

**Habitat Expansion Agreement for Central Valley Spring-Run Chinook Salmon and California Central Valley Steelhead**

**Removed Actions**

The following actions have been removed from the Working List of Potential Habitat Expansion Actions (LPA) because the actions are either: 1) already completed; 2) addressed in other actions on the LPA; 3) lacking political support; or 4) not Eligible under Section 3.2 of the HEA. The Notes column explains the specific reason(s) the action was removed from the LPA.

Reference Number	Description of Action	Target Life Stage(s)	Stream	Source Document	Reference Cited in Source	Notes
<b>Northern Sierra Nevada Spring-Run Salmon Diversity Group</b>						
NS-4	Develop an Antelope Creek fish passage assessment, including recommendations for improving channel connectivity, flow consolidation, and minimizing entrainment through installation of state-of-the-art fish passage facilities at diversions.	Adult Immigration	Antelope Creek	NMFS Recovery Plan Co-Manager Review Draft	<a href="http://www.delta.dfg.ca.gov/afrp/">http://www.delta.dfg.ca.gov/afrp/</a>	Item is a study, not an action. The elements of this action are covered under NS-1, 3, 10, and 77.
NS-11	Screen diversions in Antelope Creek.	Juvenile Emigration	Antelope Creek	PG&E/CalTrout Prioritized Actions List	Collaborative Group (2006)	Incorporated into NS-10 and removed from LPA.
NS-15	Repair the Lindo Channel weir and fishway at the Lindo Channel box culvert at the Five-Mile Diversion in Big Chico Creek.	Adult Immigration	Big Chico Creek	PG&E/CalTrout Prioritized Actions List	AFRP Restoration Plan (USFWS 2001)	Incorporated into NS-13 and removed from LPA.
NS-18	Develop a spawning gravel budget and implement an augmentation plan and use flow management to optimize spawning weighted usable area in consideration of hydrologic limitations and other species (e.g., steelhead) and life stage requirements. Implement One-mile Dam modification and gravel supplementation project (City of Chico); add spawning gravels at Five-Mile Diversion (AFRP Website 2005).	Spawning	Big Chico Creek	NMFS Recovery Plan Co-Manager Review Draft	<a href="http://www.delta.dfg.ca.gov/afrp/">http://www.delta.dfg.ca.gov/afrp/</a>	Dam modification incorporated into NS-13. Gravel supplementation supports fall-run not spring-run Chinook.
NS-25	Maintain state-of-the-art fish passage facilities at diversions to meet NMFS' passage criteria.  Study feasibility of consolidating diversion points to minimize the number of diversions on Butte Creek. Based on this study, consolidate diversions where feasible.	Adult Immigration	Butte Creek	NMFS Recovery Plan Co-Manager Review Draft	No reference cited	Some consolidation of diversions completed and uncertain if other diversions could also be consolidated.

**Habitat Expansion Agreement for Central Valley Spring-Run Chinook Salmon and California Central Valley Steelhead**

Reference Number	Description of Action	Target Life Stage(s)	Stream	Source Document	Reference Cited in Source	Notes
NS-33	Improve passage of chinook salmon & steelhead at dams on Deer Creek.	Adult Immigration	Deer Creek	PG&E/CalTrout Prioritized Actions List	Spring-run Chinook salmon recovery brainstorming session (11/8/05)	Incorporated into NS-37 and removed from LPA.
NS-39	Carry out a Deer Creek (upper) erosion reduction project (AFRP Website 2005).  Restore meadows and reduce stream channel incisement and bank erosion by modifying grazing practices and excluding cattle from nearshore zones, and reduce the potential for, and magnitude of a catastrophic wildfire, and reduce sources of chronic road-related erosion (U.S. Forest Service Long-term Anadromous Fish Conservation Strategy).  Decommission Fire Mountain Lodge Hydro-electric project, and remove the earthen dam, restore the stream channel, and obliterate project roads.	Spawning, Egg Incubation	Deer Creek	NMFS Recovery Plan Co-Manager Review Draft	U.S. Forest Service Long-term Anadromous Fish Conservation Strategy. Fire Mt Lodge; Notice of Application for...Establishing Procedural Schedule for Relicensing...: <a href="http://edocket.access.gpo.gov/2008/E8-10957.htm">http://edocket.access.gpo.gov/2008/E8-10957.htm</a>	First two actions are incorporated into NS-38. Third action is ineligible under HEA Section 3.2 because it is subject to FERC relicensing.
NS-42	Implement projects to increase floodplain habitat availability to improve habitat conditions for juvenile rearing (NMFS 2007b).	Summer/ Winter Rearing	Deer Creek	NMFS Recovery Plan Co-Manager Review Draft	Summary of Threats and Recovery Actions for Spring-Run and Winter-Run Chinook Salmon. (Notes from the Sacramento Salmon and Steelhead Recovery Workshop May 22, 2007)	Incorporated into NS-44 and removed from list.
NS-43	Renew long-term agreements to restore and preserve riparian habitats along Deer Creek.	Juvenile Emigration, Summer/ Winter Rearing	Deer Creek	PG&E/CalTrout Prioritized Actions List	AFRP Restoration Plan (USFWS 2001)	Not within our purview to renew long-term agreements.

