A Home on the Edge

In this activity you will take on a stakeholder role in a fictional situation, consider a range of viewpoints, and debate the merits of coastal protection structures. Improvise where appropriate, but please no messing with the facts or evidence as they are presented to you.

The four stakeholder roles: Al Jordan (property owner), Danielle Garamond, Bob Larkin, and Mary Chang.

Scenario:

Al Jordan is worried about his home, and for good reason. The single family home he owns is on a bluff facing the ocean, and the bluff is eroding. The house was constructed during the last century and his family has lived there for the last five years. Jordan’s house is currently 30 feet from the bluff face, but when he bought the property it was 50 feet back. Then strong storms and waves during the previous winter eroded the base of the bluff and 20 feet fell from the top in a sudden collapse.

The Jordan property is 0.2 acres in a small, well-to-do neighborhood, bordered by the bluff and beach to the west, a road to the east, and county parkland on north and south. The house is set 100 feet back from the road and the house itself is one story and 2,400 square feet. The bluff it sits on is 20 feet above the beach below.

Jordan’s hired expert has determined that the average retreat rate for this bluff is nine inches per year since the house was constructed. However with an El Niño predicted for the following year, Jordan is worried that the bluff retreat could happen faster.

The beach below the house is well-used by the public, particularly in the summer months. There is public access from the parks to both the north and south of the Jordan property. In the summer there is a sandy beach about 200 feet wide, which sometimes disappears during large, winter storms as the waves crash against the bluff. With sea levels in the area predicted to rise by as much as two feet by 2050, there is concern for the future of this beach.

Jordan invited interested and informed members of the community to his home for an informal gathering to discuss what to do about his property.

Coastal Zone Stakeholder:

I am Danielle Garamond, a coastal engineer with Protective Engineering, LLC. My interest lies in protecting the rights of property owners to preserve their assets by building coastal protection structures. I especially value the cherished oceanfront homes that define the good life in California. With respect to arguments about public beaches, it is clear to me that legal property rights are of higher value. Besides, there are many beaches in California.

**Claim:** Coastal armoring preserves homes, increases the tax base in coastal communities, and rewards hard working citizens who have earned the right to live on the coast. There is a relationship between coastal armoring and loss of sandy beaches, but the higher value is the protection of homes and other coastal structures. No precedent should be set limiting coastal armoring activities.

**Evidence:** Seawalls and other coastal protection structures have been shown to preserve oceanfront property values. In addition, the US Army Corps of Engineers has spent decades building such structures, investing billions. Would they do this if it did not make sense? At least 10% of California’s coastline is protected by armoring. Why should a homeowner in need of a sea wall today be denied protection?

**Reasoning:** My evidence supports a goal of retaining the right to build any type of coastal protection that will serve a property owner’s needs.

Coastal Zone Stakeholder:

I am Bob Larkin, a coastal engineer with Tomorrow’s Engineering, LLC. My interest lies in protecting the rights of property owners by using soft engineering solutions that increase biodiversity and the quality of a beach, even as property rights are respected. Nature provides value to our society through ecosystem services.

**Claim:** By mimicking natural processes we can protect structures while enhancing the coastal environment and increasing recreational opportunities. Beach nourishment (bringing more sand to the beach), dune building, and planting vegetative cover are my preferred methods. It will be necessary to repeat the beach nourishment as the sand is naturally washed away over the years, but it preserves the beach where hard solutions do not.

**Evidence:** Experts in the field (like me) can design soft engineering solutions that protect the shoreline. Even when sand that has been deposited is moved offshore by the current, it can still protect the shore by causing waves to break farther out. FEMA has recognized the value of soft engineering by reducing flood insurance premiums in some instances, and the US Army Corps of Engineers has undertaken beach nourishment projects on the eastern US coast for decades.

**Reasoning:** While soft engineering solutions take expertise, time to implement, and maintenance commitment, they protect the beach and private property so my belief is that they are worth the investment.

Coastal Zone Stakeholder:

I am Mary Chang and I represent the local surfers’ group. Our interest is in protecting the beach for public enjoyment and as a thriving habitat. We understand that private property owners care about and enjoy their homes, and that they’ve invested significantly in them. However, when someone chooses to purchase a structure on an eroding bluff, they are choosing to take significant risks. Oceanfront property owners enjoy the benefits of dramatic ocean views, waves, and easy access to the water; they should not then be allowed to destroy these pleasures for the public when natural forces do what they have always done. We place more value on the rights of a community of beach-goers than on those of a property owner who knew what he was getting into.

**Claim:** Coastal bluff collapse and retreat are natural processes. Sea walls fix in place the back of the beach instead of allowing it to move as it would otherwise. As sea level rises, it is particularly important that beaches be able to move landward. Sea walls also prevent a naturally eroding bluff from contributing sand to the beach.

**Evidence:** California Sea Grant as well as other coastal experts has made it clear that coastal armoring can increase erosion on the beach itself, which not only has recreation impacts but can reduce or eliminate habitat on the beach for shorebirds and other animals.

**Reasoning:** My evidence supports the goal of allowing the shoreline to retreat, even at the expense of private property owners. Local governments should act now to plan for the necessary removal of at-risk structures and where possible, existing coastal armoring in light of sea level rise forecasts due to global warming.