

An Open Educational Resource Learning Management System for Sustainability and Environment Studies

The screenshot displays the Harvard Extension School's Open Educational Resource Learning Management System (OER LMS) interface. The header features a navigation menu with links to Home, About, Modules, Resources, and Contact Us. The main banner image shows a wooden boardwalk leading through a sandy area towards a body of water, with the text "Sustainability and Environmental Studies" and "Open Educational Resources Learning Center" overlaid. The main content area is titled "Biodiversity At Risk: A Global Perspective" and includes a search bar, a login section, and a list of course modules. The left sidebar contains a list of modules, with "3.6 Reflection Questions" highlighted. The right sidebar contains two reflection questions. The footer includes a copyright notice: "© 2020 Harvard Extension School. All Rights Reserved."

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Sustainability and Environmental Studies

Open Educational Resources Learning Center

Biodiversity At Risk: A Global Perspective

Search ... Search

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- 1. Significance and Values
- 2. Climate Change Impacts
- 3. Invasive Species Impacts
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 - 3.4 Lesson Unit 4
 - 3.5 Assessment Quiz
 - 3.6 Reflection Questions**
 - 3.7 Instructional Activity
- 4. Conservation Measures
- Instructor Notes
- Instructor Reviews

Reflection Question 1: How could climate change impact the invasive Burmese python in North America?

Reflection Question 2: Why are targeted removals of lionfish deemed necessary in order to protect coral reef ecosystems in the Caribbean?

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Harvard Extension School Video
John Reilly
May 11, 2020

Capstone Project Combining Two Masters Degrees

Completion	Harvard Extension School Degree
Spring 2016	ALM, Sustainability and Environmental Management
Spring 2020	ALM, Digital Media Design

Problem and Solution


eLearning Resources for Sustainability and Environmental Studies

Existing eLearning resources are often too general and not focused on what environmental students need to learn.

Demand, though, continues to grow at a rapid pace as online education becomes more prevalent and mainstream.

The Solution was to develop a Learning Management System to complement instructor teachings by delving deeper into environmental topics and issues in order to promote enduring understandings.

Used Sustainability and Environmental Management Degree to curate Instructional Content

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Sustainability and Environmental Studies

Open Educational Resources Learning Center

Overfishing and Fisheries Management

Introduction

1. Long-term Effects of Overfishing
2. Ecosystem Impacts of Overfishing
3. Economic and Social Impacts
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4. Countermeasures and Enforcement

Instructor Notes

Instructor Reviews

"Communities around the world depend on the fishing industry for food and income. And for many people fishing is a way of life and a necessity, not a luxury. With increasing population levels and challenges such as climate change, sustainable fishing is vital to safeguard food security and the livelihoods of millions of people around the world." — Marine Stewardship Council

Review the **economic** as well as the **social** impacts of overfishing. Why do you think social impacts tend to follow economic impacts, especially in developing nations?

