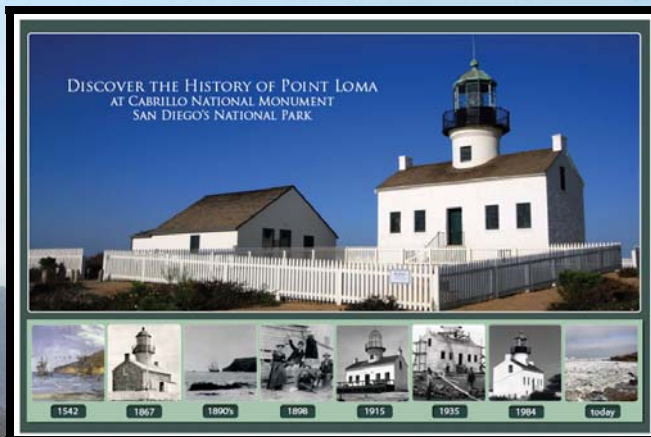




# California Mediterranean Research Learning Center

National Park Service  
U.S. Department of the Interior



## Acknowledgements

Many thanks to all of our fabulous partners who have helped make the California Mediterranean Research Learning Center (CMRLC) a success.

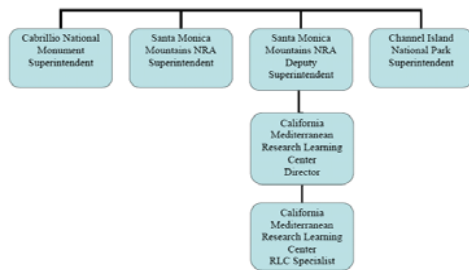
The CMRLC has implemented an aggressive strategy to build partnerships, seek grant funding, develop innovative stewardship programs, and implement research projects. The Mediterranean Coast Network (MEDN) Board of Directors have served to sustain many of the above mentioned projects by being directly involved in building partnerships, providing the support of park staff, and assisting the director to overcome obstacles. The Director wishes to acknowledge the dedicated support and innovative vision of the MEDN Board of Directors. The CMRLC Technical Committee has provided wise guidance and assisted the Director and Specialist in shaping the mission and goals of the CMRLC. The strong foundation provided by these two dedicated groups is evident in the success of this Research Learning Center. The CMRLC Director, Board of Directors, and Technical Committee thank all of our dedicated partners.



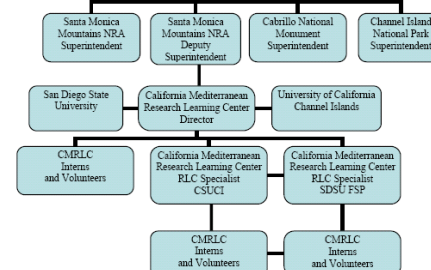
RLC Name	Parks Served	Initial/main Funding Source
<b>California Mediterranean Research Learning Center - CMRLC (2002)</b>	<b>Santa Monica Mountains National Recreation Area (CA) Cabrillo National Monument (CA) Channel Islands National Park (CA)</b>	<b>Natural Resource Challenge ONPS</b>

The California Mediterranean climate represents one of only five locations in the world where Mediterranean ecosystems support sensitive endemics at risk due to a history of substantial human use, development, and invasive species. The California Mediterranean Research Learning Center promotes and facilitates scientific and scholarly inquiry within Cabrillo NM (CABR), Channel Islands National Park (CHIS) and Santa Monica Mountains National Recreation Area (SAMO). The mission of the CMRLC is to disseminate research findings to decision-makers, inform the citizens of Southern California about the condition of the Mediterranean Coast Network Parks to help ensure their preservation, and promote resource stewardship in the Mediterranean ecosystems world wide. The goals of the CMRLC are currently under revision as the CMRLC is developing a strategic five year plan.

The California Mediterranean Research Learning Center (CMRLC) was funded in fiscal year 2002 to support research and learning at Cabrillo National Monument, Channel Islands National Park, and Santa Monica Mountains National Recreation Area; all National Park Service units located in Southern California. Since its inception, the CMRLC has employed one director who briefly stayed for a year, a short period of time to fully develop and implement the mission of the CMRLC. From August 2004 until October 30, 2005, the CMRLC operated without a director or staff, thus the Mediterranean Coast Network Board of Directors initiated new partnerships, funded research projects, implemented a web site, and completed a research prospectus indicating strong support for the CMRLC. A full-time director (GS-12) was hired October 30, 2005 and has implemented an aggressive partnership strategy to seek and obtain grant support for priority research and educational projects. A second CMRLC position was staffed from January 2007 through September 2007 and is currently vacant. A proposal to staff the CMRLC with two shared and jointly supervised Specialist positions has been approved by the technical committee and is under consideration by the Board of Directors.



