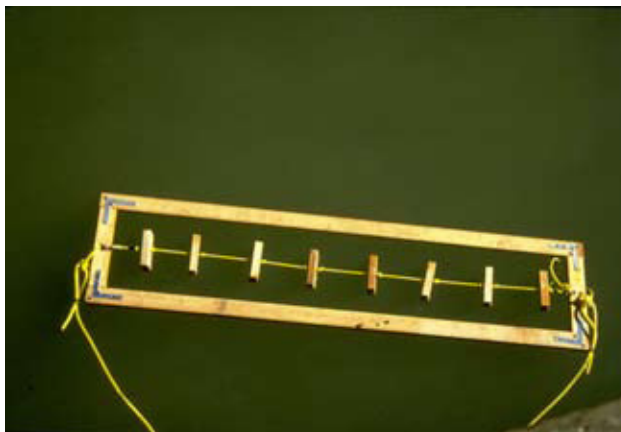


ARTISTS AS COLLABORATORS IN THE OUTDOOR EXPLORATORIUM

Peter Richards
Senior Artist and
Principal Investigator

The Exploratorium has a long history of engaging artists in all aspects of its program activities. The museum's Artist-in-Residence Program has supported many art/science collaborations, research projects, and the creation of new exhibits and installations for the public. The Outdoor Exploratorium at Fort Mason provided a unique opportunity to work with artists in a varied outdoor environment where history, the natural world, and the built environment come together.

Sea as Sculptress structure



THE SEA AS SCULPTRESS DATA BANK
Ruth Wallen

One of the museum's earliest artist research projects was Ruth Wallen's investigation of San Francisco Bay's water quality and its impact on marine life. In 1979, she used macro photography to document patterns of marine growth on introduced floating structures over the course of a year. She studied three sites, including Fort Mason, Alcatraz Island, and China Basin on the city's southeastern waterfront. She took hundreds of photographs documenting plant and animal growth for four full seasons. Many of these images were used in her Exploratorium performance *The Sea as Sculptress*.

Almost three decades later, as we began working at Fort Mason, we reconnected with Ruth by chance and reached an agreement for her slides to become a baseline for analyzing contemporary growth patterns at Fort Mason. We thought her work would particularly complement the project's *Pier Piling Pivot* exhibit, a fender piling that can be raised to allow examination of the plants and animals of the Bay's intertidal zone. Ruth organized over 1000 images according to place and time, and in the process of identifying the organisms they depicted, she consulted with local scientists who immediately recognized the value of the work. No one had yet taken the time to do this kind of Bay study, and this data bank is already becoming a valuable research resource.

When we first worked with Ruth in 1979, we had questions about the transitory nature of her project. Some suggested that the project's only outcome would likely be her performance, an event experienced only by a limited audience. At the time, we wondered if there was sufficient justification for investing in such a project. Now, with the benefit of hindsight and in light of the Outdoor Exploratorium, we can answer this question with a resounding yes. Her work with us is a great example of the importance of careful research for both artists and scientists—even if there is uncertainty about its future value.

Visit The Sea As Sculptress Data Bank:
http://philo.exploratorium.edu/visiting_artists/rwallen/sea_as_sculptress/

THE BAY MODEL
Oliver Fringer, Dan Collins, Gene Cooper

Over the Exploratorium's 40-year history, we've developed a broad network of people with whom we share common interests—and with whom we've either already collaborated or hope to do so. Oliver Fringer is such a person: He works in Stanford University's Engineering Department and has developed a process for using computer modeling to understand estuarial bodies of water. He demonstrated several of these models to us at about the same time we started our work at Fort Mason, and mentioned his desire to create such a model of San Francisco Bay. At the same time, we were searching for way to link the experiences on the Exploratorium floor to Fort Mason's Outdoor exhibits one mile to the east.

As our conversations became more substantial, we suggested that Oliver contact Dan Collins, an art professor at Arizona State University specializing in 3D visualization and prototyping. Dan was very excited, and, in turn, brought in another colleague, Gene Cooper, a former student and a specialist in developing interactive virtual-reality content for clients like the National Park Service. For the final piece, Oliver and another colleague, Vivien Pei Wen Chua, researched the content, Dan developed a 3D model of the Bay region, and Gene designed and built the interface between the computer model and projection system. The team worked with a number of Exploratorium exhibit staffers to design the control module and exhibit furniture.

The Outdoor team envisioned this exhibit as more than simply a visualization of the fluid dynamics of San Francisco Bay; we also saw its potential for serving as a platform for visualizing other kinds of data related to the area, including wind and weather patterns, flight patterns for the region's three metropolitan airports, shipping traffic, water delivery, and more. We are confident that our network of friends and collaborators will provide the expertise, knowledge, and inspiration to help us fulfill this vision.