Login

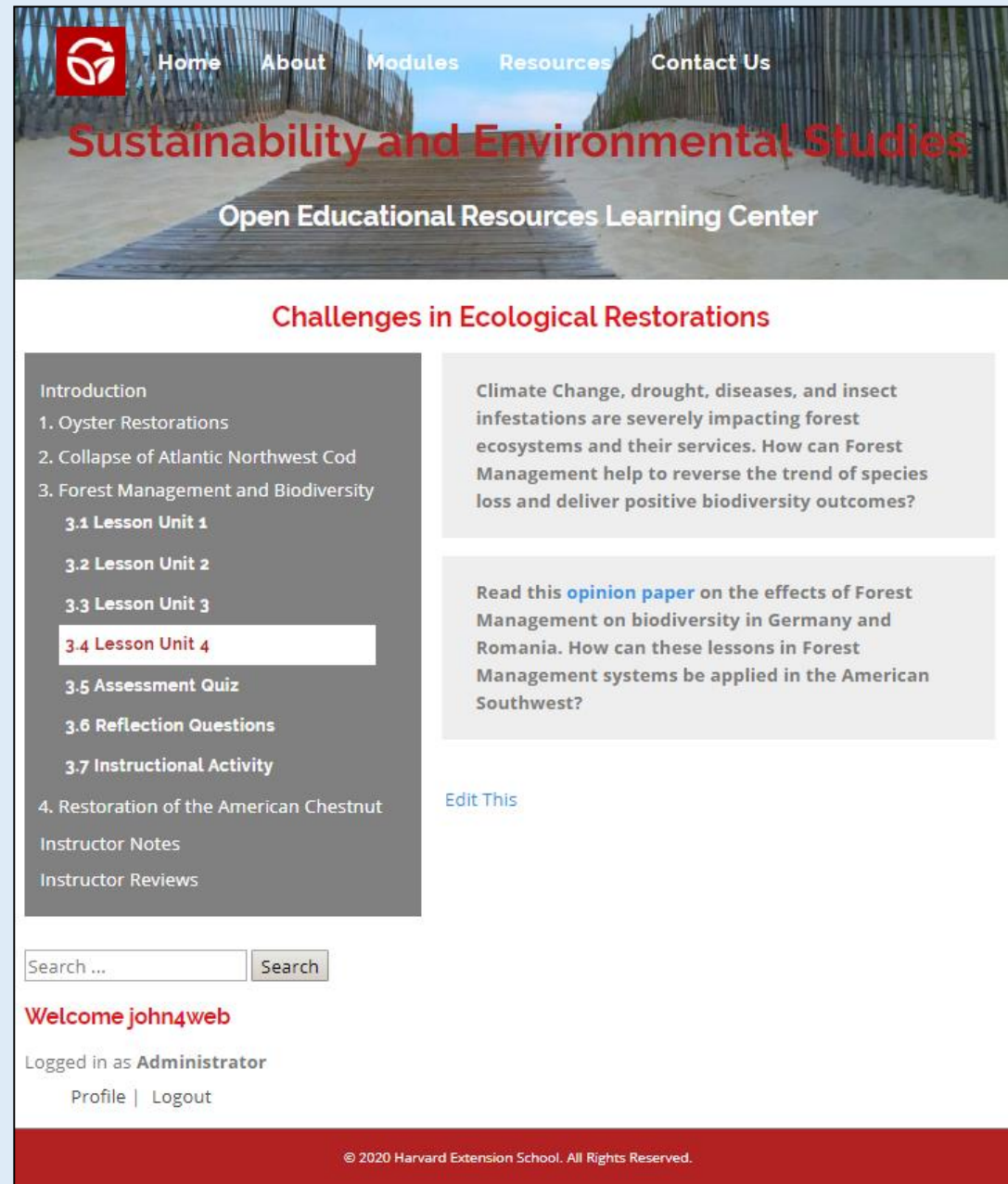
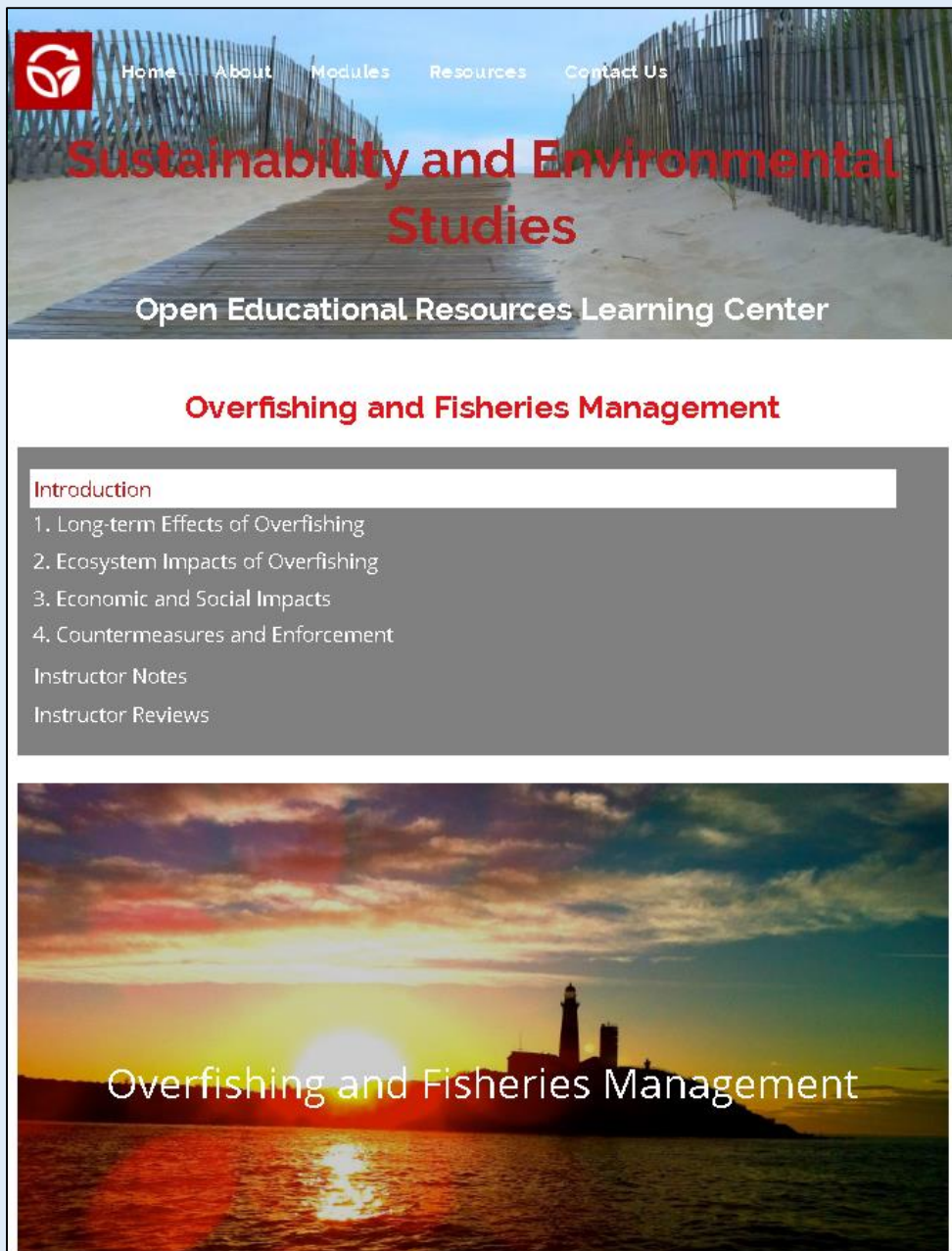
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Combined With the Digital Media Design Degree for Website Development