**Habitat Expansion Agreement for Central Valley Spring-Run Chinook Salmon and California Central Valley Steelhead**

Reference Number	Description of Action	Target Life Stage(s)	Stream	Source Document	Reference Cited in Source	Notes
NS-48	Implement programs and measures designed to control non-native predatory fish (NMFS 2007b), including eradication programs for non-native predators (e.g., striped bass, largemouth bass, and smallmouth bass).  Implement projects to minimize predation at weirs, diversion dams, and related structures.  Improve nearshore refuge cover for salmonids to minimize predatory opportunities for striped bass and other non-native predators.	Juvenile Emigration	Feather/ Yuba Rivers	NMFS Recovery Plan Co-Manager Review Draft	Summary of Threats and Recovery Actions for Spring-Run and Winter-Run Chinook Salmon. (Notes from the Sacramento Salmon and Steelhead Recovery Workshop May 22, 2007)	Not within our purview (CDFG Eradication Program).
NS-50	Improve passage of chinook salmon & steelhead at dams on Mill Creek.	Adult Immigration	Mill Creek	PG&E/CalTrout Prioritized Actions List	Spring-run chinook salmon recovery brainstorming session (11/8/05)	Incorporated into NS-52.
NS-52 a	Conduct fish passage evaluation at all agricultural diversions to determine if they meet NMFS' fish passage criteria.	Adult Immigration	Mill Creek	NMFS Recovery Plan Co-Manager Review Draft	No reference cited	Incorporated into NS-52b and removed from LPA.
NS-52 c	Conduct a study designed to determine adult fish passage flows at critical riffles and fish ladders.	Adult Immigration	Mill Creek	NMFS Recovery Plan Co-Manager Review Draft	No reference cited	Study completed by DFG.
NS-82	Various items relating to improving flows/fish passage in valley bottoms in Deer, Mill, and Antelope Creeks	All	Antelope, Deer, and Mill Creeks	USFS comment form	No reference cited	Action incorporated into watershed specific actions and removed from LPA.
NS-61	Provide passage past Engelbright Dam for steelhead and Chinook salmon.	Adult Immigration Spawning	Yuba River	PG&E/CalTrout Prioritized Actions List	Upper Yuba River Studies Program (2006)	Incorporated into NS-67 and removed from LPA.
NS-62	Facilitate passage of spawning adult salmonids by maintaining appropriate flows through the fish ladders, or by modifying the fish ladders at Daguerre Point Dam.	Adult Immigration	Yuba River	PG&E/CalTrout Prioritized Actions List	AFRP Restoration Plan (USFWS 2001)	Incorporated into NS-64 and removed from LPA.

