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Archaeology and Historical Ecology on San Miguel Island, Channel Islands National Park, California

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In 2003, University of Oregon archaeologists began a series of archaeological and historical ecological investigations on the south coast of San Miguel Island, California (Appendix A). Beginning with Rogers' (1929) characterization of the area as marginal for human settlement, archaeologists long considered San Miguel's south coast to be largely devoid of archaeological sites. During a site assessment project in the Crook Point vicinity on the south-central coast, however, we discovered numerous unrecorded shell middens and lithic scatters eroding from the extensive gully systems that bisect the coastal plain.

The primary goal of our WNPA project was to document and sample these unrecorded archaeological sites. Along with NPS (National Park Service, Grant # CA8120-00-007) funding, we recorded a total of 69 new archaeological sites (see Braje and Erlandson 2005; Appendix B). Fifty-three of these sites were prehistoric Native American shell middens or lithic scatters and 16 were historic sites related to 19th century fishing or 20th century military activities. While most of the south coast sites we recorded were considerably smaller than many of the large north shore village sites, south coast sites ranged from small rock shelters to large open air sites. They seem to encompass a range of site types from short-term camps, to seasonal encampments, to villages with substantial midden deposits and human burials, to historic bomb craters, and "Chinese" abalone processing camps.

Another important part of our survey was the collection of radiocarbon samples from nearly every site. In total, WNPA funding has contributed to the collection and submission of 25 radiocarbon dates from 17 sites (see Braje and Erlandson 2005; Braje et al. 2005; Appendix C). South coast sites range in age from over 9500 cal BP to

Protohistoric or historic times – four sites date to the Early Holocene, seven to the Middle Holocene, eight to the Late Holocene, and 16 to the Historic period.

Five sites deserve special mention, CA-SMI-608, a Early Holocene shell midden dated to ca. 9500 cal BP, CA-SMI-657, a Middle Holocene red abalone midden dated to ca. 6000 cal BP, CA-SMI-628, a multi-component shell midden dated to ca. 3900 cal BP and 2100 cal BP, CA-SMI-232, a large village site dated to ca. 1200 cal BP, and CA-SMI-558, a historic abalone processing camp dated to ca. 150 cal BP. WNPA money helped fund detailed mapping, surface collection, and sub-surface sampling at each of these sites. Undergraduate archaeology students worked with graduate students in the field to excavate small samples and at the University of Oregon to analysis the large faunal and artifactual assemblages produced from each site, providing valuable training for over fifty students. In addition, these sites will be the focus of Braje's dissertation and portions of the data have been published in several journal articles (see Braje 2007; Braje and Erlandson 2006a, b, 2007; Braje et al. 2004, 2005a, b, 2006, 2007; Erlandson et al. 2005; Rick at al. 2006).

The final phases of WNPA funding were used to excavate a previously undocumented historic pinniped hunting and abalone processing camp at Adams Cove on Pt. Bennett (CA-SMI-614H) during a one week trip to San Miguel at the end of January 2006. Access to the Point Bennett area is normally restricted due to the large populations of breeding pinnipeds. With the help of Dr. Robert DeLong of the National Marine Fisheries Service (NMFS), however, we were allowed access to this site. This site is the most extensive historic camp thus far recorded on the island and surface collections and excavations have yielded an extensive and diverse range of artifacts, including ceramics,

gun shell casings, iron nails, metal and glass fragments, and sawn pinniped teeth probably dating to the 1870s. In total, we excavated three hearth features, surface collected two large localities (CA-SMI-614H East and West), and collected a diverse array of historic artifacts, all of which provides further evidence that this site may be a base camp that acted as a launching point for abalone gathering and processing forays along the southern coast.

Several University of Oregon undergraduate students helped complete the initial stages of analysis. Surface and excavated artifacts are currently undergoing more detailed analysis by Dr. Julia Costello, an expert in the historical archaeology of southern California, and we anticipate publishing our results in peer-reviewed journals within two years.

