# Coastal Voices: Speaking up for the Beach

## A California Coastal Voices Teacher-Guided Project


*Santa Monica Beach. Photo: Sarote Tabcum Jr.*

### Challenging Question:

### How can Californians use the Public Trust Doctrine & the California Coastal Act to protect access to beaches?

**For this Project:**

*Beach access sign in Sea Ranch*

*Coastal Voices: Speaking Up for the Beach* contains material adapted with permission from the Constitutional Rights Foundation's Civic Action Project.

**Challenging Questions:**

What is environmental policy? Who makes policy? How can Californians use the Public Trust Doctrine & the California Coastal Act to protect access to beaches?

**Find images for download, links to videos, and other resources referred to within this project on the *Coastal Voices Website*: www.coastal.ca.gov/coastalvoices**

*This unit supports learning in the following Next Generation Science Standards Performance Expectations:*

HS-ETS1-3: Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.

# Coastal Voices: Speaking Up for the Beach

## Overview

The California Coastal Act of 1976 was designed to safeguard and increase Californians' ability to access the coastline, prevent overdevelopment, and preserve open space and wildlife habitat. Contemplating what is not visible on our coast is the best pathway to understanding the Coastal Act's success as a statute: development such as high rise condominiums, golf courses, and multi-lane freeways are limited in number along the 1,270 mile mainland coast.

The Coastal Act directs the state to "enhance and restore the overall quality of the coastal zone environment and its natural… resources" and "maximize public access to and along the coast and maximize public recreation opportunities in the coastal zone consistent with sound resource conservation principles and the constitutionally protected rights of private property owners." How Coastal Act policies apply to a particular development must be resolved through planning and permitting processes, considering the specific circumstances of the proposal and location.

In "Speaking Up for the Beach," students will study coastal law and policy in California and elsewhere in the United States, especially as it concerns public access to the coast. They will wrestle with complicated questions about policy and environmental responsibility. Students will engage in a mock California Coastal Commission hearing and create a guide to beach law in California. This project is different from the others found in *California Coastal Voices* in that it has a strong focus on the *History-Social Science Standards*, in addition to the *Next Generation Science Standards*. Good science is interwoven with and often the basis for good environmental policy, so understanding science concepts and how to apply science to policy decisions is a critical life skill, whether in a professional capacity or as a well-informed voter.

**Students will provide evidence of learning by:**

- Developing an Illustrated Citizen's Guide to California Beach Law. This graphical guide to the Public Trust Doctrine, California Coastal Act, and California Constitution may be presented as a comic book, storyboard, or another style that

*This unit supports learning in the following History-Social Science Standards:*

11.11. 5: Trace the impact of, need for, and controversies associated with environmental conservation, expansion of the national park system, and the development of environmental protection laws, with particular attention to the interaction between environmental protection advocates and property rights advocates.

12.3.2: Explain how civil society makes it possible for people, individually or in association with others, to bring their influence to bear on government in ways other than voting and elections.

12.7.5: Explain how public policy is formed, including the setting of the public agenda and implementation of it through regulations and executive orders.

*This unit supports learning in the Speaking and Listening anchors of the California Common Core Standards and:*

Reading Standard 11-12.8: Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning and the premises, purposes, and arguments in works of public advocacy.

At the end of this unit you will find further standards connections, including the three dimensions of *NGSS*, California's *Environmental Principles and Concepts*, and the *History-Social Science Standards* broken down by activity.

includes fact-based original drawings and/or writing. Creative or innovative approaches are encouraged. This document may be created digitally or on paper depending on technology resources and preferences.

- Participating in a mock California Coastal Commission meeting: Students will act as Commission staff, local applicant groups, presiding commissioners, or other stakeholders.
- Each student will maintain a notebook that will be reviewed by the teacher for evidence of changes in student thinking.

## Activities

These activity descriptions are structured to provide core content learning and support the open-ended inquiry process of the project.

1. Invitation to Engage: Speak Up
2. Explore: Roundtable Analysis of Environmental Policy
3. Explain: National Patterns in Beach Access Policy
4. Elabore: Interpreting the Public Trust Doctrine
5. Extend: Interpreting the California Coastal Act
6. Evaluate: Communicating Science, Policy, and Legal Concepts to Public Audiences: Mock Coastal Commission Meeting

*Footprint in Oceano. Photo: Randolph Krauch*

Activity

# Coastal Voices Invitation to Engage: Speak Up

**Guiding Questions:**

- What does taking action look like in our society?
- Who has the power to make decisions about how society uses natural resources?

**Materials Required:**

- Individual student notebooks

Download from or access on the *Coastal Voices Website*:

- "Lower Trestles: A Surfline Feature," 2011 Surfline video
- Video of staff report closing comments at February 2008 Coastal Commission Hearing on the Toll Road through San Onofre State Park (Transcript also available)
- Orange County Register article, "Coastal Commission rejects Foothill South toll road"
- Video of public comment from an Acjachemen spokesperson

During this session students watch, identify, and respond to questions raised by a state official as he delivers a significant staff report.

## Engage

Write the Guiding Questions on the board and instruct students to individually respond to the questions in their notebooks. Teacher captures student thinking by writing out ideas on a board or poster.

## Explore - Public Speaking for a Cause

1. Show Surfline video of Trestles to establish a sense of the place under discussion. Invite students to relax, but to be thinking of how they would choose to participate in management of this place.
2. Pass out copies (or have students view online) the *Orange County Register* article on the Foothill South toll road. Students silently read the article.
3. Have students write the following probing questions in their notebooks:

   What is being decided during the meeting depicted?

   What legal or policy issues inform the discussion?

   How does the speaker support his or her assertions?

   What evidence is cited to support his or her assertions?

   Is there any other information you would like to have?

   What would you do differently?
4. Teacher explains that they will twice watch the video of the California Coastal Commission Executive Director presenting the closing comments of the staff report at the hearing on Trestles; the first time without pause, before going through a second time to revise understanding and explanations. A transcript is available on the *Coastal Voices Website* to supplement or replace the video if needed. The teacher may choose to also show one or more of the videos in the Go Deep box on the following page.
5. After watching the video once, teacher leads a discussion of student response to the probing questions.
6. During the second viewing, pause as requested by students to deepen understanding and allow for revisions to initial explanations.

7. Show the video of public comment from an Acjachemen representative, who spoke at the meeting about the proposed toll road's impact on Pahne, a ceremonial site and burial ground of the Acjachemen people, the local American Indian tribe. Engage students in a discussion of the probing questions with respect to this speaker.

## Reflect on Thinking

In their notebooks, students individually write a Reflective Summary that revises previous answers to the Guiding Questions of the day. Teachers should encourage students to respond with a cartoon or diagram, in addition to any prose they may deploy. Teacher guides, prompts, and evaluates student thinking.

**Go Deep...**

*Find links on the Coastal Voices Website for the following:*

- Video testimonials from Acjachemen elders and native activists.
- Video of the entire Toll Road hearing from the February 6, 2008 California Coastal Commission meeting, including full staff presentations and project applicant statements.
- Video of the crowd at the Coastal Commission meeting.
- *Surfer Magazine* article, "Coastal Commission Commits to Trestles."

*Surfer, Trestles. Photo: Christina Viehoefer*

Activity

**Guiding Question:**

- What is public policy?
- What is the connection between problems and policy?

**Materials Required:**

- Individual student notebooks
- *What is Public Policy* reading
- Sticky notes

Download from or access on the *Coastal Voices Website*:

- Carbon Beach image
- News articles on environmental policy (use the selected articles or choose others)

# Coastal Voices Exploration: Roundtable Analysis of Environmental Policy

This activity is adapted from "Introduction to Public Policy" from Civic Action Project, Constitutional Rights Foundation. Students will conduct academic conversations on the topic of public policy and environmental policy in particular.

## Engage

Students examine the image of Malibu's Carbon Beach before responding to the following question in their notebooks: How does the built landscape in the image provide evidence of the legal and policy environment in force when this place was developed?

## Explore - Academic Conversation on Public Policy

1. Distribute *What is Public Policy* reading to small groups of about four students each. Students read the handout and respond to the following question individually in their notebook: What is public policy?
2. In their groups, students conduct an academic conversation on the following questions:

   What are some examples of policy? Remember to consider school, community, and state/federal government levels.

   Which of these are private policies and which are public policies?

   What are some institutions that create public policy in California?
3. Groups post their response on chart paper for classmates to view. Teacher leads a gallery walk to examine groups' responses to the questions. Students comment with sticky notes on each poster with clarifying questions or observations.
4. Read the following definitions of public policy written by political scientists:

   Clarke E. Cochran, et al.: "Public policy is the outcome of the struggle in government over who gets what."

   Thomas Dye: Public policy is "Whatever governments choose to do or not to do."

   B. Guy Peters: "Public policy is the sum of government activities, whether acting directly or through agents, as it has an influence on the life of citizens."

5. Students respond to the following questions in their journal: Which do you think is the best definition? How would you define public policy now?
6. Provide each group with one of the articles on environmental policy.
7. Student groups create a chart listing the individuals or groups impacted by their article's environmental policy in one column and their respective perception of the policy in the second column. How do the students think the policy "feels" to each impacted group? Post charts and perform a second gallery walk to compare student insights.

## Evaluate Explanations and Reflect on Thinking

Students transition to individual journaling and complete a Reflective Summary in their notebooks that responds to the Guiding Questions of the day by making thinking visual. Teacher should encourage students to respond with a cartoon, concept map, or diagram, in addition to any prose they may deploy. Teacher guides, prompts, and evaluates student thinking.

*Students in Seaside. Photo: Lauren Krohmer*

# What is Public Policy?

A starting point for understanding policy is to think of it as the rules that define how decisions are made in a particular organizational setting. Policy informs various decision makers (teachers, principals, business executives, government officials, presidents) as they govern schools, companies, government agencies, states like California, or entire nations. Typically, policy is written out in the form of a guideline, law, or agency procedure by leaders in the organization with intent to manage matters of importance with consistency and integrity. Public policy can be defined as the rules, decisions, and choices made by government entities that are implemented by government officials at many levels. Policy is made and implemented by humans, so it can be noble or ignoble, effective or ineffective, powerful or just plain silly.