**Current CMRLC Organization.**



**Proposed CMRLC Organization.**

The CMRLC currently funds two interns based in San Diego. The first is funded through a Cooperative Ecosystems Studies Unit (CESU) task agreement with the University of California San Diego (UCSD) and provides staff for the Sea to Shining Sea Distance Education program. The second position is funded through partnerships the Mountains Restoration Trust and the San Diego State University (SDSU) Field Stations Program, which provides housing for the intern. Numerous other unpaid interns serve the CMRLC including students currently enrolled in classes at California State University Channel Islands (CSUCI), SDSU, Santa Monica College, and Palomar College.

In Fiscal Year 2008, the CMRLC focused on developing research projects and education programs with new and existing partners, further developing a dynamic web site, expanding volunteer opportunities, implementing the Sea to Shining Sea distance education program, working with interdisciplinary research and learning groups at California State University, Channel Islands and Santa Monica College, and seeking funding to promote the goals of the Center.

### **Facilitating the use of the Network parks for scientific and scholarly inquiry**

#### **CMRLC Student Fellowships**

The National Park Service provides unparalleled opportunities for research and education in some of our nation's most cherished and pristine ecosystems. The Mediterranean Coast network parks face increasingly complex issues that threaten the integrity of natural ecosystems, cultural resources, and visitor experiences. The successful management and protection of the parks' resources and values depends upon scientifically credible information. The network parks and the CMRLC support student contribution and participation in the management and protection of park resources. After extensive consideration of the many excellent project proposals submitted in response to the CMRLC March request for proposals, the CMRLC and the Santa Monica Mountains Fund will award three Fellowships to support student research.

**Laurel Klein** will take a comprehensive approach to the study of disease dynamics in fragmented wildlife populations and the potentially deleterious effects of human activities including habitat fragmentation and environmental toxicants. She anticipates that the results of her work may reveal the need for increased connectivity between habitat and the implementation of wildlife corridors in SMMNRA.

**Christopher Bowman-Prideaux** will study the Effects of Habitat Fragmentation on the metapopulation dynamics and population characteristics of *Astragalus brauntonii*. His study will help measure the degree of genetic and demographic similarity between populations and indicate to what extent, if any, isolated populations acting as a metapopulation.

**Lauren Willis** will conduct archaeological surveys and <sup>14</sup>C dating **associated with her** Ph.D. dissertation which focuses on Ancient Human Settlement and Land Use in Lobo Canyon, Santa Rosa Island. Her fieldwork and analyses associated with <sup>14</sup>C dating will enhance our understanding of the chronology of human settlement in Lobo Canyon.

### **Loggerhead Shrike Science Workshop**

The goal of the Island Loggerhead Shrike project is to use statistically rigorous sampling methods to survey shrikes on Santa Rosa and Santa Cruz islands, toward estimating abundance and determining locations of birds. The project team met from July 29 – August 2 for a pre survey workshop to review and summarize known information needed to design the surveys. The team spent two days on Santa Rosa and met with CHIS staff and then spent two days on Santa Cruz meeting with The Nature Conservancy (TNC) and UC Reserve staff to discuss logistical details and strategize about project design and methods. The team thanks Melissa Booker -Navy, Lyndal Laughrin-University of California Reserve, Douglas Cooper – Fish and Wildlife Service, Rachel Wolstenholme – The Nature Conservancy, Mark Senning, Sarah Chaney, and Kate Faulkner for their valuable input and support of the project.

### **Water Quality and Steelhead Trout**

The CMRLC led representatives from multiple federal and local agencies, as the group visited three sites along Malibu Creek before reaching consensus regarding the final location for installation of a real-time water quality monitoring station. The station will be located below the dam near the “start” pool along a stretch of the creek where anomalous illness and death of steelhead trout was recently observed. The water quality station, modeled after similar stations at the Santa Margarita Ecological Reserve (<http://fs.sdsu.edu/kf/remot2/observatory.php?id=3>) will collect continuous dissolved oxygen, conductivity, pressure, temperature, and possibly one additional parameter. The group suggested that a chlorophyll sensor be added to the probes.

