Checklist of fishes of the Cabrillo National Monument, San Diego, California.

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Matthew T. Craig[1*] and Daniel J. Pondella, II[2]
1. Marine Biology Research Division, Scripps Institution of Oceanography, 9500 Gilman Dr., Mail Code 0208, La Jolla, CA 92093
*Current Address: Hawaii Institute of Marine Biology, P.O. Box 1346, Kaneohe, HI 96744
2. Vantuna Research Group, Occidental College, 1600 Campus Rd., Los Angeles, CA 90041

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Introduction

With the documented reduction in global biodiversity as a direct result of human-induced changes (Stenack, 1998), it has become increasingly apparent that the value of no-take marine reserves is rapidly increasing. Protecting not only single, charismatic species, marine reserves and marine protected areas serve to enhance ecosystem function by protecting and reducing damage to critical habitat, and limiting or restricting the take of organisms. These practices allow systems to return to stable states that may resemble pre-exploited conditions. While many marine protected areas today are relatively new (ca 20 years old) numerous case studies exist that document increases in size and abundance of species targeted by fisheries (e.g. Roberts, 1995; Russ and Alcala, 1996).

Assessing the effectiveness of marine protected areas provides a unique challenge as often there is no baseline data available for populations prior to their exploitation. While any data gathered under the current conditions may be a baseline for future studies, they fail to capture the prior community structure that may have been quite different from that today (Dayton, et al., 1998; Baum and Myers, 2004). However, given the relative paucity of data available for such studies, it is an unavoidable reality that this data is the best available, and every effort should be made to establish such pseudo-baselines in order to address the effects of any marine protected area. At the very least, this requires a general knowledge of the species composition within a designated reserve.

Established as a national monument in 1913, the Cabrillo National Monument (CNM) includes a variety of submerged habitats that include a transient sandy beach, a relatively large tide flat, and submerged rocky reef habitat. Each of these habitats plays an important role in the community structure of the nearshore marine fishes within the

boundaries of the reserve. Although this park is not a designated no-take zone for fishes, it is a protected area for invertebrate collection. As with most reserves in California, and despite the importance of the CNM as a marine habitat, the body of knowledge pertaining to the fish community within the enclosed area is relatively sparse.

The location of the CNM on the south-western side of Pt. Loma makes it one of California's southernmost marine reserves (McArdle, 1997) and it is a major attraction for both research scientists and the public as one of the largest tide flats in San Diego. The park covers roughly 160 acres and the tide flat portion is visited by nearly 100,000 people per anum (B. J. Becker, pers. comm.). The CNM is divided into "use zones" in order to minimize the impact of trampling throughout the entire area. These zones vary from completely unrestricted (zone I) to zero entry (zone III). The oceanic boundary is 300 yards offshore from mean low-low tide.

As a means of contributing to the growing body of knowledge of other organisms within the CNM reserve, multiple sampling techniques were used to compile a list of fish species that utilize the variety of habitats enclosed by its boundaries. It is hoped that this information will provide a starting point for resource managers and marine ecologists who seek to understand the integrated response of marine communities within and around reserve areas.

Materials and Methods

A variety of methods was used to census the fishes within the CNM as a means of capturing both resident fishes that remain on the tide flat, and transient fishes that may utilize portions of the reserve that are only submerged during high tide. These included 45.5m long x 2.5m high gill nets with variable mesh (2.5cm, 3.8cm, and 5cm), minnow

traps, 50m diver surveys counting fishes in a 1m window, visual tide pool surveys, and non-selective removal of fishes in tide pools using the natural product clove oil. For each use zone, three minnow traps, one gill net, three diver transects, and three surface visual transects were accomplished on a quarterly basis (Terry and Stephens, 1976; Stephens et al., 1984; Stephens et al., 1994). Three isolated tide pools were also inoculated with 1:5 clove oil to isopropanol as means of removing all cryptic fishes in each zone, also on a quarterly basis. Gill nets and fish traps were set for a period of 12-16 hours over night in 4-8 meters of water (Pondella and Allen 2000).

All fish were measured to the nearest 5mm in the field or to the nearest 0.1mm in the laboratory for intertidal species. Fishes were weighed to the nearest 5g aggregate weight in the field or to the nearest 0.1g in the laboratory for intertidal species. Live fishes from the gill net surveys were returned to the habitat to minimize disturbance, while all other individuals were retained in the laboratory and deposited at either the Occidental College research collection, the Scripps Institution of Oceanography Marine Vertebrates Collection (SIOMVC), or the Cabrillo National Monument teaching and research collection. A list of collecting personnel, along with dates and times of collection is attached as Appendix I.

Results

Overall, 48 species from 22 families were recorded within the CNM (Table 1). The gill nets, diver transects, and clove oil stations were the most effective sampling strategies, capturing 100% of the total richness. No significant beach was present at any time during the calendar year, thus the beach seine protocol was deemed ineffective, and following the initial attempt in January was dropped from subsequent deployments.

Similarly, the fish traps were inefficient at catching any species other than common smelts (e.g., *Ahterinopsis californiensis*). The fish traps were therefore abandoned as well. The tide pool fishes were represented by 12 species of mostly cryptic species, including members of the Blenniidae, Clinidae, Cottidae, Gobiesocidae, and Kyphosidae. Sub-tidal fishes accounted for the remaining 36 species and represented several common marine families (Table 1).

The most abundant intertidal fish species was the wooly sculpin, *Clinocottus analis* (Cottidae), followed by the spotted kelpfish, *Gibbonsia elegans* (Clinidae), and the opaleye, *Girella nigricans* (Kyphosidae). The most common species taken by the gill nets was the salema, *Xenistius californiensis* (Haemulidae), followed by the queenfish, *Seriphus politus* (Sciaenidae), and the leopard shark, *Triakis semifasciata* (Triakidae). The diver surveys indicated much higher abundances then any other technique (Table 1) with the most common species being the señorita wrasse, *Oxyjulis californicus* (Labridae), followed by the opaleye, *Girella nigricans* (Kyphosidae), and the garibaldi, *Hypsypops rubicundis* (Pomacentridae).

Discussion

The fish assemblage of the CNM is a typical rocky-shore fish assemblage for southern California mainland habitats (Pondella and Allen 2000, Stephens et al. 2005). The overall richness was found to be comparable with other similar habitats in the San Diego region (Craig, et al., 2003; Craig, et al., 2004, Pondella and Allen 2003). While the number of species was comparable, the density and abundance of these species was relatively low in comparison to other localities (Craig, et al., 2004; Craig and Hastings, unpublished data). This high diversity, low-density pattern is most likely a result of the

lack of high relief habitat associated with the CNM. Additionally, the placement of the CNM at the mouth of San Diego Bay provides easy access to many recreational and sport fishing vessels, hence there is a certain degree of fishing pressure which may limit the abundance of target species such as the kelp bass, *Paralabrax clathratus*, the California sheephead, *Semicossyphus pulcher*, and the white seabass, *Atractoscion nobilis*.

Overall, there was no difference found in the fish assemblage between the varying use zones. Despite the fact that there is far more trampling from human activities in the high use zone (zone I), little effects were found in tide flat fishes that are residents or in sub-tidal fishes that may use the reserve during flood tides. The three zones also included species that are both resident and transient species on the tide flat (Table 1). While 11 of the 12 species found in the tide pools may be considered resident, the remaining species collected by the gill nets and observed by the diver surveys are most likely utilizing the tide flat habitat as foraging area during high tides (Gibson 1999).

With the lack of earlier, baseline data, it is nearly impossible to address the effectiveness of the CNM as a marine reserve for fishes. However, its value as a marine protected area should not be overlooked. The reserve harbors many non-target species that rely upon the tide flat habitat for reproduction, foraging, and protection either as permanent residents or transient visitors. These habitats are often destroyed or harmed by fisheries activities and coastal development, thus the protection of this habitat by the boundaries of the CNM is undoubtedly critical in the success of the species which utilize it. Reserves such as the CNM are essential to protect this and other critical habitats, and therefore should not only be maintained, but also expanded. Such expansion will serve

only to enhance the protection afforded to both target and non-target species and ultimately bolster the success of marine communities.

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Table 1. List of fishes collected in the Cabrillo National Monument in 2004. Species are listed in taxonomic order following Nelson (1994), and common name follows scientific name following Nelson, et al. (2004). Authorship of species follows Eschmeyer (1998).

Scientific Name	Common Name	Scientific Name	Common Name
Heterodontidae-bullhead sharks		**Scieanidae-drums (continued)**	
Heterdontus francisci (Girard 1855)	horn shark	*Cheilotrema saturnum* (Girard 1858)	black croaker
Triakidae-houndsharks		*Menticirrhus undulatus* (Girard 1854)	California corbina
Mustelus californicus (Gill 1864)	gray smoothound shark	*Seriphus politus* Ayres 1860	queenfish
Triakis semifasciata Girard 1855	leopard shark	**Embiotocidae-surfperches**	
Rhinobattidae-guitarfishes		*Brachyistius frenatus* Gill 1862	kelp perch
Rhinobatos productus Ayres 1854	shovelnose guitarfish	*Embiotica jacksoni* Agassiz 1853	black perch
Batrachoididae-toadfishes		*Hyperprosopon argenteum* Gibbons 1854	walleye surfperch
Porichthys myriaster Hubbs and Schultz 1839	specklefin midshipman	*Hypsurus caryi* (Agassiz 1853)	rainbow seaperch
Atherininopsidae-neotropical silversides		*Micrometrus minimus* (Gibbons 1854)	dwarf perch
Atherinops affinis (Ayers 1860)		*Phanerodon furcatus* Girard 1854	white seaperch
Atherinopsis californiensis Girard 1854	jacksmelt	*Rhacochhilus toxotes* Agassiz 1854	rubberlip seaperch
Leuresthes tenuis (Ayres 1860)	California grunion	*Rhachochilus vacca* Girard 1855	pile perch
Scorpaenidae-scorpionfishes		**Pomacentridae-damselfishes**	
Scorpaena gutatta Girard 1854	California Scorpionfish	*Hypsypops rubicundus* (Girard 1854)	garibaldi
Sebastes atrovirens (Jordan and Gilbert 1880)	kelp rockfish	**Labridae-wrasses**	
Sebastes rastrelliger (Jordan and Gilbert 1880)	grass rockfish	*Halichoeres semicintus* (Ayers 1859)	rock wrasse
Cottidae-sculpins		*Oxyjulis californica* (Günther 1861)	senorita
Clinocottus analis (Girard 1858)	wooly sculpin	*Semicossyphus pulcher* (Ayres 1854)	California sheephead
Scorpaenichthys marmoratus Girard 1854	cabezon	**Clinidae-clinids**	
Serranidae-sea basses		*Gibbonsia elegans* Hubbs 1927	spotted kelpfish
Paralabrax clathratus (Girard 1854)	kelp bass	*Gibbonsia metzi* Hubbs 1927	striped kelpfish
Paralabrax nebulifer (Girard 1854)	barred sand bass	*Heterostichus rostratus* Girard 1854	giant kelpfish
Carangidae-jacks		*Paraclinus integripinnis* (Smith 1880)	reef finspot
Trachurus symmetrichus (Ayes 1855)	jack mackeral	**Blenniidae-combtooth blennies**	
Haemulidae-grunts		*Hypsoblennius gilberti* (Jordan 1882)	rockpool blenny
Anisotremus davidsonii	sargo	*Hypsoblennius jenkinsi* (Jordan and Evermann 1896)	mussel blenny
Xenistius californiensis (Steindachner 1876)	salema	**Gobiescodiae-clingfishes**	
Kyphosidae-sea chubs		*Gobiesox rhessodon* Smith 1881	California clingfish
Girella nigricans (Ayres 1860)	opaleye	*Rimicola eigenmanni* (Gilbert 1890)	slender klingfish
Hermosilla azurea Jenkins and Evermann 1889	zebraperch	**Gobiidae-gobies**	
Medialuna californiensis (Steindachner 1856)	halfmoon	*Typhlogobius californiensis* Steindachner 1879	blind goby
Sciaenidae-drums		**Sphyraenidae-barracudas**	
Atractoscion nobilis (Ayres 1860)	white seabass	*Sphyraena argentea* Girard 1854	Pacific barracuda

