

## The Reber Plan: A Big Idea for San Francisco Bay

Watch the segment online at <http://education.savingthebay.org/the-reber-plan-a-big-idea-for-san-francisco-bay>

Watch the segment on DVD: Episode 3, 46:39–50:05

Video length: 3 minutes 45 seconds

### SUBJECT/S

**Science**

**History**

### GRADE LEVELS

**9–12**

### CA CONTENT STANDARDS

#### Grades 9–12

*Earth Sciences – California Geology*

9.c. Students know the importance of water to society, the origins of California's fresh water, and the relationship between supply and need.

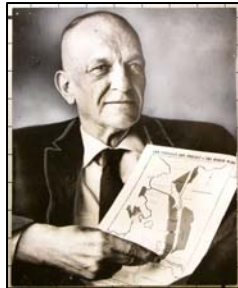
#### Grade 11

*History–Social Science*

11.8. Students analyze the economic boom and social transformation of post–World War II America.

### VIDEO OVERVIEW

In the years after World War II, John Reber proposed a plan that would have drastically changed the San Francisco Bay Area.



John Reber with his plan in 1949.  
(San Francisco Public Library)

In this segment you'll learn:

- about John Reber and his ideas about nature and the Bay.
- the details of John Reber's plan and how it would reshape the Bay.
- about the Bay Model and its impact on the Reber Plan.

### TOPIC BACKGROUND

After World War II, there were many social and economic changes in the United States, along with incredible technological advancements. In the San Francisco Bay Area, Berkeley was leading the way in the atomic revolution, and Stanford—and the soon-to-be Silicon Valley—in the electronics industry. During this era of change, there were numerous ideas put forth to change and develop the San Francisco Bay Area.

The most famous plan was called the San Francisco Bay Project, also known as the Reber Plan, and was spearheaded by a former theatrical producer, John Reber, in the 1940s. His plan called for the creation of two earth-and-rock-fill dams in San Francisco Bay, one between Marin County and Richmond and the other between San Francisco and Oakland. These dams would create two freshwater lakes and capture and store 2,400,000 acre-feet of fresh water annually. Over the top of the dams would run high-speed roads and railways. He also proposed 20,000 acres of filled-in land and a freshwater channel between the lakes.

Reber's plan attracted considerable attention, but had many critics. Critics were concerned with issues such as destruction of commercial fisheries and flooding potential. In 1957, the Army Corps of Engineers built a scale model of the San Francisco Bay Area to study Reber's plan. The model, more than 1.5 acres in size, represented an area from the Pacific Ocean to Sacramento and Stockton, including the San Francisco, San Pablo, and Suisun bays and a portion of the Sacramento–San Joaquin Delta. It was built to provide an understanding of how water flows in the Bay. Although it does not look exactly like the Bay and the Delta, it reproduces the rise and fall of the tide, currents, the mixing of fresh and salt water, and how sediment moves. The Bay Model ultimately showed that Reber's plan would not work, and the San Francisco Bay Project was never realized. Today, the Bay Model is no longer used for research, but it still operates as an educational facility at the Bay Model Visitors Center in Sausalito, California.

## VOCABULARY

**atomic revolution**

the era dedicated to the study of nuclear technology

**exploit**

to make use of, often for profit

**scale model**

a representation in miniature

**tangible**

possible to be touched or understood

**transshipment**

to transfer from one ship to another

## PRE-VIEWING ACTIVITY

- As a class, discuss controversial plans that have worked out and those that have not (e.g., plans to build a new road, plans to hold an event, plans to cut down old-growth trees). What makes a plan successful? For a controversial plan to be carried out, what needs to happen? Who are the key players in proposing ideas and making them happen?

## FOCUS QUESTIONS FOR VIEWING

- John Reber comes from a long tradition of seeing nature as what? *something to be used and exploited*
- What would John Reber's complex contain? *a ring of naval and air bases; new, highly efficient ground transportation corridors; and two massive dams*
- The plan would allow for transshipment of what to Southern California? *water*
- Who dismissed Reber's plan? *the Army and the Navy*
- What did John Reber persuade the committee to recommend funding for? *a permanent model of the Bay to be set up as a test of his plan*
- What stands as the only tangible legacy and the ultimate undoing of John Reber's idea? *the Bay Model*
- What did the Bay Model show? *that the Bay-Delta estuary would be destroyed under Reber's plan*

## POST-VIEWING QUESTIONS

- What would the San Francisco Bay Area be like if Reber had been successful in promoting his plan? How would your life be different today?
- In summarizing the papers of John Reber, Bright Ideas from the National Archives (<http://www.archives.gov/education/history-day/bright-ideas/resources-nrhs.html>) writes the following: "The scrapping of the Reber Plan in the early 1960s was one sign, perhaps, of the end of an era of grandiose civil works projects aimed at totally restructuring a region's natural environment and the birth of the environmental era." Do you agree? Was this the end of projects restructuring the environment?
- The Reber Plan claimed to address California's need for fresh water. Does California still face issues related to water? Is there enough water to go around? What has California done to provide water for people and agriculture? How have these actions affected the Bay?
- In this segment, Josh Collins says, "Purely from a logistical point of view, it does make sense." Explain.

