

# Pioneering Women

Female scientists have been at the forefront of *phycology*, the study of seaweed, for centuries. Sometimes deemed an “unglamorous” field of study, this misperception gave early female scientists the opportunity they needed to enter this niche. Without these biologists, zoologists, environmentalists, researchers, botanists, and illustrators, our understanding of complex ocean ecologies would be significantly diminished.

Below, you’ll meet two innovative scientists who impacted our understanding of seaweed. Don’t miss the rest of the stories within this exhibit to learn about more women in this field.

## Josephine Tilden (1869-1957)



In 1901, Josephine Tilden traveled to British Columbia to found a research and environmental center called the Minnesota Seaside Station (MSS).

Tilden, the first female faculty member of the University of Minnesota, had recently explored the area by canoe. She immediately recognized the location’s potential, writing that “...the algae covering that exposed shore was beyond my wildest dreams.”

For the next six summers, up to thirty students – most of them women – trekked from the Midwest to the MSS to study marine algae with Tilden and other experts (to aid in their work, Tilden recommended that female students bring “short” skirts – skirts with hems 12 inches above the ground). Tilden also invited the Imperial University of Tokyo’s Kichisaburo Yendo to come teach her students about red algae. While there, Yendo collected and named *Corallina vancouveriensis*.

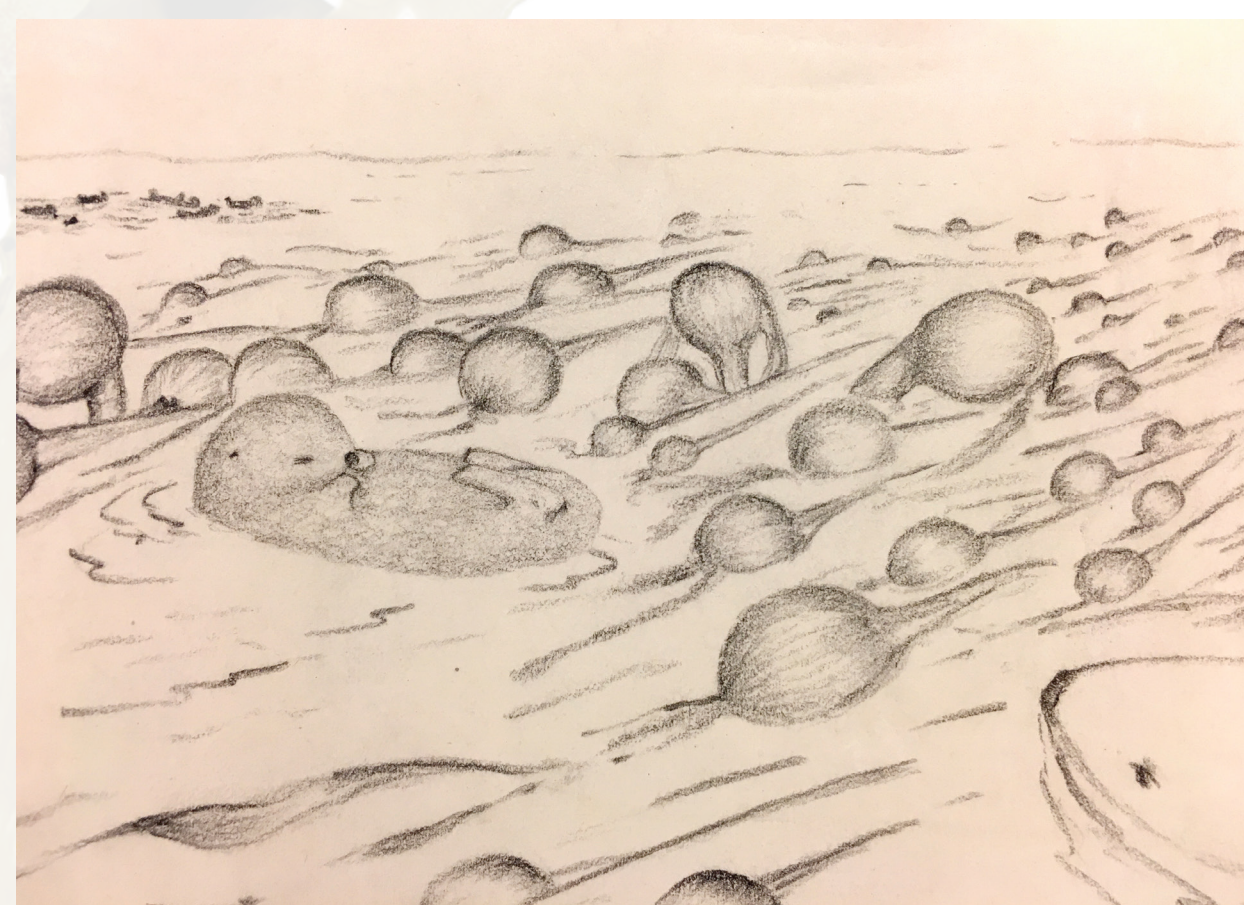
The MSS closed in 1907; Tilden became a full professor of botany at the University of Minnesota in 1910. Now a regional park, the MSS is still a hotspot for seaweed lovers.

## Edna Fisher (1897-1954)

A zoologist and professor at San Francisco State College (now San Francisco State University), Edna Fisher pioneered a “field observation” style of instruction.

To provide in-the-field experience, Fisher brought her students to Monterey County’s Bixby Canyon in 1938. In this remote cove, Fisher and her students recorded the features of the southern sea otter just months after its “rediscovery;” the otter was previously believed to be extinct along California’s coast.

Fisher published numerous papers about otters, frequently describing the animals’ interactions with the bull kelp. She became the first biologist to describe the otters’ tool-using behaviors, confirming stories by Indigenous observers that had previously been discounted, and remained an advocate for the otter throughout her lifetime.



*Drawing of sea otters and bull kelp by Edna Fisher, 1938*