Appendix I. Collection dates, times, and personnel.

Diver Surveys:
1/17/ 2004, 0800-1000, M. Craig and J. Hyde
4/17/2004, 0800-1000, M. Craig and J. Hyde
7/15/04, 1000-1200, M. Craig and J. Hyde
11/2/04, 0800-1000, M. Craig and J. Hyde

Tide Pools:
2/13/04, M. Craig, J. Hyde, J. Cobb, and party
4/13/04, M. Craig, J. Hyde, J. Cobb, and party
7/6/04, M. Craig, J. Hyde, J. Cobb, and party
12/2/04, M. Craig, J. Hyde, J. Froeschke, and party
*all surveys done at low tide

Gill Nets:
2/13/04, 1600-0830, M. Craig, J. Hyde, F. Fodrie, N. Benaderet
6/14/04, 1700-0800, M. Craig, F. Fodrie, and party
7/28/04, 1630-0830, M. Craig, F. Fodrie, J. Hyde, and party
12/2/04, 1715-0745, M. Craig, F. Fodrei, J. Hyde, and party

Fish Traps:
1/19/2004, 1600-0800, M. Craig
Method abandoned due to poor results.

Beach Seines:
1/20/04, first attempt, no significant beach and method not useful on rocky substrate.

Appendix II. Raw data from Tidepool Surveys, Diver (Visual) Surveys, and Gill Net Surveys

Cabrillo National Monument Fish Census Data (Tidepool Surveys), 2004

Date	Site	Zone	Rep	Species	Length	Weight	Lattitude	Longitude
1/20/04	CABRILLO	1	1	GIBMET	103.55	15.156	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	92.76	11.696	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	94.08	11.985	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	87.14	9.054	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	82.1	8.892	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	88.38	9.579	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	90.75	10.657	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBMET	71.46	4.983	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	62.15	3.332	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	58.51	2.781	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	65.98	4.09	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	62.78	3.312	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	61.13	3.311	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	60.11	3.034	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	59.84	3.16	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	59.53	3.092	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	51.96	1.964	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	55.15	2.512	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	52.14	2.004	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	7.77	1.461	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	50.46	1.878	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	42.93	1.053	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	49.89	1.534	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	38.74	0.748	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	40.83	0.955	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	50.68	2.024	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	GIBELE	48.73	1.659	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	PARINT	47.55	2.08	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	PARINT	39.64	1.269	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	PARINT	32.84	0.639	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	PARINT	31.5	0.531	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	PARINT	31.61	0.561	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	PARINT	33.65	0.621	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	PARINT	27.88	0.399	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	CLIANA	59.84	5.348	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	CLIANA	51.8	3.845	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	CLIANA	49.34	2.775	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	CLIANA	52.23	3.213	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	CLIANA	49.35	3.551	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	CLIANA	39.01	1.888	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	HYPGIL	55.35	3.585	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	RIMEIG	25.1	0.196	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	RIMEIG	24.15	0.177	32 40.086	117 14.710
1/20/04	CABRILLO	1	1	RIMEIG	21.91	0.104	32 40.086	117 14.710
1/20/04	CABRILLO	2	2	HYPGIL	35.08	0.824	32 40.009	117 14.723
1/20/04	CABRILLO	2	2	HYPGIL	38.32	1.294	32 40.009	117 14.723
1/20/04	CABRILLO	2	2	HYPGIL	34.7	0.77	32 40.009	117 14.723
1/20/04	CABRILLO	2	2	CLIANA	23.2	0.289	32 40.009	117 14.723
1/20/04	CABRILLO	1	2	CLIANA	107.62	32.187	32 40.099	117 14.696
1/20/04	CABRILLO	1	2	CLIANA	98.16	24.651	32 40.099	117 14.696

Cabrillo National Monument Fish Census Data (Tidepool Surveys), 2004

1/20/04	CABRILLO	1	2	CLIANA	80.96	12.341	32 40.099	117 14.696
1/20/04	CABRILLO	1	2	CLIANA	68.67	8.359	32 40.099	117 14.696
1/20/04	CABRILLO	1	2	CLIANA	66.49	7.278	32 40.099	117 14.696
1/20/04	CABRILLO	1	2	CLIANA	61.01	5.36	32 40.099	117 14.696
1/20/04	CABRILLO	1	2	CLIANA	62.35	6.35	32 40.099	117 14.696
1/20/04	CABRILLO	1	2	CLIANA	56.63	4.323	32 40.099	117 14.696
1/20/04	CABRILLO	1	2	CLIANA	56.08	4.416	32 40.099	117 14.696
1/20/04	CABRILLO	1	2	CLIANA	49.12	2.051	32 40.099	117 14.696
1/20/04	CABRILLO	1	2	CLIANA	49.99	3.41	32 40.099	117 14.696
1/20/04	CABRILLO	1	2	CLIANA	45.56	2.378	32 40.099	117 14.696
1/20/04	CABRILLO	1	2	CLIANA	33.89	2.123	32 40.099	117 14.696
1/20/04	CABRILLO	1	2	GIBELE	65.12	4.603	32 40.099	117 14.696
1/20/04	CABRILLO	1	2	GIBELE	69.26	4.11	32 40.099	117 14.696
1/20/04	CABRILLO	1	2	GIBMET	65.21	3.107	32 40.099	117 14.696
1/20/04	CABRILLO	1	2	PARINT	33.37	0.602	32 40.099	117 14.696
1/20/04	CABRILLO	1	2	GIRNIG	60.86	8.297	32 40.099	117 14.696
1/20/04	CABRILLO	1	2	GIRNIG	55.86	6.08	32 40.099	117 14.696
1/20/04	CABRILLO	2	1	GIRNIG	49.62	4.574	32 39.999	117 14.686
1/20/04	CABRILLO	2	1	CLIANA	62.32	6.499	32 39.999	117 14.686
1/20/04	CABRILLO	2	1	CLIANA	62.66	6.515	32 39.999	117 14.686
1/20/04	CABRILLO	2	1	CLIANA	56.6	5.268	32 39.999	117 14.686
1/20/04	CABRILLO	2	1	CLIANA	50.6	3.344	32 39.999	117 14.686
1/20/04	CABRILLO	2	1	CLIANA	51.57	4.073	32 39.999	117 14.686
1/20/04	CABRILLO	2	1	CLIANA	54.07	4.183	32 39.999	117 14.686
1/20/04	CABRILLO	2	1	CLIANA	49.31	2.901	32 39.999	117 14.686
1/20/04	CABRILLO	2	1	CLIANA	43.77	2.307	32 39.999	117 14.686
1/20/04	CABRILLO	2	1	CLIANA	47.29	2.806	32 39.999	117 14.686
1/20/04	CABRILLO	2	1	CLIANA	47.1	2.622	32 39.999	117 14.686
1/20/04	CABRILLO	2	1	CLIANA	44.55	2.402	32 39.999	117 14.686
1/20/04	CABRILLO	2	1	GOBRHE	30.83	1.01	32 39.999	117 14.686
1/20/04	CABRILLO	2	1	CLIANA	16.97	0.122	32 39.999	117 14.686
1/20/04	CABRILLO	2	1	CLIANA	17.03	0.123	32 39.999	117 14.686
1/20/04	CABRILLO	2	1	CLIANA	18.83	0.171	32 39.999	117 14.686
1/20/04	CABRILLO	2	1	CLIANA	17.21	0.143	32 39.999	117 14.686
1/20/04	CABRILLO	3	1	HYPGIL	40.61	1.479	32 39.954	117 14.651
1/20/04	CABRILLO	3	1	CLIANA	38.22	1.548	32 39.954	117 14.651
1/20/04	CABRILLO	3	1	CLIANA	54.05	4.204	32 39.954	117 14.651
1/20/04	CABRILLO	3	1	CLIANA	54.65	4.195	32 39.954	117 14.651
1/20/04	CABRILLO	3	1	GOBRHE	39.49	1.911	32 39.954	117 14.651
1/20/04	CABRILLO	3	1	GOBRHE	41.71	2.447	32 39.954	117 14.651
1/20/04	CABRILLO	3	1	GOBRHE	36.02	1.328	32 39.954	117 14.651
1/20/04	CABRILLO	3	1	GOBRHE	33.62	1.091	32 39.954	117 14.651
1/20/04	CABRILLO	3	1	GOBRHE	26.4	0.491	32 39.954	117 14.651
1/20/04	CABRILLO	3	1	CLIANA	25.59	0.4457	32 39.954	117 14.651
1/20/04	CABRILLO	3	1	CLIANA	21.08	0.26	32 39.954	117 14.651
1/20/04	CABRILLO	3	1	CLIANA	14.06	0.0725	32 39.954	117 14.651
1/20/04	CABRILLO	3	1	CLIANA	14.56	0.0847	32 39.954	117 14.651
1/20/04	CABRILLO	3	1	CLIANA	14.25	0.075	32 39.954	117 14.651
1/20/04	CABRILLO	3	1	CLIANA	12.3	0.046	32 39.954	117 14.651
1/20/04	CABRILLO	3	1	CLIANA	11.33	0.032	32 39.954	117 14.651
1/20/04	CABRILLO	3	1	CLIANA	11.03	0.031	32 39.954	117 14.651

