

Appendix A: Spatial Data Layers Available

Table A-1 lists the spatial data layers currently available for use in designing marine protected areas for the north coast study region.

The following acronyms are used in Table A-1:

BLM	U.S. Bureau Of Land Management
CSP	California State Parks
DFG	California Department of Fish & Game
ESI	Environmental Sensitivity Index
ESRI	Environmental Systems Research Institute
FERC	Federal Energy Regulatory Commission
GNIS	Geographic Names Information System
MBNMS	Monterey Bay National Marine Sanctuary
MMS	U.S. Minerals Management Service
NMSP	National Marine Sanctuary Program
NOAA	National Oceanic & Atmospheric Administration
PCGFMP	Pacific Coast Groundfish Fishery Management Plan
PSMFC	Pacific States Marine Fisheries Commission
SWRCB	State Water Resources Control Board
TNC	The Nature Conservancy
UCSB	University of California Santa Barbara
US Census	U.S. Census Bureau
USCD	United States Department of Commerce
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Survey

Table A-1: Spatial data layers

Dataset Name	Dataset Category	Dataset Extent	Metadata?	Source
Buoys of California	Base Layer	Statewide	Yes	
California State Boundary	Base Layer	Statewide	Yes	DFG
California Coast Polyline	Base Layer	Statewide	Yes	DFG
Geographic Place Names	Base Layer	Statewide	Yes	GNIS
1 Minute Graticule for the MLPA Study Region	Base Layer	Statewide	Yes	UCSB
5 Minute Graticule for the MLPA Study Region	Base Layer	Statewide	Yes	UCSB
10 Minute Graticule for the MLPA Study Region	Base Layer	Statewide	Yes	UCSB
California Islands	Base Layer	Statewide	Yes	DFG
Roads for California	Base Layer	Statewide	Yes	US Census
Shoreline Features (Coastal Status)	Base Layer	Statewide		
California MLPA Study Regions	Base Layer	Statewide	Yes	DFG
State Highways near NCSR	Base Layer	NCSR	Yes	DFG

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Dataset Name	Dataset Category	Dataset Extent	Metadata?	Source
U.S. National Atlas Water Feature Lines	Base Layer	Statewide	Yes	ESRI
100m Bathymetric Contour Lines	Bathymetric Layer	Statewide		
10m Bathymetric Contour Lines	Bathymetric Layer	Statewide	Yes	DFG
20m Bathymetric Contour Lines	Bathymetric Layer	Statewide		
50m Bathymetric Contour Lines	Bathymetric Layer	Statewide		
Bathymetric Contours in Fathoms	Bathymetric Layer	Statewide	Yes	
MLPA Depth Zones in Fathoms	Bathymetric Layer	Statewide		
California State and Federal Depth Zones	Bathymetric Layer	Statewide	Yes	DFG
Seabird Colony Locations	Bathymetric Layer	Statewide		
Brachiopoda Locations	Biological Layer	Statewide	Yes	MBNMS
Locations of Crinoids (Sea Lillies)	Biological Layer	Statewide	Yes	MBNMS
Gorgonacea Communitites	Biological Layer	Statewide	Yes	MBNMS
Porifera (Deep Sea Sponge) Locations	Biological Layer	Statewide	Yes	MBNMS
Sessile Holothurians (Cucumbers)	Biological Layer	Statewide	Yes	MBNMS
Soft Corrals	Biological Layer	Statewide	Yes	MBNMS
Locations of Structure Forming Invertebrates along the US West Coast	Biological Layer	Statewide	Yes	PSMFC
Kelp Canopy cover for the coast of California	Biological Layer	Statewide	Yes	DFG
Maximum Extent of Kelp in California	Biological Layer	Statewide	Yes	DFG
Persistent Kelp cover in California	Biological Layer	Statewide	Yes	DFG
Kelp Canopy cover for the NCSR	Biological Layer	NCSR	Yes	DFG
Maximum Extent of Kelp in the NCSR	Biological Layer	NCSR	Yes	DFG
Persistent Kelp cover in the NCSR	Biological Layer	NCSR	Yes	DFG
Mammal & Pinniped Rookeries	Biological Layer	Statewide	Yes	NOAA
Mammal & Pinnipeds Haulouts	Biological Layer	Statewide	Yes	NOAA
Boccaccio larvae distribution off California	Biological Layer	Statewide	Yes	NMSP
Northern anchovy larvae distribution off California	Biological Layer	Statewide	Yes	NMSP
Pacific sardine larvae distribution off California	Biological Layer	Statewide	Yes	NMSP
Ashy storm-petrel at-sea density off California	Biological Layer	Statewide	Yes	NMSP
Brandt's cormorant at-sea density off California	Biological Layer	Statewide	Yes	NMSP
Blue whale at-sea density off California	Biological Layer	Statewide	Yes	NMSP
Bottlenose dolphin at-sea density off California	Biological Layer	Statewide	Yes	NMSP
Brown pelican at-sea density off California	Biological Layer	Statewide	Yes	NMSP
Cassins auklet at-sea density off California	Biological Layer	Statewide	Yes	NMSP

Dataset Name	Dataset Category	Dataset Extent	Metadata?	Source
Common dolphin at-sea density off California	Biological Layer	Statewide	Yes	NMSP
Dall's porpoise at-sea density off California	Biological Layer	Statewide	Yes	NMSP
Double-crested cormorant at-sea density off California	Biological Layer	Statewide	Yes	NMSP
Fin whale at-sea density off California	Biological Layer	Statewide	Yes	NMSP
Gray whale at-sea density off California	Biological Layer	Statewide	Yes	NMSP
Harbor porpoise at-sea density off California	Biological Layer	Statewide	Yes	NMSP
Humpback whale at-sea density off California	Biological Layer	Statewide	Yes	NMSP
Minke whale at-sea density off California	Biological Layer	Statewide	Yes	NMSP
Northern right-whale dolphin at-sea density off California	Biological Layer	Statewide	Yes	NMSP
Killer whale at-sea density off California	Biological Layer	Statewide	Yes	NMSP
Pelagic cormorant at-sea density off California	Biological Layer	Statewide	Yes	NMSP
Pigeon guillemot at-sea density off California	Biological Layer	Statewide	Yes	NMSP
Pacific white-sided dolphin at-sea density off California	Biological Layer	Statewide	Yes	NMSP
Risso's dolphin at-sea density off California	Biological Layer	Statewide	Yes	NMSP
Xantus's murrelet at-sea density off California	Biological Layer	Statewide	Yes	NMSP
Composite fish diversity off southern California	Biological Layer	Statewide	Yes	NMSP
Marbled Murrelet Proposed Critical Habitat (MAMU_PCH2006)	Biological Layer	NCSR	Yes	USFWS
Salmonid Sea Outlets	Biological Layer	NCSR	Yes	TNC
Seabird Colony Locations	Biological Layer	NCSR	Yes	USFWS
Proposed Critical habitat for Tidewater Goby (Eucyclogobius newberryi)	Biological Layer	NCSR	Yes	USFWS
Commercial Passenger Fishing Vessel (CPFV) landings	Consumptive Use Layer	Statewide		
California Recreational Fisheries Survey's (CRFS) sampled Commercial Passenger Fishing Vessel (CPFV) landings by 1' block for 2004, 2005, and 2006	Consumptive Use Layer	Statewide	Yes	DFG
California Recreational Fisheries Survey's (CRFS) sampled Skiff Effort by 1' block for 2004 and 2005	Consumptive Use Layer	Statewide	Yes	DFG
Spot Prawn Trap Data for California	Consumptive Use Layer	Statewide	Yes	DFG
Spot Prawn Trawl Logs	Consumptive Use Layer	Statewide	Yes	DFG
Cites of California	Cultural Layer	Statewide	Yes	DFG
Coastal Access Points	Cultural Layer	Statewide	Yes	DFG
Geographic Points of the California Coast	Cultural Layer	Statewide	Yes	DFG

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Dataset Name	Dataset Category	Dataset Extent	Metadata?	Source
California Counties	Cultural Layer	Statewide	Yes	DFG
Harbors of California	Cultural Layer	Statewide	Yes	USGS
Ocean outfalls	Cultural Layer	Statewide	Yes	SWRCB
Marine Ports of California	Cultural Layer	Statewide	Yes	DFG
Marine Research Institutions of California	Cultural Layer	Statewide	Yes	UCSB
Environmental Sensitivity Index Map for Central and Northern California Shoreline	Cultural Layer	Statewide	Yes	ESI
Telecommunication Cables	Cultural Layer	Statewide		
Urban Areas of California from Census of 2000	Cultural Layer	Statewide	Yes	US Census
Applications for FERC for Hydrokinetic Projects off the CA coast	Cultural Layer	Statewide	Yes	FERC
Coastal Marine Ports of California (NCSR only)	Cultural Layer	NCSR	Yes	DFG
Marine Research Institutions of California (NCSR only)	Cultural Layer	NCSR	Yes	DFG
Shore Dive Locations	Cultural Layer	NCSR	Yes	
Shipwrecks of the United States	Cultural Layer	Statewide		NOAA
Coastal Marsh Locations	Habitat Layer	Statewide	Yes	NOAA
California Eelgrass	Habitat Layer	Statewide	Yes	DFG
California Estuaries	Habitat Layer	Statewide	Yes	TNC
Coarse Scale Hard and Soft Bottom Habitats	Habitat Layer	Statewide	Yes	PSMFC
Seagrass distribution off California	Habitat Layer	Statewide	Yes	PSMFC
Sensitivity of Coastal Environments and Wildlife to Spilled Oil	Habitat Layer	Statewide	Yes	ESI
Surf Grass Along the California Coast	Habitat Layer	Statewide	Yes	MMS
California Trawl Logbook	Management Layer	Statewide	Yes	PSMFC
California Areas of Special Concern	Management Layer	Statewide		
Critical Coastal Areas	Management Layer	Statewide	Yes	NOAA
California Department of Fish and Game Districts (DFG Districts)	Management Layer	Statewide	Yes	DFG
Dump sites as depicted on 200k NOAA charts	Management Layer	Statewide	Yes	NOAA
Exclusive Economic Zone for California	Management Layer	Statewide	Yes	NOAA
Essential Fish Habitat (EFH) off Washington, Oregon, and California for NMFS' Final Rule Implementing Amendment 19 to the Pacific Coast Groundfish Fishery Management Plan	Management Layer	Statewide	Yes	PCGFMP

