



MARINE CONSERVATION SCIENCE AND POLICY SERVICE LEARNING PROGRAM

Approximately 71% of the Earth's surface is covered by ocean, a continuous body of water that is customarily divided into several principal oceans and smaller seas. The ocean has a significant effect on the biosphere. Oceanic evaporation, as a phase of the water cycle, is the source of most rainfall, and ocean temperatures determine climate and wind patterns that affect life on land. Life within the ocean evolved 3 billion years prior to life on land. Both the depth and distance from shore strongly influence the amount and kinds of plants and animals that live there. The oceans are essential to transportation: most of the world's goods move by ship between the world's seaports. Oceans are also the major supply source for the fishing industry. Some of the more major these are shrimp, fish, crabs and lobster.

MODULE 3: OCEAN CONNECTIONS

SECTION 5: OCEAN RESOURCES

SUNSHINE STATE STANDARDS

SC.912.E.6.5, SC.912.E.7.2, SC.912.E.7.4, SC.912.L.17.11,
SC.912.L.17.19, SC.912.L.17.14



OBJECTIVES

Students will be able to:

- Describe the resources provided by the ocean
- Identify some of the most important issues that must be resolved if all countries are to agree on a set of laws for the oceans and seas of this planet.
- Identify the national resource interests of various countries
- Make and defend proposals for laws of the sea that reflect the national interest of a particular country
- Compare interaction among groups (representing different countries) to the interaction among nations in the world today.

- Discuss the importance of reaching agreement on a law of the sea and the difficulties of doing so.
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VOCABULARY

Natural resource- Any useful material found in the environment

Biosphere- all areas of the Earth that support life; includes all of the ecosystems on the planet along with their interactions

Fishery- The area, fishing method, and time period in which a specific species of fish is harvested

Overfishing- fishing a population faster than it can replace itself leading to the population decreasing in size

Sustainable- for ecology: how biological systems remain diverse and productive over time; For humans: the potential for long-term maintenance of wellbeing, which in turn depends on the wellbeing of the natural world and the responsible use of natural resources

Ecotourism- responsible travel to fragile, pristine, and usually protected areas that strives to be low impact and small scale

Law of the Sea- an international agreement that defines the rights and responsibilities of nations in their use of the world's oceans, establishing guidelines for businesses, the environment, and the management of marine natural resources

BACKGROUND



The ocean is one of Earth's most valuable natural resources. It provides food, as about 200 billion pounds of fish and shellfish are caught each year and is used as transportation for both travel and shipping. Additionally, it provides a source of recreation for humans, as well as mined for minerals, including salt, sand, gravel, manganese, copper, nickel, and iron, and drilled for crude oil. The ocean is also an increasingly important source of biomedical organisms with enormous potential for fighting disease. Besides these resources

provided to humans, the ocean plays a critical role in keeping Earth's biosphere in balance. It removes carbon dioxide from the atmosphere and provides oxygen through the primary productivity of phytoplankton. Moreover, its ability to store heat allows it to regulate Earth's climate. With these few examples, there is no doubt that the ocean plays an important role in Earth's systems.

The oceans have been fished for thousands of years and are an integral part of human society. Fish have been important to the world economy, starting with the Viking trade of cod. Fisheries of today provide about 16% of the total world's protein, with higher percentages occurring in developing nations. Fisheries are still enormously important to the economy and wellbeing of many communities on the planet.



Fisheries



The word "fisheries" refers to all of the fishing activities in the ocean, whether they are to obtain fish for the commercial fishing industry, for recreation, or to obtain ornamental fish or fish oil. In biology, the term "fish" is strictly used to describe any animal with a backbone that has gills throughout life and has fins; however, in fisheries, the term "fish" is used as a collective term, and includes mollusks, crustaceans and any aquatic animal which is harvested. Fisheries are usually

designated to certain eco-regions like the salmon fishery in Alaska or the Eastern Pacific tuna fishery. Due to the relative abundance of fish on the continental shelf, fisheries are usually marine and not freshwater.

A world total of 86 million tons of fish were captured in 2000. China's fisheries were the most productive, capturing a whopping one third of that total. Other countries producing the most fish (in order from greatest to least) were Peru, Japan, the United States, Chile, Indonesia, Russia, India, Thailand, Norway and Iceland. The most common species making up the global fisheries are herring, cod, anchovy, flounder, tuna, shrimp, mullet, squid, crab, salmon, lobster, scallops and oyster. Mollusks and crustaceans are also widely sought. The number of fish caught varies with the years, but appears to have leveled off at around 88 million tons per year. This is possibly due to overfishing, economics and new management practices.

It is interesting to note that the fish that are caught are not always used for food. In fact, about 40% of fish are used for other purposes such as fishmeal to feed fish grown through aquaculture. For example cod, is used for consumption, but is also frozen for later use. On the other hand, Atlantic herring and menhaden are used for fishmeal and fish oil.

The amount of fish available in the oceans is an ever-changing number due to the effects of both natural causes and human developments. It will be necessary to manage ocean fisheries in the coming years to make sure the number of fish caught never makes it to zero. A lack of fish greatly impacts the economy of communities dependent on the resource

In order for there to be plenty of fish in the years ahead, fisheries will need to become more sustainable. Due to the constant increase in the human population, the oceans have been overfished with a resulting decline of fish crucial to the economy and communities of the world. The control of the world's fisheries is a controversial subject, as they cannot produce enough to satisfy the demand, especially when there aren't enough fish left to breed in healthy ecosystems.