and Instructional Design using Understanding by Design Approach.

Methods to Capture Student Attention and Promote Enduring Understandings

Designing instruction to achieve specific learning goals (Backward Design).

Having a Big Idea as the focus point for instruction and assessment.


Using hooks to capture student attention.

Chunking instructional content into smaller, more manageable pieces to improve retention.

Using repetition in instruction to reinforce learning concepts.

Crafting essential questions and statements of enduring understandings.

As a Proper Demonstration, Four Lesson Modules with Four Lessons Each Were Curated. More Than Enough Instructional Content for an Entire Semester.

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Many of the most productive tuna fisheries in the world reside within the vast exclusive economic zones of the small island nations of the Pacific. How can these developing countries be expected to effectively manage their fisheries when they cannot afford the necessary resources for proper management on their own?



Saving Our Fisheries, Protecting O... Watch later Share

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Each Lesson is comprised of four smaller, more manageable sized Lesson Units,

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Millions of people rely on fishing for their livelihood and over a billion depend heavily on fishing as their main source of protein. How could the threat posed by overfishing impact the people and fishing communities who depend on fisheries for their income, nutrition, and ways of life?



Ocean Alert: Overfishing

Copy link

Living Oceans Foundation

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a short Assessment Quiz which consists of five essential questions as indicators of student understanding,

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Sustainability and Environmental Studies

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Overfishing and Fisheries Management

Assess your knowledge and understanding about the economic and social effects of overfishing by taking this short quiz.