**Habitat Expansion Agreement for Central Valley Spring-Run Chinook Salmon and California Central Valley Steelhead**

Reference Number	Description of Action	Target Life Stage(s)	Stream	Source Document	Reference Cited in Source	Notes
NS-66	Operate reservoirs in the Yuba River basin to provide adequate water temperatures for anadromous fish.	All	Yuba River	PG&E/CalTrout Prioritized Actions List	AFRP Restoration Plan (USFWS 2001)	Action ineligible under HEA Section 3.2 because required under Corps BO.
NS-88	Fish Passage into Upper Yuba Watershed.	Adult Immigration and Juvenile Emigration	Yuba River	SYRCL Questionnaire	Upper Yuba River Watershed Chinook Salmon and Steelhead Habitat Assessment	Incorporated into NS-67b.
NS-68	Conduct gravel additions above and below Narrows Pool (Corps mitigation) (AFRP Website 2005).	Spawning	Yuba River	NMFS Recovery Plan Co-Manager Review Draft	<a href="http://www.delta.dfg.ca.gov/afrp/">http://www.delta.dfg.ca.gov/afrp/</a>	Action ineligible under HEA Section 3.2 because required under Corps BO.
NS-70	Construct or improve the fish bypasses at Hallwood-Cordua and Brophy-South Yuba water diversion.	All	Yuba River	PG&E/CalTrout Prioritized Actions List	AFRP Restoration Plan (USFWS 2001)	Hallwood-Cordua action completed. Brophy-South Yuba diversion incorporated into NS-69.
NS-71	Develop and implement a large woody material restoration program along the lower Yuba River utilizing sources of wood that enter upstream reservoirs.	Juvenile Emigration, Summer/Winter Rearing	Yuba River	NMFS Recovery Plan Co-Manager Review Draft	No reference cited	Action ineligible under HEA Section 3.2 because required under Corps BO and Lower Yuba Accord.
NS-72	Implement flow fluctuation and ramping rates found to be protective of embryos and juveniles by the fry stranding and redd dewatering study and thereby avoid and minimize adverse effects to juvenile salmonids.	Egg Incubation, Juvenile Emigration, Summer/Winter Rearing	Yuba River	NMFS Recovery Plan Co-Manager Review Draft	No reference cited	Action ineligible under HEA Section 3.2 because required under Corps BO and Lower Yuba Accord.
NS-73	Reduce and control flow fluctuations to avoid and minimize adverse effects to juvenile salmonids.	Juvenile Emigration, Summer/Winter Rearing	Yuba River	PG&E/CalTrout Prioritized Actions List	AFRP Restoration Plan (USFWS 2001)	Incorporated into NS-72 and removed from LPA.

**Habitat Expansion Agreement for Central Valley Spring-Run Chinook Salmon and California Central Valley Steelhead**

Reference Number	Description of Action	Target Life Stage(s)	Stream	Source Document	Reference Cited in Source	Notes
NS-74	<p>Identify and implement projects designed to minimize predation on juvenile salmonids at Daguerre Point Dam and associated structures.</p> <p>Implement programs and measures designed to control non-native predatory fish (NMFS 2007b), including eradication programs for non-native predators (e.g., striped bass, largemouth bass, and smallmouth bass).</p> <p>Improve nearshore refuge cover for salmonids to minimize predatory opportunities for striped bass and other non-native predators.</p>	Juvenile Emigration, Summer/ Winter Rearing	Yuba River	NMFS Recovery Plan Co-Manager Review Draft	Summary of Threats and Recovery Actions for Spring-Run and Winter-Run Chinook Salmon. (Notes from the Sacramento Salmon and Steelhead Recovery Workshop May 22, 2007)	First action is addressed in NS-65. The second action was removed because we do not have the regulatory authority to implement such a program. Action NS-83 addresses the third action.
NS-75	<p>Purchase conservation easements (AFRP 2006b) adjacent to the Yuba River and manage those easements to provide improved salmonid habitat, including instream cover and seasonal floodplain habitats.</p> <p>Implement projects to increase floodplain habitat availability to improve habitat conditions for juvenile rearing (NMFS 2007b).</p>	Summer/ Winter Rearing	Yuba River	NMFS Recovery Plan Co-Manager Review Draft	Summary of Threats and Recovery Actions for Spring-Run and Winter-Run Chinook Salmon. (Notes from the Sacramento Salmon and Steelhead Recovery Workshop May 22, 2007)	Action ineligible under HEA Section 3.2 because required under Corps BO and Lower Yuba Accord.
NS-76	Purchase streambank conservation easements in the Yuba River to improve salmonid habitat and instream cover.	Juvenile Emigration, Summer/ Winter Rearing	Yuba River	PG&E/CalTrout Prioritized Actions List	AFRP Restoration Plan (USFWS 2001)	Incorporated into NS-75 and removed from LPA.
NS-86	Lower Yuba River Narrows Gravel Rehabilitation Project.	Spawning	Yuba River	DFG Questionnaire	SHIRA-based river analysis (Pasternack 2009)	Incorporated into NS-84.