Cabrillo National Monument Fish Census Data (Tidepool Surveys), 2004

1/20/04	CABRILLO	3	1	CLIANA	11.57	0.04	32 39.954	117 14.651
1/20/04	CABRILLO	3	1	CLIANA	11.08	0.027	32 39.954	117 14.651
1/20/04	CABRILLO	3	1	CLIANA	11.44	0.031	32 39.954	117 14.651
1/20/04	CABRILLO	3	2	GIRNIG	50.18	4.179	32 39.956	117 14.608
1/20/04	CABRILLO	3	2	GIRNIG	48.25	3.882	32 39.956	117 14.608
1/20/04	CABRILLO	3	2	GIRNIG	41.95	2.666	32 39.956	117 14.608
1/20/04	CABRILLO	3	2	GIRNIG	39.04	1.816	32 39.956	117 14.608
1/20/04	CABRILLO	3	2	CLIANA	40.61	1.741	32 39.956	117 14.608
1/20/04	CABRILLO	3	2	CLIANA	44.11	2.528	32 39.956	117 14.608
1/20/04	CABRILLO	3	2	CLIANA	45.05	2.425	32 39.956	117 14.608
1/20/04	CABRILLO	3	2	CLIANA	46.01	2.423	32 39.956	117 14.608
1/20/04	CABRILLO	3	2	CLIANA	45.55	2.407	32 39.956	117 14.608
1/20/04	CABRILLO	3	2	CLIANA	47.07	2.611	32 39.956	117 14.608
1/20/04	CABRILLO	3	2	CLIANA	48.01	3.032	32 39.956	117 14.608
1/20/04	CABRILLO	3	2	CLIANA	47.64	3.064	32 39.956	117 14.608
1/20/04	CABRILLO	3	2	CLIANA	48.58	3.3	32 39.956	117 14.608
1/20/04	CABRILLO	3	2	CLIANA	50.12	3.767	32 39.956	117 14.608
1/20/04	CABRILLO	3	2	CLIANA	51.32	3.687	32 39.956	117 14.608
1/20/04	CABRILLO	3	2	CLIANA	52.57	4.651	32 39.956	117 14.608
1/20/04	CABRILLO	3	2	CLIANA	55.44	4.73	32 39.956	117 14.608
1/20/04	CABRILLO	3	2	CLIANA	56.19	5.193	32 39.956	117 14.608
4/13/04	CABRILLO	3	2	PARINT	56.89	3.14	32 39.911	117 14.633
4/13/04	CABRILLO	3	2	CLIANA	59.75	4.98	32 39.911	117 14.633
4/13/04	CABRILLO	3	2	CLIANA	30.97	0.85	32 39.911	117 14.633
4/13/04	CABRILLO	3	2	CLIANA	33.65	1.22	32 39.911	117 14.633
4/13/04	CABRILLO	3	2	GOBRHE	22.33	0.3	32 39.911	117 14.633
4/13/04	CABRILLO	3	1	CLIANA	89.74	15.23	32 39.957	117 14.641
4/13/04	CABRILLO	3	1	CLIANA	75.47	10.38	32 39.957	117 14.641
4/13/04	CABRILLO	3	1	CLIANA	62.36	5.42	32 39.957	117 14.641
4/13/04	CABRILLO	3	1	CLIANA	52.06	4.2	32 39.957	117 14.641
4/13/04	CABRILLO	1	2	PARINT	49.05	2.15	32 40.165	117 14.737
4/13/04	CABRILLO	1	2	PARINT	37.21	0.91	32 40.165	117 14.737
4/13/04	CABRILLO	1	2	CLIANA	35.44	1.52	32 40.165	117 14.737
4/13/04	CABRILLO	1	1	HYPGIL	75.07	9.55	32 40.164	117 14.788
4/13/04	CABRILLO	1	1	HYPGIL	53.22	2.66	32 40.164	117 14.788
4/13/04	CABRILLO	1	1	CLIANA	47.1	2.4	32 40.164	117 14.788
4/13/04	CABRILLO	1	1	CLIANA	22.6	0.3	32 40.164	117 14.788
4/13/04	CABRILLO	2	2	CLIANA	92.13	17.06	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	80.05	10.8	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	69.21	7.39	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	75.92	9.5	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	73.86	8.2	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	57.51	4.85	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	63.73	6.55	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	52.7	4.55	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	57.49	4.62	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	63.28	6.27	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	59.35	5.18	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	42.44	1.57	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	40.82	1.46	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	37.61	1.26	32 40.002	117 14.699

Cabrillo National Monument Fish Census Data (Tidepool Surveys), 2004

4/13/04	CABRILLO	2	2	CLIANA	37.57	1.13	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	41.18	1.6	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	36.49	1.1	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	31.74	0.92	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	30.66	0.61	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	34.35	1.08	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	27.58	0.4	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	31.7	0.7	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	23.6	0.25	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	CLIANA	23.38	0.35	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	HYPGIL	82.64	10.76	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	HYPGIL	54.64	3.47	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	GIBELE	68.6	4.35	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	GIBELE	71.05	4.34	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	GIBELE	65.66	3.42	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	GIBELE	82.97	7.39	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	GIBELE	74.18	5.01	32 40.002	117 14.699
4/13/04	CABRILLO	2	2	GIBELE	58.61	2.58	32 40.002	117 14.699
4/13/04	CABRILLO	2	1	TYPCAL	34	0.8	32 40.006	117 14.707
7/6/04	CABRILLO	1	2	GIBELE	83.33	5.5175	32 40.161	117 14.738
7/6/04	CABRILLO	1	2	CLIANA	62.82	7.6714	32 40.161	117 14.738
7/6/04	CABRILLO	2	1	CLIANA	24.99	0.4692	32 40.001	117 14.692
7/6/04	CABRILLO	2	1	CLIANA	27.35	0.505	32 40.001	117 14.692
7/6/04	CABRILLO	2	1	CLIANA	29.07	0.5898	32 40.001	117 14.692
7/6/04	CABRILLO	2	1	CLIANA	22.83	0.3296	32 40.001	117 14.692
7/6/04	CABRILLO	2	1	CLIANA	31.97	0.8304	32 40.001	117 14.692
7/6/04	CABRILLO	2	1	CLIANA	27.54	0.5164	32 40.001	117 14.692
7/6/04	CABRILLO	2	1	GOBRHE	11.44	0.039	32 40.001	117 14.692
7/6/04	CABRILLO	2	1	GOBRHE	31.49	0.7224	32 40.001	117 14.692
7/6/04	CABRILLO	2	1	GOBRHE	32.13	0.8142	32 40.001	117 14.692
7/6/04	CABRILLO	2	1	HYPGIL	38.62	1.2886	32 40.001	117 14.692
7/6/04	CABRILLO	3	2	CLIANA	70.37	8.2968	32 39.955	117 14.647
7/6/04	CABRILLO	3	2	CLIANA	54.31	3.4804	32 39.955	117 14.647
7/6/04	CABRILLO	3	2	CLIANA	67.18	7.8624	32 39.955	117 14.647
7/6/04	CABRILLO	3	2	CLIANA	57.86	4.44	32 39.955	117 14.647
7/6/04	CABRILLO	3	2	CLIANA	59.27	5.0721	32 39.955	117 14.647
7/6/04	CABRILLO	3	2	CLIANA	61.71	5.0254	32 39.955	117 14.647
7/6/04	CABRILLO	3	2	CLIANA	46.34	2.1275	32 39.955	117 14.647
7/6/04	CABRILLO	1	1	HYPGIL	35.33	0.9188	32 40.111	117 14.697
7/6/04	CABRILLO	1	1	HYPGIL	85.22	13.529	32 40.111	117 14.697
7/6/04	CABRILLO	1	1	GOBRHE	15.15	0.0893	32 40.111	117 14.697
7/6/04	CABRILLO	3	1	GIRNIG	87.26	22.5795	32 39.957	117 14.649
7/6/04	CABRILLO	3	1	GIRNIG	81.36	19.1548	32 39.957	117 14.649
7/6/04	CABRILLO	3	1	GIRNIG	75.71	15.1054	32 39.957	117 14.649
7/6/04	CABRILLO	3	1	GIRNIG	78.59	17.9703	32 39.957	117 14.649
7/6/04	CABRILLO	3	1	GIRNIG	98.42	32.8101	32 39.957	117 14.649
7/6/04	CABRILLO	3	1	GIRNIG	69.88	14.0082	32 39.957	117 14.649
7/6/04	CABRILLO	3	1	GIRNIG	66.04	9.9902	32 39.957	117 14.649
7/6/04	CABRILLO	3	1	GIRNIG	79.72	19.606	32 39.957	117 14.649
7/6/04	CABRILLO	3	1	GIRNIG	73.12	15.8795	32 39.957	117 14.649
7/6/04	CABRILLO	3	1	CLIANA	89.55	20.2514	32 39.957	117 14.649