Most students are aware of public policy, whether they call it that or not. For instance, school policies may come in the form of dress codes, minimum GPAs for sports participation, or attendance requirements. Outside of school, teenagers encounter public policy when seeking driving privileges, health care, or opportunities to participate in government. Students know that a good policy is sensible, adaptive, and fair. Most people of any age can also point to a policy that they felt was capricious, arbitrary, or unwise. Questions of fair implementation or access to resources are at the heart of many discussions about public policy. This is especially true when the resource is scarce compared to the number of people who would like access.

Activity

# Coastal Voices Explanation: National Patterns in Beach Access Policy

**Guiding Questions:**

- How have policy makers responded to problems?
- How can the concept of cause and effect be used to understand the implications of a given policy?

**Materials Required:**

- Individual student notebooks
- *Case Study Analysis* worksheet
- *Six Coastal Access Case Studies*

This activity is adapted from "Introducing Policy Analysis" from Civic Action Project, Constitutional Rights Foundation. Students engage in academic conversation after analyzing coastal access case studies.

## Engage

Individually in their notebooks, students respond to the following quote:

"Ruin is the destination towards which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all."

- Garret Hardin, "The Tragedy of the Commons," 1968

## Explore - Academic Conversation on Beach Access Policy

1. Divide the class into groups of four or six. Distribute *Case Study Analysis* and two *Coastal Access Case Studies* per group.
2. Each group will analyze two case studies chosen by the teacher. Provide half of a group with copies of one case study and the other half of the group with a different case study.
3. Teacher directs students to read one case study and work with team members to fill out the *Case Study Analysis* form. Students share information about the case study with group members who worked on the other case study.
4. Hold a brief discussion with the whole class to ask clarifying questions about the readings.
5. Debrief: Students respond to at least three of these prompts:

   What are some differences and/or similarities you can identify between the beach access policies depicted in the case studies?

   What levels and branches of government are involved in these policies? Explain.

   If public policy addresses problems, why might some people consider a policy to be a problem? Give an example from one of the case studies.

   What did you learn about public policy that you think all citizens should know?

**GO DEEP...**

Robert Garcia and Erica Flores Baltodano, with The City Project, authored *Free the Beach! Public Access, Equal Justice, and the California Coast* in 2005. This paper includes a history of discriminatory beach access and land use in California and efforts to increase equity. Find the link on the *Coastal Voices Website*.

## Evaluate Explanations and Reflect on Thinking

Students transition to individual journaling and complete a Reflective Summary that responds to the Guiding Questions. Students respond with a cartoon or diagram, in addition to any prose they may deploy. Teacher guides, prompts, and evaluates student thinking.

*Torrance County Beach. Photo: Steve Scholl*

# Case Study Analysis

## Step One:

Read your case study.

## Step Two:

Work with others in your group with the same case study to answer the questions below.

1. What is the problem in the case study? (You might identify more than one problem. Analyze one at a time.)

2. What is the public policy? (What is government doing or proposing to do about the problem?)

3. What group(s) supports the policy? Why? What group(s) opposes it? Why?

4. What institution, if any, is making or has made the decision on the policy?

5. What level of government is this institution (e.g., local, state, federal, tribal)?

6. Is there additional information you wish you had? How might you find it?

7. In your opinion, do you believe the policy is a good one? Why or why not?

# Six Coastal Access Case Studies

*Find links to read more about these case studies on www.coastal.ca.gov/coastalvoices*

## Cape Hatteras National Seashore, North Carolina - Beach Driving

Cape Hatteras National Seashore has long been a popular location for off-road vehicle use. Some members of the community maintained that this use of the beach and dunes is integral to their local traditions and vital for their economy. Surf fishers claimed that driving on the beach provides them with the mobility needed to fish successfully along the many miles of shoreline. Environmental groups and their members were concerned about the impact of beach driving on beach species and some residents feared for the safety of children who played on the beach among the cars and trucks. In 2007, a lawsuit forced the National Park Service to embark on a planning project to regulate beach driving to protect the Cape's coastal habitat and vulnerable species.

In 2012, the National Park Service issued their plan for off-road vehicles on Cape Hatteras. Drivers were required to purchase a permit for their vehicle. Driving at night was restricted to certain routes and times of year. Certain locations were closed between April 1 and October 31 for nesting birds and turtles, and locations may be closed at other times if needed for resource protection. In 2015 off-road permits brought in almost $2 million to the National Park Service. Some local business owners say that limiting off-road vehicle use has reduced the revenue of businesses that depend on those visitors.

In 2015, construction continued on a new road along the dunes to enhance access to much of the park while bypassing areas that are seasonally closed due to bird and turtle nesting. That same year, after continued protests that rules were too restrictive, the park service began holding public meetings to discuss potential changes to the off-road vehicle policy, such as increasing the dates and times when cars are allowed on the beach. Audubon Society representatives called for letting the current policy continue to protect shorebirds and turtles.

## Greenwich, Connecticut - Private Beaches

In 2008, the town of Greenwich was sued by a man who was prevented from jogging along the beach. The town employed guards to keep people who did not live in Greenwich from traveling on or otherwise using the beach. Lawyers for the town argued that the public trust doctrine should not apply to their parks because in 1919 the state of Connecticut passed an act saying that Greenwich may establish parks, playgrounds, and beaches "for the use of the inhabitants of said town."

In 2001 the lawsuit landed with the Connecticut Supreme Court, which ruled that Greenwich's beaches are "public forums" which must be open to "expressive activity" of any kind, meaning that non-residents must have access to them.

While allowing non-residents to visit the beach, the City of Greenwich requires that they purchase a beach pass from a city office during business hours. As of 2015, a pass for the day costs $6. Guards are still present to enforce this policy. Some residents feel that since they pay taxes for park maintenance, that they should be the only ones to access the beach. Others think that there are too many regulations and people should have the right to go where they please. Some hope that more visitors will help diversify and support the businesses in town.

## Wainiha, Kauai'i, Hawai'i - Defining the Beach

In 2000, a property owner planted and installed irrigation for vegetation in the shoreline area of his beach-front lot. In 2002, the owner hired a surveyor to identify the public shoreline. This private surveyor determined that the human-

planted vegetation line, rather than the upper wash of the waves, should serve as the official shoreline. This determination was agreed to by a state government surveyor. In Hawai'i, the public shoreline is the high water mark. Since this is often identified by a debris line or line of inland vegetation, the surveyors chose to use the more stable line of vegetation. Based on this survey, the property owner submitted an application for a new property line certification. A local activist contested the certification with photos showing waves washing inland of the vegetation line.

The activist filed a lawsuit. The State took the position that the property's shoreline was consistent with mature vegetation on adjoining properties and that the vegetation was no longer being irrigated and was stable and well established despite recent winter storms. The State submitted that "the edge of vegetation growth is the best evidence of the shoreline in this case, as it shows the result of the natural dynamics and interplay between the waves and the line of vegetation over a period of time for stability, as against a debris line which may change from week to week or from day to day," and that "the use of the edge of vegetation growth is advantageous over the debris line in that it is practical, easily identifiable and stable. "

The lawsuit finally reached the Hawai'i State Supreme Court in 2006. The Court noted that Hawai'i state law defined "shoreline" as, "the upper reaches of the wash of the waves, other than storm or seismic waves, at high tide during the season of the year in which the highest wash of the waves occurs, usually evidenced by the edge of vegetation growth, or the upper limit of debris left by the wash of the waves," and that it did not state a preference for the vegetation line. The Court noted that a previous Supreme Court case found that "public policy…favors extending to public use and ownership as much of Hawaii's shoreline as is reasonably possible." They then stated that "the utilization of artificially planted vegetation in determining the certified shoreline encourages private landowners to plant and promote salt-tolerant vegetation to extend their land…, which is contrary to the objectives and policies of [state law and] public policy…"

### Destin, Florida - Beach Nourishment

The law in Florida states that land that is gradually added to the shoreline (called "accretion") belongs to the beachfront property owner, but a sudden addition of land (called "avulsion") belongs to the State.

The state of Florida has artificially deposited sand on hundreds of its beaches in order to fight erosion. This process is called beach nourishment, and is done in order to protect coastal property from waves and storms and to restore the recreation area and habitat of the sandy beach. This is a very expensive process; between 1998 and 2016 Florida spent $626.6 million, in addition to local government contributions.

Beachfront homeowners in Destin, Florida, on the Gulf of Mexico, contended that the government's plan to deposit sand on their coast was for the purpose of increasing visitors in order to support a tourism economy, which they felt was not in property owners' interest. Before a beach nourishment project begins, the government establishes a fixed "erosion control line" which becomes the permanent property line. The Public Trust Doctrine holds that in Florida the State owns the land up to the mean high tide line. The setting of an "erosion control line" prior to depositing sand on the beach may result in a property line that is inland from the mean high tide line once the sand is deposited. The Destin homeowners felt that this would be taking property away from them, by changing their homes from waterfront to water-view.

The property owners sued the State, and the case eventually landed at the U.S. Supreme Court. In its 2009 decision, the Court stated that "the State as owner of the submerged land adjacent to littoral property has the right to fill that land, so long as it does not interfere with the rights of the public and of littoral landowners. Second, if an avulsion exposes land seaward of littoral property that had previously been submerged, that land belongs to the State even if it interrupts the littoral owner's contact with the water. Prior Florida law suggests that there is no exception to this rule when the State causes the avulsion. Thus, Florida…allowed the State to fill in its own seabed, and the resulting sudden exposure of previously submerged land was treated like an avulsion for ownership purposes." The new beach created by beach nourishment is public, not private, property.

### Quinault Indian Nation - Beach Passes

The Quinault Indian Reservation includes 26 miles of coastline on the Olympic Peninsula of Washington State. In 2012, the Quinault Indian Nation closed their beaches to all except enrolled Quinault members. Non-members are only allowed if accompanied by a member.