### **Providing research information or value-added products to park staff and managers**

#### **Superintendent’s Conference**

On December 5, 2007, approximately forty superintendents attended the **Technology Tools for Connecting People to Parks and Parks to People** session at the Pacific West and Alaska Regions' Superintendents/Managers Conference in La Jolla. California Mediterranean Research Learning Center Director, Susan Teel and High Performance Wireless Research and Education Network (HPWREN), Principal Investigator, Hans-Werner Braun talked about the Cabrillo National Monument wireless system and the wide range of research, education, and emergency response applications wireless communications systems enable. This talk provided opportunity for PWR and Alaska Region Superintendants to interact with the speakers and discuss future collaborative projects which meet NPS park-based research, education, and emergency response needs.

### **HPWREN Research Group Annual Meeting hosted by CMRLC and CABR**

On November 6, 2007, more than forty scientists and educators attended the HPWREN annual conference hosted by the CMRLC and CABR. Many of the researchers and educators, associated with HPWREN, including the CMRLC Director, gave presentations describing their projects and programs. Visitors to Cabrillo National Monument were invited to join the conference and listen to the presentations. Benjamin Pister, Marine Biologist at CABR, led a field trip for the attendees to visit the solar powered sensor station at Zone 1. This event provided opportunity for CMRLC and CABR staff to interact with scientists and educators to brainstorm about future collaborative projects which meet NPS park-based research needs and fulfill the missions and goals of partner organizations.

### **CMRLC 5 year Strategic Plan**

In FY08 the CMRLC began a five year strategic planning process to clarify the long-term vision and goals of the Center and build upon the national level five year plan of the RLC network. Julia Washburn served as facilitator; and the CMRLC will work continue to closely with the CMRLC Technical Committee and the MEDN Board of Directors to build its strategic plan, incorporating input and feedback from the network parks and partners.

### **History of Point Loma Lighthouse Poster**

This educational poster, designed by Monika Braun, is complete and ready for sale by the Cabrillo National Monument Foundation bookstore. This media product is also intended to be distributed free of charge to teachers for use as a pre-field trip or pre-LIVE session learning tool to enhance classroom activities. The posters will be distributed as a component of pre-field trip teacher packets and will also be sold in the bookstore managed by the Cabrillo National Monument Foundation. Funds generated by sale of the poster will be used to support research and education projects at CABR.

### **Communicating the relevance of park research results**

#### **CMRLC website**

The CMRLC is hosting the MEDN Inventory and Monitoring website pages, and is providing links to the I & M site for expanded staff and public access to datasets and reports from the Network I & M program. The CMRLC website also displays the research prospectus for the Network parks. <http://researchlearningcenter.org/>

#### **Sea to Shining Sea LIVE: Distance learning in the California Mediterranean Network parks**

The Sea to Shining Sea LIVE project will expand visitor access to National Parks on both coasts of the United States via the Internet, wireless communications, and a Live Interactive Virtual Exploration (LIVE) backpack system developed by HPWREN. Audiences use an Internet connection and a computer to interact in real-time with Interpretive Rangers and scientists. The Sea to Shining Sea project website is on-line and continues to be improved, thanks to CMRLC Intern Monika Braun.

<http://seatoshiningsea.net/>

### **Visibility Cameras**

The CMRLC worked with High Performance Wireless Research and Education Network (HPWREN) and CABR staff to design and implement a wireless cyberinfrastructure which expands access to natural and cultural resources for researchers, educators, and the general public. The National Oceanic and Atmospheric Administration (NOAA), US Navy, and Santa Monica Mountains National Recreation Area (SMMNRA) worked together to expand the system by installing two new cameras and a controlling mini-computer behind the visitor's center. These cameras collect air quality data to complement and continue the existing data set, which spans 11 years. The images from the cameras are available to the general public, via the HPWREN web site (<http://hpwren.ucsd.edu/cameras/>), thus expanding Internet access to the fabulous San Diego Sky-Line views for which Cabrillo National Monument is famous.

### **Promoting resource stewardship through partnerships**

#### **All Taxa Biodiversity Index – Service Learning Project with Santa Monica College**

The Salticidae (jumping spiders) collected by Santa Monica College in early FY 2008 as part of the California Mediterranean Research Learning Center service learning activity (ant transect) has been found to be a new undescribed species. Santa Monica College students also collected ants at several locations which were found to represent the first records for these particular species of ant within the state of California.

David Ek, Chief of Natural Resources summarized the project benefits “overall, this was a valuable and productive effort, the students and staff appeared to have a good time, they learned some aspects of biodiversity and science projects, the students were introduced to Death Valley NP and the NPS, it added important information on the park's invertebrates, and it helped launch Death Valley National Park's All Taxa Inventory.”