Dataset Name	Dataset Category	Dataset Extent	Metadata?	Source
The area seaward of the 700-fathom Depth Contour off Washington, Oregon, and California for NMFS' Final Rule Implementing Amendment 19 to the Pacific Coast Groundfish Fishery Management Plan	Management Layer	Statewide	Yes	PCGFMP
California Coastal National Monument	Management Layer	Statewide	Yes	BLM
2004 Federal Marine Protected Areas	Management Layer	Statewide	Yes	DFG
Impaired Rivers	Management Layer	Statewide	Yes	SWRCB
Impaired Water Bodies	Management Layer	Statewide	Yes	SWRCB
California Administrative Kelp Bed Boundaries	Management Layer	Statewide	Yes	DFG
Terrestrial Managed Areas	Management Layer	Statewide	Yes	BLM
1 Minute MicroBlocks	Management Layer	Statewide	Yes	DFG
Overlapping areas of RCA's and recreational bottom fishing regulations showing areas prohibited from fishing at all times. This layer does not include CowCod Conservation Areas.	Management Layer	Statewide	Yes	DFG
2007 Rockfish Conservation Area (RCA) Contour Lines	Management Layer	Statewide	Yes	NOAA
California Non-Groundfish Rockfish Conservation Area (RCA) for 2009 - 2010	Management Layer	Statewide	Yes	DFG
2005 Non Trawl Rockfish Conservation Area within California State Jurisdictional Water	Management Layer	Statewide	Yes	NMFS
2007 Rockfish Conservation Areas (RCA) - Non Trawl	Management Layer	Statewide	Yes	NOAA
2007 Rockfish Conservation Areas (RCA) - Non trawl (persistent closure)	Management Layer	Statewide	Yes	NOAA
California Non-Trawl Rockfish Conservation Area (RCA) for 2009 - 2010	Management Layer	Statewide	Yes	DFG
2005 California Recreational Groundfish Full-Time Closures for California	Management Layer	Statewide	Yes	DFG
2007 Rockfish Conservation Areas (RCA) - Recreational (persistent closure)	Management Layer	Statewide	Yes	NOAA
2007 Rockfish Conservation Areas (RCA) - Recreational	Management Layer	Statewide	Yes	NOAA
California Recreational Rockfish Conservation Area (RCA) for 2009 - 2010	Management Layer	Statewide	Yes	DFG
2005 Trawl Rockfish Conservation Area within California State Jurisdictional Water	Management Layer	Statewide	Yes	NMFS
2007 Rockfish Conservation Areas (RCA) - Trawl	Management Layer	Statewide	Yes	NOAA
California Trawl Rockfish Conservation Area (RCA) for 2009 - 2010	Management Layer	Statewide	Yes	DFG

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Dataset Name	Dataset Category	Dataset Extent	Metadata?	Source
2007 Rockfish Conservation Areas (RCA) - Trawl (persistent closure)	Management Layer	Statewide	Yes	NOAA
Restricted Areas	Management Layer	Statewide	Yes	DFG
California State Underwater Parks	Management Layer	Statewide	Yes	CSP
California State Park Lands	Management Layer	Statewide		
California State Waters Line	Management Layer	Statewide	Yes	NOAA
State Water Quality Protection Areas 2003	Management Layer	Statewide	Yes	DFG
Existing Marine Protected Areas in California	MPA Layer	Statewide	Yes	DFG
Marine Managed Areas of the United States: State of California Digital Boundaries	MPA Layer	Statewide	Yes	USCD
Beach Nourishment Sites	Physical Layer	Statewide		
Nearshore Canyon Heads of California	Physical Layer	Statewide	Yes	PSMFC
Coastal Rivers	Physical Layer	Statewide		
Coastal Hydrography of California	Physical Layer	Statewide	Yes	DFG
Bathymetric DEM, 200 Meter Resolution (Depth Values in Meters)	Bathymetric Layer	Statewide	Yes	DFG
200m Bathymetric Hillshade in color	Bathymetric Layer	Statewide		
200m Bathymetric Hillshade in gray	Bathymetric Layer	Statewide		
At sea bird diversity	Biological Layer	Statewide	Yes	NOAA
200k Noaa Color Chart	Chart Layer	Statewide		NOAA
NOAA Chart San Diego to Mendicino	Chart Layer	Statewide		
Terrestrial Hillshade 30m in Color	Physical Layer	Statewide		
DEM from NOAA BioGeo Assessment	Physical Layer	Statewide		NOAA
Ocean Currents Data 1997-99	Physical Layer	Statewide		NOAA
SST Data from Noaa BioGeo Assessment 1993-2003	Physical Layer	Statewide		NOAA

Appendix B: Profile of Commercial Fisheries

B.1 Summaries of Commercial Fisheries by County

Table B-1 defines the market category groupings for finfish and invertebrates fished commercially in the north coast study region, and tells what gear is primarily used in fishing for each market category. The other tables in this section show, on a county-by-county basis, the numbers of fishermen and vessels actively fishing each category in 2008, and the average annual landings and ex-vessel revenue for each category in the ten years ending in 2008.

Table B-1: Market category groupings and primary gear

Market category Groupings	Primary Species Targeted	Primary Gear
Finfish		
Deeper nearshore	Black, brown, olive, copper, treefish, blue and quillback rockfishes	Hook and line
Hagfish	Hagfish	Trap
Lingcod	Lingcod	Hook and line
Salmon ⁴	Chinook salmon	Troll hook-and line and mooching
Shallow nearshore	Kelp greenling, cabezon, scorpionfish, monkeyface eel and the following rockfish: black-and-yellow, China, gopher, kelp, and grass	Hook and line
Skates/Rays/Sharks	All sharks and rays except white shark and big skate	Hook and line
Smelt	Jacksmelt, topsmelt, and true, surf and night smelt.	Hook and line
Surfperch	Redtail surfperch	Hook and line
Invertebrates		
Coonstripe shrimp	Coonstripe shrimp	Trap
Dungeness crab	Dungeness crab	Circular traps
Urchin	Red urchin	Hand harvest with scuba or hookah

Table B-2: Summary of Del Norte County fisheries, 1999-2008

Market category Groupings	Fishermen (2008) ^a	Vessels (2008) ^a	Average Annual Landings (lbs), 1999-2008	Average Annual Ex-Vessel (\$), 1999-2008
Finfish				
Deeper nearshore	24	22	153,571	\$313,561
Smelt	<4 ^b	<4 ^b	59,240	\$21,526
Salmon	season closed	season closed	47,968	\$164,226
Skates/Rays/Sharks	11	10	22,413	\$34,885
Lingcod	35	36	21,782	\$43,300
Shallow nearshore	19	18	13,152	\$63,407
Hagfish	<4 ^b	<4 ^b	7,075	\$2,377
Surfperch	<4 ^b	<4 ^b	4,338	\$6,507
Invertebrates				
Dungeness crab	106	105	5,314,046	\$10,421,572
Coonstripe shrimp	6	6	62,886	\$290,665
Urchin	0	0	3,177	\$2,129

Source: Commercial Fishery Information System database (extract date: 25 August 2009)

Note: Market category groupings are listed in descending order by average annual landings within the county. Fisherman and vessels may fish more than one market category grouping. Average annual dollar values were calculated by applying an inflationary figure to each of the ten years (1999-2008).

^a Commercial license year runs from April 1 through March 31 the following calendar year.

^b The CFIS groups data into a "three or less" category to protect confidentiality.

Table B-3: Summary of Humboldt County fisheries, 1999 - 2008

Market category Groupings	Fishermen (2008) ^a	Vessels (2008) ^a	Average Annual Landings (lbs), 1999-2008	Average Annual Ex-Vessel (\$), 1999-2008
Finfish				
Smelt	17	<4 ^b	335,453	\$119,256
Hagfish	8	8	188,924	\$98,561
Salmon	season closed	season closed	81,938	\$249,011
Deeper nearshore	8	10	39,756	\$63,562
Surfperch	10	2	18,066	\$23,614
Lingcod	38	42	7,807	\$13,326
Shallow nearshore	<4 ^b	<4 ^b	3,743	\$15,953
Skates/Rays/Sharks	32	31	2,671	\$2,259
Invertebrates				
Dungeness crab	96	91	3,508,692	\$7,023,624
Urchin	0	0	4,779	\$4,664
Coonstripe shrimp	0	0	455	\$1,906

Source: Commercial Fishery Information System database (extract date: 25 August 2009)

Note: Market category groupings are listed in descending order by average annual landings within the county. Fisherman and vessels may fish more than one market category grouping. Average annual dollar values were calculated by applying an inflationary figure to each of the ten years (1999-2008).

^a Commercial license year runs from April 1 through March 31 the following calendar year.

^b The CFIS groups data into a "three or less" category to protect confidentiality.

Table B-4: Summary of Mendocino County fisheries, 1999 - 2008

Market category Groupings	Fishermen (2008) ^a	Vessels (2008) ^a	Average Annual Landings (lbs), 1999-2008	Average Annual Ex-Vessel (\$), 1999-2008
Finfish				
Salmon	season closed	season closed	825,570	\$2,239,955
Shallow nearshore	13	16	38,603	\$212,135
Lingcod	29	31	9,814	\$18,600
Deeper nearshore	12	14	8,445	\$17,842
Smelt	0	0	5,099	\$2,091
Surfperch	<4 ^b	<4 ^b	161	\$237
Skates/Rays/Sharks	5	5	106	\$143
Hagfish	0	0	9	\$3
Invertebrates				
Urchin	31	13	1,680,318	\$1,388,166
Dungeness crab	44	46	544,241	\$1,200,463
Coonstripe shrimp	0	0	39	\$146

Source: Commercial Fishery Information System database (extract date: 25 August 2009)

Note: Market category groupings are listed in descending order by average annual landings within the county. Fisherman and vessels may fish more than one market category grouping. Average annual dollar values were calculated by applying an inflationary figure to each of the ten years (1999-2008).

^a Commercial license year runs from April 1 through March 31 the following calendar year.

^b The CFIS groups data into a "three or less" category to protect confidentiality.

B.2 Profiles of Major Commercial Fisheries in the North Coast Study Region

B.2.1 Coonstripe Shrimp

Species targeted: coonstripe shrimp (*Pandalus danae*)

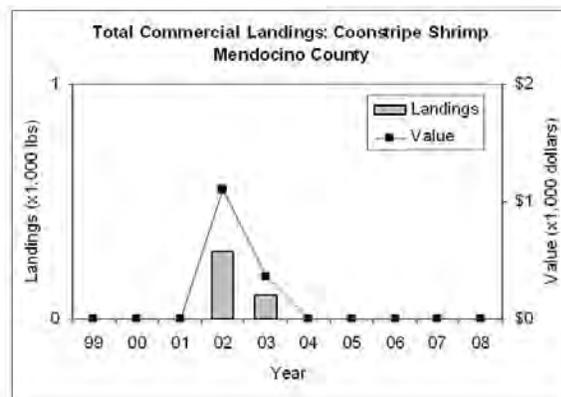
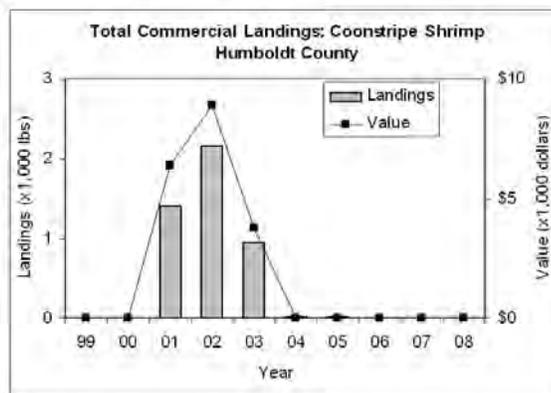
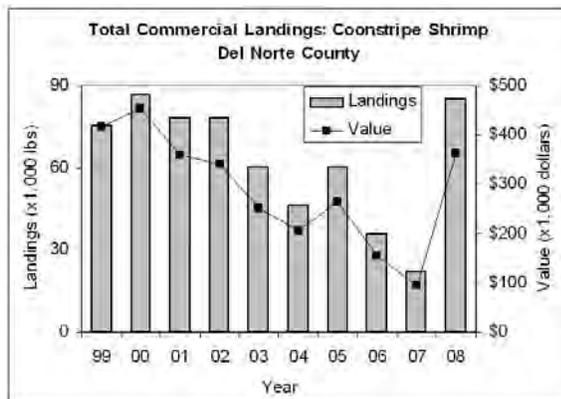
Primary depth range: 22 to 51 meters (12 to 28 fathoms)

Primary habitat type(s): Mud near rocks or rocky reef

Primary area of fishery: State waters (x) Federal waters ()

Synopsis of commercial regulations applicable to the north coast study region: This is an open access, trap-only fishery with a vessel-based permit system. Taking coonstripe shrimp by trawl is prohibited. A control date of November 1, 2001 has been established for future consideration of a restricted access fishery. The season is closed from November 1 though April 30. There are no size or sex restrictions, no trap design requirements specific to the fishery, and no limit on the number of traps per vessel or the frequency with which they are fished. There are no designated closed areas. The coonstripe fishery is relatively new with the first landings in 1995 and first commercial regulations enacted in 2002.