There is a lengthy and complex historical backdrop for this action. In 1887, the United States Congress passed the General Allotment Act, which divided up reservations into individual properties. Eventually, tribal members were allowed to sell property to non-members. Most of the Quinault reservation land was sold; however, the Nation continues to own all beach lands up to the ordinary high water mark. Prior to the late 1960s, the Quinault coast was open to the public without restriction, and included a popular surfing spot at Point Grenville. Problems, including litter and graffiti on the bluffs, prompted the Quinault Nation to limit this access. As tribes across the country began asserting their authority over reservation lands during the American Indian rights movement, in 1969 the Quinault Nation closed Grenville Beach to surfing and began requiring a beach pass from the tribal office for any non-tribal member wanting to visit the beach. Access was further restricted in 2012, when the Quinault Nation made the decision to stop issuing beach passes. According to the Nation, the access is being restricted to preserve functional coastal ecosystems.

The Washington State Office of the Attorney General provided the following official opinion in 1970 regarding rights of coastal access:

> (1) Without regard to any other property interests or rights which the state may have, members of the public have the right to use and enjoy the wet and dry sand areas of the ocean beaches of the state of Washington by virtue of a long-established customary use of those areas. (2) The right of members of the public to use and enjoy the wet and dry sand areas of the ocean beaches of Washington by virtue of a long-established customary use of those areas does not presently extend to such ocean beach areas as are within the exterior boundaries of the Quinault Indian Reservation.

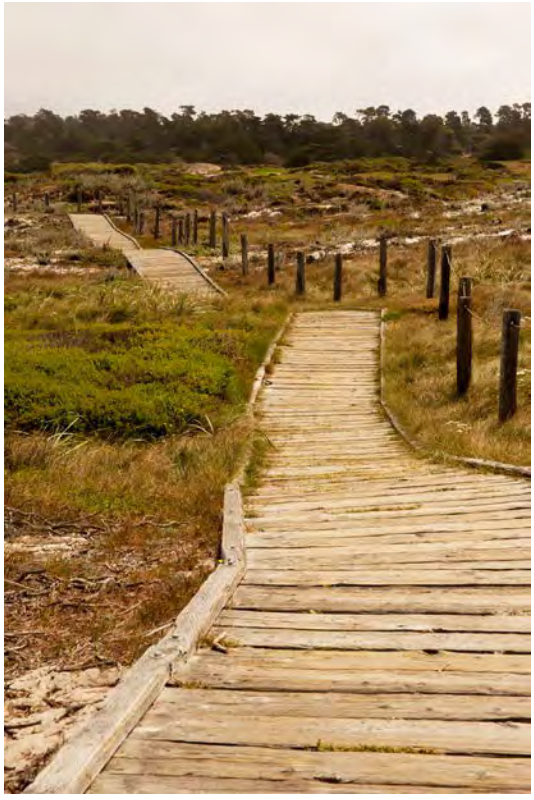
This opinion is based on an 1873 Executive Order by President Ulysses S. Grant that withdrew the reservation's lands from the public domain, reserving them for the exclusive use and occupancy of the Quinault and other area tribes. The Washington Attorney General stated that "If the public had any rights in the beaches fronting on the Quinault Reservation on November 4, 1873, those rights were extinguished by that Executive Order."

### Sea Ranch, Sonoma County, California - Coastal Trail

In the 1960s, developers purchased a former sheep ranch in rural Sonoma County and

planned a private community of beach homes that would have closed 10 miles of the coast to the public. As part of the county approval of the development plan, developers gave to Sonoma County land adjacent to the proposed development that would become Gualala Point Regional Park. Although Sea Ranch was designed as an environmentally sensitive development, the proposed privatization of this stretch of coastline led local activists to propose a county initiative requiring public access whenever coastal property was developed. This initiative was defeated, with the opposition funded in large part by the Sea Ranch developers.

Spurred by Sea Ranch and other issues impacting the coast, the Sonoma County activists joined other organizations and individuals to bring a statewide initiative to the voters to create a California Coastal Commission, which would be responsible for regulating coastal development and protecting coastal access in California.



*Pacific Grove. Photo: Kimberly Lohse*

Approved in 1972, the California Coastal Zone Conservation Act (or "Prop 20") called for "maximum visual and physical use and enjoyment of the coastal zone by the public." In 1976, the state legislature passed the Coastal Act, defining the regulations the California Coastal Commission would uphold.

For years, Sea Ranch developers disputed California Coastal Commission jurisdiction over the Sea Ranch. While the initial subdivision had received approval from Sonoma County prior to the passage of the Coastal Act, lots were owned by individuals who still needed permits to build their homes and were now subject to this law. Individual owners were unable to provide shoreline access as demanded by the California Coastal Commission because common areas between residential lots were owned by the Sea Ranch Association. In 1981, in a case brought by the Sea Ranch Association, a district court upheld the California Coastal Commission's ability to impose coastal development permit conditions relating to public access and coastal views. The court concluded that "public access to the coastline and protection of the coastline's scenic and visual qualities are areas within the Commission's regulatory authority under the California Coastal Zone Conservation Act and that the Act empowers the Commission to implement its goals through the permitting process." The court found that "the permit conditions do not constitute a taking of either an individual lot owner's property or the Association's property."

It ultimately took the state legislature passing a law specifically for the Sea Ranch in order to settle the issue. Known as the Bane Bill, it required five public access points and a blufftop public trail within the property, as well as specific design guidelines. The bill authorized a payment of $500,000 from the State to the Sea Ranch Association in exchange for the public access easements and other concessions.

Activity

**Guiding Questions:**

- What are the legal foundations of coastal zone policy in California?

**Materials Required:**

- Individual student notebooks
- *Public Trust Doctrine* summary, found in the Readings and Resources section

Download from or access on the *Coastal Voices Website*:

- KCET article, "Why California's Beaches are Open to Everyone"

# Coastal Voices Elaboration: Interpreting the Public Trust Doctrine

Using the "jigsaw" technique, students will read and discuss an explanation of the Public Trust Doctrine.

## Engage

Individually in their notebooks, students respond visually or in prose to the following quote:

"By the law of nature, these things are common to mankind: the air, running water, the sea, and consequently the shores of the sea…"

- Institutes of Emperor Justinian, 2.1.1 (AD 529)

## Explore - The Public Trust Doctrine

1. Assign each student to a "home group" of three students who reflect a range of reading abilities.
2. Assign one of the three sections of the Public Trust Doctrine document to each student in each home group.
3. Regroup the students according to the section that they're assigned. These are the "expert groups." You may choose to make three, large expert groups or several smaller groups for each section of the reading.
4. Teacher provides key questions to help the expert groups gather information from the assigned reading. For example:

   Expert Group 1 (Paragraphs 1 and 2):
   What is "sovereign land?" What does it mean for "lands to be held in trust" by the State of California? What is a "navigable waterway" and why might it be important to the public?

   Expert Group 2 (Paragraph 3):
   What is an "affirmative duty?" What are some public uses that the Public Trust Doctrine protects? What is the implication of the statement that public trust lands "cannot be alienated through sale into private ownership"?

   Expert Group 3 (Paragraphs 4 and 5):
   Has California's interpretation of the Public Trust Doctrine changed over time? Who decides how it changes? Who is responsible in California for administering the Public Trust Doctrine?
5. After reading and discussion with their expert groups, students spend a few moments jotting down their impressions and understanding.

*Scripps Pier. Photo: Cia Farrar Knapp*

6. Reconvene into home groups. Each student will explain their reading selection in their own words to the rest of the group and answer any questions from the other members. Groups discuss together what conclusions can be drawn from the reading as a whole.
7. With one student taking the role of recorder, each home group composes a paragraph summarizing their combined understanding of the entire reading, to be turned in to the teacher.
8. Reconvene the class and show the following section from the California Constitution on a screen (or passes out hard copies). Read it aloud or have students read it silently, and as a class discussion invite students to make (and refute or support) evidence-based claims about this section of the California Constitution and how it relates to the Public Trust Doctrine.

> No individual, partnership, or corporation, claiming or possessing the frontage or tidal lands of a harbor, bay, inlet, estuary, or other navigable water in this State, shall be permitted to exclude the right of way to such water whenever it is required for any public purpose, not to destroy or obstruct the free navigation of such water; and the Legislature shall enact such laws as will give the most liberal construction to this provision so that access to the navigable waters of this State shall always be attainable for the people thereof.
>
> Constitution of the State of California, Article 10, Section 4

## Evaluate Explanations and Reflect on Thinking

In their notebooks, students write a Reflective Summary that responds to the Guiding Question of the day. Teachers should encourage students to respond with a cartoon or diagram, in addition to any prose they may deploy.

Teacher explains that students will develop an Illustrated Citizen's Guide to California Beach Law. This graphical guide may be presented as a comic book, storyboard, or any other style that includes fact-based original drawings and/or writing. This assignment is due at the end of the unit.

## At-Home

Students read KCET's article "Why California's Beaches are Open to Everyone."

Activity

# Coastal Voices Extend: Interpreting the California Coastal Act

**Guiding Questions:**

- What are the legal foundations of coastal zone policy in California?

**Materials Required:**

- Individual student notebooks
- *Introduction to the California Coastal Act*, found in the Readings and Resources section
- "Contesting the Coast" roles

Using the "jigsaw" technique, students will read and discuss excerpts from the California Coastal Act.

## Engage

Individually in their notebooks, students respond in prose or with a drawing to the following quote:

"You can't take our relationship with the coast for granted, because it took a lot of sweat, blood and tears to preserve it so we have what we have today. These things didn't just happen. The coast is what it is because a lot of people worked really hard and sacrificed to protect it. And if we want it to be there for our children, we have to keep fighting to protect it. In that way, the coast is never saved, it's always being saved."