#### **Sycuan Band of The Kumeyaay Nation**

Cabrillo National Monument was invited by the Sycuan Band of the Kumeyaay Nation to host a booth at the annual tribal gathering. In effort to improve partnership with the Sycuan Band and maximize an opportunity to engage a large number of visitors, the CMRLC assisted CABR in planning and manning an NPS booth at the annual Sycuan Tribal gathering.

#### **California State University, Channel Islands**

Kevin Schallert and Evan Locke CSUCI students and CMRLC Interns worked with Jack Engle, UCSB, and CABR staff to complete approximately 40 photoplots, 12 limpet plots, 14 transects, and timed search sessions as part of the Multi-Agency Rocky Intertidal Network (MARINE) spring monitoring. The MARINE monitoring is important to CABR and CHIS, as it is used to make comparisons over larger spatial scales. The CMRLC has funded this research and monitoring effort in the past, but was not able to assist fiscally this year. Kevin and Evan plan to assist CHIS and Dan Richards with similar work.

### **Santa Monica College**

Students from Professor Selby's classes spent two days exploring local natural and urban landscapes. Their focus was to learn about culture, natural history, weather and climate, geomorphology, and the ecosystems associated with the Mediterranean climate type. Several classes teamed up to document the diverse cultures they encountered as part of the very popular "Eat Our Way Through L.A." cultural tour of Los Angeles. Hungry students sampled foods representative of the many cultures found in the established ethnic enclaves of Los Angeles. The tour culminated with a visit to the Satwiwa cultural center where the students learned about Native American history and Chumash culture.

Upon arrival at Rancho Sierra Vista, Cathy Schoonmaker provided an overview of the site, the carnivore project, and a summary of the history of the mountain lion study in Santa Monica Mountains. Excited students demonstrated their skills by replicating the methodology used by NPS scientists to track coyotes, bobcats, and mountain lions. Several students expressed interest and surprise to learn that women are well represented in this area of work at SAMO.

**In September 2008, Santa Monica College** students led by CMRLC Interns Joules and Evan participated in an Ecohelpers Service Learning project at SAMO. Antonio Solorio hosted a "hands on" ethnobotanical cooking demonstration at Circle X Ranch. The students learned the history and uses of cactus native to chaparral and coastal sage scrub ecosystems. The students assisted Antonio in preparation of the food and then we all feasted! Thanks Antonio.

### **Ventura College**

The CMRLC continues to work with Ventura College students on the development of a media arts project focused on documenting "then and now" landscapes around SAMO. Students began gathering images at Paramount Ranch on May 29 and June 1. Mike Wilson and Randi Zimmerman assisted the CMRLC in coordinating the project.

### **Connecting Youth to Parks**

**Women in Science** - CABR and the CMRLC hosted the "Women in Science LIVE" event with the Rueben Fleet Science Center in downtown San Diego. Geologist Norrie Robbins, USGS/SDSU, was at the science center and used the LIVE video feed from CABR to teach to 5-6 grade girls about the geology of CABR. Dr. Roberts also outlined how she became a geologist with USGS and a professor at San Diego State University. The girls were then introduced to Andrea Compton, Division Chief of Natural Resources, who provided an overview of exciting science at CABR and the career path which led to her current position. The girls were enthralled by Andrea's story about 3ft long earthworms. Marcy Marquez then took the stage from CABR and gave an enthusiastic overview of her duties as an Interpreter and volunteer coordinator. The girls were clapping and calling out suggestions to guide Marcy as they explored the rocky intertidal area at CABR. Please see: <http://hpwren.ucsd.edu/news/20080815/>

**Green Team participates in research based service learning projects** - The CMRLC and Groundworks San Diego worked to build on the success of the 2007 Green Team by launching a new partnership with the Elementary Institute of Science (EIS) and expanding the program to incorporate visits to three network parks. Elementary Institute of Science is a widely recognized program of excellence offering science programs free of charge to students from inner city San Diego. Students selected for participation on the Green Team have committed to complete a five week intensive summer science program and then transition into ongoing study as an after school science education program. During their visit to Cabrillo National Monument, Green Team members were introduced to the National Park Service mission and guided through an orientation of the protection and management of natural and cultural resources. The Green Team students completed field components of research based service learning projects at SAMO and CHIS. The students will complete their research summaries as part of the after school program at EIS.

**Native American Children enjoy L.I.V.E. Distance Education programs** - Children at the Pala Tribe's Learning Center participated in a LIVE event broadcast from Cabrillo National Monument. None of the students had previously visited tidepool areas. A pre-LIVE event learning session was conducted by Kisa Collins, Pala Learning Center and Kimberly Bruch (HPWREN) to provide the students with background information for the LIVE activity.

