

## West Coast Hydrokinetic Energy Projects

	Location	Latest news	Next steps	Technology description	Footprint description
<b>California</b>					
<b>Del Mar Landing Project (Sonoma County Water Agency)*</b> P-13376                      Updated: 8/13/2009  Preliminary permit issued 7/9/2009	Study location is 14.3 sq nautical miles. Three miles off the coast of Sonoma County, in state waters. Water depths of 20-50 meters.	Preliminary permit granted. Motions to intervene by NMFS, Surfrider, several other groups.	Schedule of proposed activities due within 45 days of permit issuance.	Looking at oscillating water column & buoy-type devices, including Pelamis.	In state waters. 14.3 square nm.
<b>Fort Ross Project North (Sonoma County Water Agency)*</b> P-13378                      Updated: 8/13/2009 Preliminary permit issued 7/9/2009	Study area is 10.4 square nm.	Preliminary permit granted. Motions to intervene by NMFS, Surfrider, PGE, other organizations.	Schedule of proposed activities due within 45 days of permit issuance.		10.4 square nm, in state waters.
<b>Fort Ross South Project South (Sonoma County Water Agency)*</b> P-13377                      Updated: 8/13/2009  Preliminary permit issued 7/9/2009	Study area is 15.3 square nm. In state waters off Sonoma County, near Fort Ross, 20-50 m deep.	Preliminary permit granted. Motions to intervene from NMFS, Surfrider, Mendocino County, others.	Schedule of proposed activities due within 45 days of permit issuance.		Initially 2-5 MW; eventually 40-200 MW.
<b>Green Wave Mendocino Wave Park*</b> P-13053                      Updated: 8/13/2009 Preliminary permit issued 5/1/09	Mendocino	Preliminary permit for 3 years granted. FISH (Fishermen Interested in Safe Hydrokinetics, a broad coalition of groups & communities) requested a rehearing of the decision to grant the permit. Request denied.	Conducting meetings. Six-month progress report due October 31, 2009.	10-100 Pelamis or OPT devices, total capacity of 100 MW	2.5 x 6.9 miles (study area), up to 2.6 miles offshore, 120-390 feet deep.

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<b>Green Wave San Luis Obispo Wave Park*</b> P-13052                      Updated: 8/12/2009 Preliminary permit issued 5/7/09	Morro Bay	Preliminary permit issued. Currently developing list of issues and studies to be addressed. Plans to file PAD in April 2010.		10-100 Pelamis or OPT devices with a total capacity of 100 MW.	3.1 x 7.1 miles. 1-3.5 miles from shore, 90-360 feet deep.
<b>Humboldt WaveConnect Project (PGE)*</b> P-12779                      Updated: 10/5/2009 Preliminary permit issued 3/13/2008	Eureka/Samoa	According to NMFS, PG&E has begun pre-consultation meetings with the fisheries agencies (Arcata PRD and Santa Rosa HCD, CDFG) and the public to gather siting and environmental baseline information. Goal is to file a draft pilot project application in March 2010 to support environmental review. In July, PGE amended application to substantially reduce study area. No longer in Federal waters.	Will apply for pilot license.	10-20 buoys or other technology, 5 mW	10-20 buoys. 60-600 feet in depth. 2-3 miles from shore.
<b>San Francisco Bay Tidal Energy Project (Golden Gate Energy)</b> P-12585-001                      Updated: 8/13/2009 Preliminary permit issued 10/11/2005	San Francisco Bay	Preliminary permit for pilot project found lacking by FERC. FERC dismissed application 1/14/09. FERC may issue subsequent preliminary permit; wants further information from applicant by 2/21/09. Applicant provided information 2/20/09. No action since February 2009.	Awaiting FERC decision on dismissing application.	60 turbines/square mile, 1000 mW	60 turbines per square mile, located on sea floor. Footprint not specified.

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<b>Swave Catalina Green Wave Power Project (SARA, Inc.) * NEW *</b>	P-13498 Updated: 8/13/2009	3/4 mile off west coast of Santa Catalina Island, Los Angeles County, between China Point and Ben Westin Point. Not in Federal waters.	Preliminary permit application submitted 6/30/09. NMFS filed motion to intervene in August 2009.	More motions to intervene and comments.	10-40 SWAVE buoys mounted in a staggered array.	Buoys in water 225-300 feet deep. .875 nautical mile footprint. Undersea power cable to the city of Avalon.
<b>Oregon</b>						
<b>Coos Bay OPT Wave Park</b>	P-12749 Updated: 8/13/2009 Preliminary permit issued 3/9/2007 PAD submitted	Coos bay	Submitted PAD 3/7/08. Filed progress report 8/20/08. Conducted agency meeting/site visit in November 2008. Comments of ODFW, others, received. ODFW believes planned project is too large. No activity on FERC site since February 2009.	OPT will use the traditional licensing process. Submitted progress report 2/27/09. Conducting various studies, meetings, etc.	200-400 buoys, 100 mW	200-400 buoys in 3-6 rows parallel to the beach, 25-40 fm deep. Currently, 1 mile wide by 5 miles long; eventually smaller. 2.5 miles from shore.
<b>Douglas County Project (Douglas County)*</b>	P-12743 Updated: 8/13/2009 Preliminary permit issued 4/6/2007 PAD submitted	Winchester Bay	Submitted PAD 5/23/08. Conducting studies, meeting with stakeholders. Current aquaculture (oyster) operation in project area has concerns about water quality associated with project. Filed 6-month progress report in April 2009. Looking at potential alternative sites, including north jetty.	Will use the traditional licensing process. Various studies and meetings continuing through 2009.	One jetty-based structure	Varies from other proposed projects in that it is powered by wave-driven air currents created by infrastructure built into existing jetty; installed capacity of 3MW. Applying for 50-year license.