Shipping



The word "shipping" refers to the activity of moving cargo with ships in between seaports. Wind-powered ships exist, but more often ships are powered by steam turbine plants or diesel engines. Naval ships are usually responsible for transporting most trade from one country to another and are called merchant navies.

In theory, shipping can have a low impact on the environment. It is safe and profitable for economies around the world. However, serious problems occur with the shipping of oil,

dumping of waste water into the ocean, chemical accidents at sea, and the inevitable air and water pollution occurring when modern day engines are used. Ships release air pollutants in the form of sulphur dioxide, nitrogen oxides, carbon dioxide, hydrocarbons and carbon monoxide. Chemicals dumped in the ocean from ships include chemicals from the ship itself, cleaning chemicals for machine parts, and cleaning supplies for living quarters. Large amounts of chemicals are often spilled into the ocean and sewage is not always treated properly or treated at all. Alien species riding in the ballast water of ships arrive in great numbers to crash native ecosystems and garbage is dumped over the side of many vessels. Dangerous industrial waste and harmful substances like halogenated hydrocarbons, water treatment chemicals, and antifouling paints are also dumped frequently. Additionally, ships and other watercraft with engines disturb the natural environment with loud noises, large waves, frequently striking and killing animals like manatees and dolphins.

Tourism



Tourism is the fastest growing division of the world economy and is responsible for more than 200 million jobs all over the world. In the US alone, tourism resulted in an economic gain of 478 billion dollars. Tourism is one of the top five economic contributors to 83% of all countries and the most important economy for 38% of countries. The tourism industry is based on natural resources present in each country. Many times,

tourism can have a negative impact on ecosystems because tourist activities are often left unmanaged. However, sustainable tourism can actually promote conservation of the environment.

The negative effects of tourism originate from the development of coastal habitats and damage to entire ecosystems like mangroves, coral reefs, wetlands and estuaries. Garbage and sewage generated by visitors can add to the already existing solid waste and garbage disposal issues present in many communities. Visitors often produce more waste than locals, and much of it ends up as untreated sewage dumped in the ocean. The ecosystem must cope with eutrophication, the loss of oxygen in the water due to excessive algal bloom, as well as disease epidemics. Sewage can be used as reclaimed water to treat lawns so that fertilizers and pesticides do not seep into the ocean.

Other problems with tourism include the overexploitation of local seafood, the destruction of local habitats through careless scuba diving or snorkeling, and the dropping of anchors on underwater features. Ecotourism and cultural tourism are a new

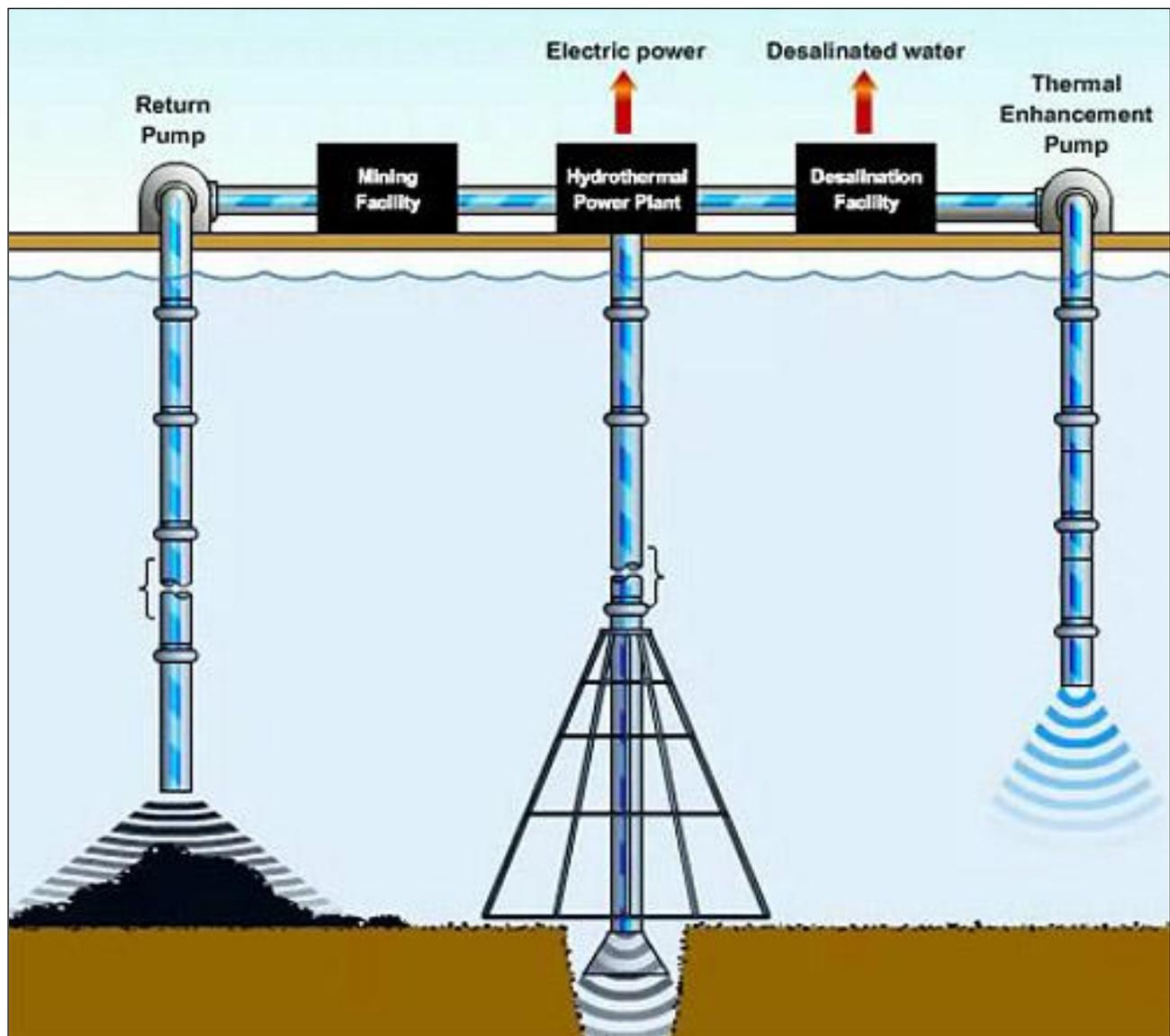
trend that favors low impact tourism and fosters a respect for local cultures and ecosystems.