#1 Which statement about fish stocks in a no-take reserve compared to those in an adjacent fishery is not correct?

- ☒ Smaller fish have a better chance to grow to maturity in the no-take reserve.
- ☒ Fish can spill out of the reserve and be legally caught in the adjacent fishery.
- ☒ Fish can spill out of the reserve and thereby ensure increased populations in adjacent fishery.
- ☒ Adult fish can reproduce in greater numbers in the no-take reserve.

#2 The loss of livelihoods for fishermen can be best described as

- ☒ an environmental impact.
- ☒ an economic impact.
- ☒ a social impact.
- ☒ a cultural impact.

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two Reflection questions which can be given as assignments to assess understanding,

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Reflection Question 1: Why do you think overfishing poses such a significant threat to the economic and social welfare of developing nations which rely heavily on fishing?

Reflection Question 2: What are the global trends in aquaculture and capture fisheries production and how are they impacting total fish production?

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and two Instructional Activities which are meant to reinforce the enduring understandings of the lesson.

The screenshot shows the homepage of the 'Sustainability and Environmental Studies Open Educational Resources Learning Center'. The header features a navigation menu with links to Home, About, Modules, Resources, and Contact Us. The main banner image shows a wooden boardwalk leading through a sandy area towards a body of water, with the title 'Sustainability and Environmental Studies' and subtitle 'Open Educational Resources Learning Center' overlaid in red and white text.

Overfishing and Fisheries Management

Left Sidebar (Table of Contents):

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Main Content Area:

Part 1: Discuss the steps individuals can take to help prevent overfishing and explain why these steps would be beneficial to fisheries if enough people participated.

Part 2: Discuss how and why the nations of the Pacific Islands collaborate in managing their fisheries. Elaborate on the role played by the United Nations Development Program (UNDP).

Right Sidebar:

Search ...

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Instructors can supplement lessons with their own curated content by posting to the Instructor Notes and Instructor Reviews sections.

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1. Long-term Effects of Overfishing – In the documentary film *An Ocean Mystery: The Missing Catch*, marine biologist Dr. Daniel Pauly, argues that the number of fish caught worldwide is drastically underestimated and that without significant change we face disaster. Watch an excerpt from this film to appreciate how this looming environmental catastrophe could permanently alter communities and ways of life worldwide.