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<b>Oregon Coastal Wave Energy Project (Green Wave)*</b>		Nehalem, Rockaway, Garibaldi, Netarts, Nestucca, and Neskowin.	Progress report filed 5/18/09. Conducting community meetings, consulted with Oregon Wave Energy Trust and Oregon Fishermen's Cable Committee.	Through 2010: Conduct meetings, studies, etc.	Buoys, 20-180 mW (total)	N/A
P-13047	Updated: 8/13/2009					
Preliminary permit issued	5/23/2008					
<b>Principle Power Offshore Wind Project</b>		Off Oceanside & Netarts, OR <i>In Federal waters</i>	9/26/08 - Tillamook Intergovernmental Development Agency and Principle Power signed MOU for phased development off offshore wind plant. 11/24/08 - signed MOU with Tillamook PUD.	Need MMS lease/license. Plan to begin Phase II expansion by 2012.	30 wind turbines, 5 MW each	Project will begin with a single WindFloat floating turbine (243 feet); eventually plan to expand to "an entire offshore wind farm, covering 12 to 15 square miles and capable of generating 150 to 200 megawatts."
MMS project	Updated: 8/13/2009					
<b>Reedsport OPT Wave Park*</b>		Reedsport	Filed 6-month progress report in July 2009. Has conducted consultations with NFMS on draft license application. Began discussions with property owner re leasing transmission cable route.	Will use TLP. Plans to file all relevant permitting applications by end of 2009. Plan to have settlement agreement signed by all parties by January 2010.	10 buoys, up to 4.14 mW per year	Depth: 204-225'. Footprint: 0.25 sq. miles, sandy bottom.
P-12713	Updated: 8/13/2009					
Preliminary permit issued						
PAD submitted						

## Washington

	<b>Location</b>	<b>Latest news</b>	<b>Next steps</b>	<b>Technology description</b>	<b>Footprint description</b>
<b>Admiralty Inlet (Snohomish PUD)*</b> P-12690 Updated: 8/13/2009 Preliminary permit issued 3/9/2007 PAD submitted	Admiralty Inlet, Puget Sound	Submitted PAD 1/31/08. Filed progress report in July 2009. Conducting meetings and consultations with various communities, tribes, and agencies (including NMFS). Deployed instrumentation to characterize the physical and biological environment in the Admiralty Inlet area. Conducted survey cruises as well. Have selected technology developer (OpenHydro Group Ltd.) and marine engineering contractor.	Conducting another survey in August 2009. Plan to submit draft license application in January 2010. Making plans for draft biological assessment.	1-5 turbines (type unknown), up to 5 mW	Bay/estuary habitat; 60-100 m deep; bottom is scoured pebbles and sand; much shipping & commercial traffic.
<b>Deception Pass (Snohomish PUD)*</b> P-12687 Updated: 8/13/2009 Preliminary permit issued 3/1/2007 PAD submitted	Deception Pass, Puget Sound	Submitted PAD 1/31/08. Filed progress report in July 2009. Conducting meetings and consultations with various communities, tribes, and agencies (including NMFS).	Plan to submit draft license application in January 2010.	Turbines (type, number unknown), 3 mW	Bay/estuary habitat; 30 m deep; rocky seafloor; mainly recreational use.
<b>Grays Harbor Ocean Energy and Coastal Protection (Washington Wave Co.)</b> P-13058 Updated: 8/13/2009 Preliminary permit issued 7/31/08	Grays Harbor  <i>Possibly Federal waters</i>	Progress report filed July 2009. Have been conducting various agency & stakeholder meetings; "project proceeding as planned."	Plan to apply for a pilot license by July 2010.	12 oscillating water column units, 6MW (Eventually, wind turbines & buoys, 168-418 mW)	Up to 28 square miles. 1-3 miles offshore, 10-70 feet in depth. West of Ocean Shores and Westport.