Cabrillo National Monument Fish Census Data (Tidepool Surveys), 2004

7/6/04	CABRILLO	3	1	CLIANA	67.87	7.7366	32 39.957	117 14.649
7/6/04	CABRILLO	3	1	CLIANA	82.31	12.9876	32 39.957	117 14.649
7/6/04	CABRILLO	3	1	CLIANA	77.94	12.33	32 39.957	117 14.649
7/6/04	CABRILLO	3	1	CLIANA	73.35	10.5483	32 39.957	117 14.649
7/6/04	CABRILLO	3	1	CLIANA	82.67	15.0936	32 39.957	117 14.649
7/6/04	CABRILLO	3	1	CLIANA	68.16	12.8728	32 39.957	117 14.649
7/6/04	CABRILLO	3	1	CLIANA	80.95	9.7469	32 39.957	117 14.649
7/6/04	CABRILLO	3	1	CLIANA	71.09	10.2928	32 39.957	117 14.649
7/6/04	CABRILLO	2	2	MEDCAL	26.25	0.4464	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	MEDCAL	27.08	0.4918	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	MEDCAL	22.83	0.3235	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	MEDCAL	22.6	0.2803	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	GIBELE	100.35	14.324	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	GIRNIG	27.1	0.5045	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	GIRNIG	23.22	0.2999	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	GIRNIG	25.98	0.4557	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	GIRNIG	29.06	0.6853	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	GIRNIG	29.66	0.629	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	GIRNIG	25.37	0.4372	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	GIRNIG	29.11	0.5766	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	GIRNIG	27.51	0.5442	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	GIRNIG	39.95	1.6608	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	GIRNIG	32.43	0.9473	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	GIRNIG	36.8	1.3715	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	GIRNIG	38.73	1.6585	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	LEUTEN	33.82	0.3657	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	LEUTEN	22.84	0.1144	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	LEUTEN	27.68	0.2153	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	HYPGIL	66.55	5.7227	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	CLIANA	30.07	0.6955	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	CLIANA	29.32	0.5881	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	CLIANA	25.52	0.4234	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	CLIANA	29.53	0.6087	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	CLIANA	38.07	1.1136	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	CLIANA	43.77	1.7328	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	CLIANA	50.17	2.617	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	CLIANA	58.38	4.1501	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	CLIANA	66.98	6.7585	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	LEUTEN	29.82	0.2414	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	LEUTEN	29.94	0.2302	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	LEUTEN	23.96	0.1327	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	GIRNIG	35.4	1.2076	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	HYPGIL	47.01	1.969	32 40.058	117 14.712
7/6/04	CABRILLO	2	2	HYPGIL	37.66	1.0206	32 40.058	117 14.712
7/6/04	CABRILLO	2	1	HYPGIL	37.3	1.0472	32 40.001	117 14.692
11/14/04	CABRILLO	3	2	GOBRHE	28.86	0.58	32 39.912	117 14.601
11/14/04	CABRILLO	3	2	CLIANA	36.57	1.22	32 39.912	117 14.601
11/14/04	CABRILLO	3	2	CLIANA	35.34	1.21	32 39.912	117 14.601
11/14/04	CABRILLO	3	2	CLIANA	36.99	1.31	32 39.912	117 14.601
11/14/04	CABRILLO	3	2	CLIANA	34.47	1.04	32 39.912	117 14.601
11/14/04	CABRILLO	3	2	HYPGIL	27.64	0.45	32 39.912	117 14.601

Cabrillo National Monument Fish Census Data (Tidepool Surveys), 2004

11/14/04	CABRILLO	3	2	HYPGIL	56.09	4.1	32 39.912	117 14.601
11/14/04	CABRILLO	3	2	HYPGIL	49.34	2.62	32 39.912	117 14.601
11/14/04	CABRILLO	2	1	CLIANA	33.73	0.86	32 40.067	117 14.707
11/14/04	CABRILLO	2	1	HYPJEN	19.16	0.14	32 40.067	117 14.707
11/14/04	CABRILLO	2	2	HYPJEN	23.15	0.27	32 40.020	117 14.708
11/14/04	CABRILLO	2	2	HYPJEN	18.14	0.11	32 40.020	117 14.708
11/14/04	CABRILLO	2	2	HYPJEN	27.82	0.41	32 40.020	117 14.708
11/14/04	CABRILLO	2	2	HYPJEN	21.51	0.21	32 40.020	117 14.708
11/14/04	CABRILLO	1	1	HYPGIL	74.41	8.66	32 40.168	117 14.707
11/14/04	CABRILLO	1	1	HYPGIL	42.14	1.63	32 40.168	117 14.707
11/14/04	CABRILLO	1	1	CLIANA	78.84	11.11	32 40.168	117 14.707
11/14/04	CABRILLO	1	1	CLIANA	37.09	1.24	32 40.168	117 14.707
11/14/04	CABRILLO	1	1	CLIANA	26.14	0.43	32 40.168	117 14.707
11/14/04	CABRILLO	1	2	CLIANA	67.72	8.44	32 40.186	117 14.730
11/14/04	CABRILLO	1	2	CLIANA	40.77	2.01	32 40.186	117 14.730
11/14/04	CABRILLO	1	2	CLIANA	37.3	1.46	32 40.186	117 14.730
11/14/04	CABRILLO	1	2	GIBELE	87.23	9.54	32 40.186	117 14.730
11/14/04	CABRILLO	1	2	GIBELE	79.95	8.68	32 40.186	117 14.730
11/14/04	CABRILLO	1	2	GOBRHE	27.88	0.54	32 40.186	117 14.730
11/14/04	CABRILLO	1	2	HYPGIL	41.41	1.63	32 40.186	117 14.730
11/14/04	CABRILLO	1	2	HYPGIL	47.36	2.27	32 40.186	117 14.730
11/14/04	CABRILLO	1	2	HYPGIL	42.23	2.34	32 40.186	117 14.730
11/14/04	CABRILLO	1	2	HYPGIL	22.34	0.19	32 40.186	117 14.730
11/14/04	CABRILLO	3	1	NOFISH			32 39.910	117 14.632

Cabrillo National Monument Fish Census Data (Diver Surveys), 2004

date	station	substrate 1=sand 2=rock 3=grass/ vegetation	Depth (m)	Time	Zone	Rep	Temp	Tide	Surge	Weather S=sunny C=cloudy R=raining	Vis	Species Code	Species	Age Class a=adult j=juvenile r=recruit y=YOY	Abundance
1/7/2004	Cabrillo	2	5	930	1	1	57	H	0	S	5	15800	GIRNIG	a	15
1/7/2004	Cabrillo	2	5	930	1	1	57	H	0	S	5	17504	HETROS	a	1
1/7/2004	Cabrillo	2	5	930	1	1	57	H	0	S	5	15700	OXYCAL	a	13
1/7/2004	Cabrillo	2	5	930	1	1	57	H	0	S	5	14010	PARCLA	j	2
1/7/2004	Cabrillo	2	5	930	1	1	57	H	0	S	5	15701	SEMPUL	a	2
1/7/2004	Cabrillo	2	5	935	1	2	57	H	0	S	5	15800	GIRNIG	a	11
1/7/2004	Cabrillo	2	5	935	1	2	57	H	0	S	5	15700	OXYCAL	a	3
1/7/2004	Cabrillo	2	5	935	1	2	57	H	0	S	5	36000	COTTIDAE SP.	a	1
1/7/2004	Cabrillo	2	5	940	2	1	57	H	0	S	5	39991	BRAFRE	a	6
1/7/2004	Cabrillo	2	5	940	2	1	57	H	0	S	5	39993	EMBJAC	a	9
1/7/2004	Cabrillo	2	5	940	2	1	57	H	0	S	5	39993	EMBJAC	s	10
1/7/2004	Cabrillo	2	5	940	2	1	57	H	0	S	5	17504	HETROS	a	4
1/7/2004	Cabrillo	2	5	940	2	1	57	H	0	S	5	15501	HYPRUB	a	1
1/7/2004	Cabrillo	2	5	940	2	1	57	H	0	S	5	15700	OXYCAL	a	50
1/7/2004	Cabrillo	2	5	940	2	1	57	H	0	S	5	15700	OXYCAL	j	20
1/7/2004	Cabrillo	2	5	940	2	1	57	H	0	S	5	14010	PARCLA	a	2
1/7/2004	Cabrillo	2	5	940	2	1	57	H	0	S	5	15701	SEMPUL	a	1
1/7/2004	Cabrillo	2	5	940	2	1	57	H	0	S	5	39996	MICMIN	a	1
1/7/2004	Cabrillo	2	5	945	2	2	57	H	0	S	5	39991	BRAFRE	a	3
1/7/2004	Cabrillo	2	5	945	2	2	57	H	0	S	5	39993	EMBJAC	a	9
1/7/2004	Cabrillo	2	5	945	2	2	57	H	0	S	5	39993	EMBJAC	s	17
1/7/2004	Cabrillo	2	5	945	2	2	57	H	0	S	5	39993	EMBJAC	j	2
1/7/2004	Cabrillo	2	5	945	2	2	57	H	0	S	5	15800	GIRNIG	a	35
1/7/2004	Cabrillo	2	5	945	2	2	57	H	0	S	5	15702	HALSEM	a	1
1/7/2004	Cabrillo	2	5	945	2	2	57	H	0	S	5	17504	HETROS	a	2
1/7/2004	Cabrillo	2	5	945	2	2	57	H	0	S	5	15700	OXYCAL	a	14
1/7/2004	Cabrillo	2	5	945	2	2	57	H	0	S	5	15700	OXYCAL	j	150
1/7/2004	Cabrillo	2	5	945	2	2	57	H	0	S	5	39997	PHAFUR	a	10
1/7/2004	Cabrillo	2	5	945	2	2	57	H	0	S	5	39999	RHAVAC	j	2
1/7/2004	Cabrillo	2	5	945	2	2	57	H	0	S	5	39996	MICMIN	a	12
1/7/2004	Cabrillo	2	5	950	3	1	57	H	0	S	5	39991	BRAFRE	a	12

