

CALIFORNIA STATE PARKS

SONOMA COAST STATE PARK

ENVIRONMENTAL LIVING PROGRAM

Teacher's Guide

Developed by
Stewards of the Coast and Redwoods

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Environmental Living Program Definition and History

In 1970 a teacher named Lou Hetzel and her second grade students visited Wolfe Cabin in Arches National Park in Utah and said, “Let’s live in it!” Bill Taylor, Interpretive Specialist with the National Park Service and a former teacher made it happen. Since that time the Environmental Living Program (ELP) concept has been growing and changing throughout many National and State parks.

Environmental Living, as the name implies, is an actual living, overnight experience for students that takes place at any cultural, historic, prehistoric, or natural site where the interaction and interdependency of people and their environment are represented. It relies on pre-site explorations and preparations, role-playing, and problem solving.

Students use research skills to learn how a past culture or group of people survived on the site. With this information students prepare to survive for a day by role-playing and re-creating those cultures or eras. The overnight experience is the culmination of their research and preparation.

“I hear and I forget. I see and I remember. I do and I understand.”

Introduction to the Sonoma Coast ELP

The Sonoma Coast and Willow Creek Watershed has a long and fascinating natural and cultural history. Here ecosystems of coastal prairies, dune habitat, coast redwood groves, and the inter-tidal zone can all be observed and explored. This bio-diversity has provided the ingredients for a variety of wildlife and human cultures to live and thrive here from Pleistocene mega herbivores to Native Americans.

The emphasis of the Sonoma Coast Environmental Learning Program is on student self-learning and stewardship of the land through a role-playing experience that taps into this natural and cultural history. It has been designed as a one or a two-day program for students in grades four through six.

Fourth and fifth grade participants focus on simulating and recreating the historic lifestyles of four diverse cultural groups that have lived in this region: Southwestern Kashaya Pomo, members of the Russian American Fur Company, loggers, and ranchers. Students are divided into groups that research the daily activities, survival needs, and land use practices of the cultural group to which they are assigned. On site they recreate their group’s lifestyle and find practical solutions to survival needs for food, shelter, clothing, safety, and entertainment.

The sixth grade programs focus more on the Willow Creek Watershed. Students research the impact of the cultural groups mentioned above as well as other environmental factors on the health of the watershed. On site they collect and compare data, recreate lifestyles, create a timeline, and map the watershed.

Through sharing their experiences and the information they have learned with their class, the fourth through sixth grade students become more aware of the natural resources in the environment, the impact humans and their culture have on an environment and its resources, and the role stewardship plays in the preservation of natural resources.

The Sonoma Coast ELP provides the core around which a rich integrated curriculum can be developed that can meet many of the California standards and learning objectives in History/Social Science, Science, Math, Language Arts, and Environmental Education. Curriculum, student learning activities, and correlations to standards and learning objectives can be found in the Curriculum section of this manual.

About this Manual

Teachers and parents are very important to the Sonoma Coast ELP. With their enthusiasm, creativity, and pre-site planning an unforgettable experience can be created for students.

The purpose of this manual is to assist teachers and parents to plan and prepare students for a meaningful on-site program. All materials included here may be photocopied. Teachers can choose among the activities and materials presented to create a program that meets the needs of their class.

Please read the entire manual and become familiar with its contents. Do not hesitate to call if you have any questions.

The manual is divided into four sections:

The **Teacher's Section** includes everything needed to apply, get organized, and prepare for the Sonoma Coast ELP experience. Checklists, meal and clothing suggestions, information to be duplicated for parent volunteers, and choices for on-site activities are included here.

The **Classroom Curriculum Section** covers natural and cultural history of the Sonoma Coast, pre-trip student activities, and correlations to the California History/Social Science and California Science standards and learning objectives in the context of the California Education and the Environment Initiative (EEI).

The **Appendix Section** contains materials that can be used for research as student prepare for the onsite experience. Resources such as historical maps, artwork, photographs, traditional stories, songs, dances, games, and primary documents from the various cultural groups represented are included here. (*work in progress*)

The **Bibliography** cites additional resources available through Stewards and other sources that may be helpful in preparing for the ELP. (*work in progress*)

RESERVATIONS

Sonoma Coast Environmental Living Program

The Sonoma Coast ELP is geared toward 4th-6th grade curriculum in California History, Social Science, Science, and Environmental Principles and Concepts. It is our intention to make the Sonoma Coast Environmental Living Program available to as many students as good resource management will allow. A number of California State Parks offer overnight learning experiences. Please apply to only one ELP site per school year. Public, private, and home school groups are welcome to participate. To ask further questions please contact Stewards Environmental Education Interpreter at:

Stewards of the Coast and Redwoods
Sonoma Coast Environmental Living Program
P.O. Box 2
Duncans Mills, CA 95430
Phone: (707) 869-9177 x 01

TEACHER IN CHARGE

The class must have a Sonoma Coast ELP Workshop-trained teacher onsite in order to participate in the overnight program. Reservations are issued to an individual teacher and are not transferable between teachers. The teacher on the reservation form **MUST** be the teacher onsite for the ELP. No substitutions are allowed.

CLASS SIZE

Reservations are granted to one class of 40 students or less for one program. Teachers who team-teach and whose class is larger than forty students will have to divide their class into two groups and submit separate applications.

LEAVE OF ABSENCE

After three years of participation, teachers will be asked to take a one-year leave from the program. Teachers are welcome to re-apply as a new applicant after the one-year leave.

PROGRAM FEES

For the 2 day program: \$15 per student fee, with a \$350.00 minimum and a \$600.00 maximum for each class attending the ELP. (NO fee for adults)

For the 1 day program: \$8 per student fee, with a \$160 minimum and \$320 maximum

This fee covers staffing and some of the materials provided for your program. A \$100.00 reservation deposit is due within two weeks after accepting an assigned date. The \$100.00 deposit will be applied toward the total cost of the program. The remainder of the fee is due one month prior to the assigned date, unless other arrangements are made with Stewards. Reservations cannot be held if fees are not received on time.

CANCELLATIONS

The \$100.00 commitment deposit is refundable if the ELP is cancelled at least 45 days prior to the assigned program date. If cancelled less than 45 days from the assigned program date, the \$100.00 reservation deposit is not refundable.

TEACHER'S WORKSHOP

Because teachers are an important and integral part of the program, all teachers are required to attend a Teacher's Workshop that is held annually at the Sonoma Coast ELP site. The workshop is an active run through of the program and may include an overnight stay at the ELP site. Teachers may **NOT** send a substitute to the workshop. There is currently a \$25.00 fee for the workshop that covers training materials, an ELP Teacher's

Manual, and training from an ELP Program Coordinator who is available to answer any questions. The fee is subject to change.

OTHER COSTS

Other costs in addition to program fees include: food, any craft supplies required for chosen activities, and transportation costs. The class may contribute wood to the campground wood-pile which can be used for cooking and heat. Stewards may have information about vendors that provide discounts to teachers for craft supplies and other necessary items. Transportation scholarships are also available from Stewards. Please ask for information about these possibilities.

Teacher's Pre-Reservation Worksheet

Does participation in the Sonoma Coast ELP make sense for you and your class?

To create a successful program teachers will need to:

- Make a reservation
- Acquire funding and/or apply for scholarships
- Sign a Teacher Contract
- Take part in the Teachers Training Workshop
- Prepare students for the on-site experience through classroom and field trip activities (using materials from this manual and other sources)
- Recruit and train parent volunteers (You will need 1 adult for every 5 students)

All of this may seem a bit overwhelming but by participating in the training, becoming familiar with this manual, recruiting volunteers to help, and utilizing the staff's expertise it all becomes more manageable and can become the most memorable educational activity your class experiences.

Questions to consider:

1. Are funds available for the student fees and additional costs?
 - 1 day programs cost \$8 per student with a \$160 minimum and \$320 maximum
 - 2 day programs cost \$15 per student with a \$400 minimum and \$600 maximum fee
 - Additional costs include food, crafts supplies, water, and transportation expenses
 - Teacher Training Workshop fee of \$25
 - Transportation scholarships are available. Information and application can be found on page 8.
2. Are enough dedicated parents or other volunteers available to help with pre-site planning activities and onsite responsibilities?
 - 1 adult for every 5 students is recommended
3. Is a teacher available to attend the Teachers Training Workshop including the overnight component and pay the \$25 fee?
4. Do the ELP dates (check with Stewards for the available dates) fit into your class and school schedule? If not can alternative dates be arranged?
5. Can the ELP experience provide a means to meet the California State curriculum standards / objectives and the Environmental Education Initiative (EEI) objectives for your class? (see Classroom Curriculum section of this manual)

If you can answer yes to these questions please fill out a reservation form. If you have questions or need more information please call Stewards at (707) 869-9177.

DEPARTMENT OF PARKS AND RECREATIONRuth G. Coleman, *Director*

SONOMA COAST STATE BEACH

3095 HIGHWAY 1

BODEGA BAY, CA 94923

SONOMA COAST STATE BEACH ENVIRONMENTAL LIVING PROGRAM RESERVATION FORM

Contact Information:

Teacher: _____

School: _____

Mailing Address: _____

City: _____ Zip: _____

Phone: _____ Fax: _____

Email: _____

Reservation Information:

First Choice: _____ Alternate: _____

Arrival Time: _____ Departure Time: _____

Grade Level: _____ Number of students: _____ Number of Adults: _____

Transportation by: (circle one) Bus / Car Number of buses or cars: _____ Program: 1 Day _____ 2 Day _____

Fee: _____ (1 Day ELP fee is \$8 per student with a \$160 minimum/\$320 maximum; No fee for adults)
 (2 Day ELP fee is \$15 per student with a \$350 minimum/ \$600 maximum; No fee for adults)

Reservations must be made at least 4 months in advance. You will receive confirmation via a returned copy of this form.

Please enclose your \$100.00 reservation deposit. Checks are made payable to: *Stewards of the Coast and Redwoods*. Credit cards accepted by phone. The remainder of the fee is due one month prior to your on-site program date.

This request must be signed by the principal of the school where the students attend. The Department of Parks and Recreation reserves the right to combine tours or cancel when necessary.

CERTIFICATION

The above described visit is an official, educational, school field trip
and will be under the direction of school personnel.

Signed: _____

Principal or Director of School

Submit forms to:
Stewards of the Coast and Redwoods
P. O. Box 2 • Duncans Mills • CA 95430
Phone: (707) 869-9177
Fax: (707) 869-8252

FOR STATE PARKS USE ONLY

[] We are pleased to confirm your participation for: Date: _____ With an arrival time of: _____

[] We regret that the dates you requested are not available. Please contact the office to set up an alternate date.

Approved/Denied _____

Transportation Scholarship Information

Transportation scholarships are available through Stewards for eligible classes based on need. To apply, please fill out the Scholarship application that follows and return it to Stewards within 1 month of your ELP date.

