Case #1: An open ocean mussel farm in Southern California

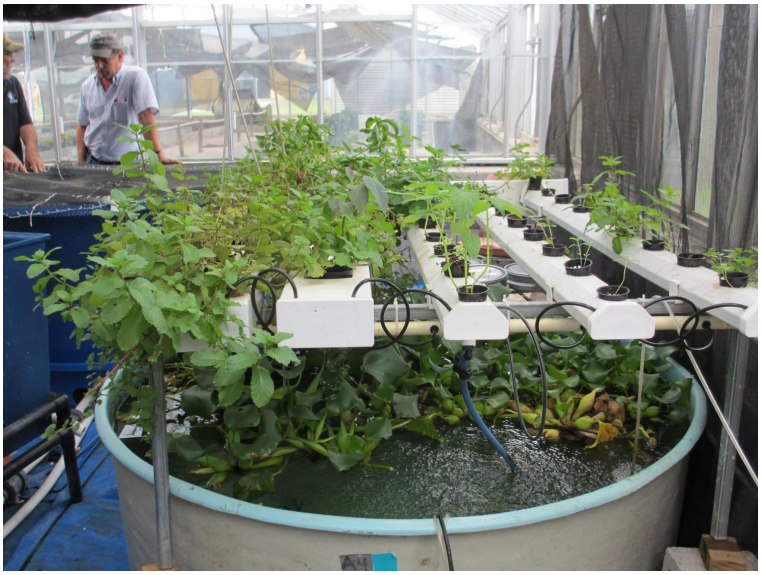
- Mussels grow on ropes that hang from rafts 7 miles offshore.
- Mussels are filter feeders, filtering plankton from the water to eat, as well as filtering out pollutants in the ocean. Farmers do not need to buy food for the mussels because they get it naturally from the ocean.
- The ropes can create a habitat, becoming a home for other organisms such as barnacles, sponges, and algae.
- Mussels produce thousands of offspring per year and grow relatively fast.

Case #2: An enclosed open ocean Atlantic salmon pen in Scotland

- Salmon are enclosed in a pen that sits in the ocean
- Salmon are fed food pellets that are made of other ground up fish species and vitamins. The salmon farmers buy the pellets from a different part of Europe.
- This farm is a monoculture, meaning there is only one species grown.
- Since it is a monoculture, there are no detritovores to clean up the fish waste. The fish swim in their own waste and sometimes it flows out of the pen and into the environment.
- There is little genetic variation amongst the salmon (they all have similar DNA), so one disease could kill all the fish.
- Those diseases from the farmed fish could spread to the wild fish.

Case #3: A coastal seaweed farm in Japan

- Seaweed grows from ropes that are suspended in the ocean, close to shore.
- Seedlings are transplanted onto the ropes and grow relatively quickly after that.
- A large, open space is required for seaweed farming. Farmers had to cut down a mangrove forest to make room for the farm.
- The growing seaweed creates a habitat for smaller animals to live.
- Just like plants on land, seaweed gets its energy from the sun. Farmers do not have to buy food or feed the seaweed.
- The process of photosynthesis, which is how seaweed gets its energy from the sun, creates oxygen.



Case #4: An aquaponics system in your own backyard

- A tank of tilapia fish sit underneath a tray that has lettuce growing in it. You are growing more than one species, which is a polyculture or integrated farm.
- The tilapia produce waste that is pumped up, along with water, into the lettuce tray, fertilizing the lettuce.
- Lettuce gets its energy from the sun, via photosynthesis. You do not have to provide any additional food.
- You must purchase fish food to feed the tilapia, but it is inexpensive.
- Small scale aquaponics systems take up very little room and can go in your backyard, classroom, or house. You just need a light source.

Case #5: Man-made trout ponds in Washington State

- Trout live in man made ponds lined with plants that grow naturally in the area
- The water from the ponds is treated thoroughly to remove waste and pollutants before leaving the ponds
- The trout are fed responsibly sourced feed ingredients with no antibiotics or hormones
- Fish are regularly checked by a veterinarian to ensure their health

Case #6 Shrimp ponds in Thailand

- Valuable mangrove forest land, that protects coastlines and sustains young sealife, is clear-cut to make room for shrimp pens
- This species of shrimp is not native to this part of Thailand. If some escape, they could outcompete native species in the area and become an invasive species.
- Shrimp are densely packed into pens and when the water in an area becomes too polluted for life, then pens are moved to a new area, leaving the waste behind
- Shrimp are treated with antibiotics, hormones and pesticides to ensure they survive in the cramped, polluted conditions
- Batches of shrimp are regularly rejected for sale at market due to salmonella and other contamination