

A Comprehensive Simulation of the Colorado River Basin: An Interactive Exercise (ComprehensiveBasin)

Agriculture and Biodiversity (AgricultureBiodiversity)

Amphibian Declines (AmphibianDeclines)

An Introduction to Remote Sensing (IntroductionRemoteSensing)

Applications of Remote Sensing to Biodiversity Conservation (ApplicationsConservation)

Applications of Remote Sensing to Ecological Modeling (ApplicationsModeling)

Applied Demography (AppliedDemography)

Assessing Threats in Conservation Planning and Management (AssessingManagement)

Biodiversity Conservation and Integrated Conservation and Development Projects (ICDPs) (BiodiversityICDP)

Biological and Cultural Diversity: A Case Study of the Solomon Islands (BioCulturalSolomonIslands)

Census and Survey Techniques: An Overview of Theoretical and Technical Issues (CensusIssues)

Conservation and Management of Fungi (ConservationFungi)

Conservation Genetics
(ConservationGenetics)

Conservation Genetics
(ConservationGeneticsUkraine)

Conservation of Vernal Pools: Lessons from
State and Local Action
(ConservationVernalAction)

Ecological Consequences of Extinctions
(EcologicalExtinctions)

Ecological Economics and Biodiversity
(EcologicalBiodiversity)

Endangered Species Management
(EndangeredManagement)

Endangered Species Management
(EndangeredManagementUkraine)

Forest Ecosystem Management: A New
Paradigm for Preserving Forest Biodiversity
(ForestBiodiversity)

Great Lakes Under Stress: Invasive Species
as Agents of Ecosystem Change
(GreatChange)

How the West was Watered: A Case Study
of the Colorado River (HowColoradoRiver)

The Importance of Invertebrate Biodiversity
(ImportanceInvertBio)

International Treaties for Marine
Conservation and Management
(InternationalManagement)

Management of Harvested Wildlife Populations (ManagementPopulations)

Management of Harvested Wildlife Populations (ManagementPopulationsUkraine)

Marine Conservation Policy (MarinePolicy)

Marine Protected Areas and MPA Networks (MarineNetworks)

Marine Reserves and Local Fisheries-an Interactive Simulation (MarineSimulation)

Mathematical Modeling and Conservation (MathematicalConservation)

Metapopulations (Metapopulations)

Métapopulations (MetapopulationsFrench)

Monitoring for Adaptive Management in Conservation Biology (MonitoringBiology)

Mysteries of an Ancient Mariner: The Endangered Kemp's Ridley Sea Turtle (MysteriesTurtle)

Observed Impacts of Climate Change on Biodiversity (ObservedBiodiversity)

Parrot Conservation in the Neotropics (ParrotNeotropics)

Payments for Ecosystem Services: An Introduction and Case Study on Lao PDR (PaymentsLaoPDR)

San Juan La Selva Biological Corridor, Costa Rica (SanJuanCostaRica)

Species Distribution Modeling for Conservation Educators and Practitioners (SpeciesPractitioners)

Sprawl and Biodiversity (SprawlBiodiversity)

Stakeholder Analysis (StakeholderAnalysis)

Story of an Invasion: A Case Study of the Rusty Crayfish in the Great Lakes (StoryGreatLakes)

Systematics and Biodiversity Conservation (SystematicsConservation)

Tetepare: Community Conservation in Melanesia (TetepareMelanesia)

The Bats of Madagascar: A Conservation Challenge (BatsChallenge)

The European Captive Population of Jaguar (EuropeanJaguar)

The Great Barrier Reef Marine Park: Conflict and Consensus in Marine Conservation (GreatBarrierReefConservation)

The Importance of Botany in Biodiversity Conservation (ImportanceBotanyConservation)

The Management of Conservation Breeding Programs in Zoos and Aquariums (ManagementAquariums)

The Mekong Delta: A Biological and Socio-Economical Case Study of a Wetland (MekongWetland)

The Pelagos Sanctuary for Mediterranean Marine Mammals (PelagosMammals)

The Role of Botanical Gardens, Seed Banks, and Arboreta in Biodiversity Conservation (RoleBotanicalConservation)

The Role of Botanical Gardens, Seed Banks, and Arboreta in Biodiversity Conservation (RoleBotanicalConsUkraine)

Thirsty Metropolis: A Case Study of New York City's Drinking Water (ThirstyWater)

Transboundary Water Resources Management and the Potential for Integrated Water Resources Management (TransboundaryManagement)

Biodiversity Conservation and Human Health (BiodiversityHealth)

Biodiversity Inventories and Collections: An Overview of Theoretical and Technical Issues (BioInventoriesIssues)

Ecosystem Loss and Fragmentation (EcosystemFragmentation)

Freshwater Ecosystems and Biodiversity (FreshwaterBiodiversity)

