



# **San Luis Obispo Steelhead Initiative**

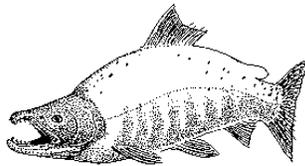
## **Site Handbook**





## **Watershed Stewards Project Mission**

The mission of the AmeriCorps Watershed Stewards Project is to conserve, restore, and enhance anadromous watersheds for future generations by linking education with high quality scientific practices.



*Sockeye Salmon*



**Table of Contents**

**Introduction.....4**

    Site Description ..... 4

    General Calendar of Duties at SLOSI..... 5

    Description of Site Duties..... 7

**ISPs and Outreach Events.....10**

    ISP Information ..... 10

    Outreach Information ..... 10

**Education .....11**

    Education Notes..... 11

    Site / Region Specific Education Resources ..... 12

**Local Ecology .....13**

    Descriptions of Local Ecology..... 13

**Housing and Local Resources .....15**

    Housing Contact List..... 15

    Local Resource Contacts..... 15

**Community Information .....16**

    Map of Area ..... 16

    Community Demographics..... 17

    Community Services ..... 17

**Entertainment and Community Events .....18**

    Resources for Affordable Entertainment Options ..... 18

    Recurring Event List..... 18

**Attachments .....19**

    Contact Lists ..... 19

    Ed Logs & Information ..... 19

    ISP Logs & Information ..... 19

    Outreach Summaries & Information ..... 19

    Site Protocols & Information ..... 19

    Site Forms..... 19



## **Introduction**

### **Site Description**

*Location* Highway 1, Building # 1530, Madera Avenue  
San Luis Obispo, California 93401

*Agency Affiliation* California Department of Fish and Game, California Conservation Corps, Morro Bay National Estuary Program, Land Conservancy of SLO, Central Coast Salmon Enhancement

*General Ecology* Recently declared one of the happiest places on Earth to live, San Luis Obispo boasts a range of environmental attractions and ecological resources. The San Luis Obispo Steelhead Initiative, as a collaborative effort among multiple local agencies, lives and works in four separate central coast watersheds: the Morro Bay, San Luis Obispo Creek, Arroyo Grande Creek, and Pismo Creek watersheds. The central Coast Ranges in the area support Mediterranean Forest, Woodland, and Scrub ecoregions. The cities in which SLOSI operate in are subject to foggy and rainy coastal weather.



**General Calendar of Duties at SLOSI**

<i>Month</i>	<i>Location</i>	<i>Site Duties</i>	<i>Work Load</i>	<i>Typical Work Hours</i>
<b>Fall</b>				
September	Field / Office	Mentors prepare for upcoming service year.		
October	Field / Office / Outreach	Month consists primarily of orientation/trainings. Other duties may include water quality monitoring, habitat typing, and invasive species removal/mapping. Coordinate and prepare for Real Science requirement.	Moderate/ Busy/ Light	8 hour days – 5 days/wk (M-F 8:30-5:00)
November	Field / Office / Outreach	Work with placement site organizations; begin development of individual service; Preparing lesson plans for Real Science education; attend community outreach events, and continue water quality monitoring	Moderate/ Busy/ Light	8 hour days – 5 days/wk (M-F 8:30-5:00)
<b>Winter</b>				
December	Field / Office / Outreach	Work with placement site organizations: instruct Real Science; water quality monitoring; redd surveys, community outreach; ISP development.	Moderate/ Busy/ Light	8 hour days – 5 days/wk (M-F 8:30-5:00)
January	Field / Office / Outreach	Work with placement site organizations: Finalize ISP scope of work; continue invasive plants mapping and removal; red surveys; community outreach at local public events.	Moderate/ Busy/ Light	8 hour days – 5 days/wk (M-F 8:30-5:00)
February	Field / Office / Outreach	Work with placement site organizations: Complete all Real Science requirements; recruit volunteers for ISP; redd surveys, water quality monitoring, field trainings.	Moderate/ Busy/ Light	8 hour days – 5 days/wk (M-F 8:30-5:00)
<b>Spring</b>				
March	Field / Office / Outreach	Work with placement site organizations: Attend the Salmonid Restoration Federation (SRF) Conference. redd surveys, ISP, water quality monitoring, field trainings.	Moderate/ Busy/ Light	8 hour days – 5 days/wk (M-F 8:30-5:00)
April	Field / Office / Outreach	Work with placement site organizations: Macro invertebrate monitoring, project effectiveness monitoring, water quality monitoring, ISP, red surveys, snorkel surveys, presence/absence.	Moderate/ Busy/ Light	8 hour days – 5 days/wk (M-F 8:30-5:00)
May	Field / Office /	Work with placement site	Moderate/	8 hour days –