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1/7/2004	Cabrillo	2	5	950	3	1	57	H	0	S	5	39991	BRAFRE	s	12
1/7/2004	Cabrillo	2	5	950	3	1	57	H	0	S	5	39993	EMBJAC	a	7
1/7/2004	Cabrillo	2	5	950	3	1	57	H	0	S	5	39993	EMBJAC	s	3
1/7/2004	Cabrillo	2	5	950	3	1	57	H	0	S	5	15800	GIRNIG	a	40
1/7/2004	Cabrillo	2	5	950	3	1	57	H	0	S	5	15702	HALSEM	a	1
1/7/2004	Cabrillo	2	5	950	3	1	57	H	0	S	5	17504	HETROS	a	3
1/7/2004	Cabrillo	2	5	950	3	1	57	H	0	S	5	39996	MICMIN	a	4
1/7/2004	Cabrillo	2	5	950	3	1	57	H	0	S	5	15700	OXYCAL	a	42
1/7/2004	Cabrillo	2	5	955	3	2	57	H	0	S	5	14010	PARCLA	a	3
1/7/2004	Cabrillo	2	5	955	3	2	57	H	0	S	5	39993	EMBJAC	a	1
1/7/2004	Cabrillo	2	5	955	3	2	57	H	0	S	5	15800	GIRNIG	a	40
1/7/2004	Cabrillo	2	5	955	3	2	57	H	0	S	5	17504	HETROS	j	1
1/7/2004	Cabrillo	2	5	955	3	2	57	H	0	S	5	15501	HYPRUB	a	22
1/7/2004	Cabrillo	2	5	955	3	2	57	H	0	S	5	19016	MEDCAL	a	8
1/7/2004	Cabrillo	2	5	955	3	2	57	H	0	S	5	15700	OXYCAL	a	90
1/7/2004	Cabrillo	2	5	955	3	2	57	H	0	S	5	15700	OXYCAL	j	2
1/7/2004	Cabrillo	2	5	955	3	2	57	H	0	S	5	14010	PARCLA	a	10
1/7/2004	Cabrillo	2	5	955	3	2	57	H	0	S	5	39998	RHATOX	a	5
1/7/2004	Cabrillo	2	5	955	3	2	57	H	0	S	5	39999	RHAVAC	a	1
1/7/2004	Cabrillo	2	5	955	3	2	57	H	0	S	5	15701	SEMPUL	a	1
4/17/2004	Cabrillo	2	5	815	1	1	61	H	0	S	4.5	39993	EMBJAC	a	3
4/17/2004	Cabrillo	2	5	815	1	1	61	H	0	S	4.5	15800	GIRNIG	a	25
4/17/2004	Cabrillo	2	5	815	1	1	61	H	0	S	4.5	17504	HETROS	a	6
4/17/2004	Cabrillo	2	5	815	1	1	61	H	0	S	4.5	15501	HYPRUB	a	24
4/17/2004	Cabrillo	2	5	815	1	1	61	H	0	S	4.5	19016	MEDCAL	a	24
4/17/2004	Cabrillo	2	5	815	1	1	61	H	0	S	4.5	15700	OXYCAL	a	51
4/17/2004	Cabrillo	2	5	815	1	1	61	H	0	S	4.5	15700	OXYCAL	s	26
4/17/2004	Cabrillo	2	5	815	1	1	61	H	0	S	4.5	15700	OXYCAL	j	34
4/17/2004	Cabrillo	2	5	815	1	1	61	H	0	S	4.5	14010	PARCLA	a	10
4/17/2004	Cabrillo	2	5	815	1	1	61	H	0	S	4.5	14010	PARCLA	s	3
4/17/2004	Cabrillo	2	5	815	1	1	61	H	0	S	4.5	39998	RHATOX	s	2
4/17/2004	Cabrillo	2	5	815	1	1	61	H	0	S	4.5	39999	RHAVAC	s	1
4/17/2004	Cabrillo	2	5	815	1	1	61	H	0	S	4.5	15701	SEMPUL	a	2
4/17/2004	Cabrillo	2	5	820	1	2	61	H	0	S	4.5	39993	EMBJAC	a	32
4/17/2004	Cabrillo	2	5	820	1	2	61	H	0	S	4.5	15800	GIRNIG	a	26
4/17/2004	Cabrillo	2	5	820	1	2	61	H	0	S	4.5	17504	HETROS	s	1
4/17/2004	Cabrillo	2	5	820	1	2	61	H	0	S	4.5	15501	HYPRUB	a	6

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4/17/2004	Cabrillo	2	5	820	1	2	61	H	0	S	4.5	19016	MEDCAL	s	5
4/17/2004	Cabrillo	2	5	820	1	2	61	H	0	S	4.5	15700	OXYCAL	a	10
4/17/2004	Cabrillo	2	5	820	1	2	61	H	0	S	4.5	15700	OXYCAL	j	21
4/17/2004	Cabrillo	2	5	820	1	2	61	H	0	S	4.5	14010	PARCLA	a	6
4/17/2004	Cabrillo	2	5	820	1	2	61	H	0	S	4.5	39999	RHAVAC	s	2
4/17/2004	Cabrillo	2	5	820	1	2	61	H	0	S	4.5	15701	SEMPUL	a	3
4/17/2004	Cabrillo	2	5	825	2	1	61	H	0	S	4.5	39993	EMBJAC	a	3
4/17/2004	Cabrillo	2	5	825	2	1	61	H	0	S	4.5	15800	GIRNIG	a	6
4/17/2004	Cabrillo	2	5	825	2	1	61	H	0	S	4.5	17504	HETROS	s	3
4/17/2004	Cabrillo	2	5	825	2	1	61	H	0	S	4.5	15501	HYPRUB	a	8
4/17/2004	Cabrillo	2	5	825	2	1	61	H	0	S	4.5	19016	MEDCAL	s	2
4/17/2004	Cabrillo	2	5	825	2	1	61	H	0	S	4.5	15700	OXYCAL	a	28
4/17/2004	Cabrillo	2	5	825	2	1	61	H	0	S	4.5	15700	OXYCAL	j	45
4/17/2004	Cabrillo	2	5	825	2	1	61	H	0	S	4.5	14010	PARCLA	a	2
4/17/2004	Cabrillo	2	5	825	2	1	61	H	0	S	4.5	15701	SEMPUL	s	1
4/17/2004	Cabrillo	2	5	830	2	2	61	H	0	S	4.5	39993	EMBJAC	a	2
4/17/2004	Cabrillo	2	5	830	2	2	61	H	0	S	4.5	15800	GIRNIG	a	11
4/17/2004	Cabrillo	2	5	830	2	2	61	H	0	S	4.5	15702	HALSEM	a	6
4/17/2004	Cabrillo	2	5	830	2	2	61	H	0	S	4.5	17504	HETROS	a	2
4/17/2004	Cabrillo	2	5	830	2	2	61	H	0	S	4.5	15501	HYPRUB	a	3
4/17/2004	Cabrillo	2	5	830	2	2	61	H	0	S	4.5	19016	MEDCAL	a	1
4/17/2004	Cabrillo	2	5	830	2	2	61	H	0	S	4.5	15700	OXYCAL	j	14
4/17/2004	Cabrillo	2	5	830	2	2	61	H	0	S	4.5	14010	PARCLA	a	2
4/17/2004	Cabrillo	2	5	830	2	2	61	H	0	S	4.5	15701	SEMPUL	a	1
4/17/2004	Cabrillo	2	5	835	3	1	61	H	0	S	4.5	39993	EMBJAC	a	6
4/17/2004	Cabrillo	2	5	835	3	1	61	H	0	S	4.5	15800	GIRNIG	a	32
4/17/2004	Cabrillo	2	5	835	3	1	61	H	0	S	4.5	15702	HALSEM	a	3
4/17/2004	Cabrillo	2	5	835	3	1	61	H	0	S	4.5	15501	HYPRUB	a	12
4/17/2004	Cabrillo	2	5	835	3	1	61	H	0	S	4.5	15700	OXYCAL	a	7
4/17/2004	Cabrillo	2	5	835	3	1	61	H	0	S	4.5	15700	OXYCAL	j	17
4/17/2004	Cabrillo	2	5	835	3	1	61	H	0	S	4.5	14010	PARCLA	s	1
4/17/2004	Cabrillo	2	5	835	3	1	61	H	0	S	4.5	15701	SEMPUL	s	2
4/17/2004	Cabrillo	2	5	840	3	2	61	H	0	S	4.5	39993	EMBJAC	a	6
4/17/2004	Cabrillo	2	5	840	3	2	61	H	0	S	4.5	15800	GIRNIG	a	21
4/17/2004	Cabrillo	2	5	840	3	2	61	H	0	S	4.5	15501	HYPRUB	a	8
4/17/2004	Cabrillo	2	5	840	3	2	61	H	0	S	4.5	15700	OXYCAL	a	13
4/17/2004	Cabrillo	2	5	840	3	2	61	H	0	S	4.5	15700	OXYCAL	j	45

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4/17/2004	Cabrillo	2	5	840	3	2	61	H	0	S	4.5	14010	PARCLA	s	1
4/17/2004	Cabrillo	2	5	840	3	2	61	H	0	S	4.5	15701	SEMPUL	a	3
7/15/2004	Cabrillo	2	5	1005	1	1	71	H	0	S	3	39993	EMBJAC	a	8
7/15/2004	Cabrillo	2	5	1005	1	1	71	H	0	S	3	15800	GIRNIG	a	34
7/15/2004	Cabrillo	2	5	1005	1	1	71	H	0	S	3	17504	HETROS	a	5
7/15/2004	Cabrillo	2	5	1005	1	1	71	H	0	S	3	15501	HYPRUB	a	6
7/15/2004	Cabrillo	2	5	1005	1	1	71	H	0	S	3	19016	MEDCAL	s	2
7/15/2004	Cabrillo	2	5	1005	1	1	71	H	0	S	3	15700	OXYCAL	a	3
7/15/2004	Cabrillo	2	5	1005	1	1	71	H	0	S	3	15700	OXYCAL	j	10
7/15/2004	Cabrillo	2	5	1005	1	1	71	H	0	S	3	14010	PARCLA	a	8
7/15/2004	Cabrillo	2	5	1005	1	1	71	H	0	S	3	39998	RHATOX	s	3
7/15/2004	Cabrillo	2	5	1005	1	1	71	H	0	S	3	39999	RHAVAC	s	2
7/15/2004	Cabrillo	2	5	1005	1	1	71	H	0	S	3	15701	SEMPUL	a	6
7/15/2004	Cabrillo	2	5	1005	1	1	71	H	0	S	3	15701	SEMPUL	a	3
7/15/2004	Cabrillo	2	5	1010	1	2	71	H	0	S	3	39991	BRAFRE	a	10
7/15/2004	Cabrillo	2	5	1010	1	2	71	H	0	S	3	39993	EMBJAC	a	2
7/15/2004	Cabrillo	2	5	1010	1	2	71	H	0	S	3	15800	GIRNIG	a	20
7/15/2004	Cabrillo	2	5	1010	1	2	71	H	0	S	3	17504	HETROS	a	3
7/15/2004	Cabrillo	2	5	1010	1	2	71	H	0	S	3	15501	HYPRUB	a	8
7/15/2004	Cabrillo	2	5	1010	1	2	71	H	0	S	3	19016	MEDCAL	a	12
7/15/2004	Cabrillo	2	5	1010	1	2	71	H	0	S	3	15700	OXYCAL	a	32
7/15/2004	Cabrillo	2	5	1010	1	2	71	H	0	S	3	15700	OXYCAL	j	68
7/15/2004	Cabrillo	2	5	1010	1	2	71	H	0	S	3	14010	PARCLA	a	5
7/15/2004	Cabrillo	2	5	1010	1	2	71	H	0	S	3	39998	RHATOX	a	2
7/15/2004	Cabrillo	2	5	1010	1	2	71	H	0	S	3	39999	RHAVAC	s	1
7/15/2004	Cabrillo	2	5	1010	1	2	71	H	0	S	3	15701	SEMPUL	a	1
7/15/2004	Cabrillo	2	5	1015	2	1	71	H	0	S	3	39991	BRAFRE	a	4
7/15/2004	Cabrillo	2	5	1015	2	1	71	H	0	S	3	39993	EMBJAC	a	2
7/15/2004	Cabrillo	2	5	1015	2	1	71	H	0	S	3	15800	GIRNIG	a	3
7/15/2004	Cabrillo	2	5	1015	2	1	71	H	0	S	3	17504	HETROS	a	1
7/15/2004	Cabrillo	2	5	1015	2	1	71	H	0	S	3	15501	HYPRUB	a	16
7/15/2004	Cabrillo	2	5	1015	2	1	71	H	0	S	3	19016	MEDCAL	a	3
7/15/2004	Cabrillo	2	5	1015	2	1	71	H	0	S	3	39996	MICMIN	a	4
7/15/2004	Cabrillo	2	5	1015	2	1	71	H	0	S	3	15700	OXYCAL	a	61
7/15/2004	Cabrillo	2	5	1015	2	1	71	H	0	S	3	14010	PARCLA	a	11
7/15/2004	Cabrillo	2	5	1015	2	1	71	H	0	S	3	39998	RHATOX	a	2
7/15/2004	Cabrillo	2	5	1015	2	1	71	H	0	S	3	39999	RHAVAC	a	2