Landings and values by port complex: Data were compiled from the Commercial Fishery Information System database (extraction date: 25 August 2009). Missing values are due to confidentiality considerations. Values are not adjusted to account for inflation. The number of fishermen is the number of fishermen who have made at least one landing for that fishery, port area and year. *2008 data are preliminary:



B.2.2 Dungeness Crab

Species targeted: Dungeness crab (*Cancer magister*)

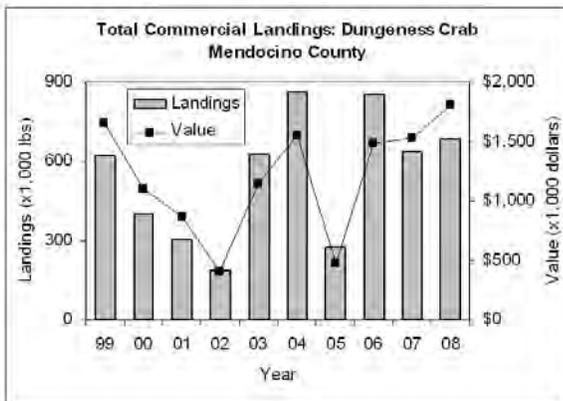
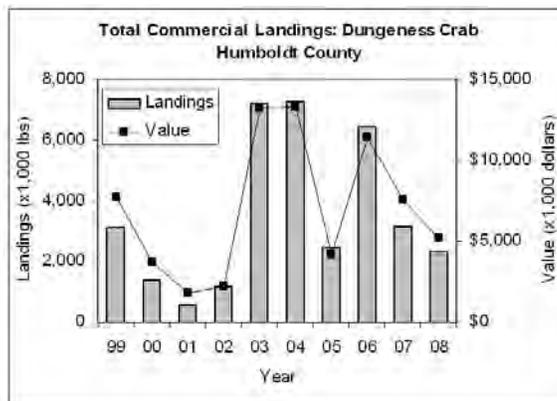
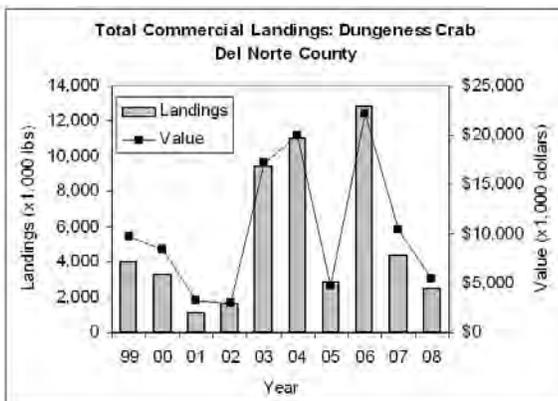
Primary depth range: 0 to 91 meters (0 to 50 fathoms)

Primary habitat type(s): Sand

Primary area of fishery: State waters (x) Federal waters (x)

Synopsis of commercial regulations applicable to the north coast study region: This is a restricted access trap fishery with a vessel-based permit system. There are no landing requirements to renew the permit and most permits are transferable. The season is open from December 1 though July 15. The December 1 opener is conditional on crab quality and a delay as late as January 15 may be authorized. Only male crabs with a minimum carapace width of 6.25 inches may be taken. There is currently no limit on the number of traps per vessel or the frequency with which they are fished. It is unlawful to sell crabs harvested from the Eel River and its tributaries, ocean waters within a one-mile radius of mouth of the Eel River, Humboldt Bay, and Trinidad Bay.

Landings and values by port complex: Data were compiled from the Commercial Fishery Information System database (extraction date: 25 August 2009). Missing values are due to confidentiality considerations. Values are not adjusted to account for inflation. The number of fishermen is the number of fishermen who have made at least one landing for that fishery, port area and year. *2008 data are preliminary:



B.2.3 Hagfish

Species targeted: Pacific hagfish (*Eptatretus stoutii*)

Other species infrequently landed: Black hagfish (*Eptatretus deani*)

Bycatch (species caught but not landed):

- Sable fish (*Anoplopoma fimbria*)
- Spotted Cusk-eel (*Chilara taylori*)
- Spot prawn (*Pandalus platyceros*)

Primary depth range: 9 to 732 meters (4-600 fathoms). Most commonly fished between 40 to 70 fathoms.

Primary habitat type(s): Deep water over sand, mud, or rocky substrate. Hagfish prefer mud substrate.

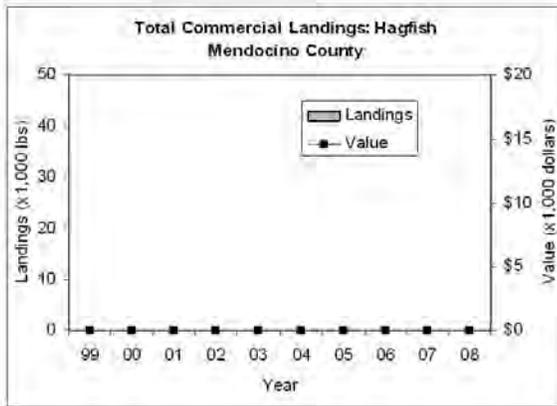
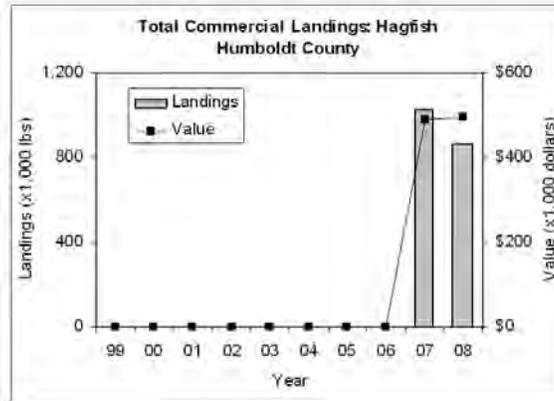
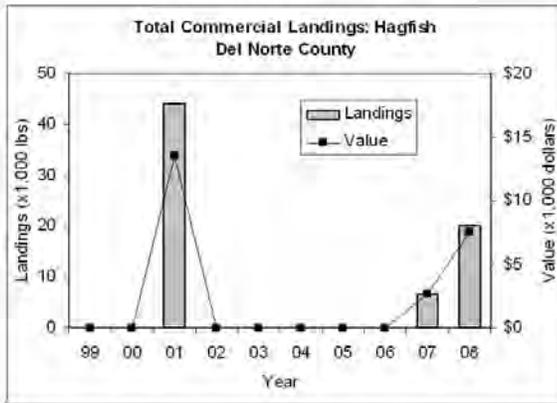
Primary area of fishery: State waters () Federal waters (x)

Synopsis of commercial regulations applicable to the north central coast study region:

Fishermen must possess a valid general trap permit. A maximum of 500 Korean traps or 200 5-gallon bucket traps may be fished. No other fishing gear or species other than hagfish may be possessed when fishing for hagfish or if hagfish is in possession. All traps must have a Department approved destruct device. Traps must be serviced at intervals not to exceed 96 hours.

There are no landing limits or closed seasons.

Landings and values by port complex: Data were compiled from the Commercial Fishery Information System database.



Lingcod

Species targeted: Lingcod (*Ophiodon elongatus*).

Lingcod are generally not specifically targeted but are so widespread that they are caught in most hard-bottom oriented fisheries targeting rockfishes, cabezon, and other species.

Primary depth range: 2 to 366 meters (1 to 200 fathoms)

Primary habitat type(s): Deep and shallow rocky reef, mixed substrate, hard bottoms, canyons

Primary area of fishery: State waters (x) Federal waters (x)

Synopsis of commercial regulations applicable to the north central coast study region:

Within the Rockfish Conservation Area (RCA), the taking of lingcod is prohibited. The minimum legal size for lingcod is 24 inches. A federal permit is required to fish limited entry fisheries outside the RCA. There are two types of federal permits: trawl limited entry and fixed gear limited entry.

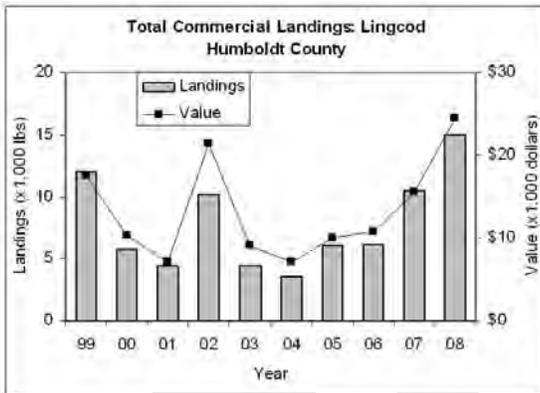
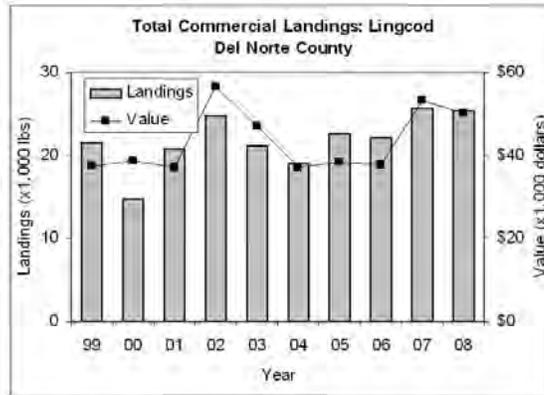
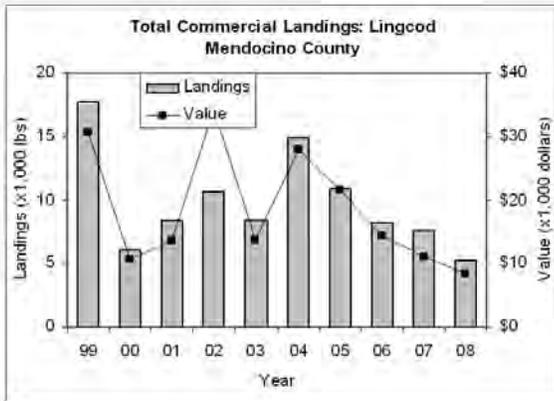
For the 2008 season:

The trawl limited entry fishery is open year round with a 1,200 lbs / 2 months trip limit. The RCA for this fishery in the north central coast study region is from 100 to 150 fathoms.