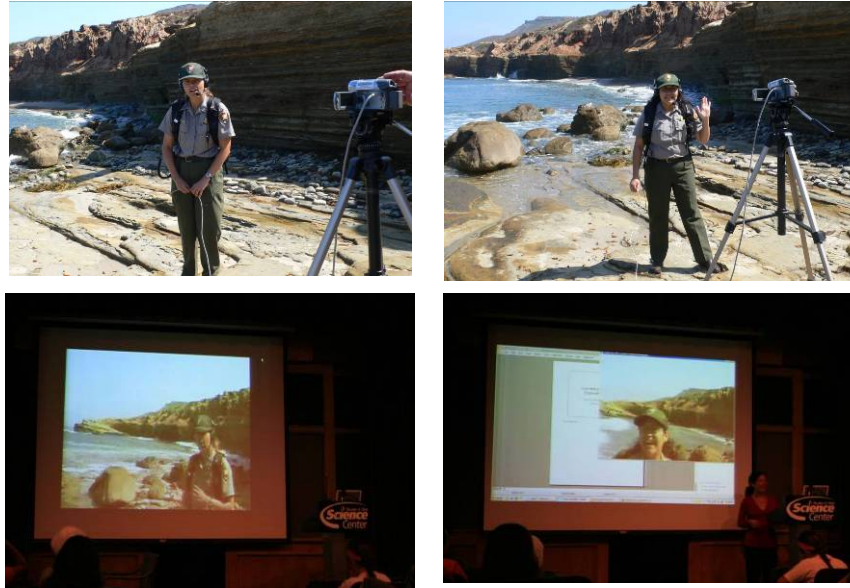
The students learned about the geologic features of Point Loma from Dr. Norrie Robbins, SDSU Geologist. "Doc" Robbins was present with the children at the Pala Learning Center. Dr. Robbins and the students directed us to focus the video camera on particular formations for further exploration. <http://hpwren.ucsd.edu/news/20080215/>

Ranger New led the virtual field trip through the rocky intertidal area at CABR. Students requested that Ranger New tell them more about the anemones, snails, and kelp. During the activity, a young girl went up to the screen and tried to touch a hermit crab. The students excitedly directed Ranger New Thanyachreon to zoom in on the anemone and other organisms which they found interesting.

### **Impacts to Accomplishments**

Since 2002, the budget has remained flat at \$225,000 with no adjustments to keep up with increases in CPI and the locality rate for this geographic area. The travel ceiling at CMRLC host park, SAMO, continues to be an issue – limiting monthly travel by the CMRLC director to CABR a network park served by the CMLRC. In FY09, we will transfer CMRLC funds to CABR and set-up an account so that travel by the CMRLC staff to CABR will be charged against CABR travel ceiling.

## **Women in Science LIVE with girls from the Fleet Science Center**



CABR and the CMRLC hosted the “Women in Science LIVE” event with the Rueben Fleet Science Center in downtown San Diego. Geologist Norrie Robbins, USGS/SDSU, was at the science center and used the LIVE video feed from CABR to teach to 5-6 grade girls about the geology of CABR. Dr. Roberts also outlined how she became a geologist with USGS and a professor at San Diego State University. The girls were then introduced to Andrea Compton, Division Chief of Natural Resources, who provided an overview of exciting science at CABR and the career path which led to her current position. The girls were enthralled by Andrea’s story about 3ft long earthworms. Marcy Marquez then took the stage from CABR and gave an enthusiastic overview of her duties as an Interpreter and volunteer coordinator. The girls were clapping and calling out suggestions to guide Marcy as they explored the rocky intertidal area at CABR. Please see: <http://hpwren.ucsd.edu/news/20080815/>

### **Collaboration across the Challenge**

The California Mediterranean Research Learning Center strives to develop projects which benefit the MEDN network parks by incorporating the expertise available within the NPS Programs. Following are examples of projects implemented in FY08 that meet the goal of facilitating the use of Network parks for scientific inquiry.