- Peter Douglas, California Coastal Commission Executive Director 1985-2011

## Explore - The Coastal Act

1. Assign each student to a "home group" of three students who reflect a range of reading abilities.
2. Assign one of the four sections of the *Introduction to the California Coastal Act* to each student in each home group.
3. Regroup the students according to the section that they're assigned. These are the "expert groups." You may choose to make four, large expert groups or several smaller groups for each section of the reading.
4. Teacher provides key questions to help the expert groups gather information from the assigned reading. For example:

*Carbon Beach Accessway. Photo: Steve Scholl*

Expert Group 1:
Why was the Coastal Act created? What are the priorities of the Act? What are its goals?

Expert Group 2:
How can public accessways to the coast be created? What are some challenges in creating new public access?

Expert Group 3:
What is "priority coastal development" according to the Coastal Act? How does the Act address potential impacts of development on marine and coastal resources?

**GO DEEP...**

The documentary *Heroes of the Coast* recounts the political campaigns in the 1970s that passed the Coastal Act and created the California Coastal Commission, told through interviews with activists and political leaders of the movement. Access this video on the *Coastal Voices Website*.

Expert Group 4:

Why do you think coastal views are protected? In what way is shoreline armoring limited by the Coastal Act? Why does public participation matter in the Coastal Act? Who are the Coastal Commissioners?

5. After reading and discussion with their expert groups, students spend a few moments jotting down their impressions and understanding.
6. Reconvene into home groups. Each student will explain their reading selection in their own words to the rest of the group and answer any questions from the other members. Discuss together what conclusions can be drawn from the entire reading.
7. With one student taking the role of recorder, each home group composes a summary of their combined understanding of the reading as an answer to the Guiding Question of the day. This may be a bulleted list, a chart, or paragraph form, depending on the choice of the group or the preference of the teacher.

## Evaluate Explanations and Reflect on Thinking

Individually, students continue work on their Illustrated Citizen's Guide to California Beach Law.

## At-Home

Read "Contesting the Coast" roles to prepare for mock California Coastal Commission meeting.

*Santa Monica. Photo: Ray Tschaeche*

# Contesting the Coast

A fictional coastal project and related stakeholder positions are described below. You will elaborate on your position in your presentation.

### A New Hotel is Proposed in Small Coastal Town, CA:

A historic but dilapidated home on a coastal property has been sold to a new owner who would like to turn it into a small, luxury hotel and restaurant. The building had been home to a couple who allowed the public to pass along the edge of their property to reach a path to the beach behind the house. The new owners propose renovations that would not increase the footprint of the building but would include a new parking lot in front of the property and a fence around the perimeter. They plan to build a stairway to replace the dirt path leading to the beach. Their proposal includes an open gate during daylight hours, but at sunset would restrict access to the beach to hotel guests only. The owners propose replacing the current lawns with local native plants. The new parking lot would be equipped with solar-powered charging stations for electric vehicles and permeable pavement to allow rainwater to infiltrate into the soil rather than run off into the gutter. The hotel plans to hire twenty full-time employees from the local community. They are seeking a Coastal Development Permit from the California Coastal Commission.

### Roles:

**Permit applicants (owners):** The proposed project will bring needed jobs and tax dollars into the community. It will result in a structure and landscaping that will beautify the area. It will use environmentally friendly techniques and construction. The owners assert that the new limits on coastal access are needed for the hotel managers to properly secure the property after dark and for the hotel guests to feel safe. It is more than fair to allow public access during daylight hours.

**Mayor of the city:** The mayor is in support of this project, with the belief that the jobs and tourism it will bring to the community will help the economy. The renovation will also help improve the appearance of a prominent building in town, which had been ill-maintained for years.

**Chamber of commerce:** The business community is in favor of this project for the same reasons as the mayor. The hope is that a luxury hotel and restaurant will attract good publicity to the community and start a wave of new, upscale development which would in turn help raise existing property values.

**Local worker:** This local citizen is excited about new jobs in this small community, after having recently lost a service job. A few restaurants in town have closed over the last year and the new project presents needed employment opportunities.

**Native plant enthusiast:** The project will replace lawn with plants native to this coastal area. This change would benefit a local endangered butterfly species that depends on a particular native plant as a food source. The new landscaping could also serve as an example to the community of how they could convert their yards to environmentally-friendly, attractive, drought-tolerant plants.

**A local religious community:** This group regularly holds bonfires on the beach below the property as a communal and spiritual ritual. For years they have passed through this property with no objection from the owners. On a monthly basis they head down to the beach in the late afternoon and return after dark, so would be negatively impacted by the proposed gate-closure.

**Local historical society:** This building was constructed in 1895 and is considered by many to be a local treasure. The historical society argues that the home not be altered, but should be kept as close to its original state as possible and be opened to the public as a museum, with the existing beach access remaining unchanged.

**Youth group:** A local youth group wants the property turned into a hostel rather than a luxury hotel. They express that there are few coastal lodging options for middle and low-income visitors, and this home could serve that role in their community. They would like a place to host gatherings with groups from around the state where visitors from all backgrounds could experience the beauty of the coast.

**Surfers:** Local surfers love the waves below the proposed project and often make their way down to the beach before sunrise for the best waves and quality time before the work day begins. If the project is approved as described, their dawn patrols would be impeded by a locked gate.

**Neighbors:** A group of neighbors are opposing the project due to concerns about increased traffic and a fear of changing neighborhood character. They dislike the idea of a parking lot being constructed on their previously residential street. They worry that the new fence will obstruct the views of the ocean that they currently enjoy.

**Commission Staff:** The job of the staff is to evaluate the permit application's consistency with the Coastal Act and provide recommendations to the Commissioners based on that evaluation. They can also recommend the permit be approved as submitted, develop recommended permit conditions to address Coastal Act issues, or recommend that the permit be denied.

**Commissioners:** The Commissioners must have a thorough understanding of the Coastal Act and bring that understanding to their evaluation of the permit application and the Commission staff report as they receive input from other stakeholders. They can approve the permit as submitted, approve the permit with changes recommended by Commission staff, approve the permit with changes they submit themselves, or deny the permit.

Activity

# Coastal Voices Evaluation: Mock Coastal Commission Meeting

**Guiding Questions:**

- How are science, policy, and legal concepts communicated during formal public hearings?

**Materials Required:**

- *Contesting the Coast* roles, or information on real world coastal development stakeholders as teacher prefers
- *Creativity*, *Presentation*, and *Collaboration Rubrics*, found in the Readings and Resources section.
- Timer

Students will take on roles to carry out a mock California Coastal Commission meeting, spending one session preparing and a second session performing their roles at the meeting.

## Day One, plus out of class work as needed:

1. Explain to students that making decisions about the coast can be contentious. Stakeholders who understand the law, are armed with high quality visuals, and are articulate have the best chance of being heard.
2. Students should individually read *Contesting the Coast* or a reading selected by the teacher on a local coastal zone access matter.
3. Assign students to act in specific roles for the mock meeting. Arrange the numbers to suit your class size. For a class of 35 students, you might assign five commissioners (including one Commission chair), three Commission staff, a group of three to represent the project applicant, and eight groups of three to be divided among project supporters and objectors. Consider carefully who occupies the commissioner roles as they will be responding to stakeholders rather than speaking from a prepared statement. All students will be using resources from previous activities in this unit, particularly *Interpreting the Coastal Act*.
4. Students break into their groups. Commission staff will prepare one three-minute oral report recommending approval or denial of the project based on its consistency with the Coastal Act. The applicant group will prepare a three-minute presentation on the merits of their project and why they feel it should be approved. Stakeholder groups will take on the personae of particular project supporters or objectors and each prepare a three-minute presentation, including a question that will require a verbal response from a commissioner. Each group (applicant, stakeholders, and staff) will either share speaking duties or designate a speaker as the teacher directs, keeping to the time limit. They will prepare visuals as appropriate to support their positions. Commissioners will familiarize themselves with the project and the Coastal Act in order to ask and respond to questions during the meeting. They should draft some potential questions for staff and applicant, and determine their preliminary positions on the project. Their votes are to be decided individually, but they should work as a group during class to understand the project.

## Day Two:

The classroom may need prep prior to school or during a break between periods. Optionally, consider performing this activity in a district boardroom, council chambers, or other space where formal public meetings are held, or in the school auditorium.

1. The commissioners and staff will sit facing the stakeholders in public meeting fashion (theatre style). As students arrive have stakeholder groups fill out speaker's cards to determine their speaking order. The commission chair collects the speaker's cards.
2. Teacher calls the meeting to order and explains the public meeting procedure and demonstrates the timing system. Teacher should encourage students to take substantial notes about substance and speakers, so that they may make connections or validate previous speakers where possible.
3. Commission staff speak first, describing the Coastal Act issues raised in *Contesting the Coast* and making specific recommendations to the Commission. Next, the applicant speaks to the merits of their project, asking for Commission approval. Commissioners may ask questions following each speaker.
4. Stakeholder groups, as called to speak by the commission chair, deliver their statements. The chair is responsible for timing speakers and notifying them when their time is up. Commissioners should periodically ask probing questions in response to a statement. All students evaluate speaker performance and provide written feedback as assigned by teacher, via the *Creativity* and *Presentation Rubrics*.
5. The commission chair calls for a vote on the project, teacher tallies the response, and the chair adjourns the meeting.

*Art by Joseph Dickinson, 9th grade*

## Construct Explanations and Reflect on Thinking

Students write a Reflective Summary that evaluates the process of a public meeting and answers the Guiding Question of this lesson. Ask groups to discuss whether they would change anything about the meeting format, physical setting, or timing of events to make it more effective.

## At-Home Self-Evaluation

In their notebooks, students articulate their own opinion on whether the *Contesting the Coast* project would merit approval by the California Coastal Commission. This should be a personal conclusion based on the student's own knowledge, not as a representative of his or her assigned stakeholder group. Students

use the full set of rubrics (or as assigned by the teacher) for self and peer-evaluation to reflect upon their performance. Students complete their Illustrated Citizen's Guide to California Beach Law to be turned in at the next class session (or as assigned by the teacher).