The limited entry fixed gear fishery is closed from December through April. Trip limits are in effect and include a limit of 800 lbs / 2 months from May through October and 400 lbs in November. The RCA for this fishery in the north central coast study region is from 20 to 150 fathoms.

The open access gear fishery is closed from December through April and has a 400 lbs /month limit from May through November. The RCA for this fishery in the MLPA North Central Coast Study Region is from 20 to 150 fathoms.

Landings and values by port complex: Data were compiled from the Commercial Fishery Information System database (extraction date: 25 August 2009). Missing values are due to confidentiality considerations. Values are not adjusted to account for inflation. The number of fishermen is the number of fishermen who have made at least one landing for that fishery, port area and year. *2008 data are preliminary:



B.2.4 Nearshore Finfish

Species targeted:

- Black rockfish (*Sebastes melanops*),
- Black-and-yellow rockfish (*S. chrysomelas*),
- Blue rockfish (*S. mystinus*),
- Brown rockfish (*S. auriculatus*),
- Calico rockfish (*S. dalli*),
- China rockfish (*S. nebulosus*),
- Copper rockfish (*S. caurinus*),
- Gopher rockfish (*S. carnatus*),
- Grass rockfish (*S. rastrelliger*),
- Kelp rockfish (*S. atrovirens*),
- Olive rockfish (*S. serranoides*),
- Treefish (*S. serriceps*),
- Quillback rockfish (*S. maliger*),
- Cabezon (*Scorpaenichthys marmoratus*),
- Kelp greenling (*Hexagrammos decagrammus*),
- Rock greenling (*Hexagrammos lagocephalus*),
- Monkeyface prickleback (*Cebiduchthys violaceus*),
- California scorpionfish (*Scorpaena guttata*)

Primary depth range: 0 to 37 meters (0 to 20 fathoms)

Primary habitat type(s): Nearshore rocky reefs, kelp

Primary area of fishery: State waters (x) Federal waters ()

Synopsis of commercial regulations applicable to the north central coast study region: A comprehensive Nearshore Fishery Management Plan (NFMP) was adopted by the California Fish and Game Commission in May 2002. The NFMP established four management areas for the nearshore fishery; the MLPA North Central Coast Study Region (Alder Creek/Point Arena to Pigeon Point) is entirely contained within the NFMP North Central Coast management area. This is a restricted access fishery, and nearshore fishery permits may only be used within the management area for which they were issued for the minor nearshore shallow rockfishes, and California scorpionfish, cabezon, greenlings, and California sheephead. Cumulative federal two-month trip limits are in effect for the shallow nearshore rockfishes and California scorpionfish.

Minimum size limits:

- 10 inches:
 - Black-and-yellow rockfish (*Sebastes chrysomelas*)

- Gopher rockfish (*Sebastes carnatus*)
- Kelp rockfish (*Sebastes atrovirens*)
- California scorpionfish (*Scorpaena guttata*)

The current statewide annual total allowable catch (TAC) for greenlings is 37,600 lbs, with 3,400 lbs allocated for the commercial sector. The season may be closed early by the Department of Fish and Game (DFG) if the TAC allocation is met or exceeded, which occurred in every year since 2001. Cumulative state two-month trip limits are in effect.

- 12 inches:
 - Kelp greenling (*Hexagrammos decagrammus*)
 - Rock greenling (*Hexagrammos lagocephalus*)
 - China rockfish (*Sebastes nebulosus*)
 - Grass rockfish (*Sebastes rastrelliger*)
- Cabezon (*Scorpaenichthys marmoratus*): The minimum size limit for cabezon is 15 inches.

The current statewide annual TAC for cabezon is 152,100 lbs with 59,300 lbs allocated for commercial harvest. The season may be closed early by the DFG if the TAC allocation is met or exceeded, which occurred in each year from 2001 to 2005. Cumulative state two-month trip limits are in effect.

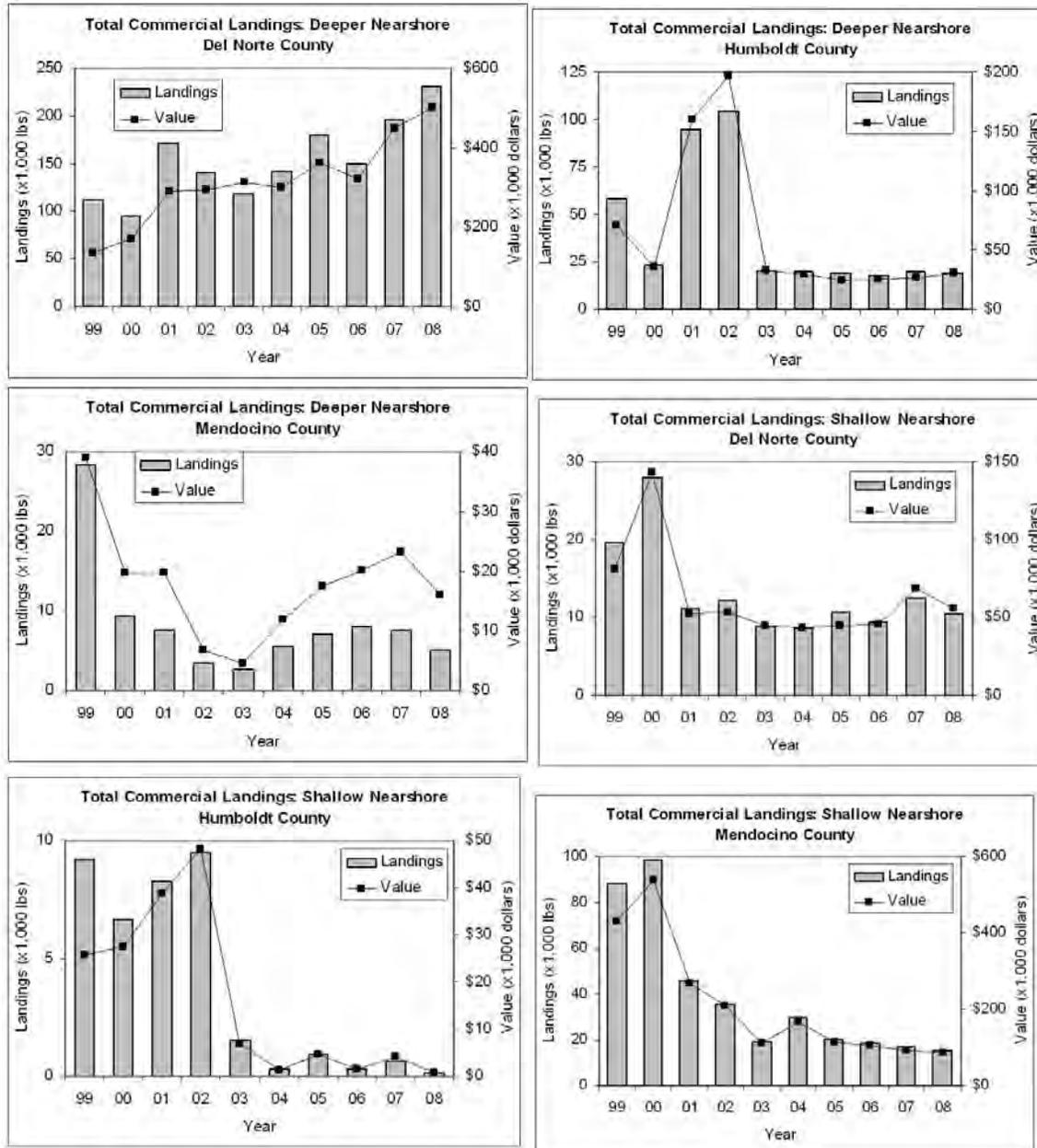
Deeper nearshore species fishery permits are required for:

- Black rockfish (*Sebastes melanops*)
- Blue rockfish (*Sebastes mystinus*)
- Brown rockfish (*Sebastes auriculatus*)
- Calico rockfish (*Sebastes dalli*)
- Copper rockfish (*Sebastes caurinus*)
- Olive rockfish (*Sebastes serranoides*)
- Quillback rockfish (*Sebastes maliger*)
- Treefish (*Sebastes serriceps*)

The deeper nearshore species fishery permit is a statewide permit. Cumulative federal two-month trip limits per permit are also in effect for these species. The season may be closed early if the harvest guidelines are met or exceeded. The limited entry fixed gear and open access gear fishery has a closure in effect from March through April (which also applies to the shallow nearshore species). There are year-long closures for limited entry trawl permit holders using large footrope or midwater trawls.

Landings and values by port complex: Data were compiled from the Commercial Fishery Information System database (extraction date: 25 August, 2009). Missing values are due to confidentiality considerations. Values are not adjusted to account for inflation. The number of fishermen is the number of fishermen who have made at least one landing for that fishery, port area and year. *2008 data are preliminary

Note: The federal cumulative two-month trip limits apply to both the vessel and the permit holder (CCR Title 14, § 150.16 (e) (5)) for the take of the shallow nearshore rockfishes, deeper nearshore rockfishes, and *Ca. scorpionfish*. However, for cabezon, greenlings, and sheephead, the cumulative trip limits (state limits) apply only to the fisherman.



B.2.5 Salmon

Species targeted: Chinook salmon (King) (*Oncorhynchus tshawytscha*)

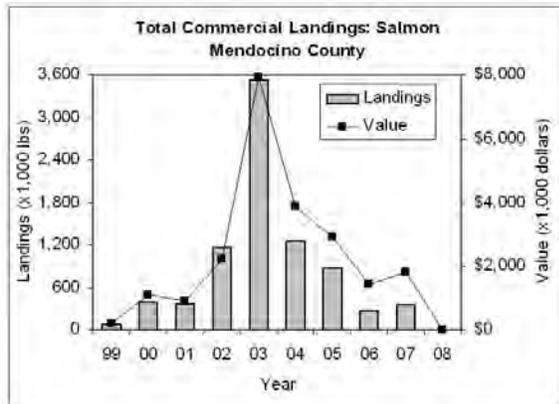
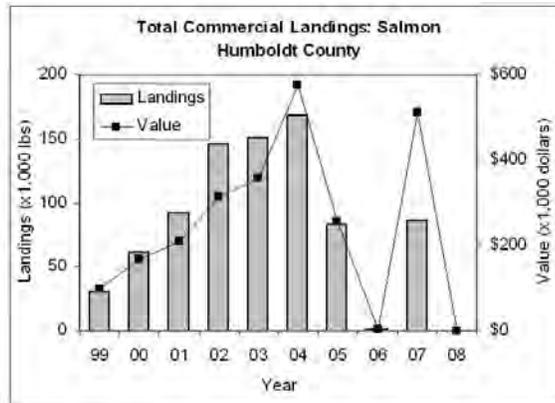
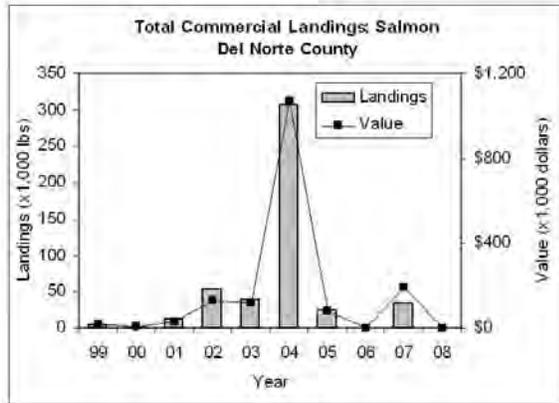
Primary depth range: Surface to 91 meters (50 fathoms)