- [Cooperative Ecosystems Studies Units](#). The CMRLC regularly collaborated with the Californian, Gulf Coast, South Florida Caribbean, Rocky Mountain, and the Great Basin CESUs to plan, fund, and implement research projects.
- [Inventory and Monitoring Program](#). The Inventory and Monitoring program and the Research Learning Centers are working at a national level to standardize priority content for various pages of the program web sites. The CMRLC continues to host the Mediterranean Coast I & M program website in FY08. The CMRLC and the Mediterranean Coast I & M program are working together to share content from each other's databases, provide web users with links to information from both programs in a coordinated effort to reach as broad a public as possible.
- [Air Resources](#). The CMRLC is coordinating with NPS Air Resources to develop interpretive display and website which describes the existing air quality (visibility) camera at Cabrillo National Monument. The images from the visibility cameras are displayed on the CMRLC web camera page. The efforts with Air Resources program will focus on the effects of air pollution such as visibility impairment and will help educate the public on air quality issues.
- [Night Sky Team](#). Santa Monica College astronomy professor Simon Bahm and his students are coordinating with the CMRLC and have obtained grant funding to duplicate the CCD (charged coupled device) camera attached to a robotic mount. This camera apparatus is used to form a mosaic of the entire sky that can be displayed in either a panoramic or hemispheric (a.k.a. fish-eye) view. Coordination with the Night Sky Team included technical support to build and place the camera to best monitor light pollution in the Santa Monica Mountains NRA and Channel Islands National Park, thus building on data collected by NPS.
- [Natural Sounds Program](#). Cabrillo National Monument and CMRLC have coordinated with NPS Natural Sounds Program to incorporate acoustical component on the CMRLC website and interpretation programs. The Natural Sounds Program has provided training and technical assistance related to the use and deployment of acoustical equipment. HPWREN is coordinating with the CMRLC to engage researchers interested in deploying acoustical equipment at Cabrillo National Monument or the Network parks. Sounds collected from rocky intertidal Zone 3 are currently available on the HPWREN website by date at: <http://hpwren.ucsd.edu/acsensors/CNMZ3-acsensor1/>.
- [Rivers and Trails Conservation Assistance Program](#). The CMRLC partnered with the River and Trails Conservation Assistance Program, Groundworks, and the Elementary Institute of Science in San Diego to engage high school students in three field trips. The trip to CABR provided the students with background and mission of the National Park Service. The students participated in research based service learning projects which included riparian area vegetative restoration at the Santa Monica Mountains National Recreation area and overnight stay at Circle X Ranch. The group then traveled to Santa Cruz Island and measured and mapped oak trees and eucalyptus trees as part of the Prisoner's Harbor wetland restoration project. The Students spend several days camping at the Santa Cruz Islands Reserve on Santa Cruz Island, CHIS.

The CMRLC is helping the Mediterranean Coast Network parks achieve the list of GPRA goals below.

Goal Category I		Goal Category II	
Ia1	Disturbed Lands/Exotic Plant	IIa	Visitors safely enjoy and are satisfied with the availability, accessibility, diversity, and quality of park facilities, services, and appropriate recreational opportunities.
Ia2	Species		
Ia2X	Threatened and Endangered Species		
Ia3	Native Species of Special Concern		
Ia4	Air Quality		
Ia5	Water Quality		
Ia6	Historic Structures		
Ia7	Museum Collections		
Ia8	Cultural Landscapes		
Ia9	Archeological Sites		
Ib1	Geological Resources		
Ib3	Natural Resource Inventories		
Ib4	Vital Signs		
Ib5	Geological Resources Aquatic Resources		
Goal Category III		Goal Category IV	
		IVb1A	Park Partnerships: every NPS unit will have initiated at least one community partnership that is designed to enhance the unit's ability to manage recreation areas seamlessly.
		IVb2	Visitors Attending Facilitated Programs: attendance at facilitated programs will increase by 10%.

**Plans**

The CMRLC will complete and publish a strategic five year plan and begin implementation of task which will support our goals. Upon completion the five-year plan will provide input to CMRLC annual work plans and budgets.

**Tables**

**Housing**

The CMRLC does not have allocated housing facilities, thus schedules housing needs when space is available at Santa Monica Mountains NRA and Channel Islands National Park. CMRLC partnership with San Diego State University Field Programs provides

low cost housing, meeting areas, and internet access for researchers and no cost for lodging CMRCL staff. Housing and classroom facilities at the Field Stations Program at SDSU facilities are available for nominal charge to student groups on NPS led field trips to San Diego. The CMRLC also uses housing, a conference room, and computer space at the UC Santa Cruz Island Reserve.

The CMRLC has secured the use of US Navy officer’s quarters for housing for NPS staff while in San Diego.

**Transportation.**

Scientists working on any of the five NPS Channel Islands must consider the costs associated with transportation to the islands. Transportation is by boat or plane. Channel Islands National Park vessels are available for transportation of CMRLC staff and researchers on normal scheduled trips to the islands at no cost to the CMRLC or researchers. Special trips to the islands via the NPS vessels incur a cost to the CMRLC of approximately \$1,700 per day. The equivalent private rate for a vessel in the area is approximately \$3,500 per day.