 The Ocean Is Running Out of Fish...  Watch later  Share



Smithsonian CHANNEL

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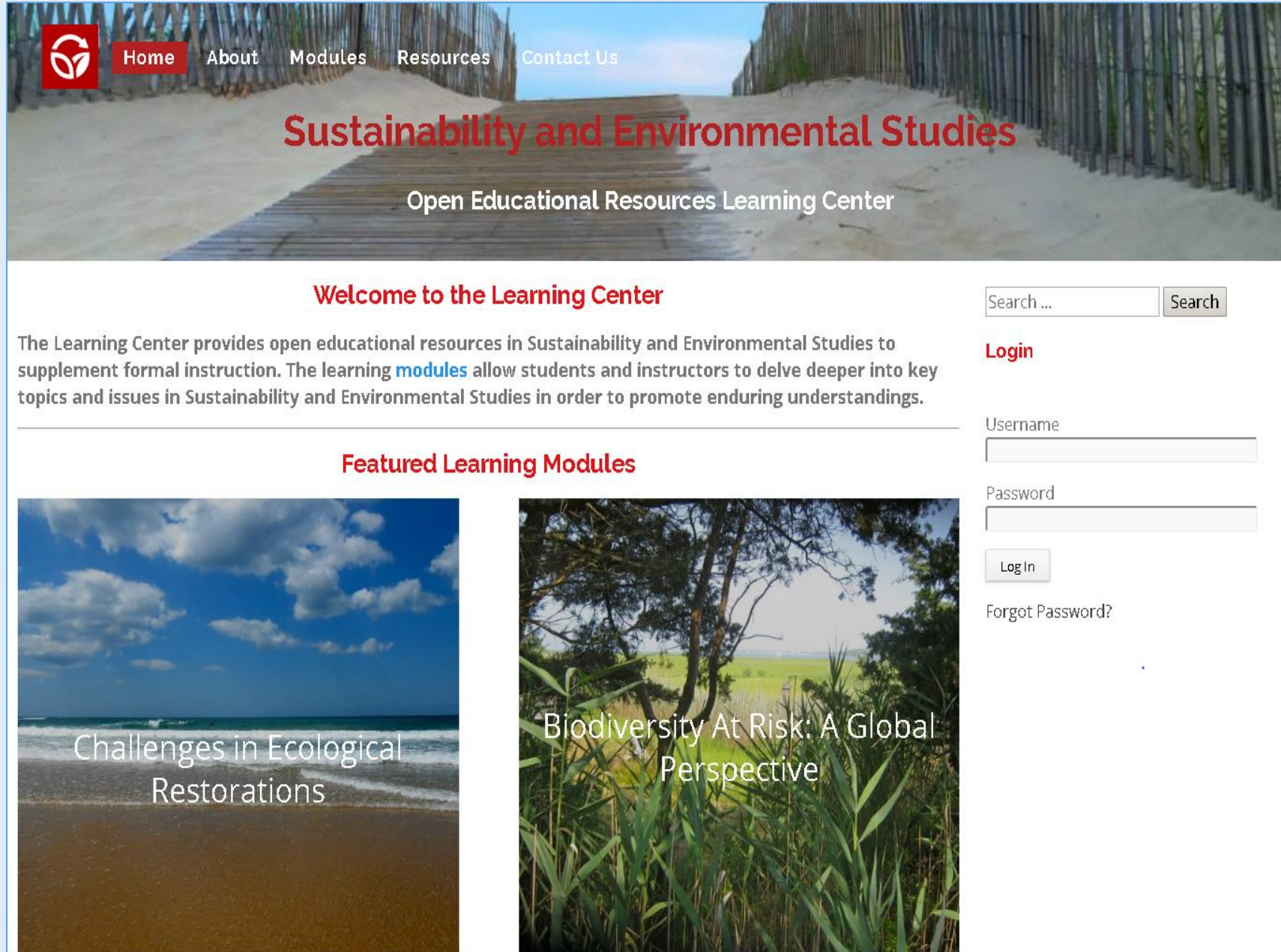
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Visit the demonstration site for the LMS at <http://johnr1.sgedu.site/wp/>.



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Sustainability and Environmental Studies

Open Educational Resources Learning Center

Welcome to the Learning Center

The Learning Center provides open educational resources in Sustainability and Environmental Studies to supplement formal instruction. The learning **modules** allow students and instructors to delve deeper into key topics and issues in Sustainability and Environmental Studies in order to promote enduring understandings.

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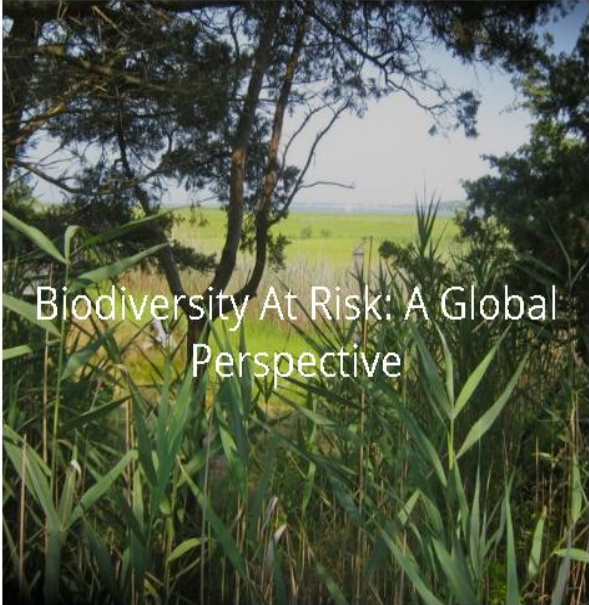
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Featured Learning Modules



Challenges in Ecological Restorations



Biodiversity At Risk: A Global Perspective