**Go Deep...**

Check the Coastal Commission meeting calendar for upcoming meetings in your region: *www.coastal.ca.gov/meetings/mtgdates.html*

These meetings are public and your class is welcome to attend and submit comments, respecting the rules and procedure of the meeting. The monthly Coastal Commission meetings are also streamed live online and previous meeting videos are archived. Check the website for links.


*Eureka Harbor. Photo: Linda Kay Isbell*

# Connecting to the Standards

***Coastal Voices: Speaking Up for the Beach***

| Next Generation Science Standards |
|---|
| ***Coastal Voices: Speaking Up for the Beach*** **supports the following** ***Next Generation Science Standards*** **Performance Expection.**<br><br>**HS-ETS1-3:** Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts. |

| History-Social Science Standards | Specific Connections to Unit / Activity Designation |
|---|---|
| 11.11.5 – Trace the impact of, need for, and controversies associated with the development of environmental protection laws. | • Conduct academic conversations on public policy and explore particular environmental policies through news articles. (Exploration)<br>• Engage in analysis and academic conversation about coastal access law case studies. (Explanation) |
| 12.3.2 – Explain how civil society makes it possible for people to bring their influence to bear on government in ways other than voting and elections. | • Explore the public meeting and permitting process for a proposed coastal development. (Invitation to Engage)<br>• Engage in analysis and academic conversation about coastal access law case studies. (Explanation)<br>• Prepare for and carry out a mock Coastal Commission meeting. (Evaluation) |
| 12.7.5 – Explain how public policy is formed. | • Conduct academic conversations on public policy and explore particular environmental policies through news articles. (Exploration)<br>• Engage in analysis and academic conversation about coastal access law case studies. (Explanation)<br>• Create an Illustrated Citizen's Guide to California Beach Law. (Elaboration, Extend) |

| Environmental Principles and Concepts | Specific Connections to Unit / Activity Designation |
|---|---|
| **Principle II—People Influence Natural Systems** | • Obtain and evaluate information on a proposed coastal development and its potential impacts. (Invitation to Engage)<br>• Obtain and evaluate information on the implementation process and implications of environmental policies in the news. (Exploration)<br>• Engage in analysis and academic conversation about coastal access law case studies. (Explanation)<br>• Analyze and conduct academic conversations on documents and historical declarations relating to public lands. (Elaboration)<br>• Prepare for and carry out a mock Coastal Commission meeting involving a proposed development. (Evaluation) |

| | |
|---|---|
| **Principle V—Decisions Affecting Resources and Natural Systems are Complex and Involve Many Factors** | • Obtain and evaluate information on a proposed coastal development and its potential impacts. (Invitation to Engage)<br>• Obtain and evaluate information on the implementation process and implications of environmental policies in the news. (Exploration)<br>• Engage in analysis and academic conversation about coastal access law case studies. (Explanation)<br>• Analyze and conduct academic conversations on documents and historical declarations relating to public lands. (Elaboration)<br>• Analyze excerpts from the California Coastal Act. (Extend)<br>• Prepare for and carry out a mock Coastal Commission meeting involving a proposed development. (Evaluation) |

| Dimension | NGSS Citation / Grade Progression | Specific Connections to Unit / Activity Designation |
|---|---|---|
| **Disciplinary Core Ideas** | ESS3.A – Resource availability has guided the development of human society, and the use of natural resources has associated costs, risk, and benefits. (9-12) | • Obtain and evaluate information on the implementation process and implications of environmental policies in the news. (Exploration)<br>• Obtain and evaluate information on documents and historical declarations relating to public lands. (Elaboration)<br>• Analyze excerpts from the California Coastal Act. (Extend) |
| | ESS3.C – Sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources. (9-12) | • Obtain and evaluate information on the public meeting and permitting process for a proposed coastal development. (Invitation to Engage)<br>• Obtain and evaluate information on the implementation process and implications of environmental policies in the news. (Exploration)<br>• Engage in analysis and academic conversation about coastal access case studies. (Explanation)<br>• Analyze excerpts from the California Coastal Act. (Extend) |
| | ETS1.B – When evaluating solutions it is important to take into account a range of constraints including cost, safety, reliability, and aesthetics and to consider social, cultural, and environmental impacts. (9-12) | • Obtain and evaluate information on the public meeting and permitting process for a proposed coastal development. (Invitation to Engage)<br>• Obtain and evaluate information on the implementation process and implications of environmental policies in the news. (Exploration)<br>• Engage in analysis and academic conversation about coastal access case studies. (Explanation)<br>• Analyze excerpts from the California Coastal Act. (Extend)<br>• Prepare for and carry out a mock Coastal Commission meeting involving a proposed development. (Evaluation) |

| Dimension | NGSS Citation / Grade Progression | Specific Connections to Unit / Activity Designation |
|---|---|---|
| **Science and Engineering Practices** | Compare and evaluate competing arguments or design solutions in light of currently accepted explanations, limitations, constraints, and ethical issues. (9-12) | • Prepare for and carry out a mock Coastal Commission meeting involving a proposed development. (Evaluation) |
| | Evaluate the claims, evidence, and/or reasoning behind currently accepted explanations or solutions to determine the merits of arguments. (9-12) | • Conduct academic conversations on public policy and explore particular environmental policies through news articles. (Exploration)<br>• Engage in analysis and academic conversation about coastal access case studies. (Explanation)<br>• Prepare for and carry out a mock Coastal Commission meeting involving a proposed development. Commissioner roles will issue an oral decision and students will express their individual opinions in writing. (Evaluation) |
| | Construct, use, and present an oral argument or counter-arguments based on data and evidence. (9-12) | • Throughout the unit during learning conversations.<br>• Prepare for and carry out a mock Coastal Commission meeting in the roles of stakeholders, staff, and commissioners. (Evaluation) |
| | Make and defend a claim based on evidence about the natural world or the effectiveness of a design solution that reflects scientific knowledge, and student-generated evidence. (9-12) | • Prepare for and carry out a mock Coastal Commission meeting involving a proposed development, in the roles of stakeholders, staff, and commissioners. (Evaluation) |
| | Communicate scientific and/or technical information or ideas in multiple formats. (9-12) | • Throughout the unit during learning conversations.<br>• Prepare for and carry out a mock Coastal Commission meeting with oral and visual presentations from stakeholder roles. (Evaluation) |

| California Common Core Focus | Specific Connections to Unit / Activity Designation |
|---|---|
| Reading 11-12.8 – Delineate and evaluate the reasoning in seminal U.S. texts. | • Engage in an academic conversation on an explanation of the Public Trust Doctrine and an excerpt from the California State Constitution. (Elaboration)<br>• Analyze excerpts from the California Coastal Act. (Extend) |

# The Public Trust Doctrine

*From the California State Lands Commission*

Group 1

The common law Public Trust Doctrine protects sovereign lands, such as tide and submerged lands and the beds of navigable waterways, for the benefit, use and enjoyment of the public. These lands are held in trust by the State of California for the statewide public and for uses that further the purposes of the trust. The hallmark of the Public Trust Doctrine is that trust lands belong to the public and are to be used to promote publicly beneficial uses that connect the public to the water.

The Public Trust Doctrine is steeped in history traceable to Roman law concepts of public rights and common property ownership that the air, the rivers, the sea and the seashore are incapable of private ownership because they are dedicated to public use. English common law refined this principle to state that the sovereign, i.e. the entity exercising authority, holds navigable waterways and the lands underlying them as a trustee for the benefit of the public for water-related uses. After the American Revolution, each of the original thirteen states succeeded to this sovereign role and became a trustee of the navigable and tidal waterways within its boundaries for the common use of the people. When California became a state in 1850, it too succeeded to the same sovereign rights and duties under the Equal-Footing Doctrine.

Group 2

The foundational principle of the Public Trust Doctrine is that it is an affirmative duty of the state to protect the people's common heritage in navigable waters for their common use. The traditional uses allowed under the Public Trust Doctrine were described as water-related commerce, navigation, and fisheries. As a common law doctrine, the courts have significantly shaped the Public Trust Doctrine in a number of important ways. Courts have found that the public uses to which sovereign lands are subject are sufficiently flexible to encompass changing public needs. The courts have also found that preservation of these lands in their natural state, so that they may serve as ecological units for scientific study, as open space, and as environments which provide food and habitat for birds and marine life, are appropriate uses under the Public Trust Doctrine. Courts have also made clear that sovereign lands subject to the Public Trust Doctrine cannot be alienated through sale into private ownership.

Group 3

Another way that the courts have shaped the Public Trust Doctrine is by addressing the roles and responsibilities of the state in managing sovereign lands. In California, the Legislature, as both trustee and trustor of sovereign lands, has enacted provisions involving the uses of sovereign lands found primarily in the Public Resources Code and uncodified statutes involving local governments. These laws are in addition to those contained in the California Constitution.

The State of California has entrusted the State Lands Commission with administering the principles of the Public Trust Doctrine. The Commission manages the state's sovereign public trust lands to promote and enhance the statewide public's enjoyment of the lands and ensure appropriate uses of public trust lands.

# An Introduction to the California Coastal Act

Group 1

Alarmed that private development was cutting off public access to the shore, and catalyzed by a huge oil spill off the coast of Santa Barbara, Californians in 1972 rallied to "Save Our Coast" and passed a voter initiative called the Coastal Conservation Initiative (Prop 20).

Prop 20 created the California Coastal Commission to make land use decisions in the Coastal Zone, while additional planning occurred. Then in 1976 the State Legislature passed the Coastal Act, which made the Coastal Commission a permanent agency with broad authority to regulate coastal development.

The Coastal Act guides how the land along the coast of California is developed, or protected from development. It emphasizes the importance of the public being able to access the coast, and the preservation of sensitive coastal and marine habitat and biodiversity. It dictates that development be clustered in areas to preserve open space, and that coastal agricultural lands be preserved. It prioritizes coastal recreation as well as commercial and industrial uses that need a waterfront location. It calls for orderly, balanced development, consistent with these priorities and taking into account the constitutionally protected rights of property owners.