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<b>Green Hydropower Chief Joseph Project (inland waters) * NEW *</b>		Just below Chief Joseph dam near Highway 17 bridge (salmon habitat)	Applied for preliminary permit 6/19/09.	FERC asked Bureau of Reclamation whether they believe a non-federal project is authorized at the site. Waiting for response.	One Sea Anchor Tidal Power device	An in-stream power device pilot project; device could potentially be used in saltwater applications as well. In salmon habitat.
P-13525	Updated: 8/13/2009					
<b>Green Hydropower Grand Coulee Project (inland waters) * NEW *</b>		One quarter mile below Grand Coulee dam.	Applied for preliminary permit 6/19/09.	FERC asked Bureau of Reclamation whether they believe a non-federal project is authorized at the site. Waiting for response.	One Sea Anchor Tidal Power device	An in-stream power device pilot project; device could potentially be used in saltwater applications as well.
P-13522	Updated: 8/13/2009					
<b>Green Hydropower Rocky Reach Project (inland waters) * NEW *</b>		On the Columbia River just below the Rocky Reach dam. (Salmon habitat)	Application for preliminary permit submitted 7/07/09. On 8/06 FERC notified Green Power that their application was deficient (needs more data about location and technology) and gave them 30 days to respond.	Green Power to respond to FERC; expect FERC to consult with Bureau of Reclamation about use of site.	One Sea Anchor Tidal Power device	An in-stream power device pilot project; device could potentially be used in saltwater applications as well. In salmon habitat.
P-13534	Updated: 8/13/2009					
<b>Guemes Channel (Snohomish PUD)</b>		Guemes Channel, Puget Sound	Submitted PAD 1/31/08. Filed progress report in July 2009. Conducting meetings and consultations with various communities, tribes, and agencies (including NMFS).	Plan to submit draft license application in January 2010.	Turbines (type, number unknown), 3.5 mW	Bay/estuary habitat; 15 m. deep; gravel seafloor; commercial shipping traffic.
P-12698	Updated: 8/13/2009					
Preliminary permit issued	2/22/2007					
PAD submitted						

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<b>San Juan Channel (Snohomish PUD)</b> P-12692                      Updated: 8/13/2009  Preliminary permit issued 2/22/2007 PAD submitted	San Juan Channel, Puget Sound	Submitted PAD 1/31/08. Filed progress report in July 2009. Conducting meetings and consultations with various communities, tribes, and agencies (including NMFS).	Plan to submit draft license application in January 2010.	Turbines (type, number unknown), 6.8 mW	Bay/estuary habitat; 135+ m. deep; gravel seafloor; commercial fishing use (salmon)
<b>Spieden Channel (Snohomish PUD)</b> P-12689                      Updated: 8/13/2009  Preliminary permit issued 2/22/2007 PAD submitted	Spieden Channel, Puget Sound	Submitted PAD 1/31/08. Filed progress report in July 2009. Conducting meetings and consultations with various communities, tribes, and agencies (including NMFS).	Plan to submit draft license application in January 2010.	Turbines (type, number unknown), 8.3 mW	Bay/estuary habitat; 80 m. deep; gravel seafloor; commercial fishing use (salmon)

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<b>DEFUNCT PROJECTS</b>						
<b>California</b>						
<b>Centerville OPT Wave Energy Park*</b>		Eureka	Permit surrendered 5/29/09 "to focus on Coos Bay & Reedsport projects."		40-80 buoys, 20 mW	7.025 square miles, 2.5 miles offshore.
P-13075	Updated: 8/13/2009					
<i>Defunct</i>	6/27/2008					
<b>Fairhaven OPT Wave Power Project</b>		Eureka	Competing application in same location chosen over this one.		40-80 buoys, 20+ mW	.5 mile wide by 4 miles long (n/s), 22-26 fm
P-12780	Updated: 3/27/2008					
<i>Defunct</i>						
<b>Humboldt County Wave Project (PGE)*</b>		Trinidad	Preliminary permit surrendered.		Unspecified; 100 mW	Research area: 8 square miles; final size between 2-3 square miles. 20-40 fm (120-240 feet). 2-4 miles off shore
P-12753	Updated: 3/19/2009					
<i>Defunct</i>						
<b>Mendocino Wave Energy Project (Chevron)</b>		Fort Bragg	Application withdrawn 8/31/07. Apparently the "lengthy approval process" in California led Chevron to pursue an opportunity in Alaska instead.		Pelamis machines, 2-60 mW	Unknown
P-12806	Updated: 1/15/2008					
<i>Defunct</i>						
<b>Mendocino WaveConnect Project (PGE)*</b>		Fort Bragg	According to NMFS, PG&E plans to cancel this project because the harbor was determined to be unsuitable (too dangerous) to barge big machinery back and forth.	Planning for environmental and technology studies. Working with CH2M Hill on work plan.	Buoys or other technology, 40 mW	Research area: 68 square miles. 60-600 feet in depth. 0.5 to 6 miles from shore.
P-12781	Updated: 5/21/2009					
<i>Defunct</i>	3/13/2008	<i>Possibly Federal waters</i>				



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<b>San Francisco Ocean Energy Project (Grays Harbor Ocean Energy)*</b> P-13308 Updated: 8/13/2009		20-30 miles off the coast, west of San Francisco, on the Outer Continental Shelf, within the boundaries of the Gulf of the Farallones NMS. Not visible from shore.	Permit dismissed by FERC 4/17/09 because this is on the outer continental shelf and now under the jurisdiction of MMS.	Would continue under the jurisdiction of MMS, but MMS cannot issue leases in marine sanctuaries. "There will be no project unless the Sanctuary managers decide to allow it and develop their own regulatory system, which seems unlikely."	100 WECs; may also use wind turbines on the WECs. May use oscillating water column technology.	Seafloor is sand, gravel, and mud. Considering using structures as artificial reefs.
<i>Defunct</i>		<i>Federal waters</i>				
<b>Sonoma Coast Hydrokinetic Energy (Sonoma Co.)</b> P-13076 Updated:		Sonoma Co.	Rejected - area too large, technology not specified.		?	N/A
<i>Defunct</i>						
<b>Oregon</b>						
<b>Columbia River project (Oregon Tidal Energy Co.)</b> P-12672 Updated: 3/27/2008		Lower Columbia River	Preliminary permit surrendered - "insufficient development potential exists for either a full development or tidal project."		TISECs	River bottom.
<i>Defunct</i>						
<b>Coos County Wave Project (Finavera)</b> P-12752 Updated: 6/2/2008 4/26/2007		Bandon	Permit cancelled 6/26/08 because no progress report or PAD was filed.		Buoys, 100-300 mW	5.5 square mile water footprint, 1.6 miles e/w by 3.4 miles n/s.
<i>Defunct</i>						
<b>Florence Wave Park Project (Energetech)</b> P-12793 Updated: 3/27/2008		Florence	Proposal withdrawn - no reason given.		Oscillating water column technology, 10 mW	Each structure's footprint is 35x15 meters, not counting cables. Structures extend 7 meters above water and 15 below.
<i>Defunct</i>						