	Outreach	organizations: Macro invertebrate monitoring, project effectiveness monitoring, water quality monitoring, snorkel surveys, presence/absence; habitat typing; continue community outreach, and complete ISP.	Busy/ Light	5 days/wk (M-F 8:30-5:00)
<b>Summer</b>				
June	Field / Office / Outreach	Work with placement site organizations: project effectiveness monitoring, water quality monitoring, snorkel surveys, presence/absence; habitat typing; continue community outreach, and complete ISP. WSP Spring Training provided learning opportunities by lectures/tours from local experts.	Moderate/ Busy/ Light	8 hour days – 5 days/wk (M-F 8:30-5:00)
July	Field / Office / Outreach	Work with placement site organizations: project effectiveness monitoring, water quality monitoring, snorkel surveys, presence/absence; habitat typing; Make sure all WSP requirements are completed.	Moderate/ Busy/ Light	8 hour days – 5 days/wk (M-F 8:30-5:00)
August	Field / Office / Outreach	Work with placement site organizations: water quality monitoring, snorkel surveys, presence/absence; habitat typing; Make sure all WSP requirements are completed. Contact Real Science outreach schools to debrief and get feedback. Finish up all data entry and associated field monitoring reports.	Moderate/ Busy/ Light	8 hour days – 5 days/wk (M-F 8:30-5:00)



## **Description of Site Duties**

*Snorkel Surveys* During the spring, snorkel surveys will be utilized for assessment and characterization of salmonid populations as well as for validation of project effectiveness. This type of assessment can provide information about presence/absence, habitat utilization, and stock characteristics for the salmonid populations present in our creeks. Members will have opportunity to train with experienced mentors for conducting successful snorkel surveys.

Specifically, snorkel surveys on the in SLO county will assist landowners and NGO partners to address the need for pre-project data for restoration project implementation and post-project monitoring.

*Redd Surveys* Redd surveys will also be conducted in the springtime, particularly in Arroyo Grande Creek and Santa Rosa Creek. These surveys are intended to complement the existing steelhead survey for the area by providing additional information on the distribution of usable spawning habitats. Additionally, redd surveys will provide pre-project implementation data for the Stream Gage Design Modification. Members will get involved in this activity by first reviewing the existing documentation for the area (Arroyo Grande Watershed Management Plan, Steelhead Distribution and Abundance Survey, Arroyo Grande Creek Stream Gage Design Modification), and then by devising survey plans and protocol such as determining locations for entry/exit into survey areas, including permission needs from land owners. Members will then have the opportunity to process this data and complete redd surveys.

*Habitat Typing* Habitat typing begins almost immediately when the members arrive at the placement site and into part of November, weather permitting. Habitat Typing is one of the most important tasks that we are involved in on the central coast, as it provides relevant data about the quality and quantity of steelhead habitat within the survey reach. This information is then used to produce reports that are reviewed by biologists who make recommendations for habitat improvements. The reports compare current stream conditions to reference values that would be found in an idealistic salmonid stream.

Having a comprehensive and realistic overview of different drainages allows biologists and fisheries specialists to determine the current state of the streams and creeks in a watershed. Identifying species of fish present places importance on individual creeks and their overall health. Restoration grant projects can then be developed and prioritized out of these assessments. Specifically, restoration projects are regularly identified through these reports.