The Coastal Act defines the area of the coast that comes under the jurisdiction of the California Coastal Commission, which is called the "coastal zone." The Coastal Zone extends seaward to the state's outer limit of jurisdiction (three miles), including offshore islands. The inland boundary varies according to land uses and habitat values. In general, it extends inland 1,000 yards from the mean high tide line of the sea, but is wider in areas with significant estuarine, habitat, and recreational values, and narrower in developed urban areas. Coastal Zone boundary maps are available on the Coastal Commission website.

The Coastal Zone does not include San Francisco Bay, which is under the jurisdiction of a separate state agency, the San Francisco Bay Conservation and Development Commission.

## Annotated Reading of Selected Coastal Act Sections

The following is a selection of excerpts from the Coastal Act, which contains many additional policies and procedures not addressed here. To read the entire Coastal Act, visit www.coastal.ca.gov/coastact.pdf. The quoted sections below are each referenced with their identifying section number in the Coastal Act.

The Coastal Act begins with a section (30001) on the **importance of the California coast and its ecological balance**:

> The Legislature hereby finds and declares:
> (a) That the California coastal zone is a distinct and valuable natural resource of vital and enduring interest to all the people and exists as a delicately

> balanced ecosystem.
> (b) That the permanent protection of the state's natural and scenic resources is a paramount concern to present and future residents of the state and nation.
> (c) That to promote the public safety, health, and welfare, and to protect public and private property, wildlife, marine fisheries, and other ocean resources, and the natural environment, it is necessary to protect the ecological balance of the coastal zone and prevent its deterioration and destruction.
> (d) That existing developed uses, and future developments that are carefully planned and developed consistent with the policies of this division, are essential to the economic and social well-being of the people of this state and especially to working persons employed within the coastal zone.

Thus, the law recognizes the importance of both the **natural** environment and **economic** development that is dependent upon the resources of the coast.

The Coastal Act (30001.5) declares that the basic **goals** of the state for the coastal zone are to:

> (a) Protect, maintain, and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.
> (b) Assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state.
> (c) Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.
> (d) Assure priority for coastal-dependent and coastal-related development over other development on the coast.
> (e) Encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone.

Chapter 3 of the Coastal Act contains the policies that are to guide coastal resource planning and decisions on individual development proposals. The Coastal Act recognizes that at times there will be conflicts between these policies, and states that "such conflicts be resolved in a manner which on balance is the most protective of significant coastal resources." (30007.5)

Group 2

The Coastal Act prioritizes the **public's right to access the shoreline** (30210 to 30214):

> [M]aximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Coastal development should not impede existing rights of access:

> Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization...

The previous statement makes reference to different ways public access rights are established. The government may establish these rights (such as by purchasing land to create a public path to the beach) or they are sometimes established through historic public use.

Acquisition through historic use is explained in the *California Coastal Access Guide,* published by UC Press:

According to court decisions, in order for the public to obtain an easement by way of implied dedication, the essential elements that must be established are that the public has used the land 1) for a continuous period of five years as if it were public land, 2) with the actual or presumed knowledge of the owner, and 3) without significant objection or significant attempts by the owner to prevent or halt such use.

The ultimate determination of prescriptive rights, if they are challenged, takes place in court. However, Section 30211 of the Coastal Act requires the Coastal Commission to make determinations as to the existence of these rights where there is evidence of historic use of a given area.

New public access is encouraged in the Coastal Act:

> Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or, (3) agriculture would be adversely affected.

In practice, most new accessways require that an organization (public or private) first accept responsibility for maintenance and liability before being opened to the public.

The Coastal Act (30252) recognizes that it is not sufficient to provide access to the coast; sensible planning for encouraging coastal recreation includes addressing transportation needs and other considerations, such as preventing overcrowding of recreation areas:

> The location and amount of new development should maintain and enhance public access to the coast by (1) facilitating the provision or extension of transit service, (2) providing commercial facilities within or adjoining residential development or in other areas that will minimize the use of coastal access roads, (3) providing non automobile circulation within the development, (4) providing adequate parking facilities or providing substitute means of serving the development with public transportation, (5) assuring the potential for public transit for high intensity uses such as

> high-rise office buildings, and by (6) assuring that the recreational needs of new residents will not overload nearby coastal recreation areas by correlating the amount of development with local park acquisition and development plans with the provision of onsite recreational facilities to serve the new development.

The Coastal Act (30221) calls for **lower cost visitor and recreational facilities**, addressing the concern that coastal recreational opportunities be available to all Californians regardless of income level. In addition, "Developments providing public recreational opportunities are preferred." Also:

> Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.

Group 3

The Coastal Act (30230) also **prioritizes ecological resources**. Marine resources, such as wetlands, rocky intertidal areas, and the open ocean are addressed as follows:

> Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

The Coastal Act (30240) includes **special protection for Environmentally Sensitive Habitat Areas**, often referred to as ESHA:

> (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.
> (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

The law recognizes the importance of maintaining adequate **water quality** for coastal zone organisms and human health (30231):

> The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment,

> controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

The Coastal Act **prioritizes certain types of activities and development** over other types in the coastal zone. For instance, visitor-serving commercial recreational facilities designed to enhance public opportunities for coastal recreation are prioritized over private residential, general industrial, or general commercial development, but not over agriculture or coastal-dependent industry (30222). Recreational boating and its related facilities are encouraged in the Coastal Act (30224).

The Coastal Act (30253) dictates that new development be designed and sited to minimize adverse impacts to coastal resources, both natural and visitor-serving, as follows:

> New development shall do all of the following: (a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard. (b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. (c) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Board as to each particular development. (d) Minimize energy consumption and vehicle miles traveled. (e) Where appropriate, protect special communities and neighborhoods that, because of their unique characteristics, are popular visitor destination points for recreational uses.

Group 4

**Views** and local character are protected by the Coastal Act (30251):

> The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.

The Coastal Act (30235) calls for **limits on the use of shoreline armoring**:

> Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply.

The issue of whether new shoreline armoring should be allowed will arise with increasing frequency as global warming causes sea level rise. In applying the Coastal Act, the Commission tries to avoid shoreline armoring by locating new development away from hazard areas if feasible.

The Coastal Act (30006) includes a statement on the importance of **public participation** in its implementation...

> The Legislature further finds and declares that the public has a right to fully participate in decisions affecting coastal planning, conservation and development; that achievement of sound coastal conservation and development is dependent upon public understanding and support; and that the continuing planning and implementation of programs for coastal conservation and development should include the widest opportunity for public participation.

...as well as **public education** (30012):

> The Legislature finds that an educated and informed citizenry is essential to the well-being of a participatory democracy and is necessary to protect California's finite natural resources, including the quality of its environment. The Legislature further finds that through education, individuals can be made aware of and encouraged to accept their share of the responsibility for protecting and improving the natural environment.

## The Coastal Commission

There are 15 California Coastal Commissioners. Twelve are voting members and three are non-voting members. The voting members are appointed by the Governor, the Speaker of the Assembly, and the Senate Rules Committee; each appoint four Commissioners, of which two are selected from the public at large and two are locally elected officials. The local officials on the Commission represent six coastal regions in California. The Governor's appointments must include at least one representative who resides in and works directly with communities with diverse racial and ethnic populations and communities with low-income populations burdened disproportionately by high levels of pollution and issues of environmental justice. The non-voting Commissioners are the Secretary of the Resources Agency, the Secretary of the Business and Transportation Agency, and the Chairperson of the State Lands Commission.

The Coastal Commission meets each month to hear from the public and make decisions. The meetings are held in different coastal locations and generally last three days. You can find out about these meetings on the Coastal Commission website at www.coastal.ca.gov. Meetings are open to the public as well as streamed live online, and previous meetings can be viewed in a video archive.

## CREATIVITY & INNOVATION RUBRIC

*Courtesy of the Buck Institute for Education*

**PROCESS:**

| Creativity & Innovation Opportunity at Phases of a Project | Below Standard | Approaching Standard | At Standard | Above Standard |
|---|---|---|---|---|
| *Launching the Project:* Define the Creative Challenge | • may just "follow directions" without understanding the purpose for innovation or considering the needs and interests of the target audience | • understands the basic purpose for innovation but does not thoroughly consider the needs and interests of the target audience | • understands the purpose driving the process of innovation (Who needs this? Why?)<br>• develops insight about the particular needs and interests of the target audience | |
| *Building Knowledge, Understanding, and Skills:* Identify Sources of Information | • uses only typical sources of information (website, book, article)<br>• does not offer new ideas during discussions | • finds one or two sources of information that are not typical<br>• offers new ideas during discussions, but stays within narrow perspectives | • in addition to typical sources, finds unusual ways or places to get information (adult expert, community member, business or organization, literature)<br>• promotes divergent and creative perspectives during discussions (CC 11-12.SL.1c) | |
| *Developing and Revising Ideas and Products:* Generate and Select Ideas | • stays within existing frameworks; does not use idea-generating techniques to develop new ideas for product(s)<br>• selects one idea without evaluating the quality of ideas<br>• does not ask new questions or elaborate on the selected idea<br>• reproduces existing ideas; does not imagine new ones<br>• does not consider or use feedback and critique to revise product | • develops some original ideas for product(s), but could develop more with better use of idea-generating techniques<br>• evaluates ideas, but not thoroughly before selecting one<br>• asks a few new questions but may make only minor changes to the selected idea<br>• shows some imagination when shaping ideas into a product, but may stay within conventional boundaries<br>• considers and may use some feedback and critique to revise a product, but does not seek it out | • uses idea-generating techniques to develop several original ideas for product(s)<br>• carefully evaluates the quality of ideas and selects the best one to shape into a product<br>• asks new questions, takes different perspectives to elaborate and improve on the selected idea<br>• uses ingenuity and imagination, going outside conventional boundaries, when shaping ideas into a product<br>• seeks out and uses feedback and critique to revise product to better meet the needs of the intended audience (CC 6-12.W.5) | |