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<b>Lincoln County Wave Energy Research &amp; Demonstration Center (Lincoln Co.)</b> P-12727 <i>Defunct</i>	Updated: 5/5/2008	Lincoln County	Dismissed by FERC		Various.	Unknown
<b>Newport OPT Wave Park</b> P-12750 <i>Defunct</i>	Updated: 5/21/2009	Newport/ Waldport <i>Possibly Federal waters</i>	Preliminary permit surrendered 4/15/2009 in order to focus on Coos Bay and Reedsport projects.	Licensee must develop NOI and PAD by 1/29/10	200-400 buoys, 100+ mW	200-400 buoys in 3-6 rows parallel to the beach. 3.5 miles wide (e/w) by 5 miles long (n/s); eventually as little as 0.4 miles by 3.1 miles, 20-35 fm, 3-6 miles off coast of Lincoln County
<b>Washington</b>						
<b>Agate Passage (Snohomish PUD)</b> P-12691 <i>Defunct</i> PAD submitted	Updated: 5/21/2009	Agate Passage, Puget Sound	Surrendered preliminary permit 10/07/08	Defunct	Turbines (type, number unknown), 0.4 mW	Bay/estuary habitat; 10 m. deep; sand/gravel floor; used by pleasure craft
<b>Makah Bay Offshore Wave Energy Pilot Project (Finavera)*</b> DI02-3 <i>Defunct</i>	Updated: 2/11/2009	Makah Bay (Neah Bay)	Five-year license issued December 21, 2007.	Finavera withdrew project in order to focus on wind energy.	1 buoy, 1 mW	60x240 feet at ocean surface; 625x450 feet at ocean floor. Sandy bottom with rocky outcroppings.
<b>Rich Passage (Snohomish PUD)</b> P-12688 <i>Defunct</i> PAD submitted	Updated: 5/21/2009	Rich Passage, Puget Sound	Surrendered preliminary permit 10/7/08.	Defunct.	Turbines (type, number unknown), 1.4 mW	Bay/estuary habitat; 15-22 m deep; gravel seafloor; commercial & naval traffic.

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<b>Tacoma Narrows (Tacoma Power)</b> P-12612 <i>Defunct</i>	Updated: 2/18/2009	Tacoma Narrows, Puget Sound	Doing feasibility studies. Issued progress report 7/30/08. Found that tidal power in Tacoma Narrows may not be economically or technically feasible at this time. Independent analysis underway, but permit will probably expire with no further action.	Prelim permit issued 2/22/06; expressed intent to use pilot process; but now looks unfeasible.	Up to 64 turbines, 1-20 mW	In estuary (HAPC). Footprint unknown.
<b>Willapa Bay Tidal Energy Plant Water Power Project (Natural Currents)*</b> P-12729 <i>Defunct</i>	Updated: 8/13/2009	Willapa Bay	Permit canceled because applicant did not file NOI and draft permit application.		1-3 turbines (Red Hawk-2), 1-2 mW	825 meters SSW of State Road 105, 365 m offshore. Footprint unknown. Estuarine habitat. Aiming for installation in 2010.

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<b>DEFUNCT PROJECTS</b>						
<b>California</b>						
<b>San Francisco Oceanside Wave Energy Project (City and County of S.F.)</b>	P-13779	Updated: 8/13/2009	Eight miles west of San Francisco in the "exclusion zone" of the Monterey Bay National Marine Sanctuary (the area excluded from the sanctuary), near the outfall of a waste water treatment plant (therefore minimizing project impacts).	FERC dismissed application 4/30/09 because it is on the outer continental shelf and MMS now has jurisdiction.	Applicant must get a lease from MMS first, and then apply for a FERC license.	Not yet determined. Looking at several fully submerged devices.
			<i>On hold (MMS project)</i>	<i>In Federal waters</i>		
<b>Ventura Ocean Energy Project (Grays Harbor Ocean Energy)*</b>	P-13309	Updated: 8/13/2009	20-25 miles off the coast, on the Outer Continental Shelf (but elsewhere in the application it says 5-10 miles offshore). Not visible from shore.	Permit dismissed by FERC 4/17/09 because this is on the outer continental shelf and now under the jurisdiction of MMS.	Project currently on hold or defunct because of change to FERC rules. No indication on their website of pursuing project under MMS. Would have to get MMS lease and then re-apply to FERC.	100 WECs; may also use wind turbines on the WECs. May use oscillating water column technology.
			<i>On hold (MMS project)</i>	<i>Federal waters</i>		