Land owners who possess land that surrounds various creeks, local non-profits, and the general public also present a point of interest for generating these reports. Monitoring efforts have used old and new habitat typing data and compared it to make assessments on various developments or projects on a creek. Biological (e-fishing) surveys are conducted after habitat typing and LWD surveys are completed.

*E-Fishing Assistance* E-fishing occurs after a creek has been Habitat Typed. Biologists who are certified to operate the e-fisher pack will always accompany the members. The e-fishing pack charges the water and draws fish and other organisms to its charge by temporarily paralyzing them. Fatality is rare, but does occur and members will be briefed on this prior to going into the stream for e-fishing. This task, however, is completed with utmost care and is done to ensure minimum injury, stress, and fatality to stream organisms. DFG e-fishing forms become part of the Habitat Inventory Reports regarding the documentation and assessment of a particular creek.



*Invasive Species  
Mapping and  
Removal*

Invasive species present a significant problem for the health of any watershed. San Luis Obispo County is faced with the ongoing battle against several invasive species including Arundo, English Ivy, Cape Ivy, and Pampas Grass. A great amount of time and effort is needed to successfully address the issues of invasive species removal, in order to restore and enhance the health of a stream.

Mapping the presence/absence of particular invasive species and their location in a stream or watershed helps fisheries ecologists understand what progress has been made, given the effort provided in the past. It also identifies key issue areas and helps the ecologists to identify priority areas that are not only most in need of work, but will also provide the greatest amount of benefit to the watershed overall.

After mapping and assessment has been completed, removal efforts can be mounted. The members will be involved in both mapping and removal. There are different removal techniques that work best for different species, but it is almost always fairly intense labor! So be ready to get both hands dirty.

*Flood Control  
Channel  
Surveys*

Currently, an Arroyo Grande Erosion, Sedimentation, and Flood Alternatives Study and a Draft Arroyo Grande Channel Waterway Management Program EIR have been completed. This documentation lays the groundwork for addressing such questions as: are salmonids using the flood control channels, and if so, are they using it for migration or more permanent habitat?

Members will be involved by reviewing the existing documentation of flood control channels, revising survey protocol including land access on private lands, and completing flood channel surveys.

*Education &  
Outreach*

Central Coast Salmon Enhancement has a well-established education outreach program on watershed protection and restoration. The foundation of our community education programs is Trout in the Classroom. Established eleven years ago, the program places incubator aquariums in local K – 12 classrooms. Students raise fish from eggs while learning salmonid life-cycles and the importance of a healthy watershed for human and animal habitats. Our program includes more than 200 presentations in our community each year, reaching more than 5,000 students and community members annually. Our goals for community education include:

- Reach more than 5,000 children annually for education about watershed protection and restoration
- Train at least 100 volunteers in local agencies and organizations, emphasizing watershed stewardship
- Train at least 40 teachers to use Trout in the Classroom materials and curriculum
- Establish a Creek Ecology Lab for hands-on teaching
- Educate the community on the natural and economical resources provided by salmonids

*Data Entry &  
Report Writing*

Members will be asked to assist in report and grant writing on an as-needed basis, depending on what proposal and other grants programs are concurrent with the member's service year. Data entry and software installation will likely be assigned to members, as the need arises.

*Water Quality  
Monitoring*

Monitoring takes place year-round, with some efforts being conducted seasonally. This work involves maintenance and calibration of monitoring equipment, fieldwork to collect data, management of monitoring data, and analysis to understand data. Types of data to be collected include basic water quality parameters, bacteria and macro-invertebrates in our watersheds creeks. In the bay, types of data include basic water quality and eelgrass areal extent, density and biomass. Data management tasks make



use of Excel and Access databases as well as GIS.