Mining



Humans began to mine the ocean floor for diamonds, gold, silver, metal ores like manganese nodules, and gravel mines in the 1950's when the company Tidal Diamonds was established by Sam Collins. Diamonds are found in greater number and quality in the ocean than on land, but are much harder to mine. When diamonds are mined, the ocean floor is dredged to bring it up to the boat and sift through the sediment for the valuable gems. The process is difficult as sediment is not easy to bring up to the surface, but will probably become a huge industry once technology evolves to solve the logistical problem.

Mining the ocean can be devastating to the natural ecosystems. Dredging of any kind pulls up the ocean floor resulting in widespread destruction of marine habitats, as well as wiping out vast numbers of fishes and invertebrates. When the ocean floor is mined, a cloud of sediment rises up in the water, interfering with photosynthetic processes of phytoplankton and other marine life, in addition to introducing previously benign heavy metals into the food chain. As minerals found on land are exploited and used up, mining of the ocean floor will increase.



Sharing Resources

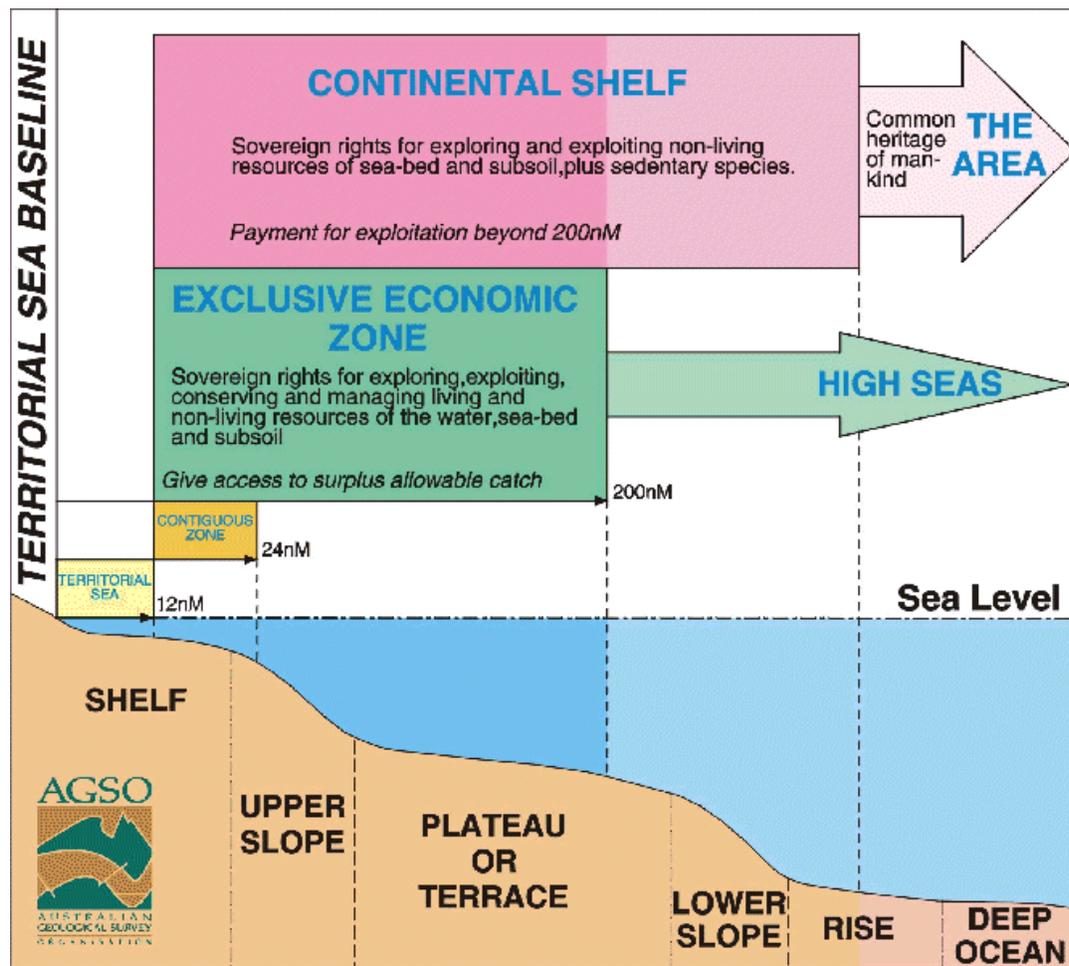
All nations are preoccupied with providing food, energy, natural resources, and economic growth for their country and citizens. Each of these has an impact on their concern over the control and use of the world's ocean.

