

## Educator Guide

### FOR USE IN

- classrooms
- environmental education programs
- afterschool programs
- museum, aquarium, and zoo programs



### OVERVIEW

*Saving the Bay* educational resources were created with input from San Francisco Bay Area teachers and informal education organizations that offer field trips and programs about San Francisco Bay. Twenty-six video segments from the series were selected that align with the work of these organizations and correlate with California content standards in science and history / social science for grades 4–12. Twenty educator viewing guides provide information and activities to support the use of the media with students.

### HOW TO USE THE ONLINE VIDEO SEGMENTS AND VIEWING GUIDES

The online video segments are not meant to be used as an isolated activity. The accompanying viewing guides offer questions, activities, ideas, and resources to actively engage students in viewing the media and thereby create a meaningful learning experience. Each viewing guide contains the following sections:

- an overview of the video segment/s
- associated content standards
- topic background
- pre-viewing questions or activities
- focus questions for viewing or a viewing activity
- post-viewing discussion questions and activities
- a list of additional resources that includes related websites and lesson plans
- a transcript for the video segment/s



Test students' prior knowledge with pre-viewing questions or stimulate their thinking with a pre-viewing activity. Use the focus questions for viewing or the viewing activity to keep students actively engaged during the playing of the media. Post-viewing discussion questions and activities offer students a guided opportunity to think more deeply about a topic. Use the segment transcript with English language learners to scaffold their viewing of the media.

The viewing guides have been written for three grade groupings: 4–5, 6–8, and 9–12. Questions and activities in the guides may be adapted for other grade levels.

For additional ideas and tools, check out these other resources on [www.kqed.org/education](http://www.kqed.org/education):

- [Using Video with English Language Learners](#)
- [Why Use Multimedia in Science Education?](#)
- [How to Use Science Media Effectively for Enhancing Teaching and Learning](#)
- [Science Multimedia Analysis](#)
- Framework for Teaching Media Literacy: Social Studies Integration
  - [Message](#)
  - [Audience](#)
  - [Production](#)



## WAYS TO USE RESOURCES FROM SAVING THE BAY

- in science and history / social science classes to cover content with a local perspective
- as a pre-field trip activity
- for review after a field trip
- in informal education programs
- professional development
- employee training

## FOCUS QUESTIONS FOR VIEWING

Several themes, listed below, run through all four episodes of *Saving the Bay*. Use the discussion questions under each theme to further explore the theme:

### Human Impact on the Environment

- How did the California Indians that lived in the Bay Area interact with and affect their environment?
- What were the biggest impacts that early settlers had on the environment?
- How did the establishment of ranchos contribute to the introduction and spread of nonnative grasses?
- What role did agriculture play in the engineering of the Delta?
- Why did the development and growth of cities lead to the destruction of Bay Area wetlands?
- How does our need for fresh water impact the ecology of the Bay?
- What kinds of impacts are humans having on the Bay today? Are there any examples of these close to your school or home?
- What have we learned as a society over the past couple of centuries that has changed the way we use the Bay?

### Immigration

- Why did people move to the Bay Area in the 1800s?
- What kinds of jobs were available?
- How did minority groups aid in the growth of industry and the economy in the Bay Area?
- What conflicts arose between different groups of people? Who were the groups involved? What events or circumstances led to these conflicts?

### San Francisco Bay As a Resource

- What resources does the Bay provide for us?
- List as many jobs as you can think of that rely on the Bay.
- How would our lives be different if the Bay didn't exist?
- How is our management of resources (water, fisheries, etc.) different now from 200 years ago? 100 years ago? 50 years ago?

### The Conservation Movement

- List and discuss five major factors that led to the need for a movement to protect San Francisco Bay.
- What prompted the three women from Berkeley to create an organization to save the Bay?
- What hurdles and obstacles did the women face in their efforts to save the Bay? How did they overcome these obstacles?
- Were there other conservation movements occurring in the 1950s? What were they?

## ABOUT THE AUTHOR

**Andrea Swensrud** is KQED Education's project supervisor for *Saving the Bay*. She holds degrees in education and environmental science, and has a decade of experience teaching and managing environmental education programs about San Francisco Bay.

**KQED Education** engages with community and educational organizations to broaden and deepen the impact of KQED media to effect positive change.