SONOMA COAST STATE BEACH ENVIRONMENTAL LIVING PROGRAM **TRANSPORTATION SCHOLARSHIP REQUEST**

Contact Information:

Teacher: _____

School: _____

Mailing Address: _____

City: _____ Zip: _____

Phone: _____ Fax: _____

Email: _____

Reservation and Cost Information:

Date of ELP Overnight: _____

Arrival Time: _____ Departure Time: _____

Grade Level: _____ Number of students: _____ Number of Adults: _____

Total number to be transported: _____

Cost of bus: _____

This request must be signed by the principal of the school where the students attend. Stewards will award scholarships based on need and available funds.

CERTIFICATION

The above described visit is an official, educational, school field trip
and will be under the direction of school personnel. We wish to apply for a transportation scholarship.

Signed: _____

Principal or Director of School

Submit forms to:
Stewards of the Coast and Redwoods
P. O. Box 2 • Duncans Mills • CA 95430
Phone: (707) 869-9177
Fax: (707) 869-8252

FOR STATE PARKS USE ONLY

[☐] We are pleased to offer a transportation scholarship in the amount of \$_____ for your ELP

[☐] We regret that we are unable to offer your class a transportation scholarship at this time.

Approved/Denied _____

Sonoma Coast State Parks Rules and Regulations

Teacher Contract

All participating teachers must sign a contract and turn it in with parent and student contracts to Steward's staff person before onsite arrival.

1. I understand all teachers **must** turn in a planned activities form before the site visit.
2. I understand no alcohol, drugs or cigarettes are allowed onsite.
3. The number of parents will not exceed a ratio of one parent to five students. This does not include the teacher or coordinator.
4. I understand a list of parents and the parent contract with their signatures will be submitted before the onsite visit.
5. I understand I cannot deviate from the program guidelines outlined in the manual without prior approval. I will call ahead if there is a concern about a planned activity.
6. I understand that all park rules must be followed.
7. Cell phones are not allowed as they detract from the program. They may be kept in the car and used for emergencies only.
8. Candy and gum are not allowed during the ELP experience.
9. No inappropriate language is allowed.
10. I understand that one staff person and trained docents will be assigned to the group for the day and will not be available overnight.
11. I understand that the docents are here to impart knowledge and not to handle discipline.
12. When a problem or concern arises with parents or students, I will handle the problem.

Teacher's Signature _____

Printed Name _____

Date _____

Sonoma Coast State Parks Rules and Regulations

Parent Contract

Dear Parent,

Thank you for participating in the Sonoma Coast Environmental Living Program. We appreciate your help and know you are dedicated to quality education programs for your child. This list of guidelines is designed so that all participants know the rules and what is expected of them. This contract **must** be signed by all parents and must be handed in to your child's teacher ASAP. The teacher will give these contracts to Steward's upon your arrival onsite.

1. As a parent participating in this program I understand my commitment. My job while on site is as a teaching assistant to the teacher and docents who will direct the program. I will follow their lead.
2. I will assist students and handle all discipline within the group to which I am assigned.
3. Parents will have very little free time.
4. I understand no alcohol, drugs, or tobacco are allowed onsite and that this is a school function. All school rules are to be followed.
5. I understand all park rules must be followed.
6. I understand that cell phones are to be turned off and used only for emergencies.
7. I understand the number of parents onsite will not exceed a ratio of one parent to 5 students.
8. Candy and gum are not allowed.
9. No inappropriate language is allowed.
10. I understand one staff person and trained docents will be assigned to the entire group for the day and will not be available overnight.
11. When a problem arises with my students I will handle the problem.

Parent Signature _____

Printed Name _____

Date _____

Sonoma Coast State Parks Rules and Regulations

Student Contract

This contract is to be signed by all student participants in the Sonoma Coast ELP and by such signature, the student agrees to abide by all rules.

1. I agree to follow standard school rules, be courteous, pay attention to instructors, and to act with honor to the best of my ability.
2. I will be careful around open fires and while working around candles and hot objects.
3. I will not touch any of the artifacts at the ELP site unless the ELP docents and staff allow it.
4. I will walk while onsite during the ELP, especially while on hiking trails.
5. I will take care when working with sharp tools.
6. I will not leave the ELP site without permission of the teacher or my group's leader.
7. I will stay with my assigned group.
8. I will listen to all directions while on hikes, at the river, creek, or beach. I will not climb on the cliffs and will stay back from the bluff.
9. I will not make any loud noises between 10:00 pm and 7:00 am.
10. I will pick up after myself and help keep the site clean for everyone.
11. I will cooperate and do my best job at all times.
12. I will not bring knives, weapons, candy, gum, electronic games, radios, tape players, or TVs, to the ELP site.
13. I will show respect for the surrounding environment, park visitors, parents, teachers, docents, and fellow classmates, and will use appropriate language at all times.
14. I will welcome others into conversation, games, and activities.
15. I am ready to make the most of a new, unusual, and exciting adventure!

Signed,

Student Signature _____

Print _____

Assigned Group _____

Date _____

ELP Pre-Trip Checklist

At the beginning of the school year:

- _____ Apply for the Sonoma Coast ELP.
- _____ Make arrangements with your school for the field trip
- _____ Secure funding
- _____ Read this manual.
- _____ Take the Teacher Workshop.
- _____ Plan and begin to execute the ELP curriculum. Assign students to groups.
- _____ Recruit parent volunteers.

Eight weeks before the on-site program:

- _____ Distribute information letters (overnight Field Trip letter, Parent's Meeting Agenda)
- _____ Meet with parents

Six weeks before on-site program

- _____ Assign role-play characters to students and volunteer parents.
- _____ Schedule Docent classroom presentation
- _____ Assign students to research activities of cultural groups/characters

Four weeks before on-site program

- _____ Pay remaining program fee due one month before on-site program date.
- _____ Distribute the *Student Contracts* and *Parent Contracts*.
- _____ Distribute school permission slips to students
- _____ Meet with students and parents to make a shopping list to include food, supplies, and arts & crafts materials

Two weeks before on-site program

- _____ Check that all permission and emergency slips have been returned
- _____ Review *Student Contracts* with class and check that all have been turned in
- _____ Meet with parent volunteers to review *Parent Contracts*
- _____ Check that all *Parent Contracts* have been turned in
- _____ Review *Teacher's List of Items to Bring*
- _____ Purchase all non-perishable grocery items and other supplies
- _____ Work out transportation details.
- _____ Assign car groups to drivers and/or student groups to parent volunteers
- _____ Label and distribute all needed supplies to drivers

Day Before on-site program

- _____ Review car groups and arrival scenario with students and drivers
- _____ Review list of items to bring, the program itinerary, role groups, responsibilities and clean-up tasks with students and parent volunteers.
- _____ Purchase remaining food items
- _____ Pack your car with *Teachers List of Items to Bring* including permission and emergency slips for each student.

Morning of the program:

- _____ Check that frozen items are thawed.
- _____ Check that students have water, snack, and a bag lunch.
- _____ Have a safe and enjoyable drive to the Sonoma Coast.

Pre-Trip Project ideas

The following are suggestions for activities and projects to do in the classroom before your scheduled ELP.

Have all students read the short informational pages about all 4 cultural groups and complete the activities.

Divide the class into the 4 cultural groups: Kashaya Pomo, Russians, Loggers, and Ranchers. Have students do further research about the daily lives of their chosen cultural group.

Pomos

1. Students can create a sketch of how a Kashaya Pomo Coastal Village may have looked. Afterward they can create a sketch of how their own village could be set up during the onsite stay.
2. Have students think about the best location for a village in the Willow Creek watershed taking into consideration resources and physical characteristics of the land. Let them plot it on a map.
3. Students can research foods eaten by the Kashaya Pomo and create a menu for the onsite visit.
4. Students can create goods that can be traded during the onsite visit such as beaded necklaces, soap root brushes, small baskets, etc.
5. Have students create a simple costume to represent the Pomo group such as a flicker headband.

Russians

1. Using maps students can map the route the Russians took to come to the Sonoma Coast. Based on the maps and route would students have chosen the same spots to inhabit?
2. No one is sure where the Kostromitinov Ranch was located. Students can use maps, written accounts, and their own ideas to hypothesize and debate the best location to look.
3. Students can research food produced and eaten by the Russians and create a menu for the onsite visit.
4. Students can create goods that can be traded during the onsite visit such as paper bag “fur pelts”, woven belts, Russian Tea Cakes, etc.
5. Have students create a simple costume to represent the Russian group such as a fur hat or scarf.

Loggers

1. Have students research then create a map of the sawmills in the area around Willow Creek. Add the roads used to transport logs and the coves where schooners waited to be loaded with lumber.
2. Have students research the pros and cons of clear cut logging and other logging practices. How does cutting down trees affect the ecosystem? Let them debate best practices in logging.
3. Have students research foods eaten by the logging families and create a menu for the onsite visit.
4. Have students create a simple costume to represent the Loggers group such as a plaid flannel shirt or suspenders.

Ranchers

1. Have students research the ranches and farms in and around the Willow Creek watershed then create a map showing the ranches.
2. Have students research and report on the changes in dairy farming and / or flour mills.
3. Have students research food eaten by the ranchers from the mid 1800s to the early 1900’s and create a menu for the onsite visit.
4. Have students create a simple costume to represent the Ranchers group such as straw hats or kerchiefs.

ART projects could include traditional Pomo or Russian art such as basket weaving and decorated eggs. Traditional **MUSIC** and dances of Russia, Pomo, songs of loggers and ranchers could be researched and learned. Onsite students will be creating timelines. Suggested supplies needed for onsite visit include butcher paper, markers, pencils, colored pencils, construction paper

SCIENCE

Water and rock cycles could be studied to prepare for visit. Students could participate in Willow Creek watershed activities from Stewards watershed program. The life cycle of salmon, native plants and non native invasive plants could be studied including the impact past activities have had.

Students can research, contact, and conduct interviews of survivors of pioneering families for oral histories.

Students can create time capsules to represent their culture and perspectives to share with others in the future incorporating things that show how they live and what is important to them or what Sonoma County is like now.

FIELD TRIP SUGGESTIONS:

Stewards Willow Creek watershed program Armstrong Redwoods State Park Sonoma Coast State Beaches	}	www.stewardsofthecoastandredwoods.org
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Sonoma County Museum
Fort Ross State Park
Tomaes Environmental Living Program

Sample Schedule for Sonoma Coast ELP

6th Grade ~ 2 day program

Day 1

- 8:30 Arrive at 1st turnout on Goat Rock Rd., gather and organize as group. Docents arrive and set up the mood and theme of overnight as a walk back in time, an evidence trail of history. Assign timeline / collage to be completed and presented at wrap-up on Day 2. Begin journal.
- 9:00 Walk to Sunset Rocks (Mammoth Rocks) where discussion will take place about the history and geology of the area and perhaps a measuring, sketching or rock rubbing activity and journal entry.
- 10:00 Drive to Shell Beach. Have snack and divide into cultural groups.
- 10:20-10:50 Begin hike over Pomo Trail. While waiting to begin hike work on journal. As students hike the trail in cultural groups discuss how their cultural group lived on the land and what impact it had.
- 11:15-11:45 Arrive at Red Hill. Work on journal
- 11:45 Eat lunch.
- 12:15 Begin rotation of groups through stations—Redwood ecology; Reflections-poetry; Plant identification; Watersheds. Continue discussion of cultural group's impact on land.
- 3:15 Begin walk to Pomo Campground.
- 4:00 Arrive at Pomo Campground. Say goodbye to docents. Set up camp and have snack.
- 4:45 Cook and set up for dinner. Groups that are not cooking or setting up can work on their timelines or collage and a short presentation as a way to share their information with the class and docents the next day. (From what they have learned about their cultural group, its impact on the watershed, and the information on their part of the timeline they will present a short skit, song, poem, interview of historical person, or other interpretation of information learned.)
- [Teacher can decide to have each group cook and clean up after their own dinner. In that case all groups will work on their presentations after dinner.]
- 6:00 Eat dinner.
- 6:30 Groups that cooked or set up work on the timeline and prepare their presentation for after dinner and the next morning. Other groups clean up and set-up for campfire.
- 7:30 Free time or rehearsal for presentations.
- 8:00 Campfire and group presentations.
- 9:00 Prepare for bed. Quiet time.
- 10:00 Lights out.