The basic laws of the sea were established in the 17th century and changed little until after World War II. Each nation had control of its coastal waters up to three miles from shore – the distance a cannon ball could be shot. Beyond that the seas were free for all.

Recent developments, including improvements in military and commercial technology, changed this and reopened the basic question of “who owns the seas?” Sophisticated

fishing enterprises, aided by satellites tracking fish, over fished many regions and have raised controversies. Depletion of the land's natural resources and the desire for independence from countries exporting oil made drilling and mining for seabed oil and minerals economically and politically attractive. Pollution of the oceans from different sources, including wastes, military use, accidental and intentional oil dumping, and runoff from land and river pollution-, has greatly increased. With all the factors at play, the control of the seas became an urgent and important question for all nations, including those without direct access.

The United Nations has become involved in the process of resolving the complicated questions about control of the oceans. Important conferences were held in Venezuela, Switzerland, and New York in the 1970s, and culminated in the signing of a Law of the Sea Treaty in Montego Bay, Jamaica in 1982. Although signed by 159 nations, this treaty is still not in effect. And, it is uncertain whether it will eventually become accepted by all the world's nations, as many of the issues the Law of the Sea treaty remain controversial and unresolved.



The extent of the Continental Shelf and other marine zones contained within the 1982 United Nations Convention on the Law of the Sea

Ocean Energy Resources

The oceans' waters, the air above the oceans, and the land beneath them contain enormous energy resources.

Oceans cover almost three-fourths of the earth's surface. The oceans' waters, the air above the oceans, and the land beneath them contain enormous energy resources. These energy resources include **non-renewable energy sources** such as oil and gas, and **renewable energy sources**, such as offshore wind energy, wave energy, ocean current energy, offshore solar energy. Offshore renewable resources are the focus of the OCS Alternative Energy Programmatic EIS.



GOES
Satellite
Image

Ocean Energy Resources and Their Utilization

In many areas, large deposits of **petroleum and natural gas** are buried under the seabed. Today, more than a fourth of the oil and gas produced in the United States comes from offshore areas, and many other countries have extensive offshore oil and gas facilities as well. In contrast, relatively few countries have extensive offshore renewable energy facilities, and in the U.S., **offshore renewable energy technologies** are currently little utilized for commercial energy generation. The technologies are relatively new, and historically they have not generally been economically competitive with traditional non-renewable energy sources such as oil, gas, and coal.

More recently, as the prices of **traditional energy sources** such as gas and coal continue to climb, and the design and efficiency of offshore renewable energy technologies improves, these energy sources are becoming more economically competitive with traditional energy sources. The alternative energy sources under consideration for use on the OCS—wind, solar, wave, and current power—hold significant potential to alleviate the growing energy demands of society. As a result, interest in using these technologies for **commercial energy generation** in the U.S. is increasing, and the Energy Policy Act of 2005, authorizes the Department of the Interior to grant **leases, easements or rights-of-way** on the U.S. Outer Continental Shelf (OCS) for the development and support of energy resources other than oil and gas.

Ocean Thermal and Mechanical Energy

The waters of the oceans can produce two types of energy: **thermal energy** from the sun's heat, and **mechanical energy** from tides and waves.

Ocean Thermal Energy

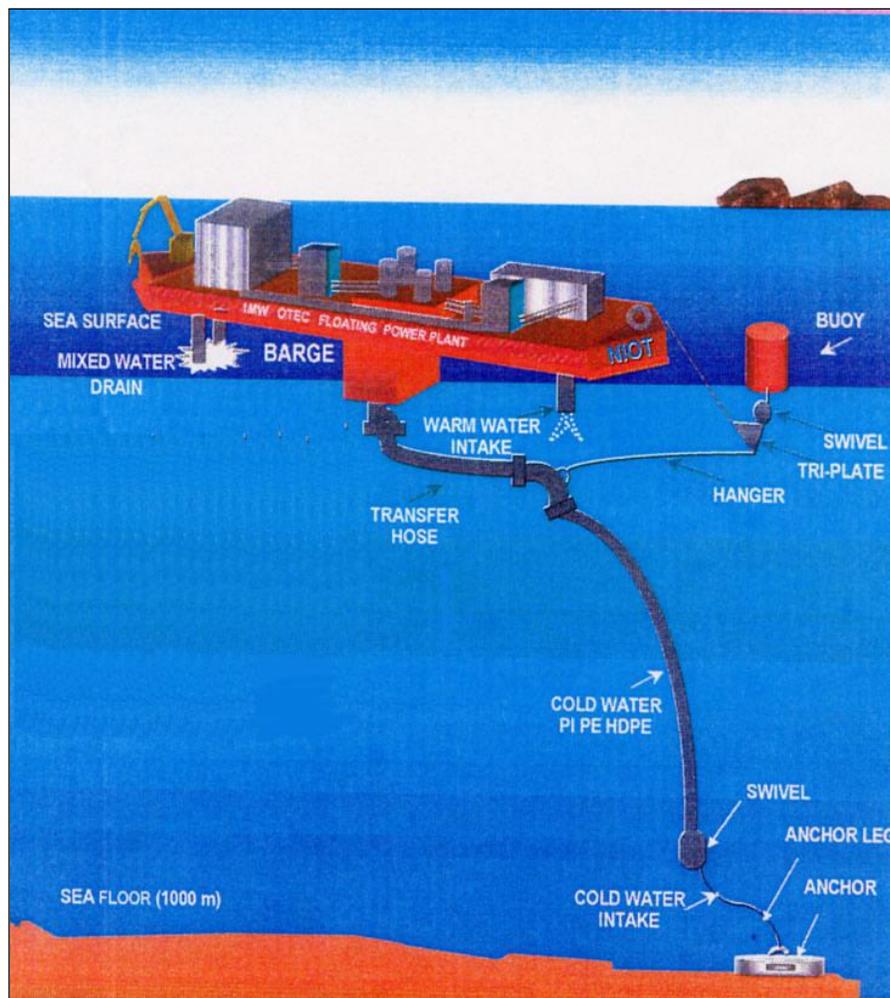
Oceans cover more than 70% of Earth's surface, making them the world's largest solar collectors. The sun's heat warms the surface water a lot more than the deep ocean