**Habitat Expansion Agreement for Central Valley Spring-Run Chinook Salmon and California Central Valley Steelhead**

Reference Number	Description of Action	Target Life Stage(s)	Stream	Source Document	Reference Cited in Source	Notes
NS-87	Yuba River Narrows Spawning Habitat Rehabilitation with possible segregation weir.	Spawning	Yuba River	SYRCL Questionnaire	Draft Implementation Plan for Lower Yuba River Anadromous Fish Restoration	Incorporated into NS-84.
<b>Basalt and Porous Lava Spring-Run Chinook Salmon Diversity Group</b>						
B-3	Install pipeline connections between powerhouses and diversion-canal intakes to prevent trans-basin water diversions from causing false attraction of anadromous salmonids from the North Fork to the South Fork.	Adult Immigration	Battle Creek	PG&E/CalTrout Prioritized Actions List	Battle Creek Restoration Plan (Kier and Associates 1999)	Incorporated into B-1 and B-2 and removed from LPA.
B-5	Install state-of-the-art ladders at, or remove small dams on the South Fork of Battle Creek to provide fish passage (NMFS 2007b).	Adult Immigration	Battle Creek	NMFS Recovery Plan Co-Manager Review Draft	Summary of Threats and Recovery Actions for Spring-Run and Winter-Run Chinook Salmon. (Notes from the Sacramento Salmon and Steelhead Recovery Workshop, May 22, 2007).	Incorporated into B-2 and removed from the LPA.
B-6	Increase streamflows as specified in the Battle Creek Salmon and Steelhead Restoration Plan (NMFS 2007b).	All	Battle Creek	NMFS Recovery Plan Co-Manager Review Draft	Summary of Threats and Recovery Actions for Spring-Run and Winter-Run Chinook Salmon. (Notes from the Sacramento Salmon and Steelhead Recovery Workshop May 22, 2007)	Incorporated into B-2 and removed from the LPA.

**Habitat Expansion Agreement for Central Valley Spring-Run Chinook Salmon and California Central Valley Steelhead**

<b>Reference Number</b>	<b>Description of Action</b>	<b>Target Life Stage(s)</b>	<b>Stream</b>	<b>Source Document</b>	<b>Reference Cited in Source</b>	<b>Notes</b>
B-7	Increase flow releases from remaining diversion dams affecting anadromous fish on Battle Creek as per the Battle Creek Restoration Plan (CALFED 2007). Avoid implementation of additional water projects (i.e., FERC permits) that are detrimental to the goals and objectives of the Battle Creek Salmon and Steelhead Restoration Plan.	Adult Immigration Adult Holding	Battle Creek	NMFS Recovery Plan Co-Manager Review Draft	No reference cited	Incorporated into B-2 and removed from the LPA.
B-8	Provide anadromous fish passage as specified in the Battle Creek Salmon and Steelhead Restoration Plan (CALFED 2007).	Adult Immigration	Battle Creek	NMFS Recovery Plan Co-Manager Review Draft	No reference cited	Incorporated into B-2 and removed from the LPA.
B-10	Encourage conservation easements and other incentives to retain large blocks of land under private ownership that continue to buffer Battle Creek fish populations from intense types of streamside land management practices and human disturbance.	All	Battle Creek	PG&E/CalTrout Prioritized Actions List	Battle Creek Restoration Plan (Kier and Associates 1999)	Alteration of land management practices would likely be regulatory in nature, and is therefore not within our purview.
B-11	Encourage riparian, stream channel, and fish habitat restoration projects following ecosystem-based approaches on private lands.	All	Battle Creek	PG&E/CalTrout Prioritized Actions List	Battle Creek Restoration Plan (Kier and Associates 1999)	Item is vague and would likely require some regulatory authority, and is therefore not within our purview.