Day 2 (Times to be adjusted based on departing time)

6:30	Wake, wash up, pack gear.
7:30	Make, eat, clean up breakfast Finish timeline and practice presenting for docents or work on journal.
8:00	Docents arrive
8:30	Stations: two follow up-water quality activities (BMI and Embeddedness/ph testing; fine-tune timeline presentations for docents / complete journals or reflection-letters to docents if time allows; lunch preparation or service project
11:45	Lunch
12:15	Closing activity- What did we learn? Presentations of timelines. Discuss connection to the land and conservation. Closing activity.
1:30	Whole class service project or leave site for home.
2:30	Leave for home or arrive home.

Timeline guidelines

Timelines should include:

1. General years of habitation
2. Human interactions
3. Land uses
4. Impact on natural resources

Sample Schedule for Sonoma Coast ELP
5th or 6th Grade ~ 1 day program

- 8:30 Arrive at 1st turnout on Goat Rock Rd., gather and organize as group. Set up the mood and theme of the program as a walk back in time, an evidence trail of history. Begin journal.
- 9:00 Walk to Sunset Rocks where discussion will take place about the history and geology of the area and perhaps a sketching or rock rubbing activity and journal entry.
- 10:00 Drive to Shell Beach. Have snack and bathroom break. Divide into cultural groups.
- 10:20-10:50 Begin hike over Pomo Trail. As students hike the trail in cultural groups discuss geology of area and how their cultural group lived on the land and what impact they had.
- 11:20-11:45 Arrive at Red Hill and eat lunch.
- 12:15 On top of Red Hill begin rotation of groups through stations--Redwood ecology; Reflections-poetry; Plant Identification/taxonomy; Watersheds and mapping. Continue discussion of cultural group's impact on land.
- 3:15 Begin walk to Pomo Campground.
- 4:00 Arrive back at campground for return trip to school.

Enlisting the Help of Parents

One of the first things you will need to do is to find the parents who will help either in planning the trip or as teaching assistants on site. Some parents may be able to do both. Most teachers find that parents are very willing to help and are a tremendous resource.

Make sure parents who sign-up know what they are committing to and that they will be responsible enough to carry-through with their assignments. Parents cannot expect to “do their own thing” while they are on-site. They are responsible for the welfare of the students and while on site will be with students constantly.

Copies of contracts for Teacher, Parent and Student are included in the Teacher section. They must be signed and delivered to your Stewards contact before your program begins.

A sample letter telling parents about the program and asking for their help is included in this section. The ratio of students to parents should be no more than 5 to 1.

Teacher’s Meeting with Parents

You will need to get all of the parents who want to be involved in the ELP together at a meeting as early as possible to explain what the program is about, generate enthusiasm, and begin planning.

Possible Agenda:

1. What is a Sonoma Coast Environmental Living Program (ELP) about?
 - ELP philosophy
 - Overall schedule
 - Camping arrangements
2. What is needed from parents before the on-site visit?
 - Help in planning and gathering camping supplies
 - Share special skills—cooking, music, dancing, arts and crafts
 - Help with research, pre-activities of students
 - Purchase food
3. What do we need from parents during the on-site visit?
 - Roles and responsibilities of parents—teaching assistants, keeping students on task and within eye-sight, discipline of students, settling up and clean-up
 - Transportation and logistics—arrival scenario, rainy day schedule
4. Group Assignments and Task Lists:
 - Hand out Parent Contracts and information
 - Discussion of group activities
5. Schedule next meeting

SAMPLE PARENT LETTER

Dear Parents, Grandparents, and Volunteers,

We have been invited to participate in the Sonoma Coast State Park Environmental Living Program. “Environmental Living” as the name implies is an actual living overnight experience for the students that takes place at any cultural, historic, prehistoric or natural site where the interaction and interdependency of people and their environment are represented. It relies on pre-site explorations and preparations, role-playing and problem solving. Students will take a walk back in time and explore the coast and Willow Creek watershed from the perspective of the 4 cultural groups that have lived and worked there—the Kashaya Pomo, the Russians at the Kostromitinov Ranch, the Loggers, and the Ranchers. The ELP experience is one that the students will remember throughout their lives.

Your enthusiasm, creative interest and pre-site planning will inspire the students’ interest and give them the unforgettable learning experience that the Environmental Living Program can provide. To make this trip a success we must have your help. Adults are needed in the following areas:

- ☐ Camping expertise and gear
- ☐ Work in classroom for pre-site preparations
- ☐ Supervision of students on-site through overnight
- ☐ Photographer/video
- ☐ Help with planning and cooking meals
- ☐ Purchasing food
- ☐ Arts and craft activities
- ☐ Knowledge of or expertise on any of the cultural groups
- ☐ Driver

Please check the areas where you might be willing to help out. Our first informational and planning meeting is on _____

Parent _____ Student _____

☐ I will attend ☐ I cannot attend but can help in the areas checked

PLEASE RETURN THIS FORM TO THE TEACHER. THANK YOU!

Food Suggestions Checklist (See cookbooks)

Suggestions for food items to bring:

Fluids:

- ✓ Water
- ✓ Juices
- ✓ Milk
- ✓ Hot Chocolate
- ✓ Coffee and Tea for Adults

Breakfasts:

- ✓ Fruit (Wild/Native is possible); Fresh &/or dried
- ✓ Hot Cereal
- ✓ Dried Cereal (Grains)
- ✓ Milk
- ✓ Eggs
- ✓ Nuts (Native if possible)
- ✓ Butter (Fresh churned?)

Lunches:

- ✓ Trail mix
- ✓ Sandwiches
- ✓ Piroshki
- ✓ Fruit

Dinners:

- ✓ Seafood, Borscht, or Potato Soup
- ✓ Meat on a Stick
- ✓ Risotto
- ✓ Fish and Wild Greens
- ✓ Grill Bread
- ✓ Colcannon
- ✓ Stew
- ✓ Beans

Snacks:

- ✓ Nuts / Trail Mix
- ✓ Fruit
- ✓ Cookies

Desserts:

- ✓ Fruit
- ✓ Acorn Pudding
- ✓ Russian Tea Cakes
- ✓ Apple or pear crisp or pie

Items to Bring PACKING LIST

What to bring:

- ☐ Layered Clothing
(For warm and cold conditions)
 - ___ long pants
 - ___ tee shirts
 - ___ sweatshirts
 - ___ tennis or hiking shoes
 - ___ socks
 - ___ wind breaker
 - ___ hat or baseball cap
 - ___ warm Jacket
 - ☐ An extra pair of shoes
 - ☐ Rain Gear
 - ___ rain coat / rain hat or poncho
 - ___ rain boots
 - ☐ Toilet items
 - ___ comb or brush
 - ___ soap in a container
 - ___ washcloth
 - ___ towel
 - ___ toothbrush and toothpaste
 - ___ Kleenex
 - ___ Sunscreen
 - ___ Technu (Tecnu) for poison oak
 - ☐ Warm Sleeping Bag to 32°
 - ☐ Ground Cloth or Extra Blanket
 - ☐ Pillow (if you'd like)
 - ☐ A piece of clothing to signify cultural group—
Loggers, Ranchers,
Russian, Kashaya Pomo
 - ☐ A Back Pack
 - ☐ Any medicine or special need items
with explanation of condition / special needs
 - ☐ Bag lunch and snack for
Day 1 morning and lunch
 - ☐ Eating Utensils
- (Please no paper plates or throw away items)**
- ___ Cup
 - ___ bowl
 - ___ plate
 - ___ knife, fork, spoon
 - ☐ School supplies
 - ___ Notebook for journaling
 - ___ pencils and/or pen

What to leave at home:

Obvious items that are part of the modern world that might distract from the ELP experience such as:

- ✓ Candy
- ✓ Gum
- ✓ Snack/Junk Foods
- ✓ Radios
- ✓ TV's
- ✓ Video Games
- ✓ Toys

Guideline for Overnight Stay

Making and Wearing Costumes

To make the experience of students more authentic and to keep their cultural group in mind, students are encouraged to use some type of simple costume to represent their cultural group. Use research information and imaginations. A few suggestions include:

Kashaya Pomo-Flicker headbands

Russian American-Felt or fur hat for boys; Scarf for girls

Loggers-Flannel shirt

Ranchers-Straw hats or kerchiefs

Dropping off Students, Gear and Supplies

Students are to be dropped off by bus or car at the first turnout on Goat Rock Road. They will hike to Sunset Rocks then be driven to Shell Beach overlook where they will hike to the Pomo Canyon Campground with a stop off at Red Hill for lunch and activity stations.

All student gear and supplies are to be dropped off at Pomo Canyon Campground. There are TWO options:

- a) Buses or cars drop students off at Goat Rock Road then proceed to Pomo Campground to drop off gear and supplies. Return to Goat Rock Road to take students to Shell Beach.

OR

- b) Buses or cars drop off students at Goat Rock Road. Wait for students to return from Sunset Rocks hike then drop them off at Shell Beach. From Shell Beach, buses or cars proceed to Pomo Campground to drop off gear and supplies.

After the gear is dropped off parents can unload and organize gear and supplies. If possible a Stewards representative will be available to assist parents.

This is also the place students will be picked up after their ELP overnight experience.

Rainy Day Schedule

Light Rain:

In the event of light rain students will need rain gear such as raincoats or ponchos, hats, boots, etc. The program will proceed as scheduled.

Heavy Rain:

In the event of heavy rain the program will be canceled. If heavy rains and/or flooding occur in the area of the program site Stewards will notify the teacher as soon as we are made aware of the situation.

Sonoma Coast State Park Rules and Regulations

"THE BEST OF CALIFORNIA FOREVER" -- with your help and cooperation. Parks are for people to use and enjoy, not abuse and destroy. Without protection, the highly perishable values of the areas preserved in the California Park System could soon be destroyed.

It is important that each visitor read and become familiar with rules and regulations of the State Park System and specifically those of the Sonoma Coast State Beach. The following is a summary of some of the more commonly seen violations:

ANIMALS

No person is allowed to hunt, injure, or otherwise disturb any animal within the park's boundaries. State Fish and Game regulations govern all activities from the average (mean) high tide area and beyond. Within this authority, tide pool creatures are protected from molestation and injury. Marine mammals are further protected by federal statute from harassment.

