventory Report for South Fork Ten Mile River, 42 pages of CDFW 2012 Stream Inventory Report for Campbell Creek.	Yes, both the plan submitter's document and the attached CDFW 2012 Stream Inventory Reports.	Summaries of data from the 2012 CDFW South Fork Ten Mile River and Campbell Creek Stream Inventory Reports supplemented with summaries from work the plan submitter performed.	Spawning and rearing habitat maps provided	CDFW 2012 Stream Inventory Reports for South Fork Ten Mile River and Campbell Creek. Flosi, G., and F. L. Reynolds. 1998. California Salmonid Stream Habitat Restoration Manual. California Dept. of Fish and Game. Inland Fisheries Division.  Hines, D., and J. Ambrose. 2000. Evaluation of Stream Temperatures Based on Observations of Juvenile Coho Salmon in Northern California Streams. Georgia-Pacific West, Inc., Fort Bragg, California. Unpublished Report.  National Marine Fisheries Service. 1996. Making Endangered Species Act Determinations of Effect For Individual or Grouped Actions at the Watershed Scale. National Marine Fisheries Service. Environmental and Technical Services Division. Habitat Conservation Branch.  Welsh, H., G. Hodgson, and B. Harvey. 2001. Distribution of Juvenile Coho Salmon in Relation to Water Temperatures in Tributaries of the Mattole River, California. US Forest Service, Southwest Research Station, Redwood Sciences Laboratory, Arcata, California 95521. American Journal of Fisheries Management 21: 464-4470, 2001.	Watershed Assessment Area is mapped, map included near front of Section IV. - Note: Assessment Area is the Campbell AND Churchman Creek Planning Watersheds. Most of the CDFW 2012 South Fork Ten Mile River Stream Inventory Report covers that part of the South Fork that is within Churchman Creek Planning Watershed (maybe 20% is in the Campbell Creek Planning Watershed).	
1-13-031 MEN	127 pages - 16 pages of text, 5 pages of figures, 25 pages of maps, 34 pages of Draft CDFW 2012 Stream Inventory Report for Smith Creek, 34 pages of 2012 Stream Inventory Report for Mill Creek (outside of Pilot Project area)	Yes, both the plan submitter's document and the attached CDFW 2012 Stream Inventory Reports.	Summaries of data from the 2012 CDFW Draft Smith Creek Stream Inventory Report (and the Mill Creek Stream Inventory Report - outside of Pilot Project area) and assessment from THP 1-07-036 MEN.	Spawning and rearing habitat maps provided	CDFW 2012 Stream Inventory Reports for Smith Creek and Mill Creek (outside of Pilot Project area). Flosi, G., and F. L. Reynolds. 1998. California Salmonid Stream Habitat Restoration Manual. California Dept. of Fish and Game. Inland Fisheries Division.  Hines, D., and J. Ambrose. 2000. Evaluation of Stream Temperatures Based on Observations of Juvenile Coho Salmon in Northern California Streams. Georgia-Pacific West, Inc., Fort Bragg, California. Unpublished Report.  National Marine Fisheries Service. 1996. Making Endangered Species Act Determinations of Effect For Individual or Grouped Actions at the Watershed Scale. National Marine Fisheries Service. Environmental and Technical Services Division. Habitat Conservation Branch.  Welsh, H., G. Hodgson, and B. Harvey. 2001. Distribution of Juvenile Coho Salmon in Relation to Water Temperatures in Tributaries of the Mattole River, California. US Forest Service, Southwest Research Station, Redwood Sciences Laboratory, Arcata, California 95521. American Journal of Fisheries Management 21: 464-4470, 2001.	Smith Creek in the Campbell Creek Planning Watershed and Mill Creek in the Mill Valley Creek Planning Watershed. 2012 CDFW Stream Survey Reports mentioned. Conclusion (page 497-498): "... Structural pool complexity and LWD loading were found to be less than ideal in both creeks, and LWD introduction was recommended in both CDFW 2012 Habitat Inventory Reports ..."	
1-10-033 MEN	14 pages - 6 pages of text, 4 pages of figures, 1 page map.	Yes	Yes	Map only identified Anadros fish habitat (no spawning or rearing)	Flosi, G., and F. L. Reynolds. 1998. California Salmonid Stream Habitat Restoration Manual. California Dept. of Fish and Game. Inland Fisheries Division.  Hines, D., and J. Ambrose. 2000. Evaluation of Stream Temperatures Based on Observations of Juvenile Coho Salmon in Northern California Streams. Georgia-Pacific West, Inc., Fort Bragg, California. Unpublished Report.  National Marine Fisheries Service. 1996. Making Endangered Species Act Determinations of Effect For Individual or Grouped Actions at the Watershed Scale. National Marine Fisheries Service. Environmental and Technical Services Division. Habitat Conservation Branch. Sullivan, K., D.J. Martin, R.D. Cardwell, J.E. Toll, and S. Duke 2000. An analysis of the effects of temperature on salmonids in the Pacific Northwest with implications for selecting temperature criteria. Sustainable Ecosystems Institute, Portland Oregon.  Welsh, H., G. Hodgson, and B. Harvey. 2001. Distribution of Juvenile Coho Salmon in Relation to Water Temperatures in Tributaries of the Mattole River, California. US Forest Service, Southwest Research Station, Redwood Sciences Laboratory, Arcata, California 95521. American Journal of Fisheries Management 21: 464-4470, 2001.	Assessment Area is the Campbell Creek AND Little Valley Creek Planning Watersheds.	