**Habitat Expansion Agreement for Central Valley Spring-Run Chinook Salmon and California Central Valley Steelhead**

Reference Number	Description of Action	Target Life Stage(s)	Stream	Source Document	Reference Cited in Source	Notes
B-13	Implement programs and measures designed to control non-native predatory fish (NMFS 2007b), including eradication programs for non-native predators (e.g., striped bass, largemouth bass, and smallmouth bass).  Implement projects to minimize predation at weirs, diversion dams, and related structures. Improve nearshore refuge cover for salmonids to minimize predatory opportunities for striped bass and other non-native predators.	Juvenile Emigration, Summer/ Winter Rearing	Battle Creek	NMFS Recovery Plan Co-Manager Review Draft	No reference cited	The first action was removed because we do not have the regulatory authority to implement such a program. The second action will be addressed through the Battle Creek Restoration Project.
B-14	Encourage land management to protect against catastrophic wildfires through fuel reduction.	All	Battle Creek	PG&E/CalTrout Prioritized Actions List	Battle Creek Restoration Plan (Kier and Associates 1999)	This would likely require regulatory authority (e.g., timber harvest plans), and is therefore not within our purview.
B-16	Implement an annual trap-and-haul operation to restore access to existing and restored habitat in tributaries upstream of Shasta Dam.	Adult Immigration Adult Holding, Spawning	Sacramento River	PG&E/CalTrout Prioritized Actions List	CalFed Bay Delta Program (2006)	Incorporated into B-15 and removed from LPA.
B-17	Maintain the gates-up position to prevent passage impediments to listed species.	Adult Immigration	Sacramento River	NMFS Recovery Plan Co-Manager Review Draft	No reference cited	Action ineligible under HEA Section 3.2 because required under OCAP BO.
<b>Northwestern California Spring-Run Chinook Salmon Diversity Group</b>						
NWC-4	Develop cooperative water use agreements (e.g., groundwater exchange agreements) with local water users to provide flows during the immigration life stage.	Adult Immigration	Beegum Creek	NMFS Recovery Plan Co-Manager Review Draft	No reference cited	According to FWS no diversions exist on Beegum Creek.
NWC-7	Develop a spawning gravel budget and implement an augmentation plan and use flow management to optimize spawning weighted usable area in consideration of hydrologic limitations and other species (e.g., steelhead) and life stage requirements. Develop a spawning gravel budget and implement an augmentation plan.	Spawning	Clear Creek	NMFS Recovery Plan Co-Manager Review Draft	No reference cited	Some elements underway and rest were incorporated into NWC-6.

**Habitat Expansion Agreement for Central Valley Spring-Run Chinook Salmon and California Central Valley Steelhead**

Reference Number	Description of Action	Target Life Stage(s)	Stream	Source Document	Reference Cited in Source	Notes
NWC-8	Supplement flows in Clear Creek in order to provide a more natural flow regime and encourage gravel dispersal.	Spawning	Clear Creek	HEA Steering Committee	No reference cited	Action ineligible under HEA Section 3.2 because required under OCAP BO.
NWC-11	Develop and implement flow ramping protocols to protect all life stages of spring-run Chinook salmon.	All	Clear Creek	NMFS Recovery Plan Co-Manager Review Draft	No reference cited	Action ineligible under HEA Section 3.2 because required under OCAP BO.
NWC-12	Develop and implement optimal pulse flow schedules and increase flow allocation for Clear Creek in years with low water availability.	All	Clear Creek	NMFS Recovery Plan Co-Manager Review Draft	No reference cited	Action ineligible under HEA Section 3.2 because required under OCAP BO.
NWC-14	Develop a cooperative program to improve flow on Clear Creek by increasing releases from Whiskeytown Dams (USFWS 1997).	All	Clear Creek	NMFS Recovery Plan Co-Manager Review Draft	Abundance and Survival of Juvenile Chinook Salmon in the Sacramento-San Joaquin Estuary, 1994 Annual Progress Report	Project completed.
NWC-15	Increase integration of the State and Federal water projects through shared storage and conveyance agreements.  Negotiate agreements with landowners and Federal and State agencies to provide additional instream flows or purchase water rights (AFRP website 2005).  Implement projects that improve fish passage between the Sacramento River and flood bypasses.	Adult Immigration	Clear Creek	NMFS Recovery Plan Co-Manager Review Draft	<a href="http://www.delta.dfg.ca.gov/afrp/">http://www.delta.dfg.ca.gov/afrp/</a>	Applicability to Clear Creek unclear so removed.
NWC-16	Implement Lower Clear Creek Floodway Rehabilitation Project (Phase 3B) and other projects designed to improve juvenile rearing habitat (CALFED 2007).	Summer/ Winter Rearing	Clear Creek	NMFS Recovery Plan Co-Manager Review Draft	No reference cited	Action already underway with funding from CVPIA.