water, and this temperature difference creates **thermal energy**. Ocean thermal energy can be used for many applications, including electricity generation. While the the OCS Alternative Energy Programmatic EIS will examine **ocean current energy**, which is based primarily on thermal energy that drives ocean currents, it does not consider other ocean thermal energy technologies, such as ocean thermal energy conversion systems.

Ocean Mechanical Energy

Ocean mechanical energy is quite different from ocean thermal energy. Even though the sun affects all ocean activity, **tides** are driven primarily by the gravitational pull of the moon, and **waves** are driven primarily by the winds. As a result, tides and waves are **intermittent** sources of energy, while ocean thermal energy is fairly constant. Also, unlike thermal energy, the electricity conversion of both tidal and wave energy usually involves mechanical devices. Because the OCS region begins beyond waters affected by tides, tidal energy generation is not considered in the OCS Alternative Energy Programmatic EIS. **Ocean current energy** is another form of ocean mechanical energy generated by the continuous movement of surface or near-surface waters, driven primarily by wind and by solar heating of the ocean water.

Other Offshore Energy Sources



Offshore wind and **offshore solar** energy do not rely directly on ocean waters as an energy source, although ocean water temperature differences affect ocean winds and cloud formation that would in turn affect these energy sources. Both energy sources can be and are currently used for power generation on land throughout the world. Their use in ocean regions such as the OCS is relatively new, although **commercial offshore wind facilities** are currently in operation in a number of

countries outside the U.S. The application of these technologies to offshore use involves adapting them to a marine environment, which presents a number of technical and other challenges, but enables exploitation of the potentially enormous largely untapped energy source the ocean regions provide.

ACTIVITY: SEA OF PLENTY

Explore the potentials for cooperation and conflict that exist in relation to control of the ocean's resources.

DURATION: 3 days (1-1.5 hour each day)

MATERIALS

- Points of Conflict Worksheet
- Country Profiles and Map of the Sea of Plenty Worksheet
- Different colored stickers or name tags to identify citizens from different countries
- World Maps or access to computers with internet access
- Access to computers with PowerPoint

PROCEDURE

1. Review the information provided on ocean resources in this module
 - Ask students to share their thoughts on what resources are available and which are the most important.
 - Have students brainstorm reasons why these resources are or are not important to some countries.
2. Distribute the Points of Conflict worksheet to each student
 - Encourage students to discuss the diagram and data on this sheet
 - Students should use world maps to familiarize themselves with some of the issues described in the data.
 - Be sure to review terms such as territorial limits, economic zones, jurisdiction, high seas, etc..
3. Divide the students to 6 groups.
 - Assign one country to each group
 - Let students write their country's name on their name tag, or assign each country a particular color sticker.
4. Distribute the Country Profiles Worksheet and the Map of the Sea of Plenty to each group
 - Students should read the profiles of all the countries that surround the Sea of Plenty and familiarize themselves with the map
 - Announce to the students that they are representatives of their nations and their objective is to work out fair agreements on the use of the ocean resources found in the Sea of Plenty. The basic issues that need to be considered include:
 - How far should a nation's jurisdiction extend?
 - Should there be a national economic zone beyond the territorial limit? If so, how far?
 - Do nations have the right to pollute the oceans, whether off their own shores or on the high seas? If not, what should be done about it?