CAMPING

Camping is allowed only in designated campgrounds, which include the four state-operated campgrounds at Wright's Beach, Bodega Dunes, Pomo, and Willow Creek.

CLOSED AREAS

Because of the significant dangers to the public, certain areas may be closed to public access at the discretion of the District Superintendent. On the Sonoma Coast, two locations have specifically led to the deaths of a number of park visitors. Goat Rock proper is completely closed to any kind of hiking or climbing activity, and the rock outcropping at Duncans Landing, known as Death Rock, is restricted to any type of entry.

COLLECTING

Living and non living things are protected within state parks, including all plant life and drift wood. Permits must be obtained from the District Superintendent for any exception. Contact a local ranger for information on exceptions.

CRIMINAL ACTIVITIES

Any activity that is defined as criminal through the California Penal Code is illegal within a State Park unit. Other violations that also apply include all alcohol-related regulations.

CURFEW

Juveniles (under 18 years of age) may not be on the Sonoma Coast State Beaches after sunset unless accompanied by their parent or guardian.

FIREARMS AND WEAPONS

Regardless of the intention of their possession, it is illegal to possess or carry any weapon capable of causing injury.

FIRES

Fires are allowed on the beaches, as long as they are controlled. Fires amongst the dunes or dune grasses are prohibited, as well as fires in an area with any type of vegetation.

GEOLOGICAL AND ARCHAEOLOGICAL FEATURES

Such features are protected from activities including removal, disturbance, disfigurement, defacement, destruction or mutilation.

HORSES

Generally, horses may not be ridden on beaches. Certain areas are exceptions, including the beach south of the Bodega Dunes day use area.

LITTER

Disposal of any item, other than in a proper trash receptacle, is prohibited.

OFF-HIGHWAY VEHICLES

No vehicles are allowed off-road in a State Park, and all vehicles must be registered through DMV for use on roads.

PETS

Animals must be kept leashed and under control at all times within a State Park unit. Dogs are not allowed on hiking trails or at the environmental campgrounds. Certain areas are closed to dogs on Sonoma Coast, including the bluffs on Bodega Head and Goat Rock beach. Dogs are allowed on a leash at Blind Beach.

PUBLIC RESOURCES CODE

The Department shall protect the State Park System from damage and preserve the peace therein. Any person who violates the rules and regulations established by the Department is guilty of a misdemeanor and, upon conviction, shall be punished by imprisonment in the county jail for a time not to exceed 90 days, or by a fine not exceeding \$500, or by both such fine and imprisonment.

VEHICLE OPERATION

All rules of the road, as defined by the California Vehicle Code, apply in State Parks.

Maps and Directions to the Sonoma Coast and ELP Site

For a **Sonoma Coast Map** please see insert in Teacher's Manual or download online at:

<http://www.parks.ca.gov/pages/451/files/SONOMACOASTSB.pdf>

Directions to Goat Rock (Student Drop Off Site)

From Highway 101, take the River Road exit west towards Guerneville. In Guerneville, River Road turns into Hwy 116. Continue on Highway 116 to its intersection with Highway 1. Turn left on Highway 1 and follow approximately 1 mile until you see a sign (on right) for Goat Rock Beach.

Directions to Shell Beach

Go south from Goat Rock Road about 2 miles until you see the Shell Beach parking area on the right. *No parking or trail fees.*

Directions to Pomo Canyon Environmental Campgrounds (ELP Site) (ELP Gear Drop Off Site) (ELP Student Pick Up Site)

Traveling from Bodega Bay north on Highway 1:

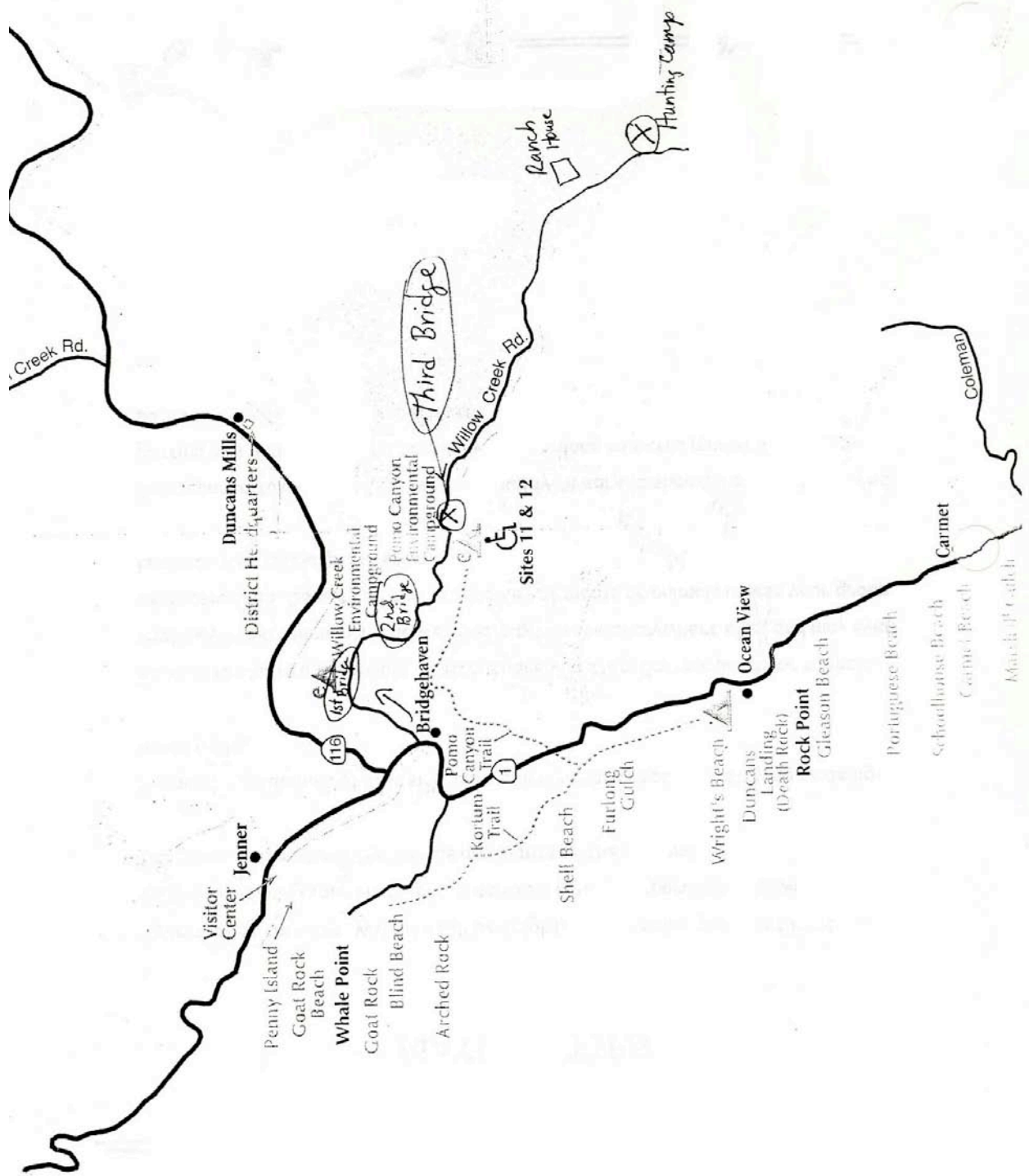
Approximately 8 miles north of Bodega Bay, turn right on Willow Creek Road, and follow the signs.

Traveling from Guerneville on Highway 116:

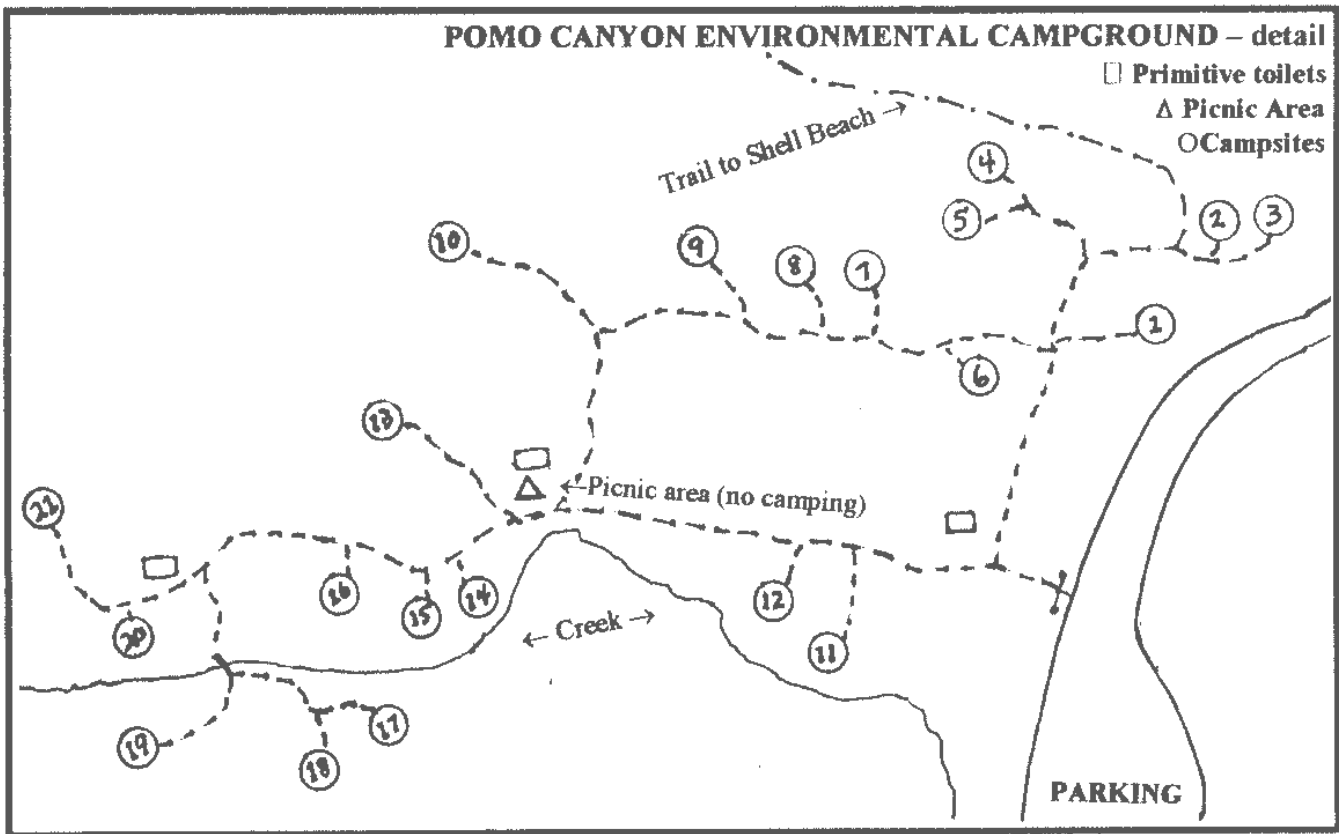
Turn left where it intersects with Highway 1, cross the bridge over the Russian River, and turn left onto Willow Creek Road (Directly after the Sizzling Tandoor Restaurant). The Pomo Canyon Campground is 2 miles east of Highway 1 on Willow Creek Road. *Pomo Canyon Environmental Campground does not require reservations. The parking area is located about 50 to 300 yards from the campsites.*

PLEASE BE SURE STUDENTS AND ADULTS RESPECT AND ARE AWARE THAT:

- THEY MUST STAY ON TRAILS AND STAY WITHIN THE BOUNDARIES OF THE CAMPSITES (They should not climb hillsides that do not have trails or go beyond barriers in the campground).
- THE FLORA AND FAUNA WITHIN THE PARK ARE FRAGILE AND REQUIRE EVERYONE TO BE CAREFUL WHILE IN THE PARK.