Primary habitat type(s): Pelagic, open ocean

Primary area of fishery: State waters (x) Federal waters (x)

Synopsis of commercial regulations applicable to the north central coast study region: The MLPA North Coast Study Region lies entirely within two of the Pacific Fishery Management Council's (PFMC) salmon management areas. The northernmost area, the Klamath Management Zone includes the area from the California-Oregon border to Horse Mountain (near Cape Mendocino). The southern management area includes all ports between Horse Mountain and Point Arena. The fishing seasons vary each year, and are set by the National Marine Fisheries Service under recommendation of the PFMC. Considerations in shaping the Chinook fisheries in this area include the protection of Endangered Species Act federally-listed Sacramento River winter Chinook (endangered), Central Valley spring Chinook (threatened) and California coastal Chinook (threatened). In addition, the fisheries are structured to ensure that the conservation objectives in the PFMC's Salmon Fishery Management Plan for fall Chinook in the Klamath and Sacramento River basins are met. California commercial seasons are based on the preseason forecasts of ocean abundances by age of Klamath fall Chinook and estimates of the total California Central Valley fall Chinook adult abundance. In 2008, the commercial season was closed along the entire coast. During open years, the minimum legal length ranged from 26 to 28 inches and varied by location and time of year. Single point, barbless hooks were required. In addition, barbless circle hooks were required when fishing with bait and fishing by any means other than trolling. No more than six fishing lines are allowed per vessel. There are no areas closed to commercial salmon fishing within the study region other than existing state marine reserves. The retention of coho salmon or steelhead trout is prohibited in all ocean fisheries. Complete regulations can be found at <http://www.dfg.ca.gov/marine/oceansalmon.asp>.

Landings and values by port complex: Data were compiled from the Commercial Fishery Information System database (extraction date: 25 August 2009). Missing values are due to confidentiality considerations. Values are not adjusted to account for inflation. The number of fishermen is the number of fishermen who have made at least one landing for that fishery, port area and year. *2008 data are preliminary:



B.2.6 Sea Urchin

Species targeted: Red sea urchin (*Strongylocentrotus franciscanus*)

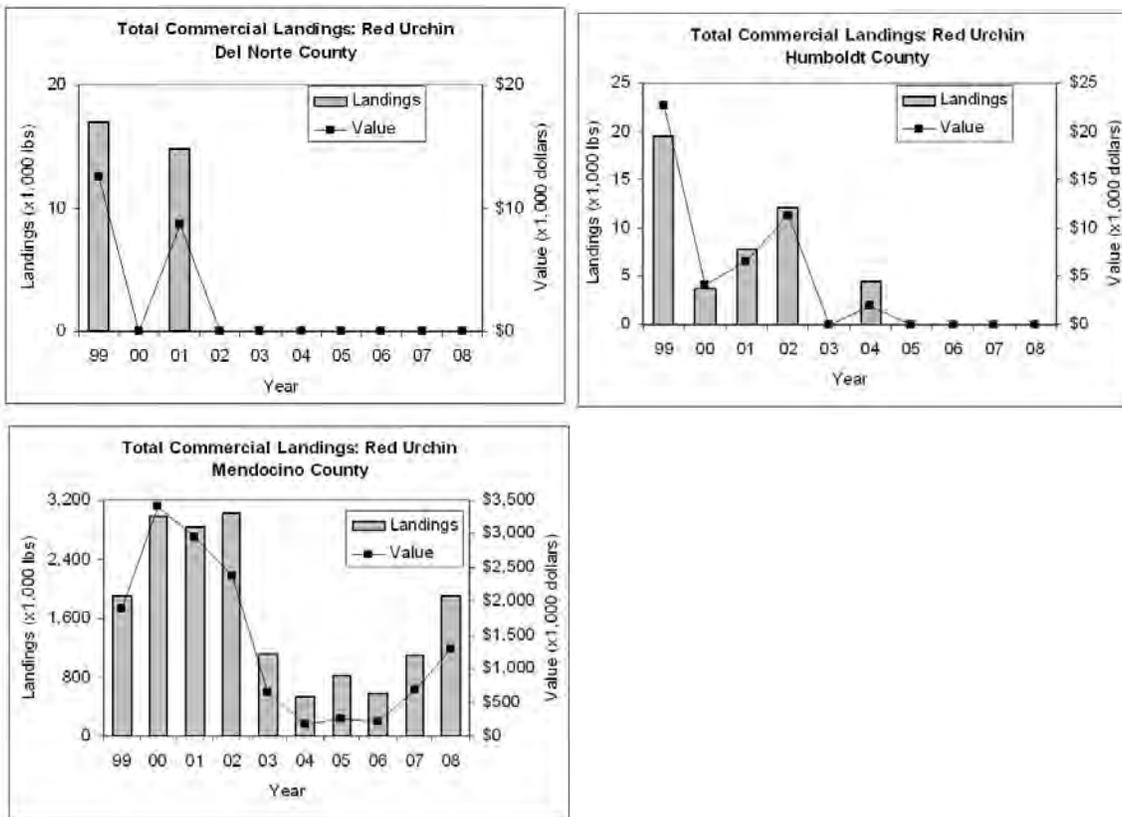
Primary depth range: 4 to 27 meters (2 to 15 fathoms)

Primary habitat type(s): Rocky reefs, kelp and hard bottoms

Primary area of fishery: State waters (x) Federal waters ()

Synopsis of commercial regulations applicable to the north coast study region: This is a restricted access fishery requiring a sea urchin diving permit (purple sea urchins may also only be taken with this permit). There are no landing requirements to renew the permit. The season is open seven days per week from November 1 through May 31. The season is open four days a week through October. Red sea urchins harvested north of the Monterey-San Luis Obispo County line may not have a test diameter between 1.5 and 3.5 inches, except that not more than 30 may be landed incidentally within this size range (Urchins less than 1.5 inches in diameter are not targeted, but are often landed incidentally as they typically use the spine canopies of larger urchins as shelter).

Landings and values by port complex: Data were compiled from the Commercial Fishery Information System database (extraction date: 25 August 2009). Missing values are due to confidentiality considerations. Values are not adjusted to account for inflation. The number of fishermen is the number of fishermen who have made at least one landing for that fishery, port area and year. *2008 data are preliminary:



B.2.7 Smelt

Species targeted: Night smelt (*Spirinchus starksi*) and Surf smelt (*Hypomesus pretiosus*). Other species harvested: Whitebait smelt.

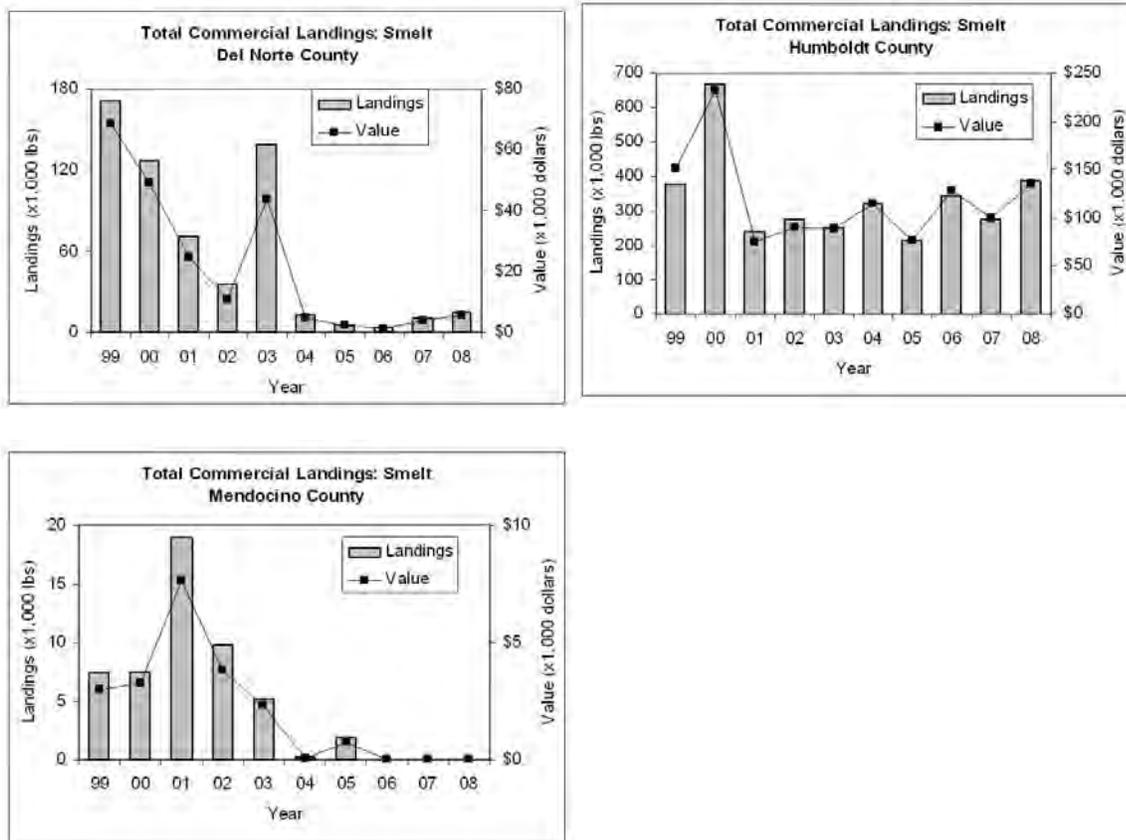
Primary depth range: 0 to 2 meters (0 to 30 fathoms)

Primary habitat type(s): Nearshore pelagic waters and in surf during spawning periods

Primary area of fishery: State waters (x) Federal waters ()

Synopsis of commercial regulations applicable to the north central coast study region: There is no commercial limit on the take of Osmeridae.