WNPA funding helped us finish the south coast archaeological survey of San Miguel Island, excavate samples from several key localities in our trans-Holocene sequence, and make exceptional progress in laboratory analysis. In addition, work completed using WNPA funds has been published in *American Anthropologist,* the *Journal of World Prehistory*, *Proceedings of the Society of California Archaeology*, *the Journal of California and Great Basin Anthropology, the SAA Archaeological Record*, and *Current Research in the Pleistocene.* In addition, we also have papers in press in *Historical Archaeology*, the *Journal of Anthropological Archaeology*, the *Journal of California and Great Basin Anthropology*, and *Current Research in the Pleistocene.* Finally, WNPA funds have greatly contributed to Braje's doctoral dissertation research, which is scheduled for completion in the spring.

In total, WNPA funding has helped us produce a high-resolution data set from south coast sites that spans the Holocene, dating from approximately 9500 until 50 years ago. These data provide invaluable archaeological, paleoecological, and historical information for the National Park Service, scientists, resource managers, and other researchers. This work has contributed to our understanding of the history of human use of the south coast, the historical ecology of its unique ecosystems, and the impacts that humans have had on them.

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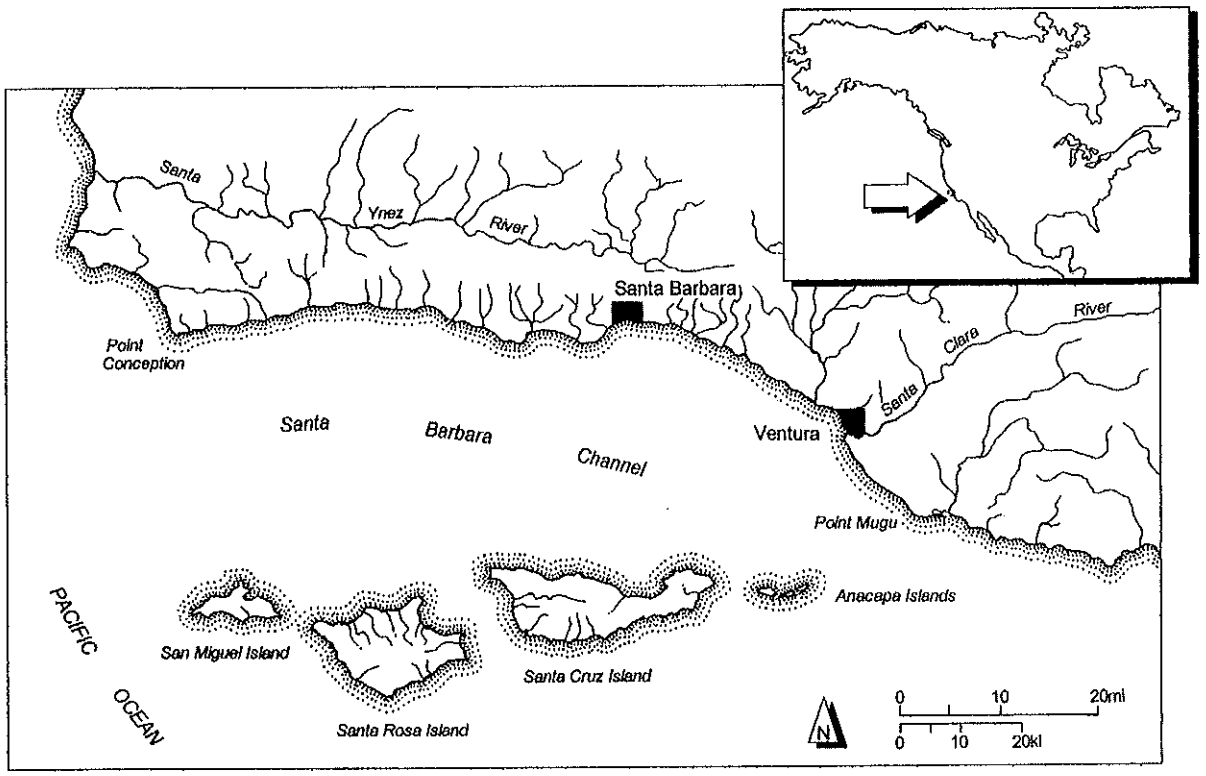
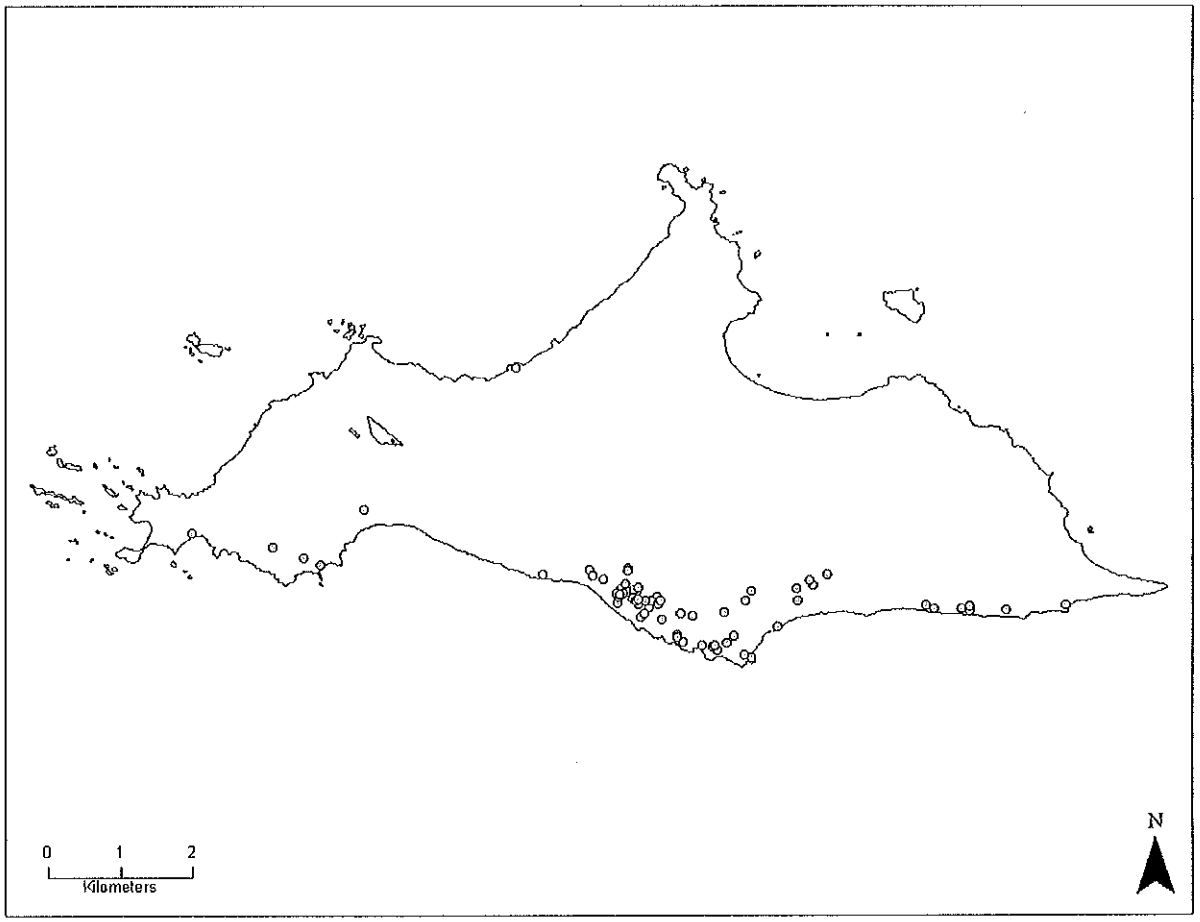
Appendix A. Map of the Santa Barbara Channel region and the Northern Channel Islands.



Appendix B. Location map of 69 newly recorded sites on our south coast survey of San Miguel Island.



Appendix C. Radiocarbon dates from archaeological sites on the south coast of San Miguel Island.