Descriptions and Maps of Pomo Canyon Campground The Sonoma Coast ELP Site



Campsites available for the ELP Program:

Group/Cooking Site – 14 & 15 & 16

Sleeping Sites: 13, 17, 18, 19 (20 & 21 if needed)

Some sites can accommodate up to three tents.

Bring Camp Stoves for cooking.

Use the fire rings for campfires – never leave campfires unattended without an adult present. Make sure fires are EXTINGUISHED before leaving.

Emergency Contacts and Procedures

Emergency Information **For Any Fire or Medical Emergency Dial 911**

There is no phone at the ELP Site. The closest pay phone is located down Willow Creek Road, across the street from the Sizzling Tandoor Restaurant on Coast Highway 1 in Bridgehaven.

Physical Location:

The overnight stay will occur at the Pomo Canyon Campground located on Willow Creek Road 2 miles east of Hwy 1.

Responding Emergency Agencies:

- If there is a medical or fire emergency during the day while the Stewards representative is present, contact that person first. Emergency Personnel will respond.
- If there is a medical or fire emergency during the night, or when there is no Stewards representative present, dial 911. The nearest phone is located across the street from the Sizzling Tandoor Restaurant on Highway 1. To reach a Sonoma Coast Ranger, call State Park Dispatch at: 916-358-1300. The Jenner or Monte Rio Volunteer Fire Department and Emergency Personnel will respond.
- Non-Emergency Medical Help: Palm Drive Hospital is the nearest hospital, located in Sebastopol, approximately 30 miles east, about a 45 minute drive. Phone#: (707) 823-8511
- The Russian River Health Center is located approximately 15 miles east of the ELP site in the town of Guerneville, about a 20 minute drive. Phone#: (707) 869-2849.

IN CASE OF FIRE: Make sure all children are safely away from fire and danger and under the supervision of adults.

FIRE EXTINGUISHERS: Are located ?

A FIRE HOSE: Can be found in the EMERGENCY SUPPLIES BOX and is located?

CLASSROOM CURRICULUM

CORRELATIONS TO STANDARDS BASED ON PROGRAM POSSIBILITIES

4th and 5th Grade:

1. Four Cultural Groups of the Sonoma Coast-Pomo, Russian Fur Company, Loggers, Ranchers
2. Effect of 4 cultural groups on the Willow Creek Watershed
3. Geology of Sonoma Coast

Focus on 4th Grade Social Science Academic Content Standards/In context of EP&C

1. Students demonstrate an understanding of the physical and human geographic features that define places and regions in California
 - a. Identify and describe differences among various regions of California including how their characteristics and physical environments affect human activity.
 - Give examples of the variety of ecosystems in California
 - Provide examples of how water, landforms, vegetation and climate affect human activity
 - Identify that the needs of humans in California are met by using goods and ecosystem services from natural systems.
 - b. Identify the locations of the Pacific Ocean, rivers, valleys, and mountain passes, and explain their effects on growth of towns.
 - Identify that humans depend on California's rivers, valleys, and mountain passes for movement and for the transport of goods and use of ecosystem services.
 - Describe how the Pacific Ocean, and California's rivers, valleys, and mountain passes influence the availability of goods and ecosystem services provided by natural systems for human use.
 - Provide examples of how the factors influencing the location of towns have changed as the human population in California has grown and technology has advanced.
 - Recognize that although some factors influencing location of towns in California have changed, human communities are still dependent on local natural systems for basis resources.
 - c. Use maps, charts, and pictures to describe how communities in California vary in land use, vegetation, wildlife, climate, population density, architecture, services, and transportation.
 - Use maps, charts, and pictures to identify and locate the different types of land use, vegetation, wildlife, and climatic zones in California.
2. Students describe the social, political, cultural, and economic life and interactions among people of California from the pre-Columbian societies to the Spanish mission and Mexican rancho periods.
POMO, RUSSIAN FUR COMPANY
3. Students explain the economic, social, and political life in California from the establishment of the Bear Flag Republic through the Mexican-American War, the Gold Rush, and the granting of statehood. LOGGERS, RANCHERS
4. Students explain how California became an agricultural and industrial power, tracing the transformation of the California economy and its political and cultural development since the 1850's. LOGGERS, RANCHERS
 - Identify the importance of California's water to humans, human communities, and natural systems.
 - Describe how the health of California's natural systems directly affects the quality, quantity, and reliability of California's water supply.

Focus on 4th Grade Science Academic Content Standards in Context of EEI

Life Sciences

2. All organisms need energy and matter to live and grow.
 - a. Students know plants are the primary source of matter and energy entering most food chains.
 - Recognize that living things have needs that must be met for survival.
 - Recognize that plants are the primary source of energy for living things
 - Explain how living things meet their needs and survive by using resources from their environment.
 - Identify that: Humans are living things and have needs essential to their survival.
Needs of humans are met by using resources from natural systems.
 - Recognize that everything humans need was originally derived from natural systems
 - b. Students know producers and consumers are related in food chains and food webs and may compete with each other for resources in an ecosystem.
 - Classify organisms from a terrestrial, freshwater, coastal or marine ecosystem as producers and consumers and explain their roles in that system.
 - Recognize that some resources within an ecosystem, including those upon which humans depend, are readily available and others are limited in supply.
 - Describe how organisms compete for limited resources.
 - Explain potential consequences when a component of an ecosystem is changed or eliminated.
 - Describe factors that can adversely affect the health of an ecosystem.
 - c. Students know decomposers, including many fungi, insects, and microorganisms, recycle matter from dead plants and animals.
 - Describe the dependence of human practices on the cycles and processes that occur in terrestrial, freshwater, coastal, and marine ecosystems
3. Living organisms depend on one another and on their environment for survival.
 - a. Students know ecosystems can be characterized by their living and nonliving components. Identify that the needs of humans are met by using resources.
 - b. Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.
 - Recognize that living things meet their needs by using resources from the environment
 - Recognize that some resources within an ecosystem are finite in supply; others are less limited.
 - Explain how the health of an ecosystem affects the ability of plants and animals to survive
 - Recognize that changes to the environment caused by humans and other animals influence the survival of some kinds of plants and animals.
 - Identify some changes caused by humans
 - Provide examples of how human practices have altered the cycles and process that occur naturally in terrestrial, freshwater, coastal, and marine ecosystems.

Earth Sciences

4. The properties of rocks and minerals reflect the processes that formed them.
5. Waves, wind, water, and ice shape and reshape Earth's land surface.
 - a. Students know some changes in the earth are due to slow processes, such as erosion, and some changes are due to rapid processes such as landslides, volcanic eruptions and earthquakes.
 - Provide examples of how geologic processes affect humans, human communities and natural systems.
 - Describe how human activities can magnify the impacts of some geologic processes, such as increasing the rate of erosion or landslide occurrence.

- b. Students know moving water erodes landforms, reshaping the land by taking it away from some places and depositing it as pebbles, sand, silt and mud in other places.
 - Provide examples of how moving water erodes landforms and the reshaping of the land affect humans.
 - Describe how human activities can affect the flow of water

Focus on 5th Grade Social Science Academic Content Standards

1. Students describe the major pre-Columbian settlements, including the cliff dwellers and pueblo people of the desert Southwest, the American Indians of the Pacific Northwest, the nomadic nations of the Great Plains, and the woodland peoples east of the Mississippi River. POMO, RUSSIAN FUR COMPANY (ALASKAN INDIANS)
 - a. Describe how geography and climate influenced the way various nations lived and adjusted to the natural environment, including locations of villages, the distinct structures that they built, and how they obtained food, clothing, tools, and utensils.
 - b. Describe their varied customs and folklore traditions.
 - c. Explain their varied economies and systems of government.
2. Students trace the routes of early explorers and describe the early explorations of the Americas. RUSSIAN FUR COMPANY
 - a. Identify that the principle entrepreneurial drive motivating early exploration of the Americas was the pursuit of the natural resources (goods and ecosystem services provided by natural systems) available in other parts of the world.
3. Students describe the cooperation and conflict that existed among the American Indians and between the Indian nations and the new settlers. POMO, RUSSIAN FUR COMPANY, LOGGERS, RANCHER

Focus on 5th Grade Science Academic Content Standards

Earth Sciences

3. Water on Earth moves between the oceans and land through the processes of evaporation and condensation.
 - a. Students know most of Earth's water is present as salt water in the oceans, which cover most of Earth's surface.
 - Identify that humans are living things and clean fresh water is essential to their survival.
 - Recognize that because most of Earth's water is salt water located in the oceans the vast majority of water is not available for human consumption.
 - Describe freshwater, coastal and marine ecosystems and compare the chemical characteristics of the water in these systems.
 - Explain how humans and human communities can influence the quantity, distribution and chemical characteristics of the water in freshwater, coastal and marine ecosystems.
 - b. Students know when liquid water evaporates, it turns into water vapor in the air and can reappear as a liquid when cooled or as a solid if cooled below the freezing point of water.
 - Provide examples of roles these cycles and processes play in human life and human communities.
 - c. Students know water vapor in the air moves from one place to another and can form fog or clouds, which are tiny droplets of water or ice, and can fall to Earth as rain, hail, sleet, or snow.
 - Provide examples of how human activities can influence the quantity, distribution and chemical characteristics of precipitation.

Life Sciences

2. Plants and animals have structures for respiration, digestion, waste disposal, and transport of materials. As a basis for understanding this concept:
 - Recognized that movement of matter and energy through ecosystems generates byproducts.
 - Describe how matter and energy flow in ecosystems.
 - Describe and discuss the concept of boundary in natural systems.
 - Recognize that natural systems are not separated by impermeable or permanent boundaries.
 - Provide examples of how the byproducts of human activities (e.g. carbon dioxide [CO₂]) enter natural systems (terrestrial, freshwater, coastal and marine ecosystems)

Earth Sciences

3. Water on Earth moves between the oceans and land through the processes of evaporation and condensation. As a basis for understand this concept:
 - a. Students know most of Earth's water is present as salt water in the oceans, which cover most of Earth's surface.
 - Identify that humans are living things and clean fresh water is essential to their survival.
 - Recognize that because most of Earth's water is salt water located in the oceans, the vast majority of water is not available for human consumption.
 - Explain how humans and human communities can influence the quantity, distribution and chemical characteristics of the water in freshwater, coastal and marine ecosystems (water management practices-Watershed)
4. Energy from the Sun heats Earth unevenly causing air movements that result in changing weather patterns.
 - d. Students know the causes and effects of different types of severe weather.
 - Provide examples of how human practices can influence weather.
 - Identify the potential consequences of severe weather on human communities and natural systems.