The data collected allows for the tracking of long-term trends to assess the health of the estuary and its watershed. Monitoring also allows for assessment of individual improvement projects to determine their effect on water quality. These monitoring efforts also help identify areas where additional implementation efforts might be needed. Program-generated data supports the many partners in the watershed and beyond.

*Project  
Effectiveness &  
Validation  
Monitoring*

Monitoring techniques that are targeted towards evaluating the response of biota to the implementation of a restoration project or Best Management Practice. Types of monitoring included are: photographic monitoring, bacteria monitoring, vegetation monitoring, snorkel surveys, GIS applications/mapping, avian point counts, sediment monitoring, etc.



## ISPs and Outreach Events

### ISP Information

*Getting Started*

The San Luis Obispo placement site strongly encourages that members initiate their ISP very early in the service year so that most or all of the work can be completed prior to the start of the intensive field season in early summer. It's also beneficial to complete ISP(s) by that date because Cal Poly students will be around and are often a great source for volunteers. The Watershed Stewards Website has a great checklist for everything members need to do (all the forms, paperwork, and procedures). The best thing to do is talk to the mentor. He or she may already have some contacts and project ideas. At the least, an idea may be sparked, or members could be inspired by an existing project that the agency is working on. Get creative: Are there any community watershed needs that members see need to be addressed? How about a student restoration field-trip? There are some awesome projects out there to be done.

*Media Phone Lists, Check Lists, Volunteer Forms, Liability Forms, Etc.*

[www.watershedstewards.com](http://www.watershedstewards.com)

Lots of info and everything members need. There are minimum requirements for an ISP. See the current member handbook or the website for the year's requirements.

*After the ISP*

Well, the ISP is finished. Feel relieved, rewarded, accomplished? Don't forget- there's more paperwork to do. Members are not quite done yet! Check the website for forms.

### Outreach Information

*Talk to the Team Leader*

There are many outreach opportunities available throughout the year. Additional education visits, education with CCC crews, and tabling local events are some of the opportunities that our placement site provides. NEP also maintains a relationship with local K – 12 schools, so there will be the opportunity to do outreach in a wide range of communities. Members are encouraged discuss any creative ideas or suggestions with their Outreach Leaders. Have some outside interests that members would like to combine with WSP? Talk to the Team Leader. For example, providing outreach watershed classes to Backcountry Trail Crews from the CCC was a creative and successful outreach idea that bridged two awesome AmeriCorps programs.



## Education

### Education Notes

- Getting Started* The Real Science Education Program can require a significant amount of individual preparation time, depending on the individual. Due to the nature of the multi-agency setup at our placement site, members will also have the opportunity to work collaboratively with other members to prepare lesson plans and practice activities that will supplement the lectures. Additionally, the CCC makes crews available, one at a time, to present lesson plans to in a realistic setting. Getting the education completed in a timely manner enables members to participate in other activities that this site has to offer later in the service year (field season). Teaching days will mostly be scheduled in conjunction with the CCSE's Trout in the Classroom program. However, members will be given the flexibility to tailor their education program to WSP requirements.
- The Minimum* If members are teaching with a partner, members are required to visit a minimum of two classes 6 times each (a total of 12 visits). However, members will have plenty of time to visit many more classes.
- Set Up a Meeting w/ the Teacher – A 6-Week Education Outline* Being prepared is the key to a successful education outreach experience. Take the opportunity seriously and plan to have all the lesson plans ready for discussion and feedback when members meet with teachers for the first time. This will ensure that members don't repeat any information that the students have already learned and that members provide a comprehensive and engaging learning experience. Don't forget to give the teacher the Pre-Tests and get the Teacher Contract signed as well.
- Ask the Team Leader about Education* The Team Leader will be available to assist members with any difficulties or concerns that may arise before or during the education outreach program implementation. That's what he/she is there for. Teaching ideas, managing time and classes, or having communication issues with a teacher or school? The Team Leader is an asset and resource for all WSP members!
- The Education Handbook* Refer to the Education Handbook- there are great ideas and lots of info. This will help members prepare lesson plans. If it doesn't have something members want, members can create their own worksheet, game, or presentation. Activities and games are a great way to engage the students in the learning process while teaching them valuable information.
- Teaching* Many members will come into the program with no prior teaching experience. Practice, collaboration, and preparation will help members keep the lesson plans organized and ensure that members present the material in an understandable format. Don't sweat it if peers, mentors, and teachers offer members feedback and suggestions. They are all there to help members.
- Wrapping Up* Make the last Real Science visit fun, but don't forget to administer Post-Tests. Check the website for post-Education forms to be filled out.