**DEFUNCT PROJECTS**

## **Work Plan for the Five-Year Review of Essential Fish Habitat for Pacific Coast Salmon**

### Proposal

The Northwest Region (NWR) and the Southwest Region (SWR) of NOAA Fisheries are working in partnership with Northwest Fisheries Science Center (NWFSC), the Southwest Fisheries Science Center (SWFSC) and the Pacific Fisheries Management Council (PFMC) to conduct the 5-year review of EFH for Pacific Coast salmon. The funds will be used to conduct a comprehensive assessment of Pacific Coast salmon EFH, focusing on information that has become available since the initial designation in 2000. Project funding will be passed through to the PFMC to administer the funds in conducting the assessment. The PFMC will contribute, without cost, its administrative overhead and extensive scientific peer and public review process to the effort, and all NOAA Fisheries contributions to the project will be funded through existing programs. The requested funds will be spent only to support special scientific, stakeholder, or public meetings, outreach, supplies and printing, travel and PFMC contract work and/or staffing necessary to develop, analyze, draft, and review the pertinent salmon EFH information.

The NWR and SWR, in collaboration with the NWFSC, SWFSC, and the PFMC, established an oversight panel to provide assistance and direction to accomplishing the overall task. The panel will be responsible for overall planning, coordinating assignments within their respective organizations, providing sideboards for contract work, and reviewing preliminary draft documents and products. Further review, including final stakeholder and public involvement, will occur through the normal PFMC review process, which will include all PFMC advisory bodies, in particular the Habitat Committee and Scientific and Statistical Committee (SSC). The tasks to be accomplished under the grant to the PFMC are described below.

1. Review and synthesize available information on the distribution and abundance of Pacific Coast salmonids to further refine existing spatial datasets. To the extent possible with available information, the resolution and accuracy of these spatial datasets will be improved by characterizing the utility and quality, by species and lifestage, of various habitat areas (e.g., migratory, spawning, rearing). The specific tasks, assigned personnel, and work schedule will be:
  - a. Conduct a literature review of salmon stock distribution (primary) and abundance (secondary) in California, Idaho, Oregon, and Washington, and draft an annotated bibliography.  
Contractor—to be determined (TBD; current negotiation with Cramer Fish Sciences).  
Work Schedule--Initiated by October 1, 2009 and completed by January 31, 2010.
  - b. Incorporate new information into a GIS database for analysis and display.  
Assigned Personnel—NWR, SWR.  
Work Schedule—TBD.

2. Review and synthesize available information on the impassible man-made barriers in each basin that can be used to further refine existing spatial datasets and refine the list of those structures that meet the criteria for designation as the upstream extent of EFH. The specific tasks, assigned personnel, and work schedule will be:
  - a. Conduct a review of GIS data and literature on the impassible man-made barriers in each basin.  
Key Contact Personnel—Contractor TBD, Nancy Munn and John Stadler (NWR), Bryant Chesney and Eric Chavez (SWR), Chuck Tracy (PFMC).  
Work Schedule— Initiated by October 1, 2009 and completed by January 31, 2010.
  - b. Review existing barrier designation criteria and recommend changes if necessary.  
Key Contact Personnel—Nancy Munn and John Stadler (NWR), Bryant Chesney and Eric Chavez (SWR), Chuck Tracy (PFMC).  
Work Schedule— Initiated by September 16, 2009 and completed by November 1, 2010.
  - c. Recommend modification of barrier list  
Key Contact Personnel—Nancy Munn (NWR), Bryant Chesney and Eric Chavez (SWR), Chuck Tracy (PFMC), Contractor TBD.  
Work Schedule—TBD.
3. Review the available information and develop an annotated bibliography on the existing and emerging threats to the EFH of Pacific Coast salmon. Such threats include, but are not limited to, climate change, changes in ocean productivity cycles, and anthropogenic activities such as offshore oil exploration and development, aquaculture, and alternative energy development. In addition, review and synthesize potential actions that may avoid, minimize, or otherwise offset adverse impacts to EFH that are associated with the above activities. The bibliography will be used to identify potential non-fishing threats to EFH, describe the effects of these activities on EFH, and develop conservation recommendations, as required by the implementing regulations (50 CFR 600.815(a)(4). The specific tasks, assigned personnel, and work schedule will be:
  - a. Conduct a literature review of threats to EFH and potential conservation measures and draft an annotated bibliography  
Assigned Personnel—Contractor TBD.  
Work Schedule—Initiated by October 1.
4. Review the available information and develop an annotated bibliography on the importance of specific types of habitats to the life history of Pacific Coast salmon that can be used to designate Habitat Areas of Particular Concern (HAPC). The specific tasks, assigned personnel, and work schedule will be:
  - a. Conduct a literature review of life history information and draft an annotated bibliography.  
Assigned Personnel—Contractor TBD.  
Work Schedule—Initiated by October 1, 2009.