## ABOUT THE AUTHOR

**Phaela Peck** is a science teacher, environmental educator, and writer based in San Francisco. She has an M.A. in environmental education and has developed curricula for numerous science and environmental education organizations in the Bay Area.

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## POST-VIEWING ACTIVITIES

- Look at the diagram of the San Francisco Bay Project found here: [http://www.lib.berkeley.edu/news\\_events/bridge/up020.html](http://www.lib.berkeley.edu/news_events/bridge/up020.html). Would your school exist if this project had been realized? What would your city look like?
- Divide the class into two groups for a debate on the Reber Plan. One group should prepare to defend the Reber Plan, and the other group should prepare to argue against it.
- In small groups, design your own plan for the future of San Francisco Bay, complete with maps and diagrams.
- Research the Bay Model and how it works. Take a field trip to the Bay Model Visitor Center if possible.

## ADDITIONAL RESOURCES

**Bay Model Visitor Center**, U.S. Army Corps of Engineers

<http://www.spn.usace.army.mil/bmvc/>

This website provides information about visiting the working hydraulic model of San Francisco Bay and the Sacramento–San Joaquin River Delta system.

**Bridging the Bay: Bridging the Campus, Unbuilt Projects**, UC Berkeley Library

[http://www.lib.berkeley.edu/news\\_events/bridge/unbuilt.html](http://www.lib.berkeley.edu/news_events/bridge/unbuilt.html)

Find images and information on plans for bridges and salt water barriers in San Francisco Bay that were never realized.

**Liquid Gold, California's Water**, Water Resources Center Archives

<http://wrca.library.ucr.edu/exhibit.html>

The Water Resources Center Archives provides an exhibit, including images and information, on California's water development.

## CREDITS

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## VIDEO TRANSCRIPT

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**NARRATOR:** In the aftermath of war, the possibilities seem limitless. It is a time for big ideas—the atomic revolution led by the University of California and an equally promising defense electronics revolution centered, in part, around Stanford University. And then there is San Francisco Bay. No one has a bigger idea for it than John Reber.

**GRAY BRECHIN:** John Reber was a sort of self-taught engineer, and he comes right out of that long tradition of seeing nature only as something that can be used, exploited, turned into cash and credit, in fact, and so the Bay for him—he felt there was entirely too much Bay.

**HAROLD GILLIAM:** John Reber was not a professional engineer, but he had done a lot of engineering research. He was actually a theatrical producer.

**NARRATOR:** With the war over, John Reber dusted off a plan formed in the previous decade. It called for nothing less than the end of San Francisco Bay as an estuary. In its place would arise a stunning new complex of fully integrated shipping facilities, a ring of strategically placed naval and air bases, and new, highly efficient ground transportation corridors built atop two massive dams that would, at the same time, solve the problem of California's insatiable need for water for good.

**BRECHIN:** ... which then could be used not only to encourage more urban and industrial growth around the Bay, but also as a place of transshipment for water going down south to grow more city in Southern California as well too.

**FILM ANNOUNCER:** Let us face, without panic, the reality of our time: the fact that atom bombs may be dropped on our cities. And let us prepare for survival.

**JOSH COLLINS:** [Reber] notes that “gee, this would be a great way to reshape the Bay into a defensible piece of geography. We can get the Army to and from the Peninsula in a big hurry. We can get the public out of the coast and back inland in a big hurry. You know this makes a lot of sense.” And ..., purely from a logistical point of view, it does make sense.

**NARRATOR:** By 1950, Reber had created a national buzz over the future of San Francisco Bay, his bold initiative gracing the pages of prominent publications; and despite being dismissed by the Army and Navy, [it] seized the imagination of members of Congress. That year, he convinced the Senate Public Works Committee to hold hearings in San Francisco.

**GILLIAM:** They had a hearing, and he gave his presentation with charts and his slides and his diagrams and his pounding the table on what a great plan this would be and how many people it would employ and how it would save all that water. And he persuaded the Congressional committee then to recommend money for a permanent model of the Bay to be set up as a test for the Reber Plan.

**NARRATOR:** Today, the San Francisco Bay Model—a working scale model of the San Francisco estuary, in Sausalito—stands as the one tangible legacy and the ultimate undoing of John Reber's big idea. The model showed that the Bay-Delta estuary system would be destroyed. Freshwater dams would only create giant evaporation ponds while the Central Bay would have been devastated by the loss of critical freshwater inflows.