---

## **Site / Region Specific Education Resources**

*The WSP Office* The WSP office and, specifically, the member coordinator are available by phone and email if something comes up that members need their help with. Site mentor(s) should be able to assist members in most matters, but the member coordinator in Fortuna is also a useful resource.

*The World Wide Web* There are quite a few cool salmon related sites that will help supplement the education ideas:

<http://www.fws.gov/pacific/publications/salmnbk.pdf>

<http://www.salmonnation.com/>

<http://www.thinksalmon.com/>



## Local Ecology

### Descriptions of Local Ecology

*Climate*

The City of San Luis Obispo is located in San Luis Obispo County, equidistant from San Francisco and Los Angeles, at just over 230 miles from each. The city lies about 10 miles due east of the coastline at Montana de Oro State Park, on the famous Central Coast of California. San Luis Obispo experiences typical of coastal weather with seasonal winter rains, coastal influenced fog, and a yearly temperature range of 42 - 82.

*Native Plants*

SLO County is home to a wide variety of habitat types and microclimates. Coastal regions tend to be particularly species rich in terms of both vegetation and wildlife. Even more astounding is the species richness in and around the Morro Bay Estuary, which provides unique habitat conditions for a variety plant species, many of which are rare, threatened, endangered, or otherwise protected.

Coastal Sage Scrub communities are common in the area, which support vegetative species such as Sagebrush, Coyote Bush, Seacliff Buckwheat, California Aster, and Sticky Monkey Flower. In some areas along the Central Coast, Coastal Chaparral communities out compete the scrub communities, which supports a range of plants more able to withstand high heat and drought. Toyon, Manzanita, Poison Oak, Scrub Oak, Black Sage, Chamise, and Yucca are common chaparral species.

*Invasive Plants*

Invasive plants are those that outcompete native species and take over the local ecosystems, often choking our creeks and contributing to the loss of sensitive and declining species (such as the steelhead!). San Luis Obispo County is no stranger to invasives.

Members will have the opportunity to work on mapping and removal efforts in the county for some of our more common invasive, such as:

Arundo donax- absorbs huge amounts of water from our creeks, and easily reproduces/spreads from broken branches that float downstream.

English and Cape Ivy- an aggressive vine that competes for light and other resources with native plants.

Other invasive species known to occur in San Luis Obispo County include pampas grass, vinca, various thistle species, scotch broom, fennel, and Sacramento pikeminnow.

*Animals*

If members are interested in spotting some wildlife, San Luis Obispo will provide the opportunity, just keep both eyes open! Bi-tailed deer and wild turkeys are commonly spotted in or near any of our several Open Space areas, nature preserves open for recreation such as mountain biking and hiking. If members head down to the beach, sea otters and sea lions can often be spotted from shore, just past the break of the waves.

The first sign of an animal is often its tracks or scat. Look for evidence of:

Bobcats

Black bear

Mountain Lions

Turkey Vultures, Red Tail Hawks, Eagles, Osprey, Kites





## Housing and Local Resources

### Housing Contact List

*Location, location, location* Affordable housing on an AmeriCorps living stipend is totally doable. San Luis Obispo, in general, is more expensive than Los Osos and other areas. San Luis Obispo and Arroyo Grande are popular towns and provide city-like amenities for the area. More rural towns in the area include Los Osos and Morro Bay. Atascadero, Pismo, and Oceano are other nearby options

*San Luis Obispo Craigslist* <http://sanluisobispo.craigslist.org/>  
This is probably the best bet.