- b. Incorporate new information into GIS database for analysis and display  
Key Contact Personnel—Barb Seekins (NWR), Charleen Gavette and Matt Dorsey (SWR).  
Work Schedule--TBD
  - c. Review/revise existing HAPC descriptions, recommend specific habitat types/areas for HAPC consideration.  
Key Contact Personnel—Nancy Munn (NWR), Bryant Chesney and Eric Chavez (SWR), Chuck Tracy (PFMC), Phil Roni (NWFSC), Brian Spence (SWFSC), Habitat Committee  
Work Schedule—Initiated by September 11, 2009.
5. Issue a draft report for scientific, stakeholder, and public review. The specific task, assigned personnel, and work schedule will be:
- a. Draft a report for Council briefing materials and subsequent review by stakeholders and public through the Council process and outside the normal process if necessary.  
Key Contact Personnel— Chuck Tracy (PFMC).  
Work Schedule—Draft to be reviewed tentatively at the September 2010 Council meeting.
6. Issue a final report subsequent to final Council approval.

The information identified above will be compiled in a draft report to be presented to peer-reviewers and stakeholder groups for comment via the PFMC process. A final report will provide the basis for the Pacific Coast salmon EFH five-year review and will be presented to the PFMC, who will approve the review for submittal to NMFS and consider if an FMP Amendment process is warranted.

Summary of Assigned Tasks, and Personnel

John Stadler and Nancy Munn (Panel Chair) - NWR/HCD

- Review criteria for designation of upstream barriers
- Review and revise existing HAPC descriptions
- Recommend specific areas/habitat types for HAPC consideration
- Draft materials for initial report to Council for briefing materials
- Complete to final draft of EFH review after Council approval

Barb Seekins - NWR/HCD

- Incorporate new information into GIS database for analysis and display
- Distribution and abundance
- Upstream extent of EFH/barriers
- HAPC



Charleen Gavette and Matt Dorsey - SWR/HCD

- Incorporate new information into GIS database for analysis and display
  - Distribution and abundance
  - Upstream extent of EFH/barriers
  - HAPC

Bryant Chesney and Eric Chavez - SWR/HCD

- Review criteria for designation of upstream barriers
- Review and revise existing HAPC descriptions
- Recommend specific areas/habitat types for HAPC consideration
- Draft materials for initial report to Council for briefing materials
- Complete to final draft of EFH review after Council approval

Phil Roni - NWFSC

- Review criteria for designation of upstream barriers
- Review and revise existing HAPC descriptions
- Recommend specific areas/habitat types for HAPC consideration

Brian Spence - SWFSC

- Review criteria for designation of upstream barriers
- Review and revise existing HAPC descriptions
- Recommend specific areas/habitat types for HAPC consideration

Chuck Tracy - PFMC

- Liaison with contractor to develop annotated bibliography
  - Distribution and abundance
  - Upstream barriers
  - Habitat usage
  - New/emerging threats to EFH
- Review criteria for designation of upstream barriers
- Review and revise existing HAPC descriptions
- Recommend specific areas/habitat types for HAPC consideration
- Lead initial draft report to Council for briefing materials

PFMC Advisory Bodies – HC, SSC, SAS, STT

- Recommend specific areas/habitat types for HAPC consideration
- Peer Review of draft report

## General Work Schedule

Approximate milestones and deliverables for the project as follows:

Summer 2009:	Funding awarded; grant to PFMC
Summer 2009:	Procurement and planning process by PFMC
Summer/Fall 2009:	Staffing assignments and/or contract award; project initiation
Winter/Spring 2010:	Development of draft documents under PFMC and NMFS oversight
Summer 2010:	Draft report delivered; Committee, stakeholder and public review via at least a two Council meeting process
Fall/Winter 2010:	Final scientific peer review by SSC; final report delivered; NMFS/Council determination whether or not there is sufficient information available to merit initiation of FMP Amendment

**Lower Columbia River Tule Fall Chinook Life-Cycle Analysis**  
**NOAA Fisheries**  
**DRAFT**  
**August 1, 2009**

**Purposes:**

- Further inform the existing recovery plans for Lower Columbia River tule fall Chinook salmon.
- Use life-cycle modeling to explore all-H scenarios evaluating how recovery responds to projected habitat and hatchery improvements and a full range of alternative harvest strategies.
- Evaluate feasibility of achieving recovery plan survival improvement targets.
- Provide a basis for refining recovery actions.
- Provide benchmarks and metrics for implementation over time.
- Support a multi-year harvest BiOp for tule fall Chinook.

**Background:**

The 2009 PFMC guidance letter noted that during calendar year 2009, we would

- Work with co-managers and recovery planners to identify and/or clarify multi-year expectations related to all factors affecting listed LCR Chinook salmon.
- Augment existing analyses to compare projected outcomes across a range of habitat productivity and capacity, hatchery reform, and harvest expectations so that decision makers can weigh the benefits at the ESU scale of a particular harvest approach against the costs across all sectors.
- Establish near term and medium term milestones for the LCR recovery strategy to support multi-year BiOp for those fisheries.

**Key Questions to be Addressed:**

- Recovery plans identify *types* of freshwater habitat actions. At what level do these actions need to be implemented to provide the anticipated habitat improvement? What is the time frame for the improvement?
- What effect on population extinction risk would we expect to see from the set of hatchery actions that WDFW and ODFW plan to implement? What is the time frame for the improvement?
- What are the changes to projected population extinction risk levels caused by different harvest scenarios under reasonable assumptions about when habitat and hatchery benefits would be realized?