**CREATIVITY & INNOVATION RUBRIC, PROCESS, continued**

| Creativity & Innovation Opportunity at Phases of a Project | Below Standard | Approaching Standard | At Standard | Above Standard |
|---|---|---|---|---|
| *Presenting Products and Answers to Driving Question:* Present Work to Users/Target Audience | • presents ideas and products in typical ways (text-heavy slides, recitation of notes, no interactive features) | • adds some interesting touches to presentation media<br>• attempts to include elements in presentation that make it more lively and engaging | • creates visually exciting presentation media<br>• includes elements in presentation that are especially fun, lively, engaging, or powerful to the particular audience | |

**PRODUCT:**

| | Below Standard | Approaching Standard | At Standard | Above Standard |
|---|---|---|---|---|
| **Originality** | • relies on existing models, ideas, or directions; it is not new or unique<br>• follows rules and conventions; uses materials and ideas in typical ways | • has some new ideas or improvements, but some ideas are predictable or conventional<br>• may show a tentative attempt to step outside rules and conventions, or find new uses for common materials or ideas | • is new, unique, surprising; shows a personal touch<br>• may successfully break rules and conventions, or use common materials or ideas in new, clever and surprising ways | |
| **Value** | • is not useful or valuable to the intended audience/user<br>• would not work in the real world; impractical or unfeasible | • is useful and valuable to some extent; it may not solve certain aspects of the defined problem or exactly meet the identified need<br>• unclear if product would be practical or feasible | • is seen as useful and valuable; it solves the defined problem or meets the identified need<br>• is practical, feasible | |
| **Style** | • is safe, ordinary, made in a conventional style<br>• has several elements that do not fit together; it is a mish-mash | • has some interesting touches, but lacks a distinct style<br>• has some elements that may be excessive or do not fit together well | • is well-crafted, striking, designed with a distinct style but still appropriate for the purpose<br>• combines different elements into a coherent whole | |

*Note: The term "product" is used in this rubric as an umbrella term for the result of the process of innovation during a project. A product may be a constructed object, proposal, presentation, solution to a problem, service, system, work of art or piece of writing, an invention, event, an improvement to an existing product, etc.*

## PRESENTATION RUBRIC

*Courtesy of the Buck Institute for Education*

| | Below Standard | Approaching Standard | At Standard | Above Standard |
|---|---|---|---|---|
| **Explanation of Ideas & Information** | • does not present information, arguments, ideas, or findings clearly, concisely, and logically; argument lacks supporting evidence; audience cannot follow the line of reasoning<br>• selects information, develops ideas and uses a style inappropriate to the purpose, task, and audience (may be too much or too little information, or the wrong approach)<br>• does not address alternative or opposing perspectives | • presents information, findings, arguments and supporting evidence in a way that is not always clear, concise, and logical; line of reasoning is sometimes hard to follow<br>• attempts to select information, develop ideas and use a style appropriate to the purpose, task, and audience but does not fully succeed<br>• attempts to address alternative or opposing perspectives, but not clearly or completely | • presents information, findings, arguments and supporting evidence clearly, concisely, and logically; audience can easily follow the line of reasoning (CC 9-12.SL.4)<br>• selects information, develops ideas and uses a style appropriate to the purpose, task, and audience (CC 9-12.SL.4)<br>• clearly and completely addresses alternative or opposing perspectives (CC 11-12.SL.4) | |
| **Organization** | • does not meet requirements for what should be included in the presentation<br>• does not have an introduction and/or conclusion<br>• uses time poorly; the whole presentation, or a part of it, is too short or too long | • meets most requirements for what should be included in the presentation<br>• has an introduction and conclusion, but they are not clear or interesting<br>• generally times presentation well, but may spend too much or too little time on a topic, a/v aid, or idea | • meets all requirements for what should be included in the presentation<br>• has a clear and interesting introduction and conclusion<br>• organizes time well; no part of the presentation is too short or too long | |
| **Eyes & Body** | • does not look at audience; reads notes or slides<br>• does not use gestures or movements<br>• lacks poise and confidence (fidgets, slouches, appears nervous)<br>• wears clothing inappropriate for the occasion | • makes infrequent eye contact; reads notes or slides most of the time<br>• uses a few gestures or movements but they do not look natural<br>• shows some poise and confidence, (only a little fidgeting or nervous movement)<br>• makes some attempt to wear clothing appropriate for the occasion | • keeps eye contact with audience most of the time; only glances at notes or slides<br>• uses natural gestures and movements<br>• looks poised and confident<br>• wears clothing appropriate for the occasion | |

**PRESENTATION RUBRIC, continued**

| | Below Standard | Approaching Standard | At Standard | Above Standard |
|---|---|---|---|---|
| **Voice** | • mumbles or speaks too quickly or slowly<br>• speaks too softly to be understood<br>• frequently uses "filler" words ("uh, um, so, and, like, etc.")<br>• does not adapt speech for the context and task | • speaks clearly most of the time<br>• speaks loudly enough for the audience to hear most of the time, but may speak in a monotone<br>• occasionally uses filler words<br>• attempts to adapt speech for the context and task but is unsuccessful or inconsistent | • speaks clearly; not too quickly or slowly<br>• speaks loudly enough for everyone to hear; changes tone and pace to maintain interest<br>• rarely uses filler words<br>• adapts speech for the context and task, demonstrating command of formal English when appropriate (CC 9-12.SL.6) | |
| **Presentation Aids** | • does not use audio/visual aids or media<br>• attempts to use one or a few audio/visual aids or media, but they do not add to or may distract from the presentation | • uses audio/visual aids or media, but they may sometimes distract from or not add to the presentation<br>• sometimes has trouble bringing audio/visual aids or media smoothly into the presentation | • uses well-produced audio/visual aids or media to enhance understanding of findings, reasoning, and evidence, and to add interest (CC 9-12.SL.5)<br>• smoothly brings audio/visual aids or media into the presentation | |
| **Response to Audience Questions** | • does not address audience questions (goes off topic or misunderstands without seeking clarification) | • answers audience questions, but not always clearly or completely | • answers audience questions clearly and completely<br>• seeks clarification, admits "I don't know" or explains how the answer might be found when unable to answer a question | |
| | | | | |
| **Participation in Team Presentations** | • Not all team members participate; only one or two speak | • All team members participate, but not equally | • All team members participate for about the same length of time<br>• All team members are able to answer questions about the topic as a whole, not just their part of it | |

## COLLABORATION RUBRIC

*Courtesy of the Buck Institute for Education*

| *Individual Performance* | Below Standard | Approaching Standard | At Standard | Above Standard |
|---|---|---|---|---|
| **Takes Responsibility for Oneself** | • is not prepared, informed, and ready to work with the team<br>• does not use technology tools as agreed upon by the team to communicate and manage project tasks<br>• does not do project tasks<br>• does not complete tasks on time<br>• does not use feedback from others to improve work | • is usually prepared, informed, and ready to work with the team<br>• uses technology tools as agreed upon by the team to communicate and manage project tasks, but not consistently<br>• does some project tasks, but needs to be reminded<br>• completes most tasks on time<br>• sometimes uses feedback from others to improve work | • is prepared and ready to work; is well informed on the project topic and cites evidence to probe and reflect on ideas with the team (CC 6-12.SL.1a)<br>• consistently uses technology tools as agreed upon by the team to communicate and manage project tasks<br>• does tasks without having to be reminded<br>• completes tasks on time<br>• uses feedback from others to improve work | |
| **Helps the Team** | • does not help the team solve problems; may cause problems<br>• does not ask probing questions, express ideas, or elaborate in response to questions in discussions<br>• does not give useful feedback to others<br>• does not offer to help others if they need it | • cooperates with the team but may not actively help it solve problems<br>• sometimes expresses ideas clearly, asks probing questions, and elaborates in response to questions in discussions<br>• gives feedback to others, but it may not always be useful<br>• sometimes offers to help others if they need it | • helps the team solve problems and manage conflicts<br>• makes discussions effective by clearly expressing ideas, asking probing questions, making sure everyone is heard, responding thoughtfully to new information and perspectives (CC 6-12.SL.1c)<br>• gives useful feedback (specific, feasible, supportive) to others so they can improve their work<br>• offers to help others do their work if needed | |
| **Respects Others** | • is impolite or unkind to teammates (may interrupt, ignore ideas, hurt feelings)<br>• does not acknowledge or respect other perspectives | • is usually polite and kind to teammates<br>• usually acknowledges and respects other perspectives and disagrees diplomatically | • is polite and kind to teammates<br>• acknowledges and respects other perspectives; disagrees diplomatically | |

**COLLABORATION RUBRIC, continued**

| *Team Performance* | **Below Standard** | **Approaching Standard** | **At Standard** | **Above Standard** |
|---|---|---|---|---|
| **Makes and Follows Agreements** | • does not discuss how the team will work together<br>• does not follow rules for collegial discussions, decision-making and conflict resolution<br>• does not discuss how well agreements are being followed<br>• allows breakdowns in teamwork to happen; needs teacher to intervene | • discusses how the team will work together, but not in detail; may just "go through the motions" when creating an agreement<br>• usually follows rules for collegial discussions, decision-making, and conflict resolution<br>• discusses how well agreements are being followed, but not in depth; may ignore subtle issues<br>• notices when norms are not being followed but asks the teacher for help to resolve issues | • makes detailed agreements about how the team will work together, including the use of technology tools<br>• follows rules for collegial discussions (CC 6-12.SL.1b), decision-making, and conflict resolution<br>• honestly and accurately discusses how well agreements are being followed<br>• takes appropriate action when norms are not being followed; attempts to resolve issues without asking the teacher for help | |
| **Organizes Work** | • does project work without creating a task list<br>• does not set a schedule and track progress toward goals and deadlines<br>• does not assign roles or share leadership; one person may do too much, or all members may do random tasks<br>• wastes time and does not run meetings well; materials, drafts, notes are not organized (may be misplaced or inaccessible) | • creates a task list that divides project work among the team, but it may not be in detail or followed closely<br>• sets a schedule for doing tasks but does not follow it closely<br>• assigns roles but does not follow them, or selects only one "leader" who makes most decisions<br>• usually uses time and runs meetings well, but may occasionally waste time; keeps materials, drafts, notes, but not always organized | • creates a detailed task list that divides project work reasonably among the team (CC 6-12.SL.1b)<br>• sets a schedule and tracks progress toward goals and deadlines (CC 6-12.SL.1b)<br>• assigns roles if and as needed, based on team members' strengths (CC 6-12.SL.1b)<br>• uses time and runs meetings efficiently; keeps materials, drafts, notes organized | |
| **Works as a Whole Team** | • does not recognize or use special talents of team members<br>• does project tasks separately and does not put them together; it is a collection of individual work | • makes some attempt to use special talents of team members<br>• does most project tasks separately and puts them together at the end | • recognizes and uses special talents of each team member<br>• develops ideas and creates products with involvement of all team members; tasks done separately are brought to the team for critique and revision | |