**Habitat Expansion Agreement for Central Valley Spring-Run Chinook Salmon and California Central Valley Steelhead**

Reference Number	Description of Action	Target Life Stage(s)	Stream	Source Document	Reference Cited in Source	Notes
NWC-17	Facilitate watershed protection and restoration to reduce water temperatures and siltation to improve holding, spawning, and rearing habitats for salmonids.	All	Cottonwood Creek	PG&E/CalTrout Prioritized Actions List	AFRP Restoration Plan (USFWS 2001)	This item would likely necessitate some regulatory authority, and is not within our purview.
NWC-20	Establish, restore, and maintain riparian habitat on Cottonwood Creek.	Juvenile Emigration, Summer/Winter Rearing	Cottonwood Creek	PG&E/CalTrout Prioritized Actions List	AFRP Restoration Plan (USFWS 2001)	Incorporated into NWC-18 and removed from LPA.
NWC-21	Modify gravel mining methods to reduce their effects on salmonid spawning habitats; employ the most ecologically sound timber extraction practices by implementing the Forest Plan on federal lands within the drainage; modify and employ the most ecologically sound forestry and grazing practices by implementing the Forest Plan on federal lands and through partnerships on private and state-owned land within the drainage to reduce fine sediment loading; reduce use of seasonal diversion dams that may be barriers to migrating Chinook salmon and steelhead.	All	Thomes Creek	PG&E/CalTrout Prioritized Actions List	AFRP Restoration Plan (USFWS 2001).	Comment forms from January meetings indicate no support from multiple agencies in this watershed, due to Thomes not historically supporting a spring-run population. Therefore, item was removed from the LPA.
NWC-22	Flow consolidation through reduction of braided channels.	All	Thomes Creek	NMFS Recovery Plan Co-Manager Review Draft	No reference cited	Comment forms from January meetings indicate no support from multiple agencies in this watershed, due to Thomes not historically supporting a spring-run population. Therefore, item was removed from the LPA.

**Habitat Expansion Agreement for Central Valley Spring-Run Chinook Salmon and California Central Valley Steelhead**

Reference Number	Description of Action	Target Life Stage(s)	Stream	Source Document	Reference Cited in Source	Notes
NWC-23	Enhance watershed resiliency by identifying and implementing projects that would reduce the potential for, and magnitude of a catastrophic wildfire, restore meadows to potentially increase summer flows and reduce local water temperatures, or increase riparian shade.	All	Thomes Creek	NMFS Recovery Plan Co-Manager Review Draft	No reference cited.	Comment forms from January meetings indicate no support from multiple agencies in this watershed, due to Thomes not historically supporting a spring-run population. Therefore, item was removed from the LPA.
NWC-24	Develop and implement a spawning gravel augmentation plan.	Spawning	Thomes Creek	NMFS Recovery Plan Co-Manager Review Draft	No reference cited	Comment forms from January meetings indicate no support from multiple agencies in this watershed, due to Thomes not historically supporting a spring-run population. Therefore, item was removed from the LPA.
<b>Sacramento River Basinwide</b>						
SBW-2	Restore a continuous 100-mile stretch of ecologically viable riparian habitat to flood-prone lands along the river between Red Bluff and Colusa (The Nature Conservancy Website).  Implement bank revetment removal programs and projects and breach or remove abandoned levees during set-back levee projects.	Juvenile Emigration, Summer/ Winter Rearing	Middle Sacramento River	NMFS Recovery Plan Co-Manager Review Draft	<a href="http://www.nature.org/wherework/northamerica/states/california/">http://www.nature.org/wherework/northamerica/states/california/</a>	Incorporated into SBW-14 and removed from the LPA.