- A relatively high proportion of spawners in some tule populations have been out-of-ESU hatchery-origin fish in recent years. The impact on the genetic composition of naturally produced fish in these populations is uncertain. How can that uncertainty be reduced? What are the implications for risk assessments and restoration strategies? How would genetic composition of the current natural production from a population affect the choice of an appropriate broodstock for a supplementation program?

**Populations to be Evaluated:**

- All Lower Columbia River tule fall Chinook populations targeted for high viability (i.e., the “primary” populations--Elochoman, Mill/Germany/Abernathy, Clatskanie, Scappoose, Coweeman, Toutle, Lewis, Washougal, Hood).

**Analysis:**

Evaluating expected effects from actions in each H, and the level of effort required to achieve targeted survival improvements, and incorporating that information into a life-cycle model to evaluate alternative scenarios will allow us to (1) translate recovery plan survival improvement targets into measurable terms (e.g., general level of habitat restoration actions required to improve habitat productivity by a particular amount), (2) establish near- and medium-term milestones for implementation in each H and metrics for measuring progress toward recovery, (3) evaluate trade-offs, in terms of relative risks and benefits, among a full range of alternative harvest scenarios, and (4) validate or refine the survival improvement targets in recovery plans.

The life-cycle analysis will be iterative, but the basic sequence will be to 1) determine life-cycle structure, 2) develop a current conditions scenario, 3) develop scenarios based on recovery plan survival and capacity improvement assumptions, 4a) develop scenarios based on actions in recovery plan, 4b) develop plausible scenarios based on actions not necessarily in the recovery plan (e.g. like Lewis Case Study), 5) develop alternative harvest strategies 6) evaluate results. Steps 3 and 4a differ in that step 3 uses the plan’s modeled improvements, which are derived from allocation of morality burden, whereas step 4a would be a new analysis where the habitat and other actions in the plan are translated directly into estimates of changes in survival and capacity.

*To develop inputs for the life-cycle analysis, the following teams have been formed and asked to create work plans identifying deliverables in a time frame that allows for an initial product by the end of November 2009, along with and any future deliverables that will contribute to the goals of informing recovery plan implementation and harvest/hatchery policy (i.e., deliverables after November 2009):*

**1) Hatchery Actions and Effects** (Co-leads: Mike Ford/Rob Jones; WDFW: Pat Frazier, Andy Appleby, Craig Busack; ODFW: Mark Chilcote, John North)

- Identify specific hatchery actions, a schedule for implementation, and a method for estimating effects that can be input as parameters to the life-cycle model.

**2) Harvest Scenarios** (Lead: Peter Dygert; WDFW: Pat Frazier, Cindy LeFleur, Larrie LaVoy, Kris Ryding; ODFW: Mark Chilcote, John North; NOAA: Paul McElhany)

- Develop a range of alternative harvest scenarios, including potential abundance-based scenario.
- Preliminary thinking is to explore the following scenarios: (1) 20% fixed rate (presumes AK/CAN harvest and some treaty troll harvest, little or no non-Indian US ocean or mainstem harvest); (2) 32% fixed rate (HSRG); (3) 35% fixed rate (OR); (4) 44% fixed rate (LCFRB); (5) 50% fixed rate (plausible upper bound); (6) abundance-based scenario; (7) mark-selective scenario; (8) possibly, a zero percent harvest scenario so we can fully describe how risk changes with incremental changes in harvest and other parameters.

**3) Habitat (including a freshwater team and an estuary sub-group)** (Co-leads: Ashley Steel/Tom Cooney; WDFW: David Price, Dan Rawding, ODFW: Mark Chilcote, John North?)

- Spatial and statistical analyses to answer the following two interrelated questions:
  - 1) Given the types of freshwater habitat actions listed in the recovery plans for fall Chinook salmon, what is the general level of habitat restoration actions that would be required to improve freshwater habitat productivity by a particular amount and over what time frame?
  - 2) What are the distributions of adult capacity, juvenile capacity, egg-to-fry survival, and early juvenile survival parameters under (a) current conditions and (b) various alternative levels of freshwater habitat restoration?

**4) Life-Cycle Modeling (SLAM)** (Lead: Paul McElhany; WDFW: Dan Rawding, Kris Ryding; ODFW: Mark Chilcote, John North; NOAA: Tom Cooney)

- Using the scenarios developed as described above for harvest, hatcheries, and habitat, use SLAM to inform understanding of impacts in terms of projected risk levels for each primary population.

**Timeline:**

- Initial life-cycle analysis products: November 2009
- Draft 2010 PFMC Guidance Letter: January 2010\*
- 2010 PFMC Guidance Letter: March 2010
- 2010 PFMC BiOp: April 2010
- FR notice for proposed Lower Columbia River recovery plan: April 2010

\*NOAA will need citable documents for the BiOp in December 2009. (These could include the draft recovery plan documents, letters from states, results of analysis, etc.) It is possible that additional technical work could continue in the future. Final documentation of “multiyear plan” requires further discussion but will address all Hs and will provide actions and some way to evaluate success and take corrective measures if benchmarks are not being met.



