

State of the Coast Lesson Plan Descriptions

Lesson Plan 1 – The Big Picture

Students will explain the importance of communication to science and to the protection and management of coastal resources; describe at least five attributes of effective PowerPoint® and scientific poster presentations; and describe at least three reasons for the protection and management of coastal resources.

Lesson Plan 2 – Coastal Communities

Students will identify at least five ways in which coastal ecosystems benefit our entire nation; describe at least five ways in which human activities affect natural coastal ecosystems, and will explain the impact of these effects on human communities; define nonpoint source pollution, identify at least three causes of this kind of pollution, and describe at least three actions that can reduce this pollution; describe how human activities can affect freshwater supplies in coastal areas; and describe the importance of science to coastal resource management and planning.

Lesson Plan 3 – Coastal Economy

Students will describe at least four ways in which coastal resources contribute to the U.S. economy; compare and contrast market and non-market values, and explain at least two ways that non-market values can be estimated; describe at least four potential sources of renewable energy from ocean; and define “open access resource,” explain why this type of resource is often overexploited, and discuss strategies that may be effective for managing this type of resource.

Lesson Plan 4 – Coastal Ecosystems

Students will describe at least three features that can be measured to provide an indication of the health of coastal ecosystems; identify and discuss at least three reasons that the overall health of our nation's coastal waters is only "fair"; define “invasive species” and explain how a species becomes invasive; describe “dead zones” and discuss their cause; discuss ways in which coral reefs are important, and why they are threatened; explain how shellfish may be used to assess the quality of waters in which they live; discuss at least three ways in which wetlands are important, and at least three things that individuals may do to help protect wetlands.

Lesson Plan 5 - Coastal Climate

Students will explain at least three ways in which climate change is expected to affect the vulnerability of coastal communities; explain why sea level is expected to rise in some coastal areas and fall in other areas; discuss the principles of smart growth, and explain how these may reduce the vulnerability of coastal communities; Students will discuss the purpose of the Coastal Barrier Resources Act.