

CALIFORNIA PROJECT  
PROPOSAL AND  
INFORMATION EXCHANGE

Sausalito, CA  
June 15, 2023

KASHIA BAND OF POMO  
INDIANS OF THE STEWARTS  
POINT RANCHERIA

PRESENTS

THE “KASHIA CENTER FOR  
ABALONE AND NORTH  
COAST RESEARCH,  
EDUCATION AND  
RESTORATIVE  
AQUACULTURE”





# BACKGROUND

In 2017, Kashia learned of a “Perfect Storm” of environmental conditions dramatically effecting the coast of Northern California and decimating an historical fishery and traditional Tribal food source, the red abalone.



# The Perfect Storm

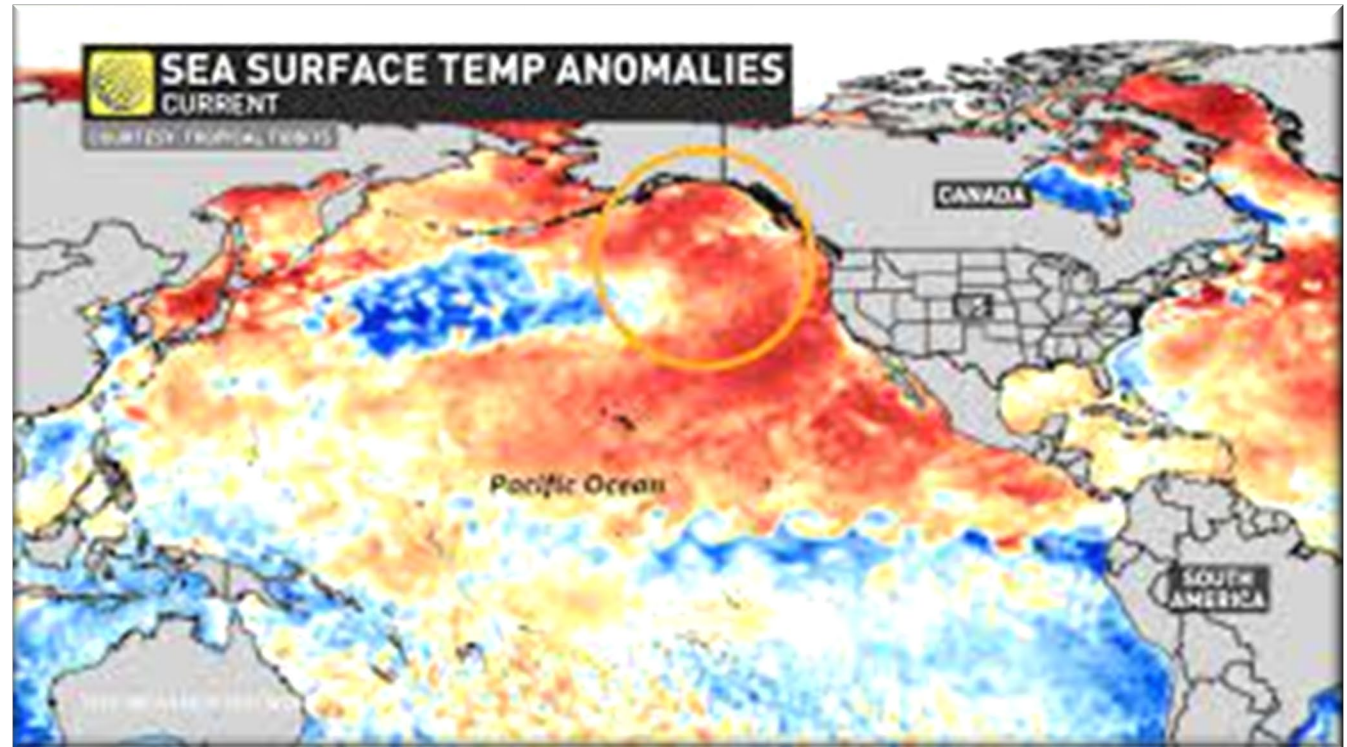
First, a “harmful algal bloom” stressed the abalone.




Then,

“Starfish Wasting Disease” decimated starfish populations, a primary predator of purple sea urchins, which consume the same food source as abalone, kelp, allowing an explosion of the sea urchin population and a 95+% decline in coastal kelp beds.

- ▶ If that wasn't enough, persistent high surface water temperatures throughout the N. Pacific (the “Warm Blob”) reduced the nutrient and oxygen content, further stressing abalone.



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- ▶ When starving, abalone stop reproducing, placing future populations further at risk.



## California Fish & Game Commission Emergency Action

- ▶ As a result, in 2017, the California Fish & Game Commission took emergency action and shortened the abalone sport fishing season (the commercial fishery was closed statewide in 1997) and reduced the catch limits. In 2018, the abalone sport fishing season was closed entirely, and there is little to no hope that it will be opened in the foreseeable future.

# KASHIA COASTAL RESERVE

- ▶ In 2015, Kashia re-acquired 678 acres of its ancestral homelands along the north coast of Sonoma County.
- ▶ The “Kashia Coastal Reserve” falls within the Stewarts Point State Marine Reserve / Marine Protected Area (MPA).
- ▶ The property is being used to support the “Kashia Marine Resource Education Pilot Project” – a sustainable platform program for teaching ocean and coastal science and Native American history and practices to both Tribal Members and the general public.