6th Grade:

- Prehistoric inhabitants of the Sonoma Coast-Pleistocene Mammoths & Geology of Mammoth Rocks
- Effect of 4 cultural groups on the Willow Creek Watershed

Focus on 6th Grade Social Science Academic Content Standards

1. Students describe what is known through archaeological studies of the early physical and cultural development of humankind from the Paleolithic era to the agricultural revolution.
 - a. Describe the hunter-gatherer societies, including the development of tools and the use of fire.
 - Recognize how hunter-gatherer societies met their needs (i.e. they depended upon the goods and ecosystem services that they obtained from natural systems).
 - Explain that even though humans today may use different tools and practices, they require the same goods and ecosystem services as those of hunter-gatherer societies to assure their survival.
 - Describe how the expansion and operation of hunter-gatherer societies influenced the geographic extent, composition, biological diversity, and viability of natural systems (e.g. the extinction of mastodons, flightless birds, and other large animals).

Plate Tectonics and Earth's Structure

1. Plate tectonics accounts for important features of Earth's surface and major geologic events. As a basis for understanding this concept:
 - Describe how geologic events and processes affect the distribution of terrestrial, freshwater and coastal ecosystems
 - Provide examples of the direct and indirect influences of these geologic events and processes on humans and human communities.
 - Explain how these geologic events and processes affect the distribution of goods and ecosystems services from natural systems (e.g. water supply)

Shaping Earth's Surfaces

1. Topography is reshaped by the weathering of rock and soil and by the transportation and deposition of sediment. As a basis for understand this concept:
 - a. Students know water running downhill is the dominant process in shaping the landscape, including California's landscape.
 - b. Students know rivers and streams are dynamic systems that erode, transport sediment, change course, and flood their banks in natural and recurring patterns.
 - Identify how humans and human communities benefit from the dynamic nature rivers and streams in ways that are essential to human life and to the functioning of our economies and cultures (e.g. deposition of fertile sediment)
 - Describe how humans and human communities are influenced by soil erosion, sediment transport, course changes and flooding of rivers and streams
 - Provide examples of how human activities can influence the flow of rivers and streams.
 - Describe how changes to the flow of rivers and streams can influence the functioning of terrestrial, freshwater, coastal and marine ecosystems (e.g. spawning salmon).
 - c. Students know beaches are dynamic systems in which the sand is supplied by rivers and moved along the coast by the action of waves.
 - d. Students know earthquakes, volcanic eruptions, landslides, and floods change human and wildlife habitats.Sonoma Coast.

TEACHER RESOURCES

Short Histories with vocabulary & questions:

- **Kashaya Pomo**
- **Russian American Fur Company**
- **Loggers in Willow Creek Watershed**
- **Ranchers in Willow Creek Watershed**

Native American in the Willow Creek Area

From Willow Creek Watershed Management Plan, chapter 3 Watershed History and The First People by Otis Parrish, excerpted from Fort Ross

The Kashaya Pomo were the first people known to live on the Sonoma Coast and in the Willow Creek area and have been here for thousands of years. They call themselves “People from the Top of the Land”. The name “Kashaya”, given to them by a neighboring Pomo group, means “expert gamblers”. They must have been good at a gambling game called the hand game to earn that name. In the game players guess in which hand an opponent holds a marked bone.

The area the Kashaya originally occupied extended from just south of the Gualala River to just south of the Russian River at Duncan’s Point, and across several coastal ranges to the east. Before Europeans arrived in the area the population of Kashaya Pomo is estimated to have been as many as 1,500 to 2,500 people living in larger and smaller villages throughout their territory. The villages were linked to each other through social, religious, and political activities. Leaders lived in the larger villages and were at the center of religious and social life.

Chalanchawi was a village located at Willow Creek now thought to have been one of the larger, more important villages of the local Kashaya Pomo group. It was located south of the Russian River and northeast of the mouth of Willow Creek. Though the site is shown on a 1925 map, the precise location of the village is not known due to the scale of the map. The Russian’s Kostromitinov Ranch established in 1833 in Willow Creek valley may have been near Chalanchawi.

The Kashaya lived lightly on the land. They were hunters and gatherers, using only what they needed and being careful not to deplete resources upon which they depended.

They measured time according to the seasons. In 1839 Peter Kostromitinov, a Russian who traveled in the area and was administrator at Fort Ross from 1830-1838 explained, “...*the season dictates the place where they have to find their sustenance. In spring they live in the vicinity of the rivers and in locations that abound in water, so that they may catch fish and collect roots and herbs, while they spend the summer in woods and plains, where they collect berries and seeds of wild plants: in autumn they lay in stores of acorns, wild chestnuts, and sometimes nuts...*” In late fall the Kashaya moved back inland to their main villages on the top of ridges where their houses made of poles and redwood bark could shelter them during the cold winter months.

Inland they hunted elk, deer, bear and other smaller animals and gathered berries, acorns and other fruits and seeds. Along the shore they fished, gathered mussels and abalone and hunted marine mammals such as seals. They gathered seaweed, other sea plants and sea salt to use in flavoring their food or to trade. The shells they gathered were often made into beads that they used as decorations on their baskets and as a form of money for trade with inland tribes.

The Kashaya were expert basket makers. They made utility baskets that were used for many purposes including cooking, gathering, fishing and storing food. They also made gift baskets with shell beads and feathers that were given as gifts, to trade, and to sell. Pomo basketry is admired for the stitching which is even, tight, and delicate; for the variety of weaves and styles; and for the designs and feather trims.

The Kashaya believed in a creator who made the world and they connected the creator to Coyote, the animal and the trickster of their myths. They thought supernatural forces lived in everything. The rules that they lived by were enforced by peer pressure and the belief that a supernatural being might visit and frighten to death a person who had broken a rule.

Shamans were important people in Kashaya life and preached and conducted ceremonies that were held for certain annual occasions. Some of these are still held today. In May the strawberry festival is held to bless the first fruits of the year and in the fall they gather for an acorn festival as acorns have historically been an important food source. Other ceremonies were held for sacred dances and for feasts. Shamans also were doctors. Medicine for illnesses came from local plants as well as through the healing practices of Shamans.

The Kashaya did not spend much time in redwood forests, thinking of them as sacred and forbidding places but they had great respect for redwood trees. They used redwood bark on the outside of some of their homes for insulation and for its water shedding properties. Women also used the bark to make skirts to wear. However only bark from trees that had fallen down was used.

The Kashaya were deeply affected by their contact with the Russians, Mexican/Spanish, and Americans though they had less pressure than other California tribes to change their way of life. However their way of life did change dramatically as the land and forests on which they lived and depended gave way to private ownership for logging, farming, and ranching. Their access to gathering places and the game they hunted became limited. To earn a living they became laborers in local sawmills and on ranches.

For the most part, life for the Kashaya Pomo was fairly peaceful with the Russian occupation. The Russians employed them as laborers on their ranches and there may have been 12 or more working at the Kostromitinov Ranch in Willow Creek where a “wooden house” was built for “Indians” (it may not have been such a nice house, in the bill of sale to John Sutter of Sacramento the house is described as a shack). When the Russians left in 1841 it is not known if any Kashaya continued to live in the area although Kashaya villages (perhaps Chalanchawi was one) were inhabited near current day Bridgehaven, west of Willow Creek.

Today Kashaya Pomo continue to live in Sonoma County and with other Native Americans still visit the Willow Creek and Russian River areas to collect seafood and for plants for their basketmaking.

Describe and define the following names and places:

Kashaya
Gualala River
Duncan’s Point
Chalanchawi
Kostromitinov Ranch
Peter Kostromitrinov
shaman
Bridgehaven

Answers the following questions:

1. When are the Kashaya Pomo first known to have lived in Sonoma County?
2. Where was the traditional Kashaya Pomo territory?
3. How did the Kashaya Pomo take advantage of the seasonal resources in the area?
4. Describe the types of baskets Kashaya Pomo created.
5. In what ways did their lives change after their contact with the Russians and other groups of people?

Something to think about:

6. If you were a Kashaya Pomo what would you have thought of and/or how would you have felt about the new settlers (Russians, Spanish/Mexican, American)?

The Russians in Willow Creek Watershed

From Willow Creek Watershed Management Plan,

Chapter 3—Watershed History

The Russians came to the Sonoma Coast to hunt seals and sea otters for their fur and to supply their other colonies with food. In 1809, Ivan Alexandrovich Kuskov sailed into Bodega Bay on the Kodiak, the Russian American Fur Company's ship. He had been sent by Alexander Baranov of the Russian American Fur Company to select a place for a new settlement.

Kuskov found what he thought was the perfect spot 12 miles north of the Russian River, named the Slavianska River by the Russians. He returned in 1812 with twenty-five Russians and eight Native Alaskans to build Fort Ross.

Along with the construction of Fort Ross, the Russians established four main ranches whose goal was to grow fruits, grains like wheat and barley, and livestock for the Russian American Company's colonies, which had chronic supply problems. The ranches included the Rumanianyov Ranch at Bodega Bay, the Khlebnikov Ranch near Bodega, the Tschernisch Farm near Freestone, and the Kostromitinov Ranch in Willow Creek.

The Kostromitinov Ranch was built in 1833. It was named for Peter Kostromitinov who was administrator of Fort Ross from 1830 to 1838. The ranch consisted of fields and ranch lands north and south of the Russian River. Its headquarters were likely in the Willow Creek valley but no one is sure of the exact location. A visitor to the ranch, Duflot de Mofras, created a map in 1841 that shows the location of the ranch but due to the scale and the way the ranch's name is written on the map the location can't be pinpointed. Some believe it is near the old Ocean District School in Willow Creek valley. The California State Office of Historic Preservation places it around the San Quentin Gulch near current-day Pomo Canyon Campground. Archeological surveys recently have not yet found traces of the ranch.

The people who worked the ranch included Kashaya Pomo, Native Alaskans, and Russians. To create the ranch they must have cut down trees in the Willow Creek valley to create grasslands to graze cattle, sheep and horses and for farming. Wheat, barley, and other crops were grown on approximately 100 acres in the valley. They put up post and rail fences as well as occasional picket fences to keep livestock from trampling the plowed land. They may also have used "goose pens", hollowed out redwood trees, to keep chickens, geese, and/or ducks as did the ranchers who followed them.

The ranch's buildings included a barracks, a warehouse, a house, two threshing platforms, a winnowing platform, a house for Indian workers, a kitchen with two ovens, and a bathhouse all described by Duflot de Mofras from his travels there. The Kostromitinov Ranch was referred to as "Halfway House" because travelers stopped there halfway on their journey to and from the Russian Bodega outpost and Fort Ross. The ranchers kept a house just for the travelers and a boat to use in crossing the Russian River.