- Should the ocean be considered the common heritage of the people of the world? If so, should an international organization be formed to regulate the mining of the seas and use a percentage of the profits to foster the development of poorer nations?
 - Tell students to keep in mind that there may be other issues that arise between particular countries.
 - Also remind students that the overarching issue that is important to everyone is of what to do about the resources and the deep seabed beyond the national jurisdictions
5. Allow students to meet within their nations
 - Each nation should consider their objectives and discuss how they intend to approach their needs in the upcoming “International Meeting” with the other nations.
 - Encourage students to use their maps to address the issues listed above.
 - Each nation should also develop good reasons or rationales for their suggestions, as well as coming up with a few alternatives
 6. Once all nations have completed their meeting, assemble the “International Conference on the Sea”. You act as the chairman, giving students the following procedure:
 - Each nation will have a chance to speak
 - One student from that nation will act as the spokesman for his/her country
 - Each nation should listen and take notes based on what the other nations want. They should consider:
 - How do other nations’ suggestions compare to yours?
 - Do they seem reasonable?
 - Do your nations’ suggestions sound reasonable now that you have heard what the other nations have to say?
 - Will it be possible to bargain or compromise with other nations to get a solution that workable for all of you?
 7. After each nation has shared its ideas, allow the students to once again meet within their nations.
 - This time, they should determine policies and strategies based upon what they heard during the Conference
 - As a group, they should discuss the questions above.
 8. After about 20 minutes, begin a negotiating period during which countries can make bargains, agreements, or alliances with other countries in preparation for the second round of the Conference.
 9. Again, have students meet within their countries to develop a formal presentation (on PowerPoint) for the next ICS meeting.
 10. Hold the second meeting of the International Conference on the Sea
 - Allow each nation about 10-15 minutes to present
 - Each student should participate in some aspect of the presentation.
 - After the presentations have been completed, the nations should have an open discussion until an agreement or an impasse has been reached.
 11. At the conclusion of the game, lead an open discussion with the students using the following guiding questions:

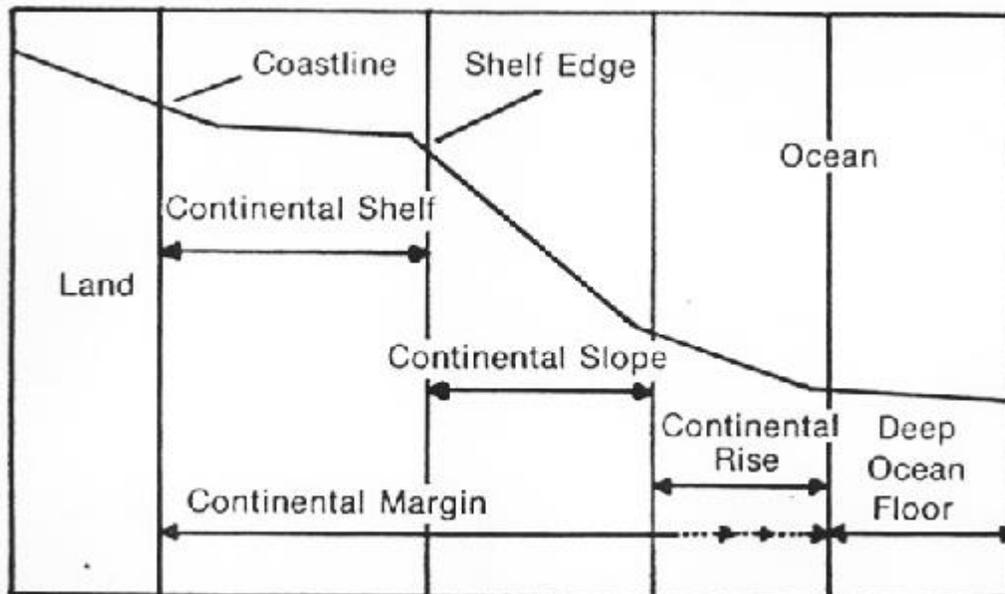
- What happened in the game? Were all nations able to reach their goals? If agreement was reached, was it fair to all nations?
 - How did the game compare with reality? What changes should be made to make it more realistic? What additional parties or pressure groups might be involved? How would their presence alter the outcome?
 - Do students think the mileage limits should be uniform for all nations? Would that be fair?
 - What will be the consequences for the world if agreement is not reached?
12. Possible Extension: Have students examine the current Law of the Sea. In a paper or presentation, they can discuss:
- Its major points.
 - What problems have been solved?
 - What problems still exist?
 - How do the agreements reflected in this law compare to the agreements the students reached during the simulation?

* Activity adapted from the Ocean Resources Game:
<http://www.globaled.org/curriculum/ocean.htm>

Points of Conflict

Familiarize yourself with the diagram of the seabed and the ocean floor and with the data that follows. Are all parts of the ocean equally valuable? Locate the areas where the different resources are concentrated. What are some of the potential conflicts?

Diagram of the Seabed and the Ocean Floor



Data

- The continental shelf may be as wide as 700 miles* off Siberia, Alaska, and Argentina, and as narrow as a few miles off Peru. The average width is about 40 miles.
- The continental margins may have as much as 40 percent of the world reserves of oil and gas.
- Most fish are taken within 50 miles of shore, and almost all within 200 miles.
 - The ocean supplies 13 percent of the world's animal protein consumption, but fish catches have fallen drastically in recent years.
 - Fishermen have successfully used sophisticated equipment to increase their catches.
 - As a result, however, the remaining fish are insufficient in number to replenish the stock.
 - Over fishing is believed to have contributed to the drop in the fish catch in many parts of the world.
- Lying on the sea floor, mostly beyond 200 miles off shore and the continental margins, are great quantities of manganese nodules.
 - These hold a number of metals that are becoming increasingly scarce—primarily nickel (used in making stainless steel), and copper and cobalt.