Landings and values by port complex: Data were compiled from the Commercial Fishery Information System database (extraction date: 25 August 2009). Missing values are due to confidentiality considerations. Values are not adjusted to account for inflation. The number of fishermen is the number of fishermen who have made at least one landing for that fishery, port area and year. *2006 data are preliminary:



B.2.8 Surfperch

Species targeted: Redtail surfperch (*Amphistichus rhodoterus*)

Other species infrequently landed:

- Striped surfperch (*Embiotoca lateralis*)
- Rubberlip surfperch (*Rhacochilus toxotes*)
- Black perch (*Embiotoca jacksoni*)
- Calico surfperch (*Amphistichus koelz*)
- Pile perch (*Rhacochilus vacca*)
- Rainbow seaperch (*Hypsurus caryi*)
- Walleye surfperch (*Hyperprosopon argenteum*)
- Shiner perch (*Cymatogaster aggregata*)

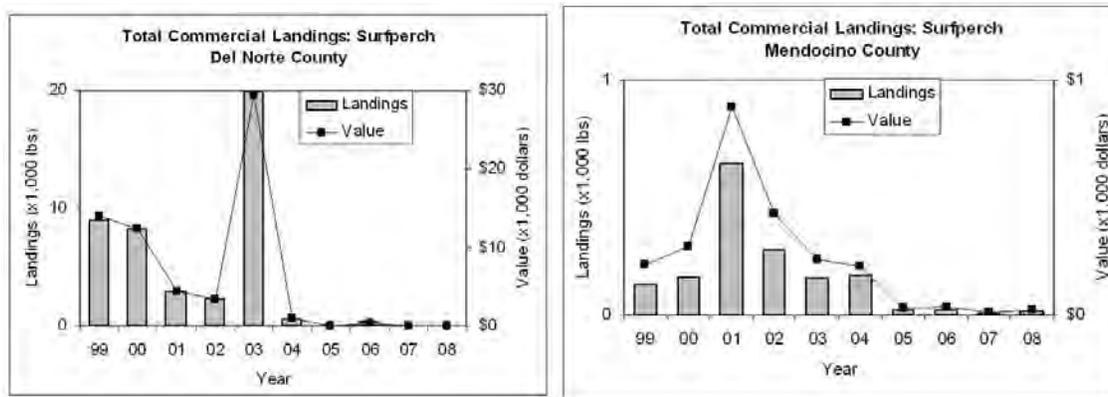
Primary depth range: Near surface to 30 meters (17 fathoms)

Primary habitat type(s): Sandy beach (redtail, barred, walleye, calico), bays (redtail, black, pile, rubberlip, shiner), nearshore rocky (rubberlip, black, rainbow striped)

Primary area of fishery: State waters (x) Federal waters ()

Synopsis of commercial regulations applicable to the north central coast study region: The season is open from August 1 through April 30 for all species of surfperch except shiner surfperch, which may be taken year-round.

Landings and values by port complex: Data were compiled from the Commercial Fishery Information System database (extraction date: 25 August 2009). Missing values are due to confidentiality considerations. Values are not adjusted to account for inflation. The number of fishermen is the number of fishermen who have made at least one landing for that fishery, port area and year. *2008 data are preliminary:



Appendix C: Profile of the Recreational Fishery

This appendix provides in depth information on marine recreational fisheries occurring within the north coast study region, and is supplementary to information provided in section 5.4 (Recreational Fisheries) of this regional profile. The appendix is organized as follows:

- C.1 Data Used to Characterize the Recreational Fishery
- C.2 CRFS Fishery Statistics, 2005-2008
- C.3 DFG Ocean Salmon Catch Statistics, 1999- 2008
- C.4 CPFV Logbook Data, 1999 to 2008: Dungeness Crab Catch Statistics

C.1 Data Used to Characterize the Recreational Fishery

The California Recreational Fisheries Survey (CRFS) is the primary source of data used in characterizing the recreational fishery for this profile. California implemented the survey in 2004 and it is a collaborative effort between DFG and the Pacific States Marine Fisheries Commission (PSMFC). The data are maintained by the PSMFC on the Recreational

Fisheries Information Network (RecFIN). Catch and effort data are collected at more than 400 publicly-accessible sites state-wide during day-light hours and aboard CPFVs. The survey generally does not sample catch for night-time fishing, CPFV dive charters, and invertebrate fisheries, although a limited sampling effort for Dungeness crab is being conducted in 2008.

A telephone survey of licensed anglers is used to estimate effort information for night-time fishing and for boats that return to non-accessible marinas. A separate telephone survey of vessel operators is used to estimate CPFV effort. Estimates of catch and effort are reported monthly by six geographical districts along California's coastline and by mode of fishing. Two of these districts occur in the study region: the Redwood District, consisting of Del Norte and Humboldt counties, and the Wine District, consisting of Mendocino County. Within these districts, 45 Beach and bank sites, 23 Man-made sites, 5 party boat landing sites, and 22 launch ramp sites are sampled on a regular basis for catch and effort information. It should be noted that the CRFS catch estimates for northern California represent trips occurring from the southern Mendocino County line to the Oregon-California border, while the MLPA north coast study region extends from Point Arena to the Oregon-California border. Additional details about CRFS may be found at <http://www.dfg.ca.gov/marine/crfs.asp>, and CRFS data are available at <http://www.recfin.org>.

Prior to the CRFS, the California recreational fishery was sampled by the Marine Recreational Fisheries Statistics Survey (MRFSS) from 1981 through 2003. MRFSS estimates are not directly comparable to CRFS estimates. Further details regarding the MRFSS may be found at <http://www.st.nmfs.noaa.gov/st1/recreational/index.html>, and MRFSS data and estimates are available at <http://www.recfin.org>.

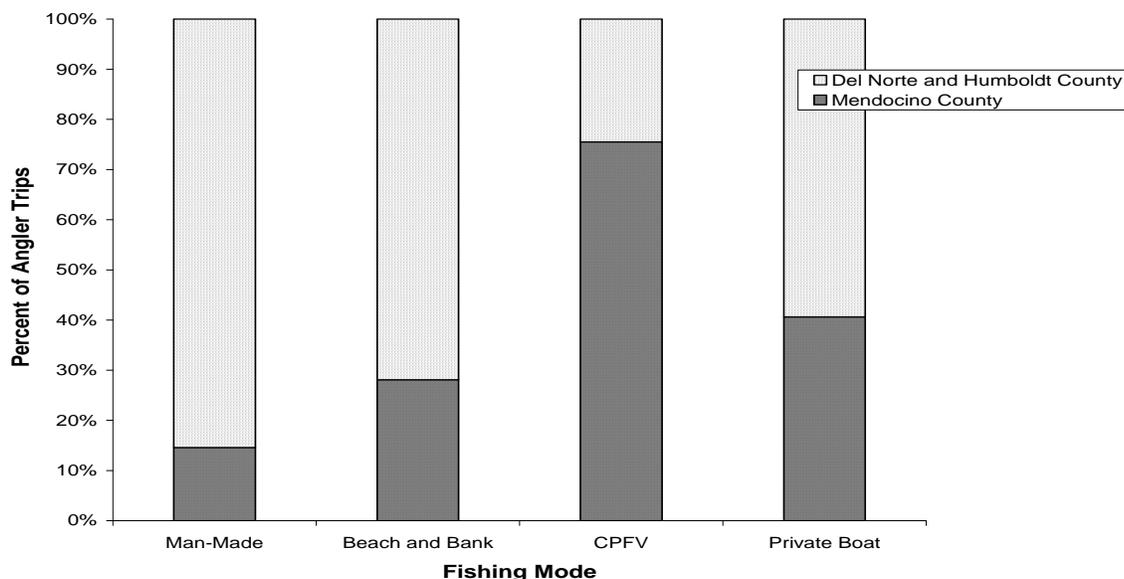
An additional source of catch and effort data for CPFVs is fishing activity logbooks. This logbook is completed by the vessel operator and must be submitted monthly to DFG. Logbook data are maintained by DFG in the Commercial Fishery Information System database (CFIS).

C.2 CRFS Fishery Statistics, 2005 to 2008

C.2.1 Catch and Effort by CRFS Sampling District for the North Coast of California

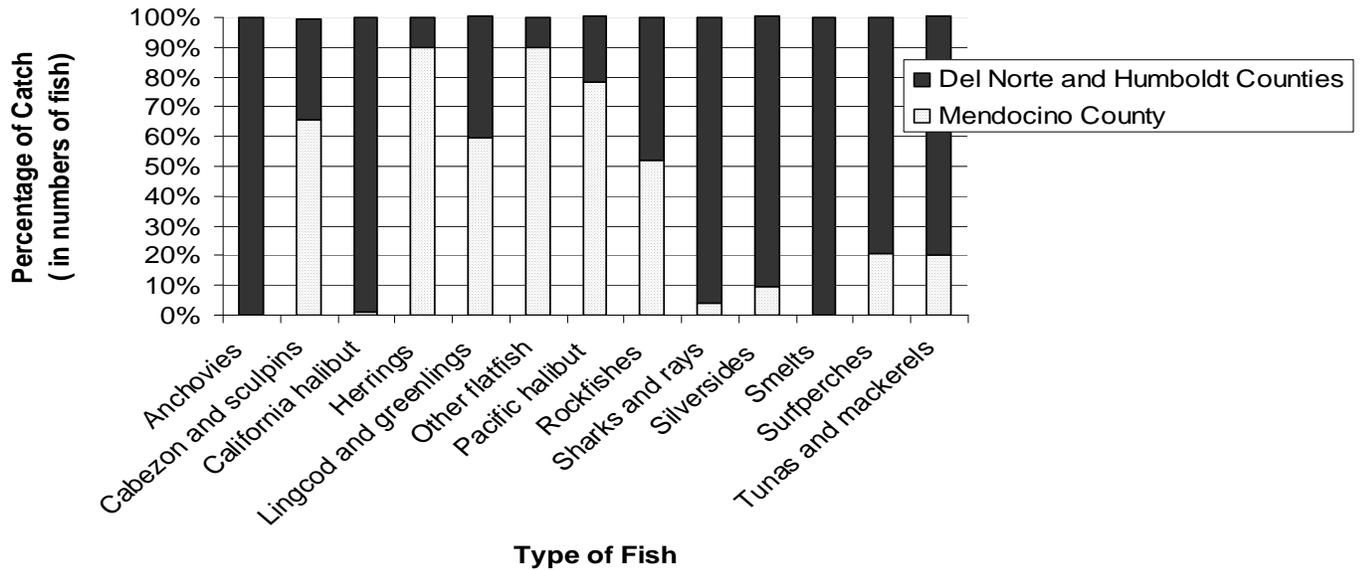
CRFS provides separate catch and effort estimates for Del Norte and Humboldt counties (Redwood District) and for Mendocino county (Wine District). Angler trip effort is higher in for shore and private boat trips in Del Norte and Humboldt counties, while CPFV angler trip effort is markedly higher out of Mendocino county (Figure IV-1). Catch for targeted finfish species varies greatly between sampling districts as well (Figure IV-2). For example, nearly all California halibut are harvested in the Redwood District (Del Norte and Humboldt), while Pacific halibut catches occur primarily out of the Wine district (Mendocino).