Human Evolution and Biodiversity (HumanBiodiversity)

Introduction to Climate Change
(IntroductionClimateChange)

Introduction to Marine Conservation Biology
(IntroductionMarineBiology)

Invasive Species and Mechanisms of
Invasions (InvasiveInvasions)

Invasive Species and Mechanisms of
Invasions (InvasiveInvasionsUkraine)

Protected Areas and Biodiversity
Conservation I: Reserve Planning and
Design (ProtectedDesign)

Protected Areas and Biodiversity
Conservation I: Reserve Planning and
Design (ProtectedDesignUkraine)

Protected Areas and Biodiversity
Conservation II: Management and
Effectiveness (ProtectedEffectiveness)

Protected Areas and Biodiversity
Conservation II: Management and
Effectiveness
(ProtectedEffectivenessUkraine)

The Global Carbon Cycle: The Chemistry of
Climate Change (GlobalChange)

Threats to Biodiversity: An Overview
(ThreatsOverview)

What is Biodiversity? (WhatBiodiversity)

What is Biodiversity?
(WhatBiodiversityUkraine)

Why is Biodiversity Important?
(WhyImportant)

Why is Biodiversity Important?
(WhyBiodiversityUkraine)



What is an Ecosystem? Building a Living Web
Lecture 7/16

- An ecosystem is a community of organisms and their physical environment. They interact through the flow of energy and the cycling of matter.

Learning Objectives

- Explain the concept of an ecosystem and its components.
- Describe the flow of energy and the cycling of matter in an ecosystem.
- Identify the role of producers, consumers, and decomposers in an ecosystem.
- Explain the concept of a living web and how it relates to an ecosystem.

Key Concepts

- Ecosystem
- Energy flow
- Matter cycling

Activities

- Group discussion
- Case study
- Role play

What is an Ecosystem? Building a Living Web (WhatWeb)

Classroom Assessment Techniques
(ClassroomTechniques)

Communicating about Environmental
Issues: A Great Lakes Case Study
(CommunicatingStudy)

Fundamentals of Nature Interpretation
(FundamentalsInterpretation)

Fundamentals of Nature Interpretation
(NatureInterpretUkraine)

Scientific Writing (ScientificWriting)

Student-Active Teaching Techniques
(StudentTechniques)

Measuring Biodiversity Using R: A
Comparison of Diversity in Primary and
Secondary Tropical Forests
(MeasuringForests)

Environmental and Climate Justice along
the Brahmaputra River in Northeast India
(EnvironmentalIndia)

Ocean Acidification: Building a Skeleton in A
Changing Ocean (AcidificationOcean)

Agricultura y Biodiversidad
(AgriculturaBiodiversidad)

Declive de Anfibios (DecliveAnfibios)

Demografía Aplicada (DemografiaAplicada)

Evaluación de Amenazas
(EvaluacionAmenazas)

Técnicas de Colecta y Censo de Fauna
(TecnicasFauna)

Consecuencias Ecológicas de la Extinción
(ConsuenciasExtincion)

Manejo de Especies Amenazadas
(ManejoAmenazadas)

Perspectivas Históricas de la Extinción y la
Crisis Actual de la Biodiversidad
(PerspectivasBiodiversidad)

Funciones y Caracterización
Geomorfológica de una Cuenca
(FuncionesCuenca)

Manejo de Recursos Acuáticos
(ManejoAcuaticos)

Modelación Matemática y Conservación
(ModelacionConservacion)

Megaproyectos y Biodiversidad: Una Mirada
Ecosistémica (MegaproyectosEcosistema)

Conservación de Loros en el Neotrópico
(ConservacionNeotropico)

Sistemática y Conservación de la
Biodiversidad (SistematicaBiodiversidad)

Conservación de la Biodiversidad y Salud
Humana (ConservacionHumana)

Inventarios de Biodiversidad y Colecciones
Biológicas (InventariosBiologicas)

Pérdida y Fragmentación de Ecosistemas
(PerdidaEcosistemas)

Evolución Humana y Biodiversidad
(EvolucionBiodiversidad)

Áreas Protegidas y Conservación de la
Biodiversidad I: Planificación y Diseño de
Reservas (AreasReservas)

Áreas Protegidas y Conservación de la
Biodiversidad II: Manejo y Efectividad
(AreasEfectividad)

El Ciclo Global del Carbono y el Cambio
Climático (CicloClimatico)

Amenazas Directas a la Biodiversidad: Una
Introducción (AmenazasIntroduccion)

¿Qué es la Biodiversidad?
(QueBiodiversidad)

¿Por Qué es Importante la Biodiversidad?
Adaptación para Profesionales de la
Conservación (PorQueConservacion)

Evaluación en el Aula (EvaluacionAula)