*The Tribune* <http://www.sanluisobispo.com/>  
*Mustang Daily* <http://www.mustangdaily.net/>  
*College Huts* <http://collegehuts.com/>

*Local Property Management Agencies* Farrell Smyth Inc: (805) 543-2172 located at 21 Santa Rosa St, Suite 100 in SLO

### Local Resource Contacts

*The Mustang Daily* Free copies provided at multiple locations on Cal Poly campus: provides information about local deals and events.

<http://www.mustangdaily.net/>

*The New Times* Another resource for local happenings, events, news, and deals. Found at kiosks throughout San Luis Obispo County, particularly in the downtown area.

<http://slochamber.org/cm/Home.html>

*San Luis Obispo Chamber of Commerce* A complete guide to what to do and what to see while visiting San Luis Obispo County, as well as deals for locals on a variety of activities and events.

1039 Chorro St.  
San Luis Obispo, CA 93401  
(805) 781-2777

*Cal Poly and Cuesta College* Learn about student projects, current issues and concerns of the community, and possible involvement opportunities.

<http://www.calpoly.edu>  
<http://cuesta.edu>



## Community Information

### Map of Area

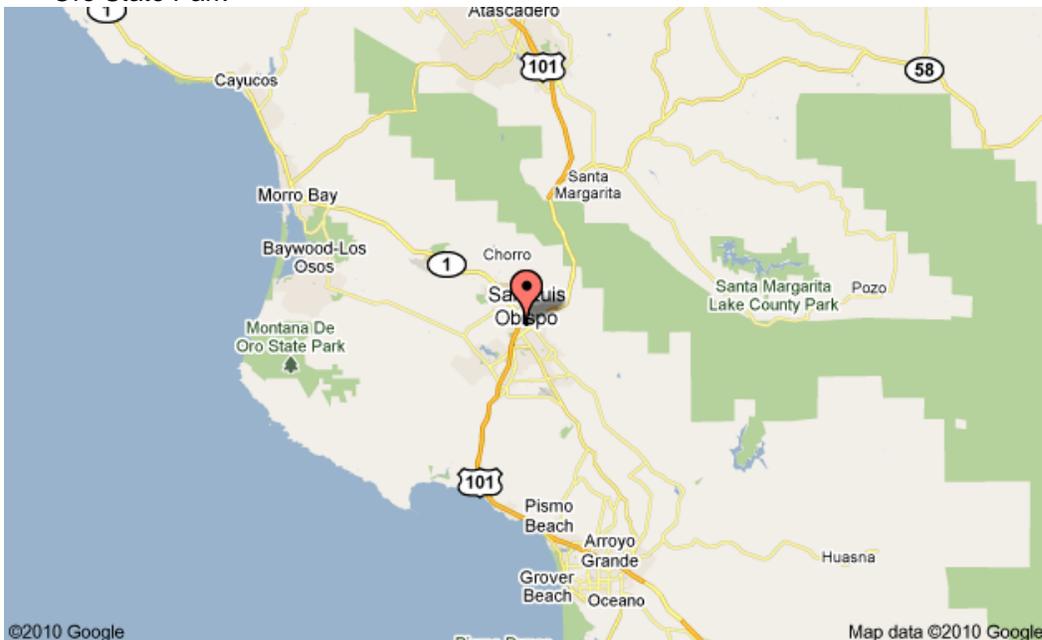
City of San Luis Obispo:

-Highway 1, Cal Poly Campus, Main Streets in town



County of San Luis Obispo:

-City of Morro Bay, Los Osos, San Luis Obispo, Arroyo Grande, Morro Bay estuary, Montana de Oro State Park





## **Community Demographics**

San Luis Obispo is a city of just under 45,000 people, with less than 20% representing minorities. The age structure of the population is relatively evenly spread out, with the college attracting a high percentage of 18-25 year olds, and the low-density coastal appeal of the area attracting both families and retirees. This balance creates a vibrant and robust array of activities and attractions within driving distance of the heart of San Luis Obispo.