# KASHIA CENTER FOR ABALONE AND NORTH COAST RESEARCH EDUCATION AND RESTORATIVE AQUACULTURE

► Kashia are currently in the process of developing a non-profit Center for Abalone and North Coast Research, Education and Restorative Aquaculture, supported in part, by a for-profit aquaculture farm.





# Research

- ▶ Kashia have been working closely with abalone and kelp scientists at the U.C. Davis Bodega Bay Marine Laboratory concerning the devastation of local kelp beds and the plight of the red abalone.
- ▶ We are planning a Research Center focused upon abalone, kelp, sea cucumbers and other marine algae and guild organisms.
- ▶ Research will include the historical commercial and recreational collection of those species and the impact of the same on their population numbers; impact of environmental stressors resulting from Global Warming and Ocean Acidification; requirements for captive breeding including environment, nutrition, and reproduction; and criteria necessary to restore these species to their natural habitats.

# Education

- ▶ Kashia have also been working with various tribal and governmental organizations as well as NGO's focused upon both Native American Traditional Ecological Knowledge ("TEK") as well as contemporary western science in relation to conservation, stewardship and sustainability.



An underwater photograph showing a dense kelp forest. The water is clear and blue. In the foreground, a large, dark, oval-shaped abalone is attached to a kelp stalk. The kelp stalks are long and thin, with many smaller, feathery blades branching off. The background shows more kelp stalks extending towards the surface.

# Restoration

- ▶ With a thousands of years long history of sustainable practices that continues to this day, Kashia are working toward a state-of-the-art, environmentally “green,” abalone Research Center, hatchery and aquaculture farm.
- ▶ The Project will be “scalable” starting with collecting wild abalone to be used as brood stock, which will reproduce under controlled laboratory / hatchery conditions, resulting in seedlings that will be fed kelp and/or other appropriate feeds until they are large enough to be transferred to grow-out tanks at the aquaculture farm.
- ▶ Once of sufficient size, a percentage will be replanted into local kelp beds, should environmental conditions continue to improve.

# The Aquaculture Farm

- ▶ A for-profit aquaculture farm will be established that will focus upon abalone and seaweed, and other complimentary species such as sea cucumbers. (Sea cucumbers consume the detritus generated by the abalone resulting in both cleaner discharge water as well as a commercially viable seafood product.)
- ▶ Profits from the farm will assist the non-profit Center as well as support Kashia Tribal social services.



# Mission & Purpose

**Kashia is a federally recognized Native American Indian Tribe whose ancestral territory includes coastal Mendocino and Sonoma Counties.**

**The non-profit organization, Kashia Coastal Resources and Stewardship, Inc.'s mission is to establish and support a resilient marine ecosystem, where the harvesting of abalone and other endemic marine organisms is sustainable, and our people benefit from a renewed balance with nature.**



## Project Need

**As bison are to the plains Indians, abalone have been an iconic figure in Kashia's history, serving as both a primary food source as well as a central figure in Tribal culture.**

**Abalone are now confronted with near extinction in many parts of the world, including Sonoma and Mendocino Counties.**

**Kashia endeavors to do everything in its power to restore the species to its historical abundance.**

Kashia recently received a \$1.6M NOAA Coastal Habitat Restoration grant to support a "Tribal - Scientific Alliance to Restore Red Abalone in Northern California's Kelp Forest Ecosystem."

Co-collaborators on this grant include the California Department of Fish and Wildlife, the UCSD Scripps Institute of Oceanography, CSSJ Moss Landing Marine Laboratory, UCD Bodega Marine Laboratory and the Noyo Center for Marine Science (NGO).

The project will also include the support of local, county, state and federal government agencies.

## Collaborators





**Kashia has experienced unprecedented support from every agency, organization and individual that it has engaged with regarding this project, and owes a debt of gratitude to:**

- ▶ California State Aquaculture Coordinator, Mr. Randy Lovell;
- ▶ Sonoma County Supervisor, Ms. Linda Hopkins;
- ▶ UC San Diego Sea Grant Extension Program Specialist, Mr. Paul Olin;
- ▶ UC Davis Bodega Bay Marine Laboratory Director, Mr. Gary N. Cherr;
- ▶ UC Davis Bodega Bay Marine Laboratory Research Scientist, Dr, Daniel Swezey;
- ▶ The Cultured Abalone, Director, Mr. Douglas Bush;
- ▶ Wishtoyo Chumash Foundation, Executive Director, Mr. Mati Waiya;
- ▶ Ventura Port District Board of Port Commissioners, Mr. Everard Ashworth; and
- ▶ Get Inspired Founder, Captain Nancy Caruso.

# Supporters



# What Will Success Look Like?

**The goal of this project is to lay the groundwork for a concerted response to the climate driven collapse of red abalone populations in northern California.**

**"Phase I" of the project will be focused on data collection: existing ecosystem assessments of restoration target areas; collection, culturing and conditioning of wild brood stock; drilling of sea water test wells to support a future hatchery and grow-out facility; experimental reduction of urchin grazing pressure and site preparation for abalone restocking.**

The red abalone is not only an iconic animal to the Kashia, but has historically been one of California's most highly prized marine organisms.

Prior to 1991, California supported a robust commercial abalone fishery. Largely due to over-fishing, the fishery was closed state-wide in 1997, but a recreational fishery remained vibrant.

As of 2018, the recreational fishery was closed, resulting in an estimated \$44M loss of revenue to Sonoma and Mendocino County businesses.

The return of abalone to Sonoma and Mendocino County coastlines will have a dramatic effect on the local economy.

# Benefit to the Local Economy





THANK  
YOU!