**Habitat Expansion Agreement for Central Valley Spring-Run Chinook Salmon and California Central Valley Steelhead**

Reference Number	Description of Action	Target Life Stage(s)	Stream	Source Document	Reference Cited in Source	Notes
SBW-5	<p>Implement programs and measures designed to control non-native predatory fish (NMFS 2007b), including eradication programs for non-native predators (e.g., striped bass, largemouth bass, and smallmouth bass).</p> <p>Implement projects to minimize predation at weirs (e.g., Fremont Weir), diversion dams, and related structures (e.g., GCID, RBDD and ACID).</p> <p>Improve nearshore refuge cover for salmonids to minimize predatory opportunities for striped bass and other non-native predators.</p>	Juvenile Emigration, Summer/ Winter Rearing	Lower Sacramento River	NMFS Recovery Plan Co-Manager Review Draft	Summary of Threats and Recovery Actions for Spring-Run and Winter-Run Chinook Salmon. (Notes from the Sacramento Salmon and Steelhead Recovery Workshop May 22, 2007)	Incorporated into SBW-6 and removed from LPA.
SBW-6	<p>Implement programs and measures designed to control non-native predatory fish (NMFS 2007b), including eradication programs for non-native predators (e.g., striped bass, largemouth bass, and smallmouth bass).</p> <p>Implement projects to minimize predation at weirs, diversion dams, and related structures (e.g., GCID).</p> <p>Improve nearshore refuge cover for salmonids to minimize predatory opportunities for striped bass and other non-native predators.</p>	Juvenile Emigration, Summer/ Winter Rearing	Sacramento River	NMFS Recovery Plan Co-Manager Review Draft	Summary of Threats and Recovery Actions for Spring-Run and Winter-Run Chinook Salmon. (Notes from the Sacramento Salmon and Steelhead Recovery Workshop May 22, 2007)	Not within our purview.
SBW-8	Implement actions designed to decrease water temperatures in Sacramento River tributaries during late-spring through early fall, thereby decreasing thermal loading to the Sacramento River.	All	Sacramento River	NMFS Recovery Plan Co-Manager Review Draft	No reference cited	Action already addressed in various watershed specific actions.

**Habitat Expansion Agreement for Central Valley Spring-Run Chinook Salmon and California Central Valley Steelhead**

Reference Number	Description of Action	Target Life Stage(s)	Stream	Source Document	Reference Cited in Source	Notes
SBW-9	Implement actions designed to decrease water temperatures in Sacramento River tributaries during late-spring through early fall, thereby decreasing thermal loading to the Sacramento River.	All	Middle Sacramento River	NMFS Recovery Plan Co-Manager Review Draft	No reference cited	Section of river incorporated into SBW-8.
SBW-10	Develop and implement pulse flow schedules during peak migration periods for years with low water availability.	Adult Immigration	Sacramento River	NMFS Recovery Plan Co-Manager Review Draft	No reference cited	Action ineligible under Section 3.2 of the HEA because water management on the Sacramento River regulated under the OCAP BO and SWRCB D-1641.
SBW-13	Implement programs and measures designed to control non-native predatory fish (NMFS 2007b), including eradication programs for non-native predators (e.g., striped bass, largemouth bass, and smallmouth bass).  Implement projects to minimize predation at weirs, diversion dams, and related structures (RBDD and ACID).  Improve nearshore refuge cover for salmonids to minimize predatory opportunities for striped bass and other non-native predators.	Juvenile Emigration, Summer/Winter Rearing	Upper Sacramento River	NMFS Recovery Plan Co-Manager Review Draft	Summary of Threats and Recovery Actions for Spring-Run and Winter-Run Chinook Salmon. (Notes from the Sacramento Salmon and Steelhead Recovery Workshop May 22, 2007)	Not within our purview.
SBW-15	Create a flood bypass downstream of Mill and/or Deer creeks specifically to promote spring-run Chinook salmon fry rearing.	Summer/Winter Rearing	Middle Sacramento River	PG&E/CalTrout Prioritized Actions List	Stillwater Sciences (2006)	Action covered in watershed specific actions in Mill and Deer creeks.

**Habitat Expansion Agreement for Central Valley Spring-Run Chinook Salmon and California Central Valley Steelhead**

<b>Reference Number</b>	<b>Description of Action</b>	<b>Target Life Stage(s)</b>	<b>Stream</b>	<b>Source Document</b>	<b>Reference Cited in Source</b>	<b>Notes</b>
SBW-16	Manage spring flows in the mainstem Sacramento River to inundate shallow water habitats within the bankfull channel.	Summer/ Winter Rearing, Juvenile Emigration	Middle Sacramento River	PG&E/CalTrout Prioritized Actions List	Stillwater Sciences (2006)	Action ineligible under Section 3.2 of the HEA because water management on the Sacramento River regulated under the OCAP BO and SWRCB D-1641.
SBW-17	Restore riparian corridors in lower mainstem Sacramento River between Colusa and Collinsville.	Summer/ Winter Rearing, Juvenile Emigration	Lower Sacramento River	PG&E/CalTrout Prioritized Actions List	Collaborative Group (2006)	Incorporated into SBW-3 and removed from the LPA.