The Kostromitinov ranchers planted grain on plowland along the lower section of Willow Creek. They had a decent first harvest in 1834 but in 1836 had a total crop failure. The fog and gophers made the job harder. By 1840 the ranch was reported to have 98 to 100 acres of superior cultivated land mostly growing wheat. Unfortunately the Russian American Fur Company could buy wheat cheaper from Mexican California than it could grow it on the ranch.

The ranch also raised cattle, sheep, pigs, and horses and had a large corral for their livestock. There is some indication that they also were breeding horses.

Because the seal and sea otter populations on the California coast had declined dramatically by 1841 and it was no longer profitable to stay here the Russian American Fur Company decided to sell its holdings and pull out of California. They sold all of their holdings to John Sutter of Sacramento. Their land could not be legally

transferred so Sutter dismantled many of the buildings and took them to Sacramento. The Russians took everything that was easily moved for use at other settlements and abandoned the farms and ranches including the Kostromitinov Ranch.

Describe and define the following:

Russian American Fur Company

Ivan Alexandrovich Kuskov and the Kodiak

Alexander Baranov

Slavianka River

Peter Kostromitinov

Duflot de Mofras

John Sutter

Answer the following questions:

1. Why did the Russians come to the Sonoma Coast?
2. Where was the Kostromitinov Ranch located and why was it important?
3. Who worked at the ranch and what was produced there?
4. What changes occurred during the time of the Kostromitinov Ranch?
5. Why did the Russians abandon the ranch? If you were in charge would you have abandoned the ranch?
6. Create a timeline for the Kostromitinov Ranch

The following is the list of property at the ranch included in the Bill of Sale from the Russian American Fur Company to John Sutter:

THE KOSTROMITINOV RANCH:

A barracks.....covered with planking with 3 rooms and a vestibule.

The barracks was used to house the Russian and Native Alaskan ranch workers.

A warehouse.....covered with planking. There are seed storage compartments inside....

The warehouse was used to store harvested crops and seeds for planting.

A house...

The house was used to accommodate people who were traveling between Bodega and Fort Ross.

Two wooden threshing floors...

The threshing floors was where separation of seeds from harvested plants occurred.

A wheat-winnowing floor...built on posts.

The wheat-winnowing floor was the place where grain was separated from the wheat stalks by tossing it in the air.

A shack for Indians, built of planks....

This building was where the Pomo Indian workers lived.

A kitchen...with two stoves.

The food for workers and guests was prepared and cooked here.

A bathhouse...

The bathhouse was where workers bathed.

A boat for crossing the Slavianka river.

Because there were fields on both sides of the river a boat was needed to ferry people back and forth.

The Loggers in the Willow Creek Watershed

From the *Willow Creek Watershed Management Plan*,
Chapter 3 Watershed History

Before Europeans arrived the Native Americans who lived in the Willow Creek watershed area did not cut down redwood trees. However they did use the bark and wood from trees that naturally fell down.

During the Mexican Mission times Tan Oaks were cut down for their bark, which was used to tan hides. But redwoods were not valued and not cut.

The first people to cut redwood trees in the Willow Creek watershed were most likely the Russians who, in 1833, built the Kostromitinov Ranch in the Willow Creek area to help support their colony at Fort Ross and provide food to other Russian colonies along the Alaskan and Pacific Northwest coast. At Willow Creek they had to clear the land for grazing and for fields for growing crops. They also needed lumber to construct the ranch buildings. When they left Fort Ross the Kostromitinov Ranch was abandoned.

Next came Captain Stephen Smith who received a Mexican land grant in the mid-1840s for the Bodega Rancho, which included land in the Willow Creek watershed. Captain Smith brought the first sawmill, a steam-operated one, by ship into Bodega Bay in 1842.

The first recorded logging in California began when Captain Smith and his wife leased the timber rights to land in the Willow Creek watershed to Bethuel Phelps in 1848. The lease was passed on to John Curry who maintained it until at least 1867.

In 1858 Joseph Knowles purchased Willow Creek acreage, which included continuing the timber lease to Bethuel Phelps and then to John Curry. The lease allowed construction of sawmills and digging of wells and also grazing for some horses, cattle, and oxen.

The Phelp/Curry lease divided the land into sections. According to the lease each section could only be logged once. Because loggers could not return to a section, it was logical for them to try to cut as many trees as possible in a section before moving on to the next.

At first redwood trees presented a big challenge to the loggers. The trees were bigger than any trees they had cut down before. Some were up to 35 feet in diameter. The tools that were available to use such as axes and crosscut saws, sometimes called “misery whips”, meant that the trees had to be cut by hand. It might take two men two weeks to cut down a large redwood tree.

Once the trees were down and the bark removed they had to be transported in some way to the sawmill to be made into useable lumber. Because of the challenge of moving the huge trees, logging often occurred near rivers. On the ground mule, horse, or oxen teams dragged the debarked trees over specially prepared “skid roads” to the sawmill. “Skid roads” were made of half submerged logs running across the road with a higher log on each side. They were greased with oil to make it easier to slide the logs along. Once at the sawmill the trees were milled into lumber and moved to schooners, fast sailing ships, to be transported to market.

In 1860 at Duncansville on the south side of the Russian River near current-day Bridgehaven, Samuel Duncan and his brother, Alexander, built a new lumber mill just west of the Willow Creek area. Their company was named “Duncan’s Mills”. The brothers saw the potential for getting lumber to the Bay Area on small, 2-masted ships called “dog hole” schooners. Since the ships were small they could dock in tiny inlets and coves that were closer to the mill. To get the cut lumber to the coast and the ships, horse trains were used along a road from Duncansville (Bridgehaven) to Duncans Landing where the lumber was loaded onto the schooners. Highway 1 follows that road today.

At the lumber mill a small town grew from 100 to 300 people. The town included a store, hotel, post office, express agency, and telegraph office. Since Willow Creek is so close it seems logical to think that at least some of the lumber that was milled at Duncansville came from the Willow Creek watershed.

By 1877 Alexander Duncan had purchased land along Austin Creek and persuaded the North Pacific Coast Railroad to make its terminus the site of modern-day Duncans Mills on the northern side of the Russian River. Duncan put the entire town and the mill on rafts and moved up river to the railroad's end of the line.

The late 1860s brought a new sawmill to the lower Willow Creek meadow area. A narrow gauge rail was constructed in the stream channel to push lumber uphill to the headwaters and a steam donkey engine was used to bring logs downhill, making it much easier to move logs to the sawmill. Eventually the rail system also moved the finished lumber over the watershed divide to schooners in Bodega Bay that transported it to San Francisco.

The Russian River Land and Lumber Company purchased property in the Willow Creek watershed in the 1870s and gained access to the timber there in the late 1880s when the North Pacific Coast Railroad extended a new narrow gauge line from Duncans Mills to Willow Creek.

From the 1920s to the 1950's little logging occurred in Willow Creek. However in 1953 through the early 1970s there was intense logging in the upper watershed by the partnership of Hammond, Jenson, and Wallin. There was extensive removal of second growth and remaining old growth redwoods and the inner gorge of Willow Creek was clear-cut.

California State Parks acquired much of the lower Willow Creek watershed in 1978.

Louisiana Pacific bought most of the upper watershed and logged more than 1,000 acres between 1982 and 1998. In 1998 Louisiana Pacific sold their land to the Mendocino Redwood Company, known for their sustainable logging practices. In 2005 most of their land was purchased by conservation agencies and transferred to California State Parks.

Vocabulary:

Lease—a contract allowing someone exclusive use of another's property for a specific amount of time in return for rent.

Crosscut saw—hand saw operated by 2 men, one on each end. It cut across the tree and was used both to cut down a tree and to cut the tree into specific lengths once it had been cut down.

"Misery whip"—a poorly sharpened crosscut saw that made more work for the loggers.

"Skid road"—A road over which oxen, horses or tractors pulled logs. Skid roads were made in the shape of a "V" with one log at the bottom and a higher log on each side. These were swabbed with crude oil or whale oil for easier sliding.

The logs from which the bark had been "skinned" were dragged along these "skid roads" by long strings of oxen. Almost all young boys started their logging careers swabbing these "skid roads" with oil.

Schooner—a fast sailing ship with at least two masts and with sails set lengthways.

"Dog hole" schooner—a small schooner able to maneuver into tiny coves to anchor so that lumber could be loaded from chutes on top of the cliffs. Because the ships had to turn around and around while maneuvering to anchor in the small cove it reminded people of a dog circling around before lying down thus the name dog holes.

Terminus—a point where something stops or reaches its end like the end of a railroad line

Steam donkey engine—the loggers name for the Dolbeer Logging Engine, a type of stationary steam engine historically used during logging operations to haul logs to a log landing. Logs were pulled with a wire cable attached to a winch.

Describe and define the following:

Captain Stephen Smith
Bethuel Phellps
John Curry
Joseph Knowles
Samuel and Alexander Duncan
Russian River Land and Lumber Company
North Pacific Coast Railroad
Hammond, Jenson, and Wallin
Louisana Pacific
Mendocino Redwood Company
California State Parks

Answer the following questions:

1. Who were the first people to log the Willow Creek area?
2. Why was logging redwoods challenging?
3. How did the Duncan brothers get their milled lumber to market?
4. Why, where, and how did Alexander Duncan move Duncansville?
5. How did the landscape of the Willow Creek area change from 1833 to 2005?
6. Make a timeline of important events

Something to think about:

7. If you had been a logger what would you think about clear-cut logging?

The History of the Ranchers in Willow Creek Watershed

*From: Willow Creek Watershed Management Plan,
Chapter 3—Watershed History*

The first ranchers in the Willow Creek area were the Russians who established the Kostromitinov Ranch there in 1833. They grew crops such as wheat on approximately 100 acres in the valley and grazed livestock on lowland areas along the creek they converted from riparian forests to grasslands. The ranch operated until 1841 when the Russians sold their holdings in California to John Sutter and abandoned the ranch.

Ranching and farming was not prominent again in the Willow Creek area until the Knowles family settled there in 1858. Joseph Knowles bought 1,623.23 acres of land which he, his wife, and his brother David used to grow grain and livestock. The Knowles lived and worked the land for over 30 years. Most of the watershed area now owned by California State Parks was land they occupied.

Joseph first raised cattle, horses, and hogs and David grew wheat and other grains. By 1860 they had established the Knowles flour mill where they produced flour from the grain David grew. During the 1860s and 1870s Joseph began to raise sheep and lambs rather than cattle.

In the 1877 records it shows Joseph Knowles had 1400 sheep, 300 lambs, 75 hogs, and 13 dozen poultry. By grazing standards so many animals would have overgrazed the land. Therefore it is thought that the animals might also have grazed on neighboring property since that was a common practice at the time. It seems likely that the fertile bottomland was used to grow grain for the Knowles flour mill and that the animals grazed on the upland slopes. By 1900 the Knowles family no longer lived in the Willow Creek area though they still owned the land.

With a mill the brothers could grind their own crops of wheat and that of neighboring farmers into flour that was a staple in most households. The mill needed to be near running water or moved by horses to turn the wheel that turned the stone to grind the wheat.

The Willow Creek watershed area was also used for grazing by W.S.M. Wright who owned property between Bodega Bay and the Russian River. Several dairies were also established in the area in the 1860's. One dairy was east of Joseph Knowles property. Another was south of Duncansville, which was located around the area of Bridgehaven today.