1-09-022 MEN	22 pages - 3 pages of text, no figures, 19 pages of maps	Yes, but mainly referenced Aquatic Habitat Assessments in THPs 1-08-015 MEN and 1-08-127 MEN (not in the Pilot Project Planning Watershed)	Not directly, referenced Aquatic Habitat Assessments in THPs 1-08-015 MEN and 1-08-127 MEN (not in the Pilot Project Planning Watershed)	Spawning and rearing habitat maps provided (9 of the 17 maps were in the Campbell Creek Planning Watershed, others in Churchman Creek).	Referenced Aquatic Habitat Assessments in THPs 1-08-015 MEN and 1-08-127 MEN (not in the Pilot Project Planning Watershed)	Plan area is the Campbell AND Churchman Creek Planning Watersheds.	
1-08-015 MEN	32 pages - 10 pages of text, 4 pages of figures, 14 pages of maps.	Yes, introduction, overview, methods (habitat, transition survey, salmonid presence, temperature monitoring), results (same categories), discussion and conclusion.	Yes, primarily tables and charts. Values from the tables were referenced in the narrative.	Spawning and rearing habitat maps provided	Coey, Robert. 2000 Recommended Actions to Benefit Salmon and Steelhead. Adapted from California Salmonid Stream Habitat Restoration Manual. California Dept of Fish and Game. July 2002 Review Draft.  Flosi, G., and F. L. Reynolds. 1998. California Salmonid Stream Habitat Restoration Manual. California Dept. of Fish and Game. Inland Fisheries Division.  Georgia Pacific. 1995. Habitat Typing Report: Bald Hill Creek Watershed, North Fork Ten Mile River Basin. Georgia Pacific, Ft. Bragg, CA.  Hines, D and J. Ambrose. 2000. Evaluation of Stream Temperatures Based on Observations of Juvenile Coho Salmon in Northern California Streams. Georgia-Pacific West, Inc., Fort Bragg, California. Unpublished Report.  National Marine Fisheries Service. 1996. Making Endangered Species Act Determinations of Effect For Individual or Grouped Actions at the Watershed Scale. National Marine Fisheries Service. Environmental and Technical Services Division. Habitat Conservation Branch.  Sullivan, K., D.J. Martin, R.D. Cardwell, J.E. Toll, and S. Duke. 2000. An analysis of the effects of temperature on salmonids in the Pacific Northwest with implications for selecting temperature criteria. Sustainable Ecosystems Institute, Portland Oregon.  United States. Department of Interior. US Geological Survey. Surface Water Data For Nation. <a href="http://waterdata.usgs.gov/nwis/lw">http://waterdata.usgs.gov/nwis/lw</a>  Welsh, H., G. Hodgson, and B. Harvey. 2001. Distribution of Juvenile Coho Salmon in Relation to Water Temperatures in Tributaries of the Mattole River, California. US Forest Service, Southwest Research Station, Redwood Sciences Laboratory, Arcata, California 95521. American Journal of Fisheries Management 21: 464-4470, 2001.	Assessment Area is the Campbell Creek Planning Watershed.	
1-07-036 MEN	37 pages - 12 pages text, 5 pages of figures, 17 maps (only about half for Campbell Creek Planning Watershed)	Yes, introduction, overview, methods (habitat, transition survey, salmonid presence, temperature monitoring), results (same categories), discussion and conclusion.	Yes, primarily tables and charts. Values from the tables were referenced in the narrative.	Spawning and rearing habitat maps provided	Flosi, G., and F. L. Reynolds. 1998. California Salmonid Stream Habitat Restoration Manual. California Dept. of Fish and Game. Inland Fisheries Division.  Hines, D., and J. Ambrose. 2000. Evaluation of Stream Temperatures Based on Observations of Juvenile Coho Salmon in Northern California Streams. Georgia-Pacific West, Inc., Fort Bragg, California. Unpublished Report.  National Marine Fisheries Service. 1996. Making Endangered Species Act Determinations of Effect For Individual or Grouped Actions at the Watershed Scale. National Marine Fisheries Service. Environmental and Technical Services Division. Habitat Conservation Branch. Sullivan, K., D.J. Martin, R.D. Cardwell, J.E. Toll, and S. Duke 2000. An analysis of the effects of temperature on salmonids in the Pacific Northwest with implications for selecting temperature criteria. Sustainable Ecosystems Institute, Portland Oregon.  Welsh, H., G. Hodgson, and B. Harvey. 2001. Distribution of Juvenile Coho Salmon in Relation to Water Temperatures in Tributaries of the Mattole River, California. US Forest Service, Southwest Research Station, Redwood Sciences Laboratory, Arcata, California 95521. American Journal of Fisheries Management 21: 464-4470, 2001.	Assessment Area is the Campbell Creek AND Mill Valley Creek Planning Watersheds. (About half of the Aquatic Habitat Assessment was specific to areas outside of the Pilot Project area.)	