- Harvesting these nodules from the sea may eventually be cheaper than mining them from land.
- At least eight private and governmental groups have already made major investments to prepare to begin ocean mining. Involved are American, Canadian, French, German, and Japanese concerns.
- With increasing shortages of food, oil, and minerals, countries are claiming more rights over the sea off their shores.
 - A few nations, including Peru and Ecuador, claim territorial jurisdiction out to 200 miles of coastal seas.
 - Other countries claim only economic control out to 200 miles.
 - (This is an important difference. Economic control gives a nation the right to all the fish and mineral wealth within those limits. Territorial jurisdiction in effect extends the boundaries of a nation's property. All military, navigational and economic rights on land would extend to this ocean territorial boundary. Economic rights would not cover military or navigational control.)
- If countries have territorial jurisdiction beyond three miles, there is a serious problem for the great naval powers, since there would be a threat to free transit through straits.
 - If Spain were to have a 12-mile sea limit, for example, it could theoretically control the entrance to the Mediterranean Sea which, at Gibraltar, is less than 10 miles wide.
 - Under the long standing principle of innocent passage, merchant ships can pass through straits even when they lie within the territorial jurisdiction of another nation.
 - However, warships, submarines, and planes are not considered "innocent" and their passage could legally be blocked or restricted by the nation(s) with territorial jurisdiction over a strait.
 - Thus, the great naval powers, such as the United States, are opposed to any extension of jurisdiction which could restrict the passage of their ships and planes through important straits.
- Some countries, like the Philippines and Indonesia, claim a 12-mile jurisdiction beyond the outermost islands of their archipelago grouping, thus enabling them to enclose huge areas of ocean within their territorial waters.
 - Look at a map of the world-or a portion of the world such as Southeast Asia. If you shaded in a 200-mile territorial extension of each country, what situations would you see occurring?
- Many of the nations of the world believe the oceans are the common heritage of mankind.
- Most of the poorest countries want an international agency to mine the mineral resources of the seabed and share the profits among nations.
 - Burkina Faso, Mali, Botswana, Chad, Afghanistan, and Nepal are among the poorest nations of the world. Look at a map.
 - What do these countries have in common?

- How does lack of access impede the commerce and economic growth of these nations? How does this help explain their position?

* *Miles refers to nautical miles (1.85 kilometers or 1.15 land miles).*

Country Profiles and Map of the Sea of Plenty

The Situation

The Sea of Plenty is becoming badly polluted. Some scientists predict that living resources (fish, etc.) are diminishing and that there will be almost no edible fish and shellfish within 25 years if present trends continue. An international conference has been called by nations surrounding the Sea of Plenty to consider adopting agreements for resolving their conflicting claims to territorial limits, rights of passage, exploitation of the deep sea beyond the continental shelves, etc.

Country Profiles

Read the profiles of all the countries, not just your own.

Anchovia:

Per capita Gross National Product (GNP) \$1,000. Twelve-mile territorial limit. Now claims a 200-mile economic zone; that is, the right to all living and nonliving resources.

Anchovia insists on right of territorial control with Bushland over the Dire Straits and is concerned about oil spills from drilling around the Sea of Plenty and from the giant tankers from Oceana. The breakup of a smaller tanker caused millions of dollars damage to beaches and wild life. Fishing, especially of anchovies, is Anchovia's major industry-and the catch is diminishing each year. It is also concerned about the depletion of salmon, which spawn up the Salmon River. Oceana's trawlers take huge catches, often within Anchovia's 200-mile limit, which Oceana insists is legal. Anchovia demands a share of profits from exploitation of deep seabed mineral resources, and it also wants an international agency to license manganese nodule exploitation.

Bushland:

Per capita GNP \$200. Twelve-mile territorial limit. Two hundred-mile economic zone.

A poor, largely agricultural country. Fishing is a major source of protein for its ill-fed people. But the annual catch is declining, and this is blamed on Oceana's mass production fishing with advanced technology. Rich oil deposits have been discovered 125 miles off Bushland's southern coast. But these deposits are located on Petrolia's

continental shelf. Petrolia is also drilling there for oil. Bushland wants a percentage of profits from manganese nodules, with their exploitation controlled by an international agency.

Outland:

Per capita GNP \$150. The country is landlocked.

Outland's people once controlled all of Petrolia and deeply resent not having any share in the great wealth coming to Petrolia from oil. Outland insists on a corridor to the sea and that all resources beyond a 12-mile limit belong to all mankind and should be placed under the jurisdiction of a world-wide organization.

Petrolia:

Per capita GNP \$4,500. Three-mile limit. Two hundred-mile economic zone.

An oil-rich country that is rapidly becoming a major industrial power. Its oil had previously been carried on Oceana's tankers, but now Petrolia is building its own naval fleet. It is insisting upon a three-mile territorial limit to insure free transit or noninterference from Bushland and Anchovia for Petrolian military vessels through the Dire Straits. Petrolia soon will have the technology to take manganese nodules from the deep seabed in the Sea of Plenty. It is therefore opposed to economic zones of 200 miles, which would prevent access to nodules within 200 miles off Anchovia, and it does not want interference from an international-controlling agency.

