Radioactive Seafood Market

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GOAL:

• Use art as a tool for bringing attention to practices that are destroying the planet.
• Engage teachers and K-6 students
• Raise awareness of environmental issues amongst teachers and K-6 students

Students enrolled in the art classes are training to be elementary school teachers. Professor uses the class to raise awareness and knowledge of issues of arts, politics, culture, the environment and sustainability in general.
Fukushima Disaster

Earthquake of magnitude 9.0 on 11 March 2011. Centered 130 km offshore of the city of Sendai on the eastern cost of Honshu Island (the main part of Japan), lasted about 3 minutes.
Fukushima Disaster

An area of the seafloor extending 650 km north-south moved 10-20 meters horizontally. Japan moved a few meters east and the local coastline subsided half a meter.
Fukushima Disaster

The tsunami inundated about 560 sq km and resulted in a human death toll of about 19,000 and much damage to coastal ports and towns, with over a million buildings destroyed or partly collapsed.
Nuclear Meltdown

• Earthquake: loss of external power at the Fukushima Daiichi nuclear power plant
• Tsunami: plant’s back-up diesel generators flooded, causing complete loss of power and failure of the cooling systems
• Temperatures rose, nuclear fuel melted in reactors #1, 2, & 3

Nuclear Meltdown

- Damaged fuel led to a build up of hydrogen gas, and explosions in reactors #1, #3 and #4.
- Amount of radioactive caesium sent into the atmosphere by was equivalent to 168 Hiroshima bombs (Japan’s Nuclear and Industrial Safety Agency)
- Nuclear disaster rated at Level 7 on the International Nuclear Event Scale (INES), the highest level.
The Radioactive Seafood Market installation is a space to contemplate the threat to all who live on this planet, including sea creatures, the people who cannot survive without them, and the planet itself. 3 professors, approximately 160 students.
Radioactive Fish

Simple materials to create fish and sea creatures affected by radioactive radiation to bring attention to the dangers of nuclear power.

Glow-in-the-dark paint on the fish took place in CSUN’s Art Gallery under black lights, and opened a month after the anniversary of the Fukushima Daiichi nuclear plant meltdown.
The gallery entrance was covered by black fabric to keep the room dark. Inside, glow-in-the-dark fish lined the walls, illuminated under black lights.

The exhibit was silent and dark. This helped to create an atmosphere of solemnity and bring attention to the gravity of the issue – thousands of lives threatened, poisoned waters, poisoned food that can travel over the entire world.
Fish Construction

Fish were made out of butcher paper and fluorescent paint, put together by mostly-non art majors. The neon colors were stunning.

Several large bright tuna hung along the back, while smaller fish and octopi lay shrink-wrapped in meat deli-style trays, waiting to be consumed.
Exhibit

The project and exhibit are easily replicable because of low cost, simplicity and ease of engaging students in creative expression. The most costly items were the black lights.
Exhibit

The project was a combined effort by three different art professors.

The Office of the Provost provided support for the black lights. The Institute for Sustainability conducted outreach and publicity.
Schools

A similar project was carried out using faculty at neighboring schools.

4th Grade student painting under black light; painted jellyfish: 4th grade student work, off-site elementary school.
This project was very effective at using art to highlight man’s negative impact on the natural world.
“Nearly five years have passed since an earthquake and tsunami in Japan killed 16,000 people and caused nuclear meltdown at the Fukushima Daiichi plant. New research now suggests that the radiation released by the nuclear disaster may have lingering effects on fish—”

Ocean bottom dwellers, which are constantly exposed to ocean floor sediment where cesium collects, are particularly vulnerable to lingering radiation. Freshwater fish tend to have higher concentrations of cesium than their oceanic counterparts because of differences in their osmoregulation systems, which controls fluids entering and leaving the body.
Radioactive Fish

Regulators in the country adopted one of the world’s most stringent standards on radiation in seafood following the Fukushima disaster, and most freshwater fish consumed in Japan are raised in fish farms that are less vulnerable than uncontrolled environments like lakes and streams.

The risk posed to human beings from consumption, thanks in part to strong regulation, is minimal.
Overfishing—catching fish faster than they can reproduce—is an urgent issue and is one of the biggest threats to ocean ecosystems. Today, 90 percent of the world's fisheries are either fully exploited, over-exploited or have collapsed.
Shrimp fishery - 90% is bycatch
Aquaculture (Fish Farming)

Fish farming has been practiced, in some parts of the world, for hundreds of years. Today, half of the seafood eaten in the U.S. is farmed.
Aquaculture

The environmental impact of fish farming varies widely, depending on the species being farmed, the methods used and where the farm is located.

When good practices are used, it's possible to farm seafood in a way that has very little impact to the environment. Such operations limit habitat damage, disease, escapes of farmed fish and the use of wild fish as feed.
Every year, millions of tons of wild fish, like sardines and anchovies, are caught and processed into fishmeal and fish oil, which is used to make feed for farm-raised species.

Some farmed species require a lot more food than they supply. Salmon is one. Tuna requires over 15 pounds of feed for every pound it gains.
Aquaculture (Fish Farming)

Some fish farms take large numbers of fish from the wild and grow them for sale instead of raising fish from eggs, depleting wild populations of juvenile fish.

Fish farms located along coasts can replace valuable habitat like wetlands and mangroves, and pollute the waters with waste.

Pollution from fish waste and uneaten food pellets can impact the local environment by polluting the water and smothering plants and animals on the seafloor. There are also concerns that diseases and parasites—common occurrences in crowded pens—are spread to wild fish.
Sustainable Seafood

Sustainable fisheries target plentiful species, those smaller and lower on the food chain, because they can reproduce quickly to sustain their populations.

Curb bycatch and reduce dredging and other destructive fishing practices.

Minimize environmental impacts like pollution, disease, and other damage to coastal ecosystems on which wild species depend.

Avoid using wild-caught fish as feed, a practice that puts enormous additional stress on wild fish stocks.
The Seafood Watch App

Available for iOS and Android

We’ve redesigned our app making it easier than ever to get the latest recommendations for seafood and sushi, learn more about the seafood you eat, and locate or share businesses that serve sustainable seafood.

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Features
- Get free, up-to-date seafood recommendations
- Search for seafood quickly and easily by common market name
- Search for sushi by Japanese name as well as common market name
- Find restaurants and stores near you that serve ocean-friendly seafood
- Access in-depth conservation notes and reports
Thank You

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