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7/15/2004	Cabrillo	2	5	1015	2	1	71	H	0	S	3	15701	SEMPUL	a	2
7/15/2004	Cabrillo	2	5	1015	2	1	71	H	0	S	3	15701	SEMPUL	s	4
7/15/2004	Cabrillo	2	5	1020	2	2	71	H	0	S	3	39991	BRAFRE	a	2
7/15/2004	Cabrillo	2	5	1020	2	2	71	H	0	S	3	39993	EMBJAC	a	6
7/15/2004	Cabrillo	2	5	1020	2	2	71	H	0	S	3	15800	GIRNIG	a	28
7/15/2004	Cabrillo	2	5	1020	2	2	71	H	0	S	3	15501	HYPRUB	a	11
7/15/2004	Cabrillo	2	5	1020	2	2	71	H	0	S	3	15700	OXYCAL	j	29
7/15/2004	Cabrillo	2	5	1020	2	2	71	H	0	S	3	14010	PARCLA	a	2
7/15/2004	Cabrillo	2	5	1020	2	2	71	H	0	S	3	39999	RHAVAC	a	2
7/15/2004	Cabrillo	2	5	1020	2	2	71	H	0	S	3	15701	SEMPUL	a	4
7/15/2004	Cabrillo	2	5	1025	3	1	71	H	0	S	3	39993	EMBJAC	a	2
7/15/2004	Cabrillo	2	5	1025	3	1	71	H	0	S	3	15800	GIRNIG	a	15
7/15/2004	Cabrillo	2	5	1025	3	1	71	H	0	S	3	15501	HYPRUB	a	2
7/15/2004	Cabrillo	2	5	1025	3	1	71	H	0	S	3	19016	MEDCAL	a	2
7/15/2004	Cabrillo	2	5	1025	3	1	71	H	0	S	3	15700	OXYCAL	j	35
7/15/2004	Cabrillo	2	5	1025	3	1	71	H	0	S	3	14010	PARCLA	a	4
7/15/2004	Cabrillo	2	5	1025	3	1	71	H	0	S	3	14010	PARCLA	s	2
7/15/2004	Cabrillo	2	5	1025	3	1	71	H	0	S	3	39998	RHATOX	s	3
7/15/2004	Cabrillo	2	5	1025	3	1	71	H	0	S	3	39999	RHAVAC	s	2
7/15/2004	Cabrillo	2	5	1025	3	1	71	H	0	S	3	15701	SEMPUL	a	5
7/15/2004	Cabrillo	2	5	1030	3	2	71	H	0	S	3	39993	EMBJAC	a	8
7/15/2004	Cabrillo	2	5	1030	3	2	71	H	0	S	3	15800	GIRNIG	a	32
7/15/2004	Cabrillo	2	5	1030	3	2	71	H	0	S	3	15501	HYPRUB	a	2
7/15/2004	Cabrillo	2	5	1030	3	2	71	H	0	S	3	19016	MEDCAL	a	2
7/15/2004	Cabrillo	2	5	1030	3	2	71	H	0	S	3	15700	OXYCAL	a	34
7/15/2004	Cabrillo	2	5	1030	3	2	71	H	0	S	3	14010	PARCLA	a	3
7/15/2004	Cabrillo	2	5	1030	3	2	71	H	0	S	3	39999	RHAVAC	a	2
7/15/2004	Cabrillo	2	5	1030	3	2	71	H	0	S	3	15701	SEMPUL	a	1
7/15/2004	Cabrillo	2	5	1030	3	3	71	H	0	S	3	39993	EMBJAC	a	2
7/15/2004	Cabrillo	2	5	1030	3	3	71	H	0	S	3	15800	GIRNIG	a	4
7/15/2004	Cabrillo	2	5	1030	3	3	71	H	0	S	3	15501	HYPRUB	a	26
7/15/2004	Cabrillo	2	5	1030	3	3	71	H	0	S	3	19016	MEDCAL	a	3
7/15/2004	Cabrillo	2	5	1030	3	3	71	H	0	S	3	15700	OXYCAL	a	64
7/15/2004	Cabrillo	2	5	1030	3	3	71	H	0	S	3	14010	PARCLA	a	2
7/15/2004	Cabrillo	2	5	1030	3	3	71	H	0	S	3	39998	RHATOX	s	1
7/15/2004	Cabrillo	2	5	1030	3	3	71	H	0	S	3	15701	SEMPUL	s	1
11/2/2004	Cabrillo	2	5	815	1	1	59	h	0	S	6	39993	EMBJAC	a	2

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11/2/2004	Cabrillo	2	5	815	1	1	59	h	0	S	6	15800	GIRNIG	a	6
11/2/2004	Cabrillo	2	5	815	1	1	59	h	0	S	6	15501	HYPRUB	a	4
11/2/2004	Cabrillo	2	5	815	1	1	59	h	0	S	6	15700	OXYCAL	a	15
11/2/2004	Cabrillo	2	5	815	1	1	59	h	0	S	6	15700	OXYCAL	j	26
11/2/2004	Cabrillo	2	5	815	1	1	59	h	0	S	6	14010	PARCLA	s	1
11/2/2004	Cabrillo	2	5	815	1	1	59	h	0	S	6	39998	RHATOX	s	2
11/2/2004	Cabrillo	2	5	815	1	1	59	h	0	S	6	15701	SEMPUL	a	1
11/2/2004	Cabrillo	2	5	820	1	2	59	h	0	S	6	39993	EMBJAC	a	6
11/2/2004	Cabrillo	2	5	820	1	2	59	h	0	S	6	15800	GIRNIG	a	5
11/2/2004	Cabrillo	2	5	820	1	2	59	h	0	S	6	15501	HYPRUB	a	9
11/2/2004	Cabrillo	2	5	820	1	2	59	h	0	S	6	15700	OXYCAL	a	21
11/2/2004	Cabrillo	2	5	820	1	2	59	h	0	S	6	15700	OXYCAL	j	64
11/2/2004	Cabrillo	2	5	820	1	2	59	h	0	S	6	14010	PARCLA	a	4
11/2/2004	Cabrillo	2	5	820	1	2	59	h	0	S	6	14010	PARCLA	j	1
11/2/2004	Cabrillo	2	5	820	1	2	59	h	0	S	6	39998	RHATOX	s	1
11/2/2004	Cabrillo	2	5	820	1	2	59	h	0	S	6	15701	SEMPUL	s	2
11/2/2004	Cabrillo	2	5	825	2	1	59	h	0	S	6	39993	EMBJAC	a	3
11/2/2004	Cabrillo	2	5	825	2	1	59	h	0	S	6	15800	GIRNIG	a	8
11/2/2004	Cabrillo	2	5	825	2	1	59	h	0	S	6	15501	HYPRUB	a	4
11/2/2004	Cabrillo	2	5	825	2	1	59	h	0	S	6	15700	OXYCAL	a	15
11/2/2004	Cabrillo	2	5	825	2	1	59	h	0	S	6	15700	OXYCAL	j	24
11/2/2004	Cabrillo	2	5	825	2	1	59	h	0	S	6	14010	PARCLA	a	2
11/2/2004	Cabrillo	2	5	825	2	1	59	h	0	S	6	14010	PARCLA	j	1
11/2/2004	Cabrillo	2	5	825	2	1	59	h	0	S	6	39998	RHATOX	a	3
11/2/2004	Cabrillo	2	5	825	2	1	59	h	0	S	6	15701	SEMPUL	a	1
11/2/2004	Cabrillo	2	5	830	2	2	59	h	0	S	6	39993	EMBJAC	a	3
11/2/2004	Cabrillo	2	5	830	2	2	59	h	0	S	6	15800	GIRNIG	a	5
11/2/2004	Cabrillo	2	5	830	2	2	59	h	0	S	6	15501	HYPRUB	a	4
11/2/2004	Cabrillo	2	5	830	2	2	59	h	0	S	6	15700	OXYCAL	a	34
11/2/2004	Cabrillo	2	5	830	2	2	59	h	0	S	6	14010	PARCLA	a	2
11/2/2004	Cabrillo	2	5	830	2	2	59	h	0	S	6	15701	SEMPUL	a	2
11/2/2004	Cabrillo	2	5	835	3	1	59	h	0	S	6	39993	EMBJAC	s	3
11/2/2004	Cabrillo	2	5	835	3	1	59	h	0	S	6	15800	GIRNIG	a	14
11/2/2004	Cabrillo	2	5	835	3	1	59	h	0	S	6	15501	HYPRUB	a	6
11/2/2004	Cabrillo	2	5	835	3	1	59	h	0	S	6	15700	OXYCAL	j	12
11/2/2004	Cabrillo	2	5	835	3	1	59	h	0	S	6	14010	PARCLA	a	1
11/2/2004	Cabrillo	2	5	835	3	1	59	h	0	S	6	15701	SEMPUL	a	2

Cabrillo National Monument Fish Census Data (Diver Surveys), 2004

11/2/2004	Cabrillo	2	5	840	3	2	59	h	0	S	6	39993	EMBJAC	a	6
11/2/2004	Cabrillo	2	5	840	3	2	59	h	0	S	6	15800	GIRNIG	a	8
11/2/2004	Cabrillo	2	5	840	3	2	59	h	0	S	6	15501	HYPRUB	a	6
11/2/2004	Cabrillo	2	5	840	3	2	59	h	0	S	6	15700	OXYCAL	j	24
11/2/2004	Cabrillo	2	5	840	3	2	59	h	0	S	6	14010	PARCLA	s	2
11/2/2004	Cabrillo	2	5	840	3	2	59	h	0	S	6	15701	SEMPUL	s	1