Cómo Redactar un Artículo Científico
(ComoCientifico)

Nuevas Formas de Enseñar la
Conservación de la Biodiversidad
(NuevasBiodiversidad)

Conservación Transfronteriza
(ConservacionTransfronteriza)

Évaluation des Menaces dans la Gestion et
la Planification de la Conservation
(EvaluationConservationFR)

La Gestion Communautaire des Ressources
Naturelles (GestionNaturelles)

Gestion Durable des Ecosystemes et
Produits Forestiers (GestionForestiers)

Gestion des Espèces Menaces: Cas des
Vertébrés (GestionVertebres)

Politique de Conservation Marine
(PolitiqueMarine)

Aires Protégées Marines (APM) et Réseaux
d'APM (AiresAPM)

Suivi pour une Gestion Adaptive en Biologie
de Conservation (SuiviConservation)

Restauration Ecologique
(RestaurationEcologique)

Réduction de la Pauvreté Rurale et Conservation de la Biodiversité (ReductionBiodiversite)

Conservation de la Biodiversité et Santé Humaine (ConservationHumaine)

Perte et Fragmentation des Ecosystèmes (PerteEcosystemes)

Introduction à la Biologie Marine de la Conservation (IntroMarineConservationFR)

Invasions Biologiques et Contrôle des Espèces Envahissantes (InvasionsEnvahissantes)

Cycle Globale du Carbone et Changement Climatique (CycleClimatique)

Aperçus des Menaces Directes sur la Biodiversité (ApercusBiodiversite)

Qu'est ce que la Biodiversité? (QuestcequeBiodiversite)

Pourquoi la Biodiversité est-elle Importante? (PourquoiImportante)

Aires protégées et Conservation de la Biodiversité I : Aménagement et Création de Réserve (AiresReserve)

Evaluation des Cours sur la Conservation (EvaluationCoursConservation)

Rédaction Scientifique (RedactionScientifique)

Techniques d'Enseignement Actif des Etudiants (TechniquesEtudiants)

Protected Areas in Lao PDR [Lao] (ProtectedAreasLao)

Building a Conservation Constituency: Outreach Strategies [Lao] (BuildingStrategiesLao)

Mapping Protected Areas for Biodiversity: Creating Linkages and Mapping Land Use [Lao] (MappingLandUseLao)

Monitoring for Management of Protected Areas: an Overview [Lao] (MonitoringOverviewLao)

Monitoring Wildlife Populations for Management [Lao] (MonitoringManagementLao)

Protecting Biodiversity: Enforcement Strategies [Lao] (ProtectingStrategiesLao)

Site Conservation Planning for National Protected Areas in Lao PDR [Lao] (SiteConservationLao)

Sustainable Wildlife Use in Tropical Forests [Lao] (SustainableUseForestsLao)

The Importance of Invertebrate Biodiversity (ImportanceBiodiversityUkraine)

Marine Protected Areas (MarineProtectedAreasUkraine)

Threats to Biodiversity (ThreatsBiodiversityUkraine)

Why is Biodiversity Important?
(WhyImportantRussian)

Community Buzz: Conservation of Trees
and Native Bees in Urban Areas
(UrbanEcology)

Valuing Ecosystem Services: A Qualitative
Analysis of Drinking Water in the Solomon
Islands (ValuingIslands)

Traditional Ecological Knowledge in the
Solomon Islands (TraditionalIslands)

NSF CCLI / TUES Instructional Unit: Critical
Thinking (NSFThinking)

NSF CCLI / TUES Instructional Unit: Data
Analysis (NSFAnalysis)

NSF CCLI / TUES Instructional Unit: Oral
Communication (NSFCommunication)

Construyendo un sistema de monitoreo
participativo: Parque Nacional Cordillera
Azul (ConstruyendoAzul)

Participación Social y Asimetrías en la
Distribución de la Información en Áreas
Protegidas (ParticipacionProtegidas)

¿Por Qué es Importante la Biodiversidad?
Adaptación para Docentes Universitarios
(Porqueuniversitarios)

Monitoreo para el Manejo Adaptativo en
Biología de la Conservación
(MonitoreoConservacion)

Caractéristiques des Espèces Menacées de
Madagascar (CaracteristiquesMadagascar)

Le Financement Durable pour la Conservation (FinancementConservation)

Gestion Durable des Zones Humides et Produits Halieutiques (GestionHalieutiques)

Gestion Integree des Zones Cotieres: Concepts, Principes et Applications (GestionApplications)

Initiation À l'Elaboration d'un Schema d'Aménagement du Territoire (InitiationTerritoire)

Introduction au Système d'Information Géographique Appliqué à Conservation de la Biodiversité (IntroGeographique)

Overexploitation of Parrots in the Neotropics (OverexploitationNeotropics)

Applying Critical Thinking to