## **Community Services**

*Getting in Touch* San Luis Obispo County prides itself on maintaining undeveloped greenspace areas, including a green belt around the city. A number of areas right in San Luis Obispo and within a five minute drive or a fifteen minute bike ride have been dedicated as open space areas for locals to utilize (and respect!) as a way to get outdoors, go for a hike, and connect with and appreciate nature. For more information about SLO's open space areas, visit <http://www.slocity.org/parksandrecreation/openspace>.

*Transportation* The San Luis Obispo airport, while small, provides easy access to nearby major cities. Amtrak provides daily rail and bus route services through San Luis Obispo, to hundreds of locations throughout California. San Luis Obispo County encourages the use of public transit, offering an efficient and convenient bus system both for the city (SLO transit) and for the county (SLO Regional transit). Of course, biking is also encouraged! Locals are no stranger to sharing the road with bikers, as bike lanes are provided throughout the city. A new addition to San Luis Obispo is the "bike box", providing a clearly designated spot for bikers to safely share the road with vehicles at intersections.

*Historical Sites* The Madonna Inn is a famous landmark, and worth at least a visit to see the eccentric interior decorations! Of course, the Mission San Luis Obispo de Tolosa is a sight to see, right at the heart of San Luis Obispo's vibrant downtown. Also among San Luis Obispo's historical buildings is the former San Luis Obispo Carnegie Library, located at 696 Monterey Street.



## Entertainment and Community Events

### Resources for Affordable Entertainment Options

*Events* Refer to local publications (Mustang Daily, The Tribune, New Times) for information on local events and opportunities to get involved in the community. Ask locals or keep an eye out for listings. There are opportunities to volunteer and table for free or reduced admissions to festivals.

*Supporting the Arts* San Luis Obispo is known for its support of the arts and often hosts events including art festivals, showcases, music in the park, and other gatherings at the historic Mission in downtown SLO. Information about upcoming events can be found in the local newspaper or on the Chamber of commerce website.

### Recurring Event List

*Farmer's Markets* Morro Bay, Los Osos, San Luis Obispo, and Avila all have weekly farmer's markets that are open to the public. These Markets not only represent an opportunity for entertainment and buying local goods, but also to reach out to the community by tabling an event for the member's respective agency. SLO's popular market is every Thursday from 6-9pm on Higuera Street. There is also a new one that occurs on Saturday mornings from 8-10:30am in the Madonna Plaza. Los Osos hosts a farmer's market on Monday afternoons and Avila's is on Friday in the early evening.

*Events and Activities* During Summer months, local residents and visitors congregate in the Mission Plaza for a free outdoor concert every Friday evening. The first Thursday of every month is Bike Nite in San Luis Obispo. People gather after the Farmer's Market at the Mission Plaza with their bikes and then go around on multiple circuits on the main streets of downtown- adhering to the traffic laws (for the most part)!

*Shows and Concerts* The Christopher Cohen Performing Arts Center (PAC) hosts an array of shows and speakers from comedy performers, to concerts, to student groups and political speakers. A list of upcoming events at the PAC can be found through the Cal Poly website at [www.calpoly.edu](http://www.calpoly.edu).

*Community* Cal Poly's open house, Poly Royal, is held annually in April and represents a showcase of virtually every club, organization, and group affiliated with the campus. Even if members are not interested in getting involved in campus events and organizations (although the range of interests and opportunities is astounding), Poly Royal is a fun experience with lots of great food and student talent showcases.

The Mid-State Fair is a major event that takes place at the fairgrounds in the city of Paso Robles every Spring. Other than typical fair events, such as carnival rides, 4H events, and food vendors, the California Mid-State Fair attracts a range of musical guests.



## **Attachments**

**Contact Lists**

**Ed Logs & Information**

**ISP Logs & Information**

**Outreach Summaries & Information**

**Site Protocols & Information**

**Site Forms**