Cabrillo National Monument Fish Census Data (Gill Nets), 2004

Date	Site	Zone	Rep	Species Code	Species	Length	Weight	Lattitude	Longitude	Notes
2/13/2004	Cabrillo	1	1	20011	ATHCAL	295	250	32 40.075	117 14.859	
2/13/2004	Cabrillo	1	1	14010	PARCLA	185	135	32 40.075	117 14.859	
2/13/2004	Cabrillo	1	1	15701	SEMPUL	400	1800	32 40.075	117 14.859	Released
2/13/2004	Cabrillo	2	1	14010	PARCLA	330	700	32 39.972	117 14.859	
2/13/2004	Cabrillo	2	1	39016	TRISEM	430	1500	32 39.972	117 14.859	AGG. WEIGHT
2/13/2004	Cabrillo	2	1	39016	TRISEM	605		32 39.972	117 14.859	
2/13/2004	Cabrillo	2	1	39994	HYPARG	160	205	32 39.972	117 14.859	AGG. WEIGHT
2/13/2004	Cabrillo	2	1	39994	HYPARG	110		32 39.972	117 14.859	
2/13/2004	Cabrillo	2	1	39994	HYPARG	120		32 39.972	117 14.859	
2/13/2004	Cabrillo	2	1	15201	ATRNOB	250	1010	32 39.972	117 14.859	AGG. WEIGHT
2/13/2004	Cabrillo	2	1	15201	ATRNOB	255		32 39.972	117 14.859	
2/13/2004	Cabrillo	2	1	15201	ATRNOB	270		32 39.972	117 14.859	
2/13/2004	Cabrillo	2	1	15201	ATRNOB	275		32 39.972	117 14.859	
2/13/2004	Cabrillo	3	1	36120	SEBATR	240	340	32 39.857	117 14.793	
2/13/2004	Cabrillo	3	1	39995	HYPCAR	135	60	32 39.857	117 14.793	
2/13/2004	Cabrillo	3	1	39016	TRISEM	420	360	32 39.857	117 14.793	
6/14/2004	Cabrillo	1	1	39016	TRISEM	1150	2950	32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	39016	TRISEM	950	2000	32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	39016	TRISEM	610	1000	32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	39016	TRISEM	1060	2900	32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	39016	TRISEM	890	2600	32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	39016	TRISEM	850	2600	32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	39016	TRISEM	865	2600	32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	39016	TRISEM	865	3200	32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	39016	TRISEM	865	2000	32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	39016	TRISEM	860	2400	32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	39016	TRISEM	765	1800	32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	39016	TRISEM	1270	3000	32 40.251	117 14.883	TAIL BITTEN OF
6/14/2004	Cabrillo	1	1	39015	MUSCAL	845	1650	32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	14010	PARCLA	300		32 40.251	117 14.883	NO WEIGHT
6/14/2004	Cabrillo	1	1	25200	UMBRON	250	1600	32 40.251	117 14.883	AGG. WEIGHT
6/14/2004	Cabrillo	1	1	25200	UMBRON	250		32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	25200	UMBRON	250		32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	25200	UMBRON	305		32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	25200	UMBRON	125		32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	15701	SEMPUL	355	1400	32 40.251	117 14.883	

Cabrillo National Monument Fish Census Data (Gill Nets), 2004

6/14/2004	Cabrillo	1	1	15201	ATRNOB	410	1200	32 40.251	117 14.883	AGG. WEIGHT
6/14/2004	Cabrillo	1	1	15201	ATRNOB	325		32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	15600	ANIDAV	265	1200	32 40.251	117 14.883	AGG. WEIGHT
6/14/2004	Cabrillo	1	1	15600	ANIDAV	260		32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	15200	CHESAT	255	420	32 40.251	117 14.883	AGG. WEIGHT
6/14/2004	Cabrillo	1	1	15200	CHESAT	265		32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	15601	SPHARG	480	550	32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	15602	XENCAL	180	120	32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	20011	ATHCAL	255	1000	32 40.251	117 14.883	AGG. WEIGHT
6/14/2004	Cabrillo	1	1	20011	ATHCAL	305		32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	20011	ATHCAL	305		32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	20011	ATHCAL	260		32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	17301	PORNOT	255	200	32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	15205	SERPOL	200	1400	32 40.251	117 14.883	AGG. WEIGHT
6/14/2004	Cabrillo	1	1	15205	SERPOL	215		32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	15205	SERPOL	210		32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	15205	SERPOL	230		32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	15205	SERPOL	205		32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	15205	SERPOL	185		32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	15205	SERPOL	185		32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	15205	SERPOL	185		32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	15205	SERPOL	195		32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	15205	SERPOL	215		32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	15205	SERPOL	205		32 40.251	117 14.883	
6/14/2004	Cabrillo	1	1	15205	SERPOL	185		32 40.251	117 14.883	
6/14/2004	Cabrillo	2	1	39016	TRISEM	1020	4800	32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	39016	TRISEM	760	2000	32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	39016	TRISEM	980	5000	32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	39016	TRISEM	940	4000	32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	39012	RHIPRO	128	5500	32 39.987	117 14.869	RELEASED
6/14/2004	Cabrillo	2	1	39006	HETFRA	720	3000	32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15800	GIRNIG	280	3000	32 39.987	117 14.869	AGG. WEIGHT
6/14/2004	Cabrillo	2	1	15800	GIRNIG	310		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15800	GIRNIG	270		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15800	GIRNIG	260		32 39.987	117 14.869	MUNCHED
6/14/2004	Cabrillo	2	1	15600	ANIDAV	270	2000	32 39.987	117 14.869	AGG.WEIGHT
6/14/2004	Cabrillo	2	1	15600	ANIDAV	240		32 39.987	117 14.869	

Cabrillo National Monument Fish Census Data (Gill Nets), 2004

6/14/2004	Cabrillo	2	1	15600	ANIDAV	250		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15600	ANIDAV	260		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15600	ANIDAV	310		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	36121	SEBRAS	190	230	32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	14010	PARCLA	300	1600	32 39.987	117 14.869	AGG. WEIGHT
6/14/2004	Cabrillo	2	1	14010	PARCLA	250		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	14010	PARCLA	190		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	14010	PARCLA	255		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	14010	PARCLA	220		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	39995	HYPCAR	170		32 39.987	117 14.869	NO WEIGHT
6/14/2004	Cabrillo	2	1	39995	HYPCAR	160		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15602	XENCAL	185	2000	32 39.987	117 14.869	AGG.WEIGHT
6/14/2004	Cabrillo	2	1	15602	XENCAL	190		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15602	XENCAL	175		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15602	XENCAL	185		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15602	XENCAL	140		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15602	XENCAL	180		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15602	XENCAL	175		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15602	XENCAL	180		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15602	XENCAL	160		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15602	XENCAL	190		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15602	XENCAL	170		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15602	XENCAL	165		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15602	XENCAL	170		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15602	XENCAL	180		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15602	XENCAL	175		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15203	MENUND	470	1700	32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15201	ATRNOB	385	400	32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	25200	UMBRON	270	2700	32 39.987	117 14.869	AGG. WEIGHT
6/14/2004	Cabrillo	2	1	25200	UMBRON	255		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	25200	UMBRON	300		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	25200	UMBRON	245		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	25200	UMBRON	290		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	25200	UMBRON	260		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	25200	UMBRON	300		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15200	CHESAT	260	1100	32 39.987	117 14.869	AGG. WEIGHT
6/14/2004	Cabrillo	2	1	15200	CHESAT	250		32 39.987	117 14.869	

Cabrillo National Monument Fish Census Data (Gill Nets), 2004

6/14/2004	Cabrillo	2	1	15200	CHESAT	270		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15601	SPHARG	540	550	32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	14012	PARNEB	285	160	32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15702	HALSEM	180	100	32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15205	SERPOL	180	1600	32 39.987	117 14.869	AGG. WEIGHT
6/14/2004	Cabrillo	2	1	15205	SERPOL	195		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15205	SERPOL	160		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15205	SERPOL	190		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15205	SERPOL	195		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15205	SERPOL	190		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15205	SERPOL	192		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15205	SERPOL	205		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15205	SERPOL	190		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15205	SERPOL	195		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15205	SERPOL	185		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15205	SERPOL	185		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15205	SERPOL	195		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15205	SERPOL	200		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15205	SERPOL	190		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15205	SERPOL	200		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15205	SERPOL	170		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	15205	SERPOL	200		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	20011	ATHCAL	265	300	32 39.987	117 14.869	AGG. WEIGHT
6/14/2004	Cabrillo	2	1	20011	ATHCAL	365		32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	39994	HYPARG	165	180	32 39.987	117 14.869	
6/14/2004	Cabrillo	2	1	16100	SCOGUT	120	60	32 39.987	117 14.869	
6/14/2004	Cabrillo	3	1	39012	RHIPRO	1100	5000	32 39.885	117 14.862	RELEASED
6/14/2004	Cabrillo	3	1	16412	SCOMAR	340	1200	32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	14010	PARCLA	360	4000	32 39.885	117 14.862	AGG. WEIGHT
6/14/2004	Cabrillo	3	1	14010	PARCLA	265		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	14010	PARCLA	290		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	14010	PARCLA	340		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	14010	PARCLA	220		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	14010	PARCLA	240		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15800	GIRNIG	280	3000	32 39.885	117 14.862	AGG. WEIGHT
6/14/2004	Cabrillo	3	1	15800	GIRNIG	270		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15800	GIRNIG	310		32 39.885	117 14.862	

Cabrillo National Monument Fish Census Data (Gill Nets), 2004

6/14/2004	Cabrillo	3	1	39993	EMBJAC	220	1000	32 39.885	117 14.862	AGG. WEIGHT
6/14/2004	Cabrillo	3	1	39993	EMBJAC	170		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	39993	EMBJAC	160		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	39993	EMBJAC	220		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15200	CHESAT	280	3800	32 39.885	117 14.862	AGG. WEIGHT
6/14/2004	Cabrillo	3	1	15200	CHESAT	230		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15200	CHESAT	240		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15200	CHESAT	230		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15200	CHESAT	290		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15200	CHESAT	255		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15200	CHESAT	250		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15200	CHESAT	230		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15200	CHESAT	250		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15200	CHESAT	220		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15200	CHESAT	240		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	25200	UMBRON	270	420	32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	165	3000	32 39.885	117 14.862	AGG. WEIGHT
6/14/2004	Cabrillo	3	1	15602	XENCAL	180		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	180		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	165		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	190		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	175		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	180		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	170		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	180		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	170		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	170		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	170		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	180		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	180		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	180		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	180		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	170		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	185		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	180		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	175		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	180		32 39.885	117 14.862	