Figure C-1: Estimated proportion of fishing effort by CRFS sampling districts, 2005 to 2008



Source: CRFS data extracted from the RecFIN database at <http://www.recfin.org/forms/est2004.html>. Query represents all angler trips for all modes of fishing for all marine waters. Extraction date: October 28, 2009

Figure C-2: Estimated proportion of catch of finfish by taxonomic group and sampling region, 2005 to 2008

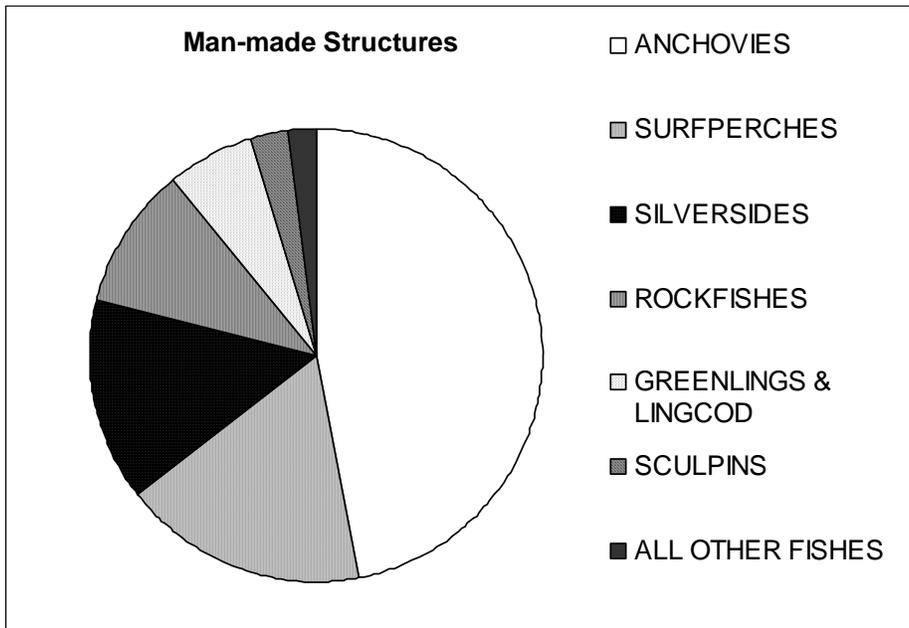


Source: CRFS data extracted from the RecFIN database at <http://www.recfin.org/forms/est2004.html>. Extraction date: August 28, 2008. Query represents percentage of catch for numbers of A+ B1 fish by supergroup or common name for all modes for inland and marine waters within 3 miles of shore for Redwood and Wine Districts.

C.2.2 CRFS Catch Estimates by Species and Fishing Mode

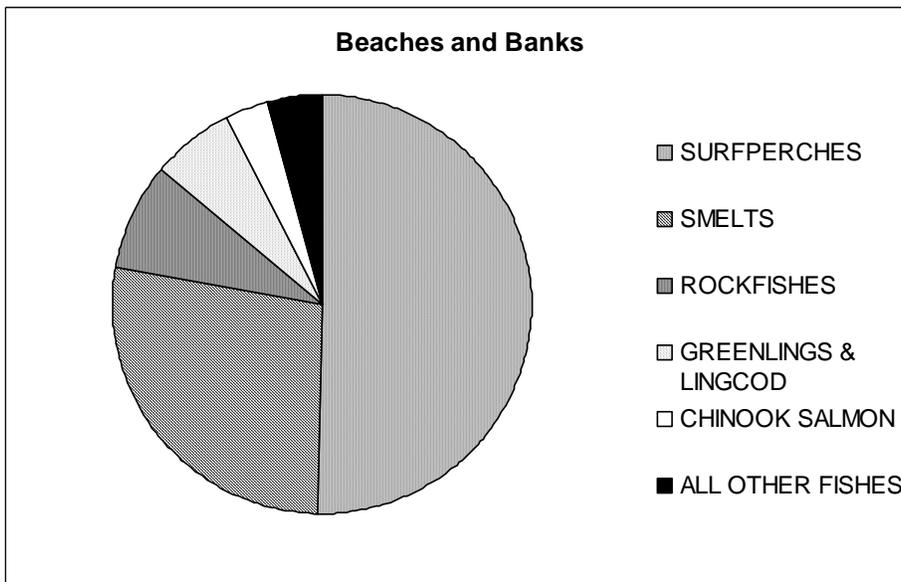
Finfish catch species and catch proportions vary by fishing mode. Figures C-2 through C-6 show proportions of catch by type of finfish each mode in the study region.

Figure C-3: Estimated proportion of harvested finfish (in numbers of fish) from man-made structures, 2005 to 2008



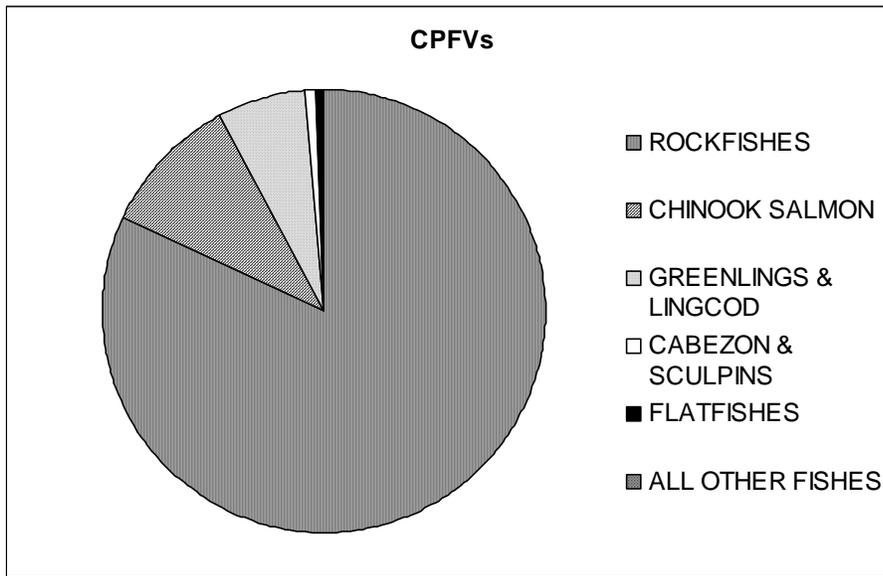
Source: CRFS data extracted from the RecFIN database at <http://www.recfin.org/forms/est2004.html>. DFG's Ocean Salmon Project (OSP) provided estimates of the total recreational take of ocean salmon. Query based on sampler examine and angler reported dead fish (A+B1) catch by mode for fish by common name and supergroup for inland and marine waters less than 3 miles from shore in Redwood and Wine districts. Extraction date: November 19, 2009.

Figure C-4: Estimated proportion of harvested finfish (in numbers of fish) from beaches and banks, 2005 to 2008



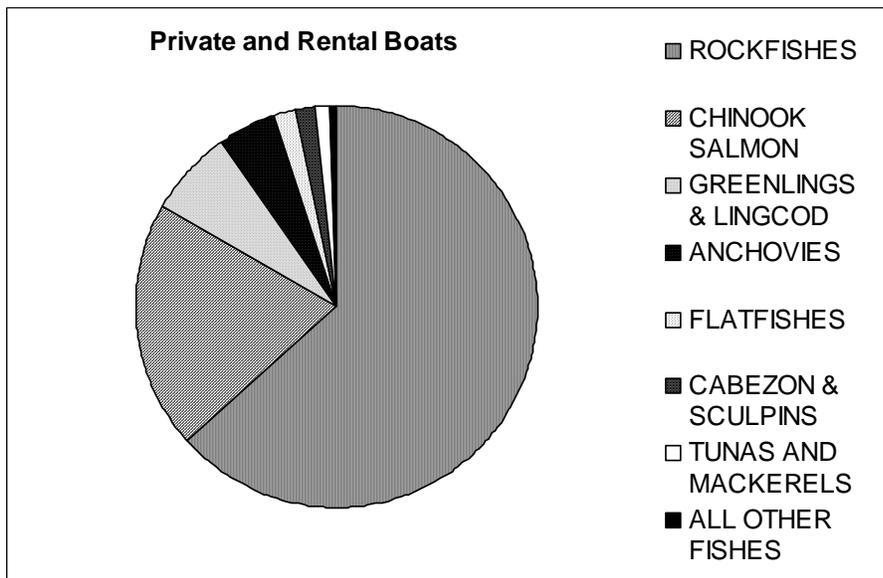
Source: CRFS data extracted from the RecFIN database at <http://www.recfin.org/forms/est2004.html>. DFG's Ocean Salmon Project (OSP) provided estimates of the total recreational take of ocean salmon. Query based on sampler examine and angler reported dead fish (A+B1) catch by mode for fish by common name and supergroup for inland and marine waters less than 3 miles from shore in Redwood and Wine districts. Extraction date: November 19, 2009.

Figure C-5: Estimated proportion of harvested finfish (in numbers of fish) from CPFVs, 2005 to 2008



Source: CRFS data extracted from the RecFIN database at <http://www.recfin.org/forms/est2004.html>. DFG's Ocean Salmon Project (OSP) provided estimates of the total recreational take of ocean salmon. Query based on sampler examine and angler reported dead fish (A+B1) catch by mode for fish by common name and supergroup for inland and marine waters less than 3 miles from shore in Redwood and Wine districts. Extraction date: November 19, 2009.

Figure C-6: Estimated proportion of harvested finfish (in numbers of fish) from private boats, 2005 to 2008



Source: CRFS data extracted from the RecFIN database at <http://www.recfin.org/forms/est2004.html>. DFG's Ocean Salmon Project (OSP) provided estimates of the total recreational take of ocean salmon. Query based on sampler examine and angler reported dead fish (A+B1) catch by mode for fish by common name and supergroup for inland and marine waters less than 3 miles from shore in Redwood and Wine districts. Extraction date: November 19, 2009.

C.2.3 CRFS Angler Reported Finfish Target Species

Table C-1 displays the primary target species as reported by anglers in interviews with CRFS samplers. The target “anything” is recorded when anglers are not targeting a particular species or type of fish. The tables are based on raw (un-extrapolated) interview data collected at fishing sites.

Table C-1: Top ten reported primary targets (finfish) for angler trips by mode, 2004 to 2008

Rank	Man-made	Beach and bank	CPFVs	Private and rental boats
1	anything	surfperch family	rockfish family	Chinook
2	surfperch family	anything	bottomfish	Rockfish family
3	rockfish family	redtail surfperch	Chinook	bottomfish
4	lingcod	rockfish family	lingcod	California halibut
5	bottomfish	bottomfish	anything	salmon genus
6	Chinook	lingcod	California halibut	lingcod
7	black rockfish	salmon family	Pacific halibut	Pacific halibut
8	kelp greenling	cabezon	salmon family	black rockfish
9	sharks	Chinook	black rockfish	anything
10	redtail surfperch	steelhead	northern anchovy	sharks

Source: CRFS data extracted from the RecFIN database at <http://www.recfin.org/forms/dsamp.htm>. Query represents type 1 records (angler information) for reported primary target in all modes in inland and marine waters within 3 miles of shore for Del Norte, Humboldt, and Mendocino Counties. Extraction date: November 19, 2009

C.3 DFG Ocean Salmon Catch Statistics, 2005-2008

Although data collected on recreational ocean salmon catch and effort is collected collaboratively with CRFS, catch statistics for salmon are estimated and reported by the DFG Ocean Salmon Project. Chinook salmon is the primary target species in ocean waters. Effort for Chinook is a significant portion of angler trips in the study region.