Oceana:

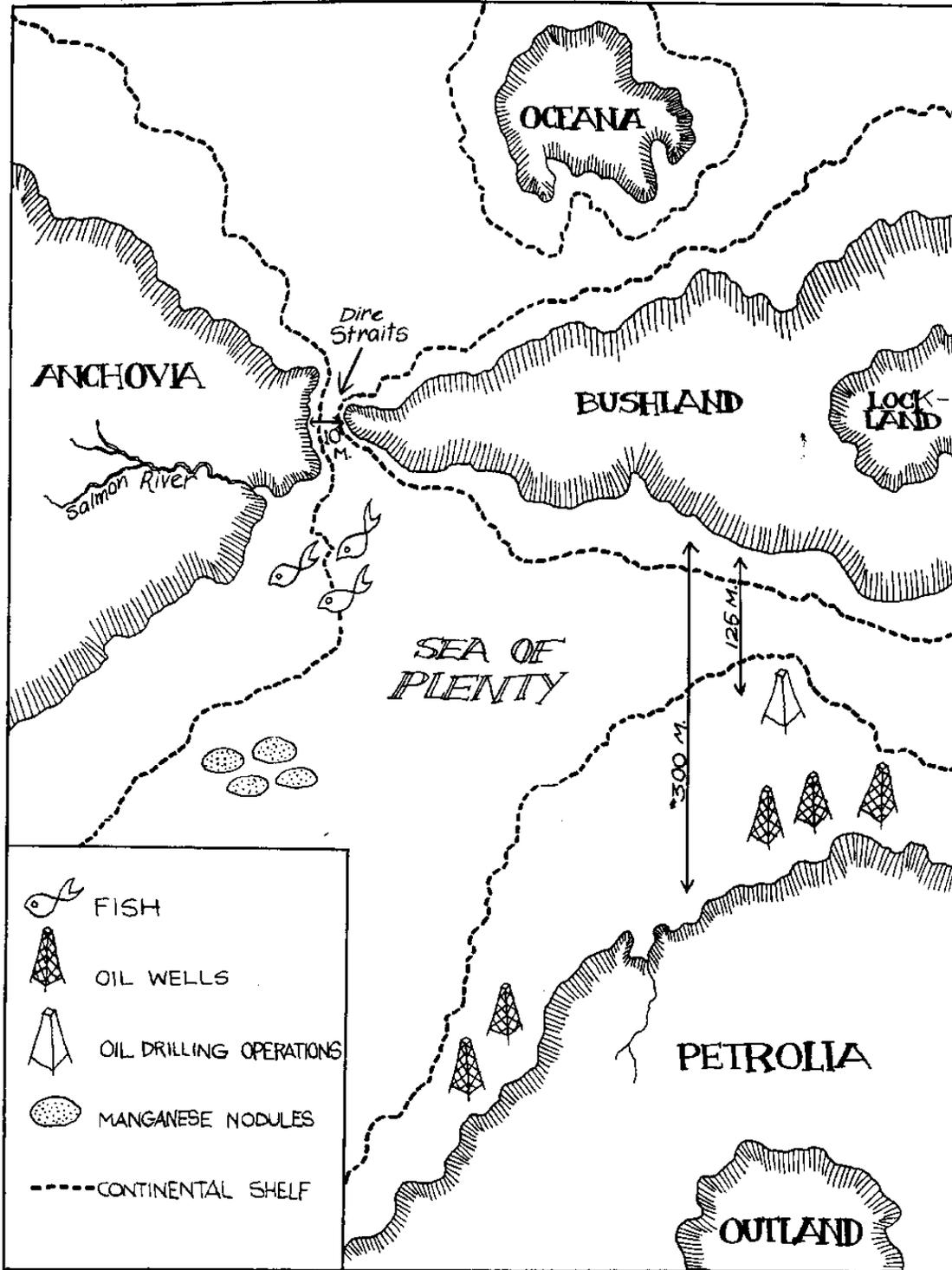
Per capita GNP \$5,000. Three-mile territorial limit. Twelve-mile fishing limit. Economic zone on continental shelf to depth of 200 meters.

Oceana is a highly developed industrial and military power. Its ships roam the world and fish with the most advanced technology in the Sea of Plenty, especially off Anchovia's Great Banks and Bushland's shores. Its giant tankers regularly bring vital oil from Petrolia through the Dire Straits to keep Oceana's industries rolling. It maintains a naval fleet, including nuclear submarines, in the Sea of Plenty. Free transit through the Dire Straits is essential for Oceana. It is already beginning to take manganese from the seabed at depths of two miles and more, and opposes any effort to control its activities.

Lockland:

Per capita GNP \$100. The country is landlocked.

A poor country desperately attempting to find the capital for economic development, Lockland insists on establishing an international agency that will exploit all nonliving resources beyond



the 12-mile limit, with the profits going to all nations. "Such resources are the common heritage of all mankind," declared Lockland's president.

RESOURCES

<http://marinebio.org/Oceans/Ocean-Resources.asp>

<http://www.nmm.ac.uk/server/show/conWebDoc.16935>

<http://ocsenergy.anl.gov/guide/ocean/index.cfm>

<http://www.globaled.org/curriculum/ocean.htm>

<http://en.wikipedia.org/wiki/Ocean>

<http://www.noaa.gov/ocean.html>

<http://www.mnsu.edu/emuseum/information/oceans/>

<http://www.mos.org/oceans/>