Cabrillo National Monument Fish Census Data (Gill Nets), 2004

6/14/2004	Cabrillo	3	1	15602	XENCAL	180		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	180		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	180		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15602	XENCAL	180		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15201	ATRNOB	320	1000	32 39.885	117 14.862	AGG. WEIGHT
6/14/2004	Cabrillo	3	1	15201	ATRNOB	280		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15201	ATRNOB	255		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15205	SERPOL	100	1000	32 39.885	117 14.862	AGG. WEIGHT
6/14/2004	Cabrillo	3	1	15205	SERPOL	195		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15205	SERPOL	200		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15205	SERPOL	190		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15205	SERPOL	190		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15205	SERPOL	200		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15205	SERPOL	185		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15205	SERPOL	185		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15205	SERPOL	190		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15702	HALSEM	210	800	32 39.885	117 14.862	AGG. WEIGHT
6/14/2004	Cabrillo	3	1	15702	HALSEM	210		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15702	HALSEM	200		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15702	HALSEM	175		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	15702	HALSEM	200		32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	19900	TRASYM	230	180	32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	17504	HETROS	260	150	32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	20011	ATHCAL	270	190	32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	39994	HYPARG	115	40	32 39.885	117 14.862	
6/14/2004	Cabrillo	3	1	39016	TRISEM	1100	6800	32 39.885	117 14.862	
7/28/2004	Cabrillo	1	1	39016	TRISEM	1150	2950	32 40.302	117 14.789	
7/28/2004	Cabrillo	1	1	39016	TRISEM	850	2400	32 40.302	117 14.789	
7/28/2004	Cabrillo	1	1	39016	TRISEM	755	1900	32 40.302	117 14.789	
7/28/2004	Cabrillo	1	1	39016	TRISEM	812	2400	32 40.302	117 14.789	
7/28/2004	Cabrillo	1	1	39016	TRISEM	850	2300	32 40.302	117 14.789	
7/28/2004	Cabrillo	1	1	39016	TRISEM	860	1900	32 40.302	117 14.789	
7/28/2004	Cabrillo	1	1	39016	TRISEM	705	1500	32 40.302	117 14.789	
7/28/2004	Cabrillo	1	1	39016	TRISEM	745	1700	32 40.302	117 14.789	
7/28/2004	Cabrillo	1	1	39016	TRISEM	1300	3000	32 40.302	117 14.789	RELEASED
7/28/2004	Cabrillo	1	1	14010	PARCLA	325	390	32 40.302	117 14.789	
7/28/2004	Cabrillo	1	1	14010	PARCLA	450	300	32 40.302	117 14.789	

Cabrillo National Monument Fish Census Data (Gill Nets), 2004

7/28/2004	Cabrillo	1	1	14010	PARCLA	300	265	32 40.302	117 14.789	
7/28/2004	Cabrillo	1	1	25200	UMBRON	245	1400	32 40.302	117 14.789	AGG. WEIGHT
7/28/2004	Cabrillo	1	1	25200	UMBRON	260		32 40.302	117 14.789	
7/28/2004	Cabrillo	1	1	25200	UMBRON	223		32 40.302	117 14.789	
7/28/2004	Cabrillo	1	1	25200	UMBRON	295		32 40.302	117 14.789	
7/28/2004	Cabrillo	1	1	25200	UMBRON	125		32 40.302	117 14.789	
7/28/2004	Cabrillo	1	1	25200	UMBRON	305		32 40.302	117 14.789	
7/28/2004	Cabrillo	1	1	15600	ANIDAV	265	2200	32 40.302	117 14.789	AGG. WEIGHT
7/28/2004	Cabrillo	1	1	15600	ANIDAV	260		32 40.302	117 14.789	
7/28/2004	Cabrillo	1	1	15600	ANIDAV	270		32 40.302	117 14.789	
7/28/2004	Cabrillo	1	1	15600	ANIDAV	265		32 40.302	117 14.789	
7/28/2004	Cabrillo	1	1	15600	ANIDAV	270		32 40.302	117 14.789	
7/28/2004	Cabrillo	1	1	39016	TRISEM	990	5000	32 39.902	117 14.800	
7/28/2004	Cabrillo	1	1	39016	TRISEM	950	4000	32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	39012	RHIPRO	1200	5000	32 39.902	117 14.800	RELEASED
7/28/2004	Cabrillo	2	1	15800	GIRNIG	280	4500	32 39.902	117 14.800	AGG. WEIGHT
7/28/2004	Cabrillo	2	1	15800	GIRNIG	310		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15800	GIRNIG	270		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15800	GIRNIG	260		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15800	GIRNIG	270		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15800	GIRNIG	265		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15800	GIRNIG	260		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15800	GIRNIG	320		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15800	GIRNIG	310		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15800	GIRNIG	210		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15600	ANIDAV	250	850	32 39.902	117 14.800	AGG. WEIGHT
7/28/2004	Cabrillo	2	1	15600	ANIDAV	310		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	14010	PARCLA	220	260	32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	39995	HYPCAR	175	350	32 39.902	117 14.800	AGG. WEIGHT
7/28/2004	Cabrillo	2	1	39995	HYPCAR	160		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15602	XENCAL	180	2000	32 39.902	117 14.800	AGG. WEIGHT
7/28/2004	Cabrillo	2	1	15602	XENCAL	195		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15602	XENCAL	160		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15602	XENCAL	180		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15602	XENCAL	145		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15602	XENCAL	175		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15602	XENCAL	160		32 39.902	117 14.800	

Cabrillo National Monument Fish Census Data (Gill Nets), 2004

7/28/2004	Cabrillo	2	1	15602	XENCAL	190		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15602	XENCAL	155		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15602	XENCAL	165		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15602	XENCAL	185		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15602	XENCAL	160		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15602	XENCAL	135		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15602	XENCAL	156		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15602	XENCAL	175		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	25200	UMBRON	275	2700	32 39.902	117 14.800	AGG. WEIGHT
7/28/2004	Cabrillo	2	1	25200	UMBRON	250		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	25200	UMBRON	295		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	25200	UMBRON	250		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	25200	UMBRON	285		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	25200	UMBRON	265		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	25200	UMBRON	295		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15205	SERPOL	190	750	32 39.902	117 14.800	AGG. WEIGHT
7/28/2004	Cabrillo	2	1	15205	SERPOL	200		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15205	SERPOL	185		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15205	SERPOL	190		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15205	SERPOL	190		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15205	SERPOL	180		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15205	SERPOL	190		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15205	SERPOL	205		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15205	SERPOL	195		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15205	SERPOL	205		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15205	SERPOL	175		32 39.902	117 14.800	
7/28/2004	Cabrillo	2	1	15205	SERPOL	205		32 39.902	117 14.800	
7/28/2004	Cabrillo	3	1	14010	PARCLA	290	310	32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15800	GIRNIG	350	3000	32 39.892	117 14.841	AGG. WEIGHT
7/28/2004	Cabrillo	3	1	15800	GIRNIG	400		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15800	GIRNIG	375		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	39993	EMBJAC	225	1000	32 39.892	117 14.841	AGG. WEIGHT
7/28/2004	Cabrillo	3	1	39993	EMBJAC	175		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	39993	EMBJAC	165		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	39993	EMBJAC	225		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	35801	HERAZU	230	560	32 39.892	117 14.841	AGG. WEIGHT
7/28/2004	Cabrillo	3	1	35801	HERAZU	235		32 39.892	117 14.841	

Cabrillo National Monument Fish Census Data (Gill Nets), 2004

7/28/2004	Cabrillo	3	1	15200	CHESAT	205	890	32 39.892	117 14.841	AGG. WEIGHT
7/28/2004	Cabrillo	3	1	15200	CHESAT	225		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15200	CHESAT	215		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15200	CHESAT	240		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15200	CHESAT	230		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15200	CHESAT	230		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15602	XENCAL	175	650	32 39.892	117 14.841	AGG. WEIGHT
7/28/2004	Cabrillo	3	1	15602	XENCAL	165		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15602	XENCAL	160		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15602	XENCAL	170		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15602	XENCAL	180		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15602	XENCAL	155		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15602	XENCAL	155		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15602	XENCAL	155		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15205	SERPOL	105	1000	32 39.892	117 14.841	AGG. WEIGHT
7/28/2004	Cabrillo	3	1	15205	SERPOL	200		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15205	SERPOL	205		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15205	SERPOL	195		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15205	SERPOL	195		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15205	SERPOL	205		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15205	SERPOL	180		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15205	SERPOL	180		32 39.892	117 14.841	
7/28/2004	Cabrillo	3	1	15205	SERPOL	160		32 39.892	117 14.841	
12/2/2004	Cabrillo	1	1	20011	ATHCAL	295	250	32 40.105	117 14.846	
12/2/2004	Cabrillo	1	1	14010	PARCLA	175	140	32 40.105	117 14.846	
12/2/2004	Cabrillo	1	1	15702	HALSEM	185	180	32 40.105	117 14.846	
12/2/2004	Cabrillo	1	1	15701	SEMPUL	395	1700	32 40.105	117 14.846	
12/2/2004	Cabrillo	2	1	14010	PARCLA	335	705	32 39.972	117 14.859	
12/2/2004	Cabrillo	2	1	39016	TRISEM	440	2100	32 39.972	117 14.859	AGG. WEIGHT
12/2/2004	Cabrillo	2	1	39016	TRISEM	590		32 39.972	117 14.859	
12/2/2004	Cabrillo	2	1	39016	TRISEM	350		32 39.972	117 14.859	
12/2/2004	Cabrillo	3	1	36121	SEBRAS	235	335	32 39.857	117 14.793	
12/2/2004	Cabrillo	3	1	39995	HYPCAR	140	120	32 39.857	117 14.793	AGG. WEIGHT
12/2/2004	Cabrillo	3	1	39995	HYPCAR	135		32 39.857	117 14.793	
12/2/2004	Cabrillo	3	1	39016	TRISEM	420	360	32 39.857	117 14.793	