[www.kqed.org/education](http://www.kqed.org/education)

## CURRICULAR RESOURCES

Following is a limited list of curricular resources that complement the *Saving the Bay* series and educational materials. Additional resources, including online lesson plans, activities, images, and informational websites, are included in each of the *Saving the Bay* viewing guides.

### **Gold Rush! Curriculum**, Oakland Museum of California

<http://museumca.org/goldrush/getin-curr.html>

Delve into the Gold Rush with lesson plans developed for grades 4, 5, 8, and 11.

### **Water History Teachers Activity Guide**, Santa Clara Valley Water District

<http://www.valleywater.org/Programs/WaterHistoryTeachersGuide.aspx>

Learn about water history in California and the Santa Clara Valley with this timeline-based activity for grades 4–12.

### **Watershed Curriculum**, Save the Bay

<http://www.savesfbay.org/watershed-curriculum>

This curriculum for middle and high school students contains 29 experiential activities that focus on the ecology, evolution, and geology of and the history of human impact on San Francisco Bay.

## CREDITS

**Saving the Bay** is produced by Ron Blatman and KQED/KTEH Public Television. Production funding is provided by the Bay Area Toll Authority; the California State Coastal Conservancy; the Richard and Rhoda Goldman Foundation; the Ambassador Bill and Jean Lane Fund; the David and Lucile Packard Foundation; the Sonoma County Water Agency; the Wallace Alexander Gerbode Foundation; the Columbia Foundation; the Melvin B. and Joan F. Lane Fund; the Dirk and Charlene Kabcenell Foundation; the Morgan Family Foundation; the Association of Bay Area Governments and the Bay Trail Project; the San Francisco Bay Conservation and Development Commission; and the Environmental Science Associates.

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## VIEWING GUIDES

Twenty viewing guides and 26 video segments are available online from *Saving the Bay* ([www.education.savingthebay.org](http://www.education.savingthebay.org)). (Four of the viewing guides cover two or more video segments.)

Episode	Viewing Guide	Grade Levels	History / Social Science	Science	Topic
1	A Unique Estuary	4–5, 6–8		X	Overview of San Francisco Bay
1	The Formation of San Francisco Bay	6–8		X	The geologic history of San Francisco Bay
1	Cultivating an Abundant San Francisco Bay	4–5	X		California Indians' interaction with their environment
1	Discovering San Francisco Bay	4–5	X		The Portola, Ayala, and Anza expeditions
1	A Parade of Grasses	4–5, 9–12	X	X	How early settlers of the Bay Area affected the environment through hunting and ranching
1, 3, 4	Restoring San Francisco Bay	4–5, 6–8, 9–12		X	How historical ecology aids in restoration activities, wetland restoration at Hamilton Field, and South Bay salt pond restoration
2	The Oaks of Oakland	4–5	X		The historical oak grove that gave Oakland its name and the removal of the trees
2	Vanishing Tidelands	6–8, 9–12		X	Filling in of the tidelands and the creation of salt ponds
2	An Invaded Estuary	6–8, 9–12		X	Exotic species in the Bay
2	The Chinese Shrimp Fishery	6–8, 9–12	X		19th-century Chinese shrimp fisherman in San Francisco Bay
2	Fish Tales: Salmon and Herring Fisheries of San Francisco Bay	9–12		X	The salmon fishery in the 19th century and the herring fishery of today
2	The Aftermath of the Gold Rush: Mining and Mercury in the Bay	6–8, 9–12	X	X	How hydraulic mining during the Gold Rush affected San Francisco Bay
2, 4	Threats to the Bay	9–12		X	Mercury and other threats to the health of the Bay, including climate change and oil spills

## VIEWING GUIDES (CONTINUED)

Episode	Viewing Guide	Grade Levels	History / Social Science	Science	Topic
3	The Sinking Delta	6–8, 9–12		X	Subsidence in the Delta due to building of levees
3	Moving California's Water Supply	4–5, 9–12	X	X	The Central Valley Project
3	Delta Dilemmas	6–8, 9–12		X	Impacts of the Central Valley Project on the environment
3	The Greatest Shipbuilding Center in the World	9–12	X		WWII in the Bay Area, including the shipbuilding industry
3	The Reber Plan: A Big Idea for San Francisco Bay	9–12	X	X	John Reber's plan to dam and develop San Francisco Bay
4	Turning the Tide	9–12	X		The Save the Bay conservation movement and the creation of the Bay Conservation and Development Commission
4	A Healthier Bay	4–5, 6–8		X	Cleaning up the Bay through wastewater treatment