**Housing and Transportation Table – FY 2008**

The CMRLC assists researchers and students by paying for lodging while they are working and studying when possible. During Fiscal Year 2008, CMRLC associated researchers and students did not pay costs associated with housing or transportation to Channel Islands National Park. These costs shown in the table below were absorbed by the CMRLC and were not passed on to researchers or students.

Researcher-educator/nights housed: \$ 365

Approximate savings to researchers: \$ 11,330

Type of Housing	\$/ Night @ # Nights	Total Cost	Equivalent Private Lodging	\$/ Night @ # Nights	Total Private Value	Savings to Researchers
Hotel	\$149/n			\$149/n		
CHIS dorm housing	\$ 8/n @ 10 nights	\$ 80	\$ 149/night	\$149/n @ 10 nights	\$1,490	\$1,410
SAMO dorm housing	\$ 10/n @ 12 nights	\$120	\$ 149/night	\$149/n @ 12 nights	\$1,788	\$1,168
UCSB Santa Cruz Island Reserve	\$ 7 /n @ for 113 nights	\$ 528	\$ 149/night	\$149/n @ 88 nights	\$13,112	\$12,584
UCSB vehicles	\$30/day @ 10 days	\$300	\$ 139/ day	\$ 139 x@10 days	\$1,390	\$ 1, 090
SDSU Santa Margarita Ecological Reserve	\$ 10/n @ 81 nights	Fee waived	\$149/night	\$149/n @ 81 nights	\$12,069	\$12,069
Camp sites space	\$ 20/n @ 180 nights	Fee waived	\$ 50/n	\$ 50/n @180 nights	\$9,000	\$ 9,000
Navy Base Point Loma	\$33/n @ 40 nights	\$1,320	\$ 149/night	\$149/n @ 40 nights	\$ 5,960	\$4,640

Type of Transport	\$/ leg x legs x # of people	Cost	Equivalent Private Transportation	\$/ leg x legs x # of people	Total Private Value	Savings to Researchers
Commercial Island Packers	\$25/leg x 2 legs x 55 persons	\$ 2,750	\$ 60 per leg	\$60/leg x 2 legs x 55 persons	\$ 6,600	\$3,850
Transportation to CHIS- NPS	\$ 1,700/day x 2 days	No cost	\$ 3,500 per day	\$3,500/day x 2 days	\$7,000	\$7,000
Channel Islands Aviation	\$ 884/hr + 3.50/pp 8 people	\$ 2,230	\$ 1000/hr	\$1,000/hr x 2.75 hrs	\$2,750	\$480
R/V Shearwater						
<b>Total</b>		<b>\$</b>				<b>\$11,330.00</b>

**Partnerships – FY 2008**

The CMRLC has approximately 25 university research partnerships.  
 The CMRLC has approximately 44 education partnerships  
 The CMRLC has approximately 36 funding partnerships

California Mediterranean Research Learning Center Partners	Level	Focus
Americacorps	National	Education & Restoration
CA Department of Fish and Game (Habitat Conservation Planning Branch)	State	Research
CA Institute of Environmental Studies	State	Research & Education
CA Lutheran University	Local	Research & Education
CA State Parks	State	Research & Education
CA State University, Channel Islands	State	Research & Education
CA State University, Los Angeles	State	Research & Education
CA State University, Monterey Bay	State	Research & Education
CA State University, Northridge	State	Research & Education
California Science Center	State	Research & Education
Californian CESU	National	Research & Education
Catalina Island Conservancy	Local	Research & Education
Channel Islands National Marine Sanctuary	Local & National	Research & Education

Global Change Research Group, SDSU	International	Research & Education
Elementary Institute of Science	Local	Research & Education
Gulf Coast CESU	National	Research & Education
Guy Harvey Ocean Foundation	International	Research & Education
High Performance Wireless Research and Education Network (HPWREN), UCSD	State	Research & Education
Marine Advanced Technology and Education Center	National	Education
Marine Science Institute, UCSB	State	Research & Education
Multi-Agency Rocky Intertidal Monitoring Network	National	Research
Pepperdine University	Local	Research & Education
Pomona College	Local	Research & Education
Resource Conservation District – Santa Monica Mountains	State	Research & Education
Ruben Fleet Science Center San Diego	Local	Education
San Diego State University (SDSU)	State	Research & Education
Santa Monica College	Local	Research & Education
Scripps Institution of Oceanography (SIO)	National	Research & Education
South Broward High School	Local	Education
Southern California Coastal Ocean Observing System (SCCOOS), UCSD	State	Research & Education
South Florida Caribbean CESU	National	Research & Education
The Nature Conservancy	National	Research & Education
Texas A & M University	State	Research & Education
U.S. Coast Guard	National	Education
U.S. Fish and Wildlife Service	National	Research and Education
U.S. Geological Survey	National	Research and Education
U.S. Navy	National	Research and Education
University of CA, Los Angeles	State	Research & Education
University of CA, San Diego	State	Research & Education
University of CA, Santa Barbara	State	Research & Education
University of CA, Santa Cruz	State	Research & Education
University of CA, Riverside	State	Research & Education
University of Miami	Local	Research & Education
Ventura College	Local	Research and Education
Western Foundation of Vertebrate Zoology	Local	Research and Education