## EXECUTIVE OFFICE OF THE PRESIDENT COUNCIL ON ENVIRONMENTAL QUALITY WASHINGTON, D.C. 20503

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**FOR IMMEDIATE RELEASE:**  
**September 1, 2009**

### **Obama Administration Officials to Hold Ocean Policy Task Force Public Meeting in San Francisco on September 17, 2009**

**SAN FRANCISCO, CA** – Obama Administration officials will hold their second Ocean Policy Task Force Public Meeting in San Francisco, California on September 17, 2009. The Interagency Ocean Policy Task Force, led by White House Council on Environmental Quality Chair Nancy Sutley, consists of senior-level officials from Administration agencies, departments, and offices.

The Task Force is charged with developing a recommendation for a national policy that ensures protection, maintenance, and restoration of oceans, our coasts and the Great Lakes. It will also recommend a framework for improved stewardship, and effective coastal and marine spatial planning. The public is encouraged to attend and an opportunity for public comment will be provided.

**Who:** Nancy Sutley, Chair, White House Council on Environmental Quality  
Dr. Jane Lubchenco, Administrator, National Oceanic and Atmospheric Administration  
Peter Silva, Assistant Administrator for Water, Environmental Protection Agency  
Kit Batten, Science Advisor to the Deputy Secretary, Department of Interior  
U.S. Navy Rear Admiral Herman Shelanski, Director for the Chief of Naval Operations Environmental Readiness Division

**What:** Ocean Policy Task Force Public Meeting

**When:** Thursday, September 17, 2:30 – 6:00 p.m.

**Where:** Hyatt Regency San Francisco at Embarcadero Center, Ballroom A  
5 Embarcadero Center  
San Francisco, CA 94111  
(near BART and MUNI Embarcadero Station)

**Note:** Public comment can also be submitted online at: <http://www.whitehouse.gov/oceans>

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**STATUS REPORT OF THE 2009 OCEAN SALMON FISHERIES OFF WASHINGTON, OREGON, and CALIFORNIA.**

Preliminary Data Through August 31, 2009 (September 7 for KMZ).

Fishery and Area	Season Dates	Effort Days Fished	CHINOOK			COHO <sup>a/</sup>		
			Catch	Quota	Percent	Catch	Quota	Percent
<b>COMMERCIAL</b>								
Treaty Indian <sup>b/</sup>	5/1-6/30	61	7,197	19,000	38%	Non-Retention		
	7/1-8/20	53	5,005	20,000	25%	59,863	60,000	100%
Non-Indian North of Cape Falcon <sup>c/</sup>	5/1-6/30	1,212	10,668	13,735	78%	Non-Retention		
	7/1-9/15	1,107	2,722	6,765	40%	31,186	33,600	93%
Cape Falcon - Humbug Mt.	9/1-9/31		Non-Retention				20,000	-
Humbug Mt. - U.S./Mexico Border	Closed	-	-	-	-	-	-	-
<b>RECREATIONAL</b>								
U.S./Canada Border - Cape Alava <sup>c/</sup>	6/27-9/20	15,206	2,397	2,200	109%	12,569	17,100	74%
Cape Alava-Queets River <sup>c/</sup>	6/27-9/20	4,235	531	950	56%	6,418	6,980	92%
	9/26-10/11			100	0%		100	0%
Queets River - Leadbetter Pt. <sup>c/</sup>	6/28-9/20	32,242	4,789	11,850	40%	44,494	55,270	81%
Leadbetter Pt.-Cape Falcon <sup>c/</sup>	6/28-8/28	53,315	5,148	5,400	43%	82,490	96,500	85%
Cape Falcon - OR/CA Border	6/20-8/31	63,774	Non-Retention			69,769	110,000	63%
Cape Falcon - Humbug Mt.	9/1-9/30		Non-Retention				7,000	0%
Humbug Mt. - Horse Mt. (KMZ)	8/29-9/7	8,174	852			15	included in 110,000	
OR/CA Border - U.S./Mexico Border	Closed	-	-	-	-	-	-	-

TOTALS TO DATE	Effort			Chinook Catch			Coho Catch		
	2009	2008	2007	2009	2008	2007	2009	2008	2007
<b>TROLL</b>									
Treaty Indian	114	519	614	12,202	17,502	23,000	59,863	4,600	40,206
Washington Non-Indian	1,781	1,160	1,256	12,307	8,374	14,233	18,190	1,337	5,726
Oregon	538	635	4,390	655	5,368	32,636	13,020	349	16,419
California	5,360	-	9,214	670	-	102,522	-	-	-
Total Troll	7,793	2,314	15,474	25,834	31,244	172,391	91,073	6,286	62,351
<b>RECREATIONAL</b>									
Washington Non-Indian	93,156	35,008	66,832	19,534	14,215	8,459	156,896	17,117	78,678
Oregon	75,650	23,370	75,980	1,083	835	4,920	88,820	12,034	59,542
California	5,360	391	88,007	670	6	44,676	6	-	691
Total Recreational	174,166	58,769	230,819	21,287	15,056	58,055	245,722	29,151	138,911
<b>PFMC Total</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>47,121</b>	<b>46,300</b>	<b>230,446</b>	<b>336,795</b>	<b>35,437</b>	<b>201,262</b>

a/ All non-Indian coho fisheries are mark-selective except the Cape Falcon to Humbug Mt. September commercial fishery.

b/ Treaty Indian effort is reported as landings.

c/ Numbers shown as Chinook quotas for non-Indian troll and recreational fisheries North of Falcon are guidelines rather than quotas; only the total Chinook allowable catch is a quota.