## CRITICAL THINKING RUBRIC

*Courtesy of the Buck Institute for Education*

| *Critical Thinking Opportunity at Phases of a Project* | **Below Standard** | **Approaching Standard** | **At Standard** | **Above Standard** |
|---|---|---|---|---|
| *Launching the Project:* Analyze Challenging Question and Begin Inquiry | • sees only superficial aspects of, or one point of view on, the Challenging Question | • identifies some central aspects of the Challenging Question, but may not see complexities or consider various points of view<br>• asks some follow-up questions about the topic or the wants and needs of the audience or users of a product, but does not dig deep | • shows understanding of central aspects of the Challenging Question by identifying in detail what needs to be known to answer it and considering various possible points of view on it<br>• asks follow-up questions that focus or broaden inquiry, as appropriate (CC 6-12.W.7)<br>• asks follow-up questions to gain understanding of the wants and needs of audience or product users | |
| *Building Knowledge, Understanding, and Skills:* Gather and Evaluate Information | • is unable to integrate information to address the Challenging Question; gathers too little, too much, or irrelevant information, or from too few sources<br>• accepts information at face value (does not evaluate its quality) | • attempts to integrate information to address the Challenging Question, but it may be too little, too much, or gathered from too few sources; some of it may not be relevant<br>• understands that the quality of information should be considered, but does not do so thoroughly | • integrates relevant and sufficient information to address the Challenging Question, gathered from multiple and varied sources (CC 6,11-12.RI.7)<br>• thoroughly assesses the quality of information (considers usefulness, accuracy and credibility; distinguishes fact vs. opinion; recognizes bias) (CC 6-12.W.8) | |
| *Developing and Revising Ideas and Products:* Use Evidence and Criteria | • accepts arguments for possible answers to the Challenging Question without questioning whether reasoning is valid<br>• uses evidence without considering how strong it is<br>• relies on “gut feeling” to evaluate and revise ideas, product prototypes or problem solutions (does not use criteria) | • recognizes the need for valid reasoning and strong evidence, but does not evaluate it carefully when developing answers to the Challenging Question<br>• evaluates and revises ideas, product prototypes or problem solutions based on incomplete or invalid criteria | • evaluates arguments for possible answers to the Challenging Question by assessing whether reasoning is valid and evidence is relevant and sufficient (CC 6-12.SL.3, RI.8)<br>• justifies choice of criteria used to evaluate ideas, product prototypes or problem solutions<br>• revises inadequate drafts, designs or solutions and explains why they will better meet evaluation criteria (CC 6-12.W.5) | |

**CRITICAL THINKING RUBRIC, continued**

| *Critical Thinking Opportunity at Phases of a Project* | **Below Standard** | **Approaching Standard** | **At Standard** | **Above Standard** |
|---|---|---|---|---|
| *Presenting Products and Answers to Driving Question:* Justify Choices, Consider Alternatives & Implications | • chooses one presentation medium without considering advantages and disadvantages of using other mediums to present a particular topic or idea<br>• cannot give valid reasons or supporting evidence to defend choices made when answering the Challenging Question or creating products<br>• does not consider alternative answers to the Challenging Question, designs for products, or points of view<br>• is not able to explain important new understanding gained in the project | • considers the advantages and disadvantages of using different mediums to present a particular topic or idea, but not thoroughly<br>• explains choices made when answering the Challenging Question or creating products, but some reasons are not valid or lack supporting evidence<br>• understands that there may be alternative answers to the Challenging Question or designs for products, but does not consider them carefully<br>• can explain some things learned in the project, but is not entirely clear about new understanding | • evaluates the advantages and disadvantages of using different mediums to present a particular topic or idea (CC 8.RI.7)<br>• justifies choices made when answering the Challenging Question or creating products, by giving valid reasons with supporting evidence (CC 6-12.SL.4)<br>• recognizes the limitations of an answer to the Challenging Question or a product design (how it might not be complete, certain, or perfect) and considers alternative perspectives (CC 11-12.SL.4)<br>• can clearly explain new understanding gained in the project and how it might transfer to other situations or contexts | |

## APPLICATION OF CONTENT KNOWLEDGE: FORMAL WRITTEN REPORTS AND PUBLIC PRESENTATIONS RUBRIC

*Indicators of Achievement Adapted from Costa and Kallick, NCTE, and NGSS*

| *Habit of Mind* | Unsatisfactory | Growing to Competency | Competent (State Standard) | Distinguished |
|---|---|---|---|---|
| **Striving for Accurancy** | Sloppy or incomplete work with no evidence of revision or editing process. Feedback from peer reviewers and adult colaborators is not incorporated into work. | Student occasionally reviews checklists, rubrics, and peer feedback to enhance wrtten communications. Care is taken to convey significnat science concepts with examples and data. | Student understands and can apply two to three relevant science concepts in a written sequence of claims, evidence, and reasoning. Student works with peers as instructional resources. | Without sacrificing scientific accuracy, student constructs a coherent storyline referencing California places, issues, and connections to his or her own life. Student demonstrates a command of writing mechanics, organization, and ability to revise and edit. |
| **Creative Questioning** | Student does not initiate questioning in any written or verbal form. When questions are asked, they focus on meeting minimum requirements as articulated by adults. | Student intiates science-based questioing with support from peers or teachers. The value of questioing is understood, but the habit is still being cultivated. | Student independently produces original questions, considers questions from multiple perspectives, and produces original answers. Student brainstorms with others during the questioning process and listens carefully to arguments made by peers. | Student uses science and engineering practices to develop personalized place-based driving questions with connections to science concepts and to the ideas of classmates. Student considers alternative perspectives and nurtures an inclination to question daily. |
| **Applying Past Knowledge to New Situations** | Science notebooks, feedback from peers, and previous experience does not inform actions or writing. | When reminded and supported, prior knowledge is accessed and used to improve speaking and written communications. | Student consistently uses prior knowledge to investigate new phenomena. Reference to previous experience or careful use of analogies may be seen. | Student consistently uses prior knowledge to investigate new phenomena. Reference to previous experience or careful use of analogies may be seen. |
| **Thinking and Communicating with Clarity and Precision** | Use of vague and imprecise language leads to confusion about meaning. Science vocabulary is missiing or used incorrectly. | Science concepts and ideas are communicated using analogies from everyday life, but subtle distinctions are lost due to a lack of vocabulary or incomplete grasp of scientific concepts. | Student avoids generalizations and distortions of fact while clearly defining science terms, concepts, and ideas. Student can distinguish between closely related science topics (e.g. weather and climate, or heat and temperature). | Students use exact language to convey science concepts and emerging ideas. Claims are supported with evidence and reasoning that is grounded in place, personal experience, and relevant science concepts. Writing is concise, descriptive, and coherent. |

## SCIENCE NOTEBOOK AND EXIT TICKET RUBRIC

| *NGSS Element* | **Unsatisfactory** | **Growing to Competency** | **Competent (State Standard)** | **Distinguished** |
|---|---|---|---|---|
| **Crosscutting Concepts** | Student does not show connections across content area boundaries. Most learning activity is limited to memorizing facts without context. | Student identifies patterns and classifies relationships as causal or correlational. Student understands that events that occur closely in time may or may not be related. | Student places significant knowledge in context using systems, models, and causal analysis. Student evaluates questions and models for testability, arguments for validity, and solutions for practicality. | Explanatory power of crosscutting concepts is fully utilized to think and write as scientists do while addressing real world environmental problems. Alternative explanations are routinely considered, as is instrument error. |
| **Science and Engineering Practices** | Student identifies testable questions and performs simple qualitative investigations, but fails to recognize the many ways that scientists perform their work. | Student specifies relationships, between variables and clarifies arguments, but rarely evaluates or proposes solutions. | Student uses evidence and computational thinking to analyze geoscience data, construct arguments, develop conceptual models, plan investigations, and propose science-based actions. | Science and engineering practices are habitually referenced in writing. System level thinking is demonstrated in reference to boundaries, interactions, and constraints posed by methods, society, or environmental concerns. |
| **Disciplinary Core Ideas** | Student does not demonstrate understanding of science content; science vocabulary is wholly absent. | Student can identify components, yet understandings about relationships between components are elusive. Placing knowledge in context, using thinking tools like the crosscutting concepts is rare, but increasing. | Student presents Earth systems that are dynamic, interactive, and composed of both living and non-living features, with feedback effects that may be altered by human activity. Science vocabulary is weilded with precision and clarity. | Writing is precise and clear with no composition or style errors leading to elegant place-based expression of science concepts. Student makes a personal connection to the information and acts upon valid science information. |
| **Conceptual Models** | Work is inaccurate, lacking most needed components; messy craftsmanship detracts from overall presentation and obscures meaning. | Poor craftsmanship obscures meaning. Model is missing an element needed to completely understand science concepts or make predictions. | Model is neat; all depictions are accurate, legible, and scientifically defensible. Models have components, relationships, and connections labeled. Predictions about future conditions may be made. | Models can be used to evalute the merits and disadvantages of various actions, generate predictions, and quantify relationships between components or variables. |