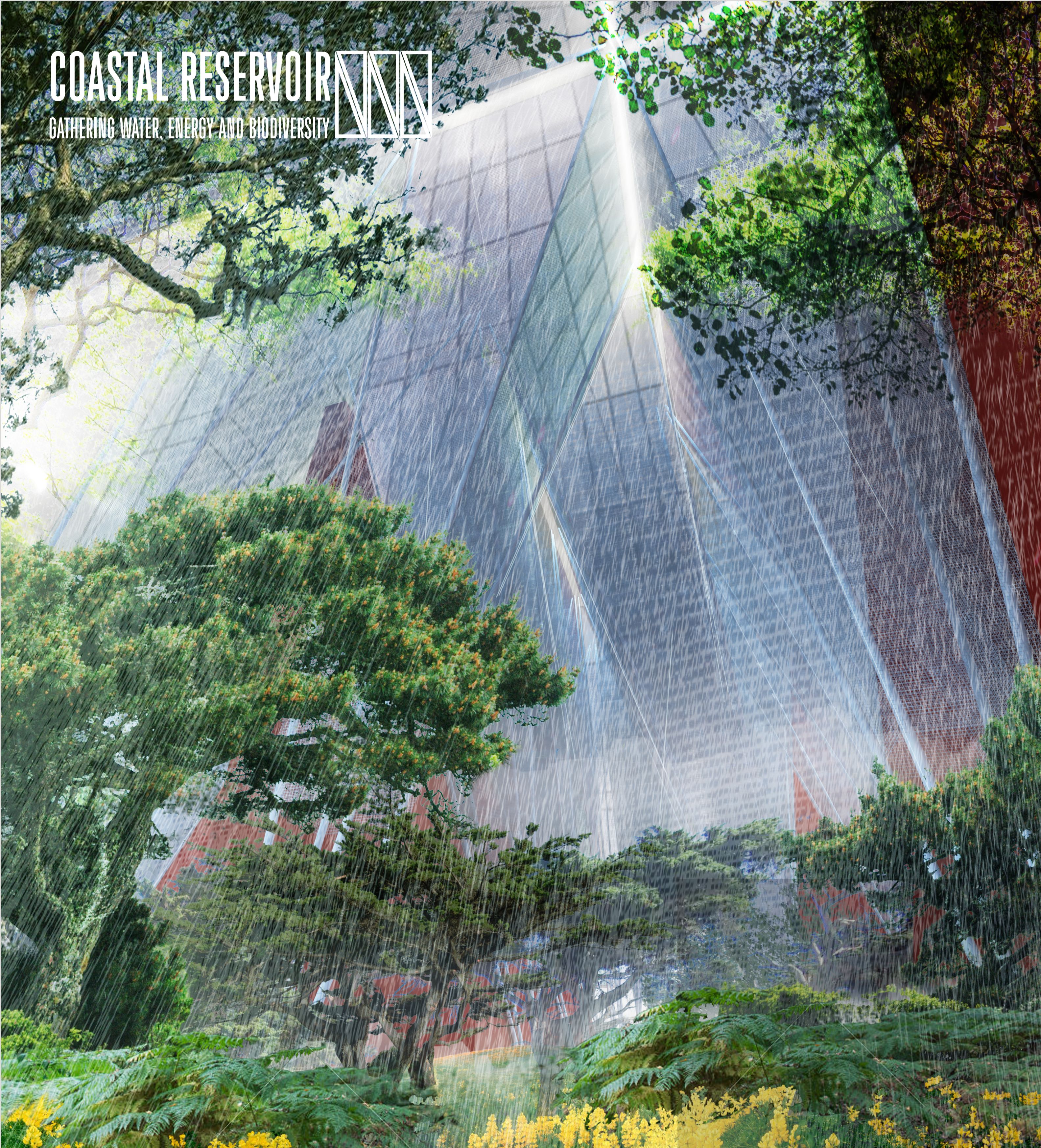


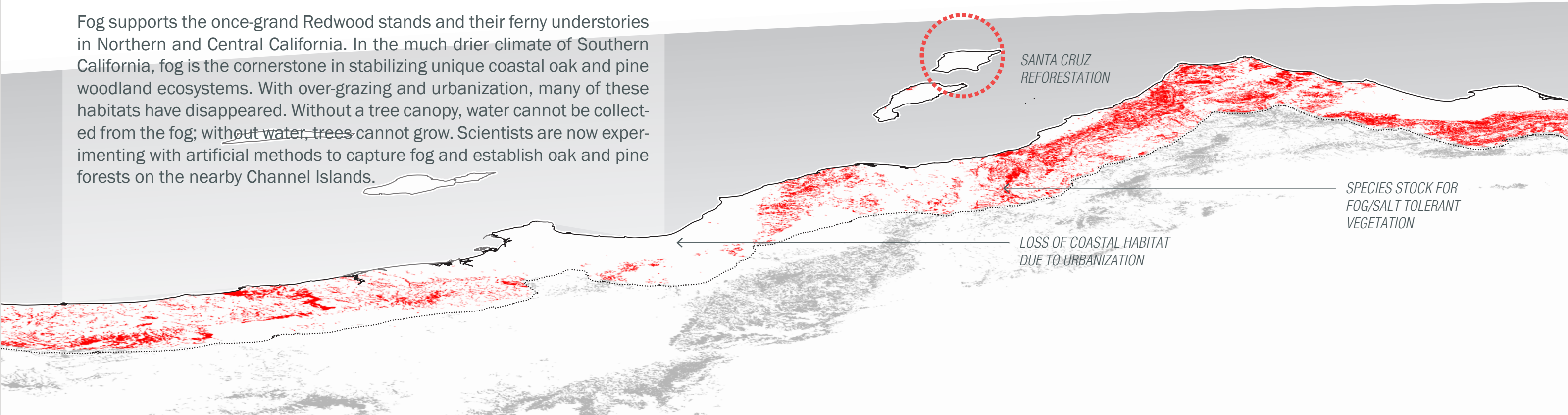
COASTAL RESERVOIR

GATHERING WATER, ENERGY AND BIODIVERSITY



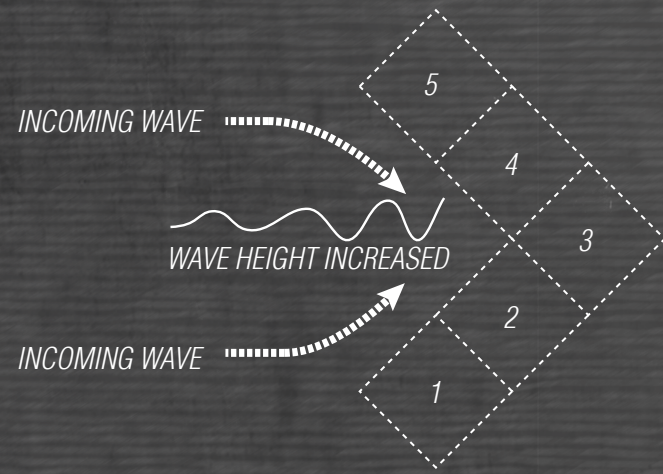
CALIFORNIA CLOUD FORESTS

Fog supports the once-grand Redwood stands and their ferny understories in Northern and Central California. In the much drier climate of Southern California, fog is the cornerstone in stabilizing unique coastal oak and pine woodland ecosystems. With over-grazing and urbanization, many of these habitats have disappeared. Without a tree canopy, water cannot be collected from the fog; without water, trees cannot grow. Scientists are now experimenting with artificial methods to capture fog and establish oak and pine forests on the nearby Channel Islands.



CONSTRUCTION AND DIMENSION

Three plate-steel Pillars, nine steel-mesh Funnels, and one Forest form a single island unit. For the Santa Monica site, we propose a collection of 15 island units. The structure is simple, and employs construction techniques common to barge and rig-building. Each island measures 40 meters square in plan, and stands 55 meters above the water's surface. The units are tethered side-to-side, into a zig-zag formation and the total assembly fill an imaginary box roughly 460m by 120m.



IMPLEMENTATION STRATEGY

Coastal Reservoir is a scalable, flexible proposal. The proposed formation amplifies wave energy into the pillars, and the scale of the arrangement is balanced by the adjacent pier. However, the sculpture would still function if built as a single unit or in small formations. As the islands are mobile reservoirs of water and energy, we also imagine the city of Santa Monica could “donate” islands to nearby communities in times of need. An annual spectacle might see some of the island units ‘dock’ at other locations throughout Los Angeles, where they would function as devices to educate the greater public about the ecology and clean energy.

THE LANDSCAPE CORE

Coastal Reservoir, consists of 15 linked island units with nearly 5 acres of fog-fed, spontaneous forest—a platform for preserving and expanding the genetic stock of the larger territory. Each of the Forest blocks is central to the water harvesting and energy generation cycle on the device, acting as a filter to clean particulates and salts that have accumulated on the collection mesh. During and just after a fog event, water rains from the mesh directly over the plants and into the soil below. Thick vegetation, root-fixed soils, sand and artificial bedrock will filter excess water before it is finally transferred for storage to the ballast tanks at the base of each island unit. Finally, the landscape component of Coastal Reservoir is an educational and engagement tool. The unmanaged ecology a tool for understanding biodiversity, restoration practices, and associated concepts of island biogeography.