**California Mediterranean Research Learning Center Research Project Involvement:**

The numeric key below indicated the quality and level of involvement of CMRLC staff in Mediterranean Coast Network Parks.

0=no involvement

1=little or superficial involvement (e.g. communicate with researchers about projects via phone or email or at professional or in-park meetings)

2=moderate involvement (e.g. provide short term housing, participate in scientific meetings/workshops on research topic, facilitate communication of research results to managers or public)

3=significant involvement (e.g. provide long term housing – several weeks to months, provide computer access, actively solicit projects, co-write research proposals, focused effort to communicate research results to managers or the public)

<b>a) RPRS records the RLC helped to facilitate</b>		
<b>Permit number - active</b>	<b>Title/description</b>	<b>Level of RLC involvement</b>
UC Reserve SCI-Active Ca.F&G-in progress	Western Foundation for Vertebrate Zoology – Citizen Science Loggerhead Shrike Survey - CHIS	3
UC Reserve SCI-Active	Service Learning – wetland restoration	3
Active	Remote Sensor stations and LIVE Distance Education – HPWREN - CABR	3

**California Mediterranean Research Learning Center Student Table – FY 2008**

<b>Degree Sought</b>	<b>Number of students</b>	<b>Fields of Research</b>	<b>Research Topics</b>	<b>Types of Products</b>
PhD	1	Wildlife Biology-Genetics	Disease Dynamics	Report to NPS
Masters	2	Botany Archaeological Surveys	Habitat Fragmentation Archaeology	Report to NPS Report to NPS
Bachelors	4	Environmental Science	Service Learning -Internships	Permits Education Programs
	41	Biology/Environmental Science	Steelhead Trout survey	Data submitted to California Fish and Game
High School	38	Biology/Environmental Science	Forestry – tree survey and mapping exercise	Collected field data to study historic planting of exotic trees - CHIS.

**California Mediterranean Research Learning Center Communication Table – FY 2008**

Type of Product or Event	Audience P=public T=Teachers or students M= Mgmt or Staff S=scientists or professionals	Title of Product/Event	Program Objective	Number of Scientists Involved or Contributing	Type of Recipients, Benefactors, or Participants	Number of Recipients, Benefactors, or Participants (% signed as volunteers) Note estimates w/ an *	Length of Event (hours)	Total Contact (# of participants x hours)
Virtual Field Trip	T	LIVE from CABR	Education Stewardship	6	Faculty	6 – FL and CA	1 hour	6 x 1=6
Virtual Field Trip	T	LIVE from CABR	Education Stewardship	3	Native American Students	20	2 hour	20 x 2=40
Field Trip	T	CHIS Oak trees on SCI	Research Education	7	Students	38	3 days 30 hrs	38 x 30=1140
Field Trip SCM	T	Ecohelpers SAMO	Education Stewardship	6	Students	41	3 hours	41 x 3 =123
Field Trip CSC	T	Ecohelpers SAMO	Education Stewardship	6	Students	82	3 hours	82 x 3=246
Field Trip Groundworks	T	Ecohelpers SAMO	Education Stewardship	6	Students	38	3 hours	38 x 3 =114
Bio-blitz	P, T	Bio-blitz	Education Stewardship	5	Public and Students	490	1 hour	490 x 1 = 490
Workshop	S	LOSH	Research	10	Scientists	10	40	10 x 40 = 400
Virtual Field Trip	T, S	Supercomputer Center	Education	7	Scientists and Students	230	1 hour	230 x 1 = 230
Web site and cameras	P	website	Research Education	3	Public scientists, students	17,365	hits	17,365
Virtual Field Trip	T	Women in Science	Research Education Stewardship	8	Students	25	1 hour	25 x 1 = 25
Workshop	M	LIVE	Research Education	16	Teachers, Scientists	16	5 hours	16 x 5 =80
Conference	S	HPWREN	Research Education	32	Scientists Educators	32	6 hours	32 x 6 = 192
							<b>Total</b>	<b>3,086 contact Hrs</b>