Table C-2 : Angler trips targeting salmon by month, 2005-2008

month	2005	2006	2007	Total
February	869	289	249	1,407
March	521	298	855	1,674
April	841	800	692	2,333
May	3,184	6,603	4,294	14,081
June	10,114	11,879	11,064	33,057
July	8,318	9,113	11,212	28,643
August	13,973	4,051	7,450	25,474
September	3,799	4,386	1,726	9,911
October	22	0	25	47
November	0	0	0	0
Annual total	41,641	37,419	37,567	116,627

Source: DFG Ocean Salmon Project. Extracted November 19, 2009

Note: The 2008 season was closed

Table C-3: Ocean salmon catch of Chinook (King) salmon by fishery 2005-2007

	CPFV				Private Skiffs			
	King	Unavailable	Total Catch	Effort	King	Unavailable	Total Catch	Effort
Crescent City								
2005	0	0	0	0	1,498	315	1,813	2,502
2006	0	0	0	0	756	158	914	1,478
2007	0	0	0	0	871	284	1,155	2,082
Total	0	0	0	0	3,125	756	3,881	6,062
Eureka								
2005	1,045	439	1,484	922	15,001	11,043	26,044	13,905
2006	816	358	1,174	745	14,831	6,904	21,735	14,228
2007	1,904	476	2,380	1,553	16,121	6,723	22,844	16,808
Total	3,765	1,273	5,038	3,220	45,953	24,671	70,624	44,941
Fort Bragg								
2005	7,905	1,886	9,791	8,879	14,278	7,863	22,141	15,433
2006	4,203	491	4,694	6,864	9,790	2,643	12,433	14,104
2007	1,588	120	1,708	5,437	4,163	906	5,069	11,687
Total	13,696	2,497	16,193	21,180	28,231	11,412	39,643	41,224
All Fisheries								
2,005	8,950	2,325	11,275	9,801	30,777	19,221	49,998	31,840
2,006	5,019	849	5,868	7,609	25,377	9,706	35,083	29,810
2,007	3,492	596	4,088	6,990	21,155	7,912	29,067	30,577
Total	17,461	3,770	21,231	24,400	77,309	36,839	114,148	92,227

Source: DFG Ocean Salmon Project. Extracted November 19, 2009

Note: Unavailable dead includes 5% dropoff mortality for all contacts (legal & sublegal)

C.4 CPFV Logbook Data, 1999 to 2008: Dungeness Crab Catch Statistics

The CRFS and MRFSS programs have not historically collected data on invertebrate harvest in recreational fisheries, and CPFV logbook data is currently the best available source for the Dungeness crab catch and effort for CPFV mode. Table IV-4 displays catch for Dungeness crab taken traps and hoopnet from CPFVs.. Unlike CRFS and MRFSS estimates, CPFV logbook data is not reported at the level of resolution needed to isolate trips that occurred within state waters.

Table C-4: Annual CPFV Catch (in numbers of crab) of Dungeness for trips out of study region landings, 2005 through 2008

Year	Eureka Port Area	Fort Bragg Port Area
2005	2,956	14,554
2006	5,043	10,631
2007	5,068	9,189
2008	5,873	3,329

Source: CPFV logbook data extracted from CFIS for all ports within the north coast study region. Extraction date: October 28, 2009

Note: Catch statistics for invertebrates represented in this table are for CPFV mode only, and are not representative of all recreational harvest.

Appendix D: Special-Status Species Likely to Occur in the Study Region

D.1 List of Special-Status Species

Listed below are species that are protected under state or federal law and occur within the MLPA North Coast Study Region for consideration in marine protected area planning. Some of these species are described in further detail in section 3.2.4 of this regional profile.

Table D-1: Special-status species likely to occur in northern California

Common Name	Scientific Name	Federal Status	State Status	Other Status
Mammals				
Blue whale	Balaenoptera musculus musculus	E		MMPA
Fin whale	Balaenoptera physalus	E		MMPA
Humpback whale	Megaptera novaeangliae	E		MMPA
North Pacific right whale	Eubalaena japonica	E		MMPA
Gray whale	Eschrichtius robustus	D		MMPA
Sei whale	Balaenoptera borealis	E		MMPA
Sperm whale	Physeter macrocephalus	E		MMPA
Killer whale	Orcinus orca	PT, SC (NMFS)		MMPA
Dall's porpoise	Phocoenoides dalli			MMPA
Pacific white-sided dolphin	Lagenorhynchus obliquidens			MMPA
Risso's dolphin	Grampus griseus			MMPA
Northern right whale dolphin	Lissodelphis borealis		FP	MMPA
California sea lion	Zalophus californianus			MMPA
Northern fur seal	Callorhinus ursinus			MMPA
Harbor seal	Phoca vitulina			MMPA
Northern elephant seal	Mirounga angustirostris		FP	MMPA
Southern sea otter	Enhydra lutris nereis	T	FP	MMPA
Birds				
Common Loon	Gavia immer		SSC(FP)	IUCN
Short-tailed Albatross	Phoebastria albatrus	E	SSC(FP)	IUCN
Black-footed Albatross	Phoebastria nigripes	SC (FWS)		
Ashy Storm-Petrel	Oceanodroma homochroa	BCC (FWS)	SSC(SP)	IUCN
Fork-tailed Storm-Petrel	Oceanodroma furcata		SSC(FP)	IUCN
American White Pelican	Pelecanus erythrorhynchos		SSC(FP)	IUCN
American Bittern	Botaurus lentiginosus	BCC (FWS)		IUCN
White-faced Ibis	Plegadis chihi	SC (FWS)		
Harlequin Duck	Histrionicus histrionicus	SC (FWS)	SSC(SP)	
Western Snowy Plover	Charadrius alexandrinus nivosus	T, BCC (FWS)	SSC(FP)	
Black Oystercatcher	Haematopus bachmani	BCC (FWS)		
Whimbrel	Numenius phaeopus	BCC (FWS)		

Appendix D

Common Name	Scientific Name	Federal Status	State Status	Other Status
Long-billed Curlew	Numenius americanus	BCC (FWS)		
Marbled Godwit	Limosa fedoa	BCC (FWS)		
Black Turnstone	Arenaria melanocephala	BCC (FWS)		
Red Knot	Calidris canutus	BCC (FWS)		
Elegant Tern	Sterna elegans	BCC (FWS)	SSC(TP)	IUCN
Caspian Tern	Sterna caspia	BCC (FWS)		
Marbled Murrelet	Brachyramphus marmoratus marmoratus	T	E	
Cassin's Auklet	Ptychoramphus aleuticus	BCC (FWS)	SSC(TP)	IUCN
Rhinoceros Auklet	Cerorhinca monocerata		SSC(TP)	IUCN
Double-crested Cormorant	Phalacrocorax auritus		SSC(WL)	IUCN
Black-crowned Night Heron	Nycticorax nycticorax	SC		IUCN
Canadian Goose	Branta canadensis leucopareia	T		
Saltmarsh Common Yellowthroat	Geothlypis trichas sinuosa	SC BCC (FWS)		
Black Brant	Branta bernicla nigricans		SSC(TP)	
Redhead	Aythya americana		SSC(SP)	
Bufflehead	Bucephala albeola		SSC(TP)	
Osprey	Pandion haliaetus		SSC(WL)	
Northern Harrier	Circus cyaneus		SSC(TP)	
Golden Eagle	Aquila chrysaetos		SSC(FP), FP	
Bald Eagle	Haliaeetus leucocephalus	T	E	
Merlin	Falco columbarius		SSC(WL)	
Long-billed Curlew	Numenius americanus	SC		
California Gull	Larus californicus		SSC(WL)	
Willow Flycatcher	Empidonax traillii		E	
Tufted Puffin	Fratercula cirrhata		SSC(FP)	IUCN
Reptiles				
Loggerhead sea turtle	Caretta caretta	T		
Fish				
Fish Common Name	Scientific Name	Federal Status	State Status	Other Status
Tidewater goby	Eucyclogobius newberryi	E	SSC(OE)	IUCN
coast cutthroat trout	Oncorhynchus clarkii clarkii		SSC	
pink salmon	Oncorhynchus gorbuscha		SSC(OE)	
chum salmon	Oncorhynchus keta		SSC(OE)	
Coho salmon - northern California population	Oncorhynchus kisutch	T	T	
chinook salmon - California coastal ESU	Oncorhynchus tshawytscha	T		
chinook Salmon - spring-run Klamath-Trinity Rivers pop	Oncorhynchus tshawytscha		SSC	

Special-Status Species

Common Name	Scientific Name	Federal Status	State Status	Other Status
steelhead - Klamath Mountains Province ESU summer run	Oncorhynchus mykiss irideus		SSC(QT)	
steelhead-northern California ESU	Oncorhynchus mykiss irideus	T	SSC(QT)	
Green sturgeon	Acipenser medirostris	SC (NMFS) - Candidate	SSC(QT)	
Cowcod	Sebastes levis	Overfished, SC (NMFS)		
Bocaccio	Sebastes paucispinis	Overfished, SC (NMFS)		
Canary rockfish	Sebastes pinniger	Overfished (NMFS)		
Darkblotched Rockfish	Sebastes crameri	Overfished (NMFS)		
Pacific Ocean Perch	Sebastes alutus	Overfished (NMFS)		
Widow rockfish	Sebastes entomelas	Overfished (NMFS)		
Yelloweye rockfish	Sebastes ruberrimus	Overfished (NMFS)		
Eulachon	Thaleichthys pacificus		SSC(WL)	
Bluefin tuna	Thunnus thynnus	SC		
Swordfish	Xiphias gladius	SC		
Garibaldi	Hypsypops rubicundus		P	
White shark	Carcharodon carcharias		P	IUCN, CITES, CMS

Invertebrates

Black abalone	Haliotis cracherodii	PE, SC (NMFS)	P	IUCN
Sandy beach tiger beetle	Cicindela hirticollis gravida	SC		

Plant Common Name	Scientific Name	Federal Status	State Status	Other Status
Northcoast sand verbena	Abronia umbellata ssp. breviflora	SC		

Sources for special status species list:

Original list from MBNMS

California ESA status: <http://www.dfg.ca.gov/whdab/pdfs/TEAnimals.pdf>

California Species of Special Concern <http://www.dfg.ca.gov/wildlife/species/ssc/index.html>

Federal ESA status: <http://www.nmfs.noaa.gov/pr/species/esa.htm>

Birds of Conservation Concern: <http://migratorybirds.fws.gov/reports/bcc2002.pdf>

California Natural Diversity Database <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/SPAnimals.pdf>

D.2 Index of the Listing Codes Used In Table D-1

Federal Listing Codes

ESA: Endangered Species Act of 1973 listing codes

E..... Federally listed as endangered
T..... Federally listed as threatened
D Federally delisted
PE Proposed for federal listing as endangered
PT Proposed for federal listing as threatened
PD..... Proposed for federal de-listing
Candidate Candidate for federal listing as endangered or threatened
SC..... Species of concern
SC (NMFS) ... Species of concern by the National Marine Fisheries Service
SC (FWS) Species of concern by the US Fish and Wildlife Service
BCC (FWS)... Birds of Conservation Concern by US Fish and Wildlife Service

State Listing Codes

CESA: California Endangered Species Act listing codes

E..... State-listed as endangered
T..... State-listed as threatened
CE Candidate for state listing as endangered
CT Candidate for state listing as threatened
CD..... Considered for state delisting as endangered

SSC: Species of special concern listing codes

(QE) Qualify as endangered (fish list)
(QT) Qualify as threatened (fish list)
(WL) Watch list
(FP) First priority (bird list)
(SP) Second priority (bird list)
(TP) Third priority (bird list)

Other State listings

FP State fully protected animal list
P..... Protected species

Other Status Codes

MMPA Protected under the Marine Mammal Protection Act
IUCN Included in the World Conservation Union's Red List of Vulnerable Species
CITES Protected under the Convention of International Trade in Endangered Species of Fauna and
Flora
CMS Protected by the Convention on Migratory Species