Site# (SMI-)	Material	Lab #	Provenience	Uncorrected 14C age	13C/12C adjusted	Age range (calBP, 1 sigma)	Location
188	Mc	Beta-180767	Base of midden (25 cm bs)	6050 ± 90	6400 ± 90	6725 - 6490	Crook Point
190	Hr	Beta-180768	Upper 10 cm in 30 cm midden	1670 ± 60	2110 ± 60	1515 - 1345	Crook Point
192	Hr	Beta-180769	10 cm surface midden	1380 ± 60	1810 ± 60	1235 - 1055	Crook Point
232	Hr	Beta-180770	East gully wall, near base	1370 ± 60	1810 ± 60	1230 - 1060	South East Beach
232	Mc	OS-44639	Unit 1, Column Sample	N/A	1910 ± 30	1280 - 1200	South East Beach
516	Hc	Beta-145312	Cave mouth, 35-40 above bedrock	430 ± 60	860 ± 60	320 - 250	Elephant Seal Beach
516	Hc	Beta-145313	Cave mouth, 70 cm above bedrock	520 ± 90	950 ± 90	470 - 280	Elephant Seal Beach
520	Mc	OS-37736	Surface	N/A	3630 ± 25	3330 - 3220	Tyler Bight
520	Hr	Beta-171805	Surface	5250 ± 80	5680 ± 80	5920 - 5720	Tyler Bight
557*	Hr	UCR-1831	Exposure, 5m	5525 ± 130	5955 ± 130	6280 - 5960	South East Beach
557	Hr	OS-44640	Bulk Sample 1	N/A	6310 ± 35	6400 - 6565	South East Beach
573	Cr	Beta-145316	2-3 cmbs in overhang	2520 ± 90	2950 ± 90	2610 - 2320	Tyler Bight
575	Mc	OS-42695	Soil island SE of Pt. Bennett trail	N/A	1830 ± 25	1220 - 1120	Tyler Bight
577	Mc	OS-42737	SE most intact soil island	N/A	8540 ± 35	8910 - 8760	Tyler Bight
578	Mc	OS-42738	Site adjacent to eagle nest	N/A	8500 ± 40	8870 - 8700	Tyler Bight
602*	Mc	Beta-098743	Unit 2, 39 cm	460 ± 60	900 ± 60	400 - 260	Adams Cove
602*	Mc	Beta-098744	Unit 5, 48 cm	650 ± 60	1100 ± 60	530 - 450	Adams Cove
602*	Mc	Beta-114533	Unit 2, 10 cm/Stratum A	310 ± 60	730 ±60	270 - 80	Adams Cove
602*	Mc	Beta-098742	Unit 5, 10 cm	650 ± 70	1100 ± 70	530 - 440	Adams Cove
608	Mc	Beta-180771	Gully wall, SE site area	8020 ± 80	8430 ± 80	8900 - 8575	Elephant Seal Beach
608	Hc	Beta-199106	West Gully wall, Bulk Sample #2	8650 ± 60	9060 ± 60	9640 - 9060	Elephant Seal Beach
608	Mc	OS-44638	Bulk Sample 1	N/A	9200 ± 50	9800 - 9440	Elephant Seal Beach
608	Ol	OS-48347	Unit 2	N/A	9070 ± 45	9540 - 9450	Elephant Seal Beach
608	Mc	OS-48348	Small Surf Midden, West Gully	N/A	9270 ± 50	9870 - 9640	Elephant Seal Beach
612	Mc	OS-43079	Dune paleosol	N/A	1680 ± 30	1040 - 950	Tyler Bight
615	Hr	Beta-183156	Gully wall, NW site area	5650 ± 60	6090 ± 60	6340 - 6210	Elephant Seal Beach
623	L	OS-48349	East side of gully, base of midden	N/A	8400 ± 35	8750 - 8580	Elephant Seal Beach
628	L	Beta-190678	Surface	4670 ± 50	5080 ± 60	5320 - 4950	Crook Point Area
657	Cr	Beta-195745	Southern loci, E gully wall	6240 ± 80	6670 ± 80	7020 - 6800	Crook Point Area
658	Mc	OS-47468	Surface	N/A	7060 ± 40	7310 - 7400	Crook Point Area

Notes. * Sites dated by previous researchers; *Mc = Mytilus californianus*; *Hr = H. rufescens*; *Hc = H. cracherodii*; *Cr = Cryptochiton stelleri; L = Lottia giganteus, Ol = Olivella* bead.