An important product dairies produced in the early days was butter. Because the milk most often was soured after sitting for several days waiting for the cream to rise, it was given to the hogs or other livestock as food. The cream was skimmed and then churned into butter. Then it was formed into bricks that were wrapped in cloth and delivered locally or to San Francisco for brokers to sell. Sampson B. Wright, a descendent of W.S.M. Wright installed the first cream separator in the county on the Wright property in the south Willow Creek watershed.

“The tradition of raising wheat and other grains in the valley and sheep and cattle on the upland meadows was continued by succeeding generations of the Brown, Mann, Furlong, and Baxman families.”

Robert Brown, the grandfather of Elmer Brown, settled his family north of Cazadero on the Mountain Ranch in 1872. Elmer bought a bordering ranch, which was part of the former holdings of Sampson B. Wright, descendent of W.S.M. Wright, in 1923 and raised 800 sheep on coast ranches with his wife, Maude, for over 60 years. Elmer's daughter, Elizabeth and her husband Oscar Mann became partners in the ranch.

South of the Brown Ranch the Gossage family raised purebred Suffolk sheep during the late 1940s.

Ranchers and loggers shared the Willow Creek area land. Loggers leased land from ranchers to cut down trees for lumber and ranchers leased land from loggers to grow crops and graze sheep and cattle. Ranchers used hollowed out redwood trees as “goose pens” to contain small farm animals like chickens and geese.

James Baxman bought a Willow Creek ranch in 1956 and his son Raymond raised sheep and cattle there with the help of his three sons, Billy, Mike, and Richard. In 1961 James sold his Willow Creek property to Poindexter Corporation for logging operations and his son Raymond leased 1,250 acres to continue grazing cattle and sheep.

During succeeding sales of the land for logging, in 1973 to Georgia Pacific Corporation and in 1979 to Louisiana Pacific Corporation, the Baxman family was able to continue leasing all of Willow Creek valley to graze their livestock.

In 1978 the lower Willow Creek was acquired by State Parks and in 1982 the lease for grazing there came to an end. Billy Baxman, who lived in the Furlong home, moved and the sheep being grazed there were sold.

The Baxman family continued to graze sheep on upper Willow Creek and in 1984 Richard and Nancy Baxman bought all the remaining livestock from Raymond. They continued to graze but the lease limited grazing to 500 acres of land. Because 500 acres couldn't sustain enough animals to support a family they also took on full time jobs. From 1984 to 1995 mostly sheep were raised on upper Willow Creek. Mountain lions, coyotes, and dogs caused problems by killing many ewes and lambs. The family decided in 1995 to sell the sheep and raise only cattle.

In 1999 Louisiana Pacific sold Willow Creek to Mendocino Redwoods Company who continued the grazing lease to the Baxmans on a year to year basis. In 2005 Mendocino Redwoods sold to Sonoma County Agricultural Preservation and Open Space District who in turn has turned the land over to State Parks. Soon the long history of grazing on Willow Creek land will end.

Describe and Define the following:

Kostromitinov Ranch
John Sutter
Joseph Knowles
W.S.M. Wright
Duncansville
Bridgehaven
Sampson B. Wright
Elmer Brown
Elizabeth Brown and Oscar Mann
Gossage family
The Baxman Family
Poindexter Corporation
Georgia Pacific Corporation
Louisiana Pacific Corporation
Mendocino Redwood Company
Open Space

Answer the following questions:

1. What kind of livestock and crops were grown on land in the Willow Creek watershed?
2. Why did the Knowles brothers build a flourmill?
3. Where do you think it was located? Why?
4. Why was a cream separator an important step for dairy farmers?
5. How did ranchers and loggers work together in the Willow Creek area?
6. How did Willow Creek watershed change as ownership changed? Give examples.

Something to think about:

7. What kinds of changes could/should take place now that California State Parks owns this land?

Some Plants that were important to each Cultural Group:

Kashaya Pomo

Oak trees
Tanoak
Redwood bark
California Laurel or Bay Tree
Poison oak
Soap Plant
California Poppy (*eschscholzia californica*)
Douglas Iris
Stinging Nettles

Russians

Tanoaks

Loggers

Redwood Trees
Tanoak
Douglas Fir

Ranchers

Himalayan Blackberry (introduced by Luther Burbank)
Subterranean Clover
Cow Parsnips
Sheep Sorrel

Recipes from Pioneering Sonoma County Families
(taken from *The Best of Sonoma County* produced by Sonoma County Museum)
(also see cookbooks)

Ranchers

Brown/Mann Family

From Elizabeth Mann-Jenner

(They were sheep ranchers)

The family patriarch, Robert Brown settled in Dry Creek Valley. In 1872 when his son Chester was 5 years old the family moved to Mountain Ranch north of Cazadero to raise cattle. When Chester married he went into the dairy business from 1904 to 1924. Chester's youngest son, Sam and his wife raised sheep on the same ranch for 60 years. Chester's oldest son, Elmer, bought a ranch in 1923 that bordered and was south of Mountain Ranch where he and his wife Maude raised sheep for the next 60 years. Both couples also had coast ranches near Jenner and Bodega Bay. Elmer and Maude's daughter and son in law, Betty and Oscar Mann were partners in the ranch and their children and grandchildren are still involved in helping to manage the ranches.

Lamb Chops Parmesan

3 loin or rib lamb chops	1 teaspoon oregano powder
3 tablespoons Parmesan cheese	1/3 teaspoons garlic powder

Mix together cheese, garlic and oregano. Heat fry pan to HOT! Use no shortening or oil. (The fat on the chops is sufficient.) Place lamb chops in hot pan, and turn heat down to 325 immediately and cover. Cook for 5 minutes (medium rare), add 3 more minutes for well done. Turn chops over and cook for 3 minutes, uncovered. Then sprinkle the above ingredients on chops and cover; cook for 2 minutes or longer if well done is desired. Serve on a HOT platter.

An optional preparation for lamb chops:

3 loin or rib chops (remove excess fat)	1 teaspoon pepper
1 teaspoon paprika	3 tablespoons lemon juice
1 teaspoon powdered onion	

Mix together paprika, onion and pepper. Rub the lemon juice into chops and let stand for 10 minutes. Sprinkle the seasonings above on both sides of the chops and broil for 5 minutes (3 minutes longer if desired well-done); turn chops and broil for 5 minutes or longer. Serve on a hot platter with rice.

The Furlongs arrived and settled in Sonoma County in 1866 from Ireland. They had a ranch in the Willow Creek area. They were friends with the Gallaghers who arrived in 1858 and the Respini's who emigrated from Switzerland in 1865 (per Julie Kennedy Respini). Colcannon or "Bubble and Squeak" is a traditional Irish dish served on Halloween Eve.

Colcannon or "Bubble and Squeak"

1 pound potatoes, peeled or unpeeled
1 pound green cabbage, shredded (4 cups)
1 large onion, chopped
1 cup milk
1 tablespoon butter or margarine
3 ounces cheddar cheese, coarsely grated
salt and pepper to taste

Boil potatoes in lightly salted water until tender but not mushy. Drain; reserve liquid. Set aside to cool. Using the potato water boil the cabbage and onion for 5 minutes; drain and set aside. If unpeeled, peel potatoes; add milk, butter, and mash until smooth. Add the reserved cabbage and onion mixture to the potatoes. Stir together and season to taste. Transfer to greased casserole; sprinkle grated cheese on top. Brown slightly in 350 oven. For Bubble and Squeak—omit the cheese. Press mixture lightly onto surface of skillet to form a large pancake. Cook 5 minutes on each side.

Life in Sonoma County in the mid to late 1800's

From account by Alice Saare

In 1850 Major Isaac W. Sullivan arrived in Sonoma county. He met Mary "Polly" Gilliam, married her and established a home in "Green Valley", a few miles north of west Sebastopol, near Graton. A history of the family was written by his granddaughter, Emma A. Street-Henely. She tells about trips to the neighboring towns for provisions, church-going on Sunday mornings, problems during the Civil War, Indians, household chores, quilting and apple picking, etc. She also talks about special events, such as berry picking, corn husking, gathering of hazelnuts and huckleberries. These events were always excuses for picnic. Foods prepared for these outings included charcoal-broiled beef, fresh corn on the cob, gooseberry pies, cakes, and pickled eggs and beets.

Pickled Eggs and Beets

Cover hard boiled, shelled eggs with cooked cut beets. Cover all with vinegar to which salt, pepper and sugar have been added.

“Thickened Milk” or “Papsup”

Break or 5 eggs into about a pint of flour which has been sifted with a teaspoon of salt. Cutt the eggs into the flour with knives or fingers (like pie dough is made). The crumbly mixture is then dropped slowly into a large kettle of milk that has just reached the boiling point. Stir constantly to prevent sticking. Serve in soup bowls dotted with brown sugar and butter.

Applesauce Cake

from Marjorie McDonnell

1 cup sugar	1 tablespoon cornstarch
2 cups flour	3 tablespoons ground chocolate
2 teaspoons baking powder	2 cups applesauce
1 teaspoon salt	1 cup salad oil or melted shortening
1 teaspoons each: ginger, mace, allspice	

Optional: 1 cup raisins 1 cup chopped walnuts

Sift together the dry ingredients; add to applesauce and oil and mix thoroughly. If using, stir in raisins and walnuts. Bake in loaf or tube pan at 350 or in an 8/12 inch oblong pan at 325.

Suggested topping: blend and sprinkle on top:

1 cup brown sugar	1 cube margarine	1 cup flour
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Loggers

Right after the turn of the century Wade Sturgeon and William Kingwell went into the wood business selling stove wood, pickets, posts, and some split shakes. Much of the wood was moved by rail out of Occidental. It had to be stacked tightly so that when cars bumped the wood would not tumble. Leftover wood from the tan bark operation was often made into charcoal. It was a hard and dirty life. Sturgeon gave credit to the women behind the men who worked in the woods. He said if it hadn't been for the women none of the men would have existed. They did the cooking, cleaning, and nursing and even milked the cows so the men could go out early to make a buck. The women kept everyone going and handled all the emergencies.

In 1913 Wade sturgeon bought a second-hand sawmill from Korbel. It was dismantled and taken by rail to Occidental then hauled to a site off Coleman Valley Road. It ran from 1914 to 1923 and then was moved to Green Hill Road when Sturgeon went into business with Donati and Gonnella. They operated the mill until 1943 when Sturgeon's son bought the mill with a partner James E. Henningson. The mill is no longer in operation but according to Ralph Sturgeon Wade's son "the name Sturgeon will long be remembered in Sonoma County because

of the mill, their good logging practices and Sturgeon's Tree Surgeon Service'', operated by Ralph's son and grandsons.

Abalone

Ralph remembers going to the coast to get abalone. The abalone would be taken out of the shells, cleaned and then put in a sack and pounded to make them tender. They would then be sliced to 1/3 inch thickness and cooked in a huge frying pan in fresh butter over a campfire. Dessert would be huge gingersnaps dunked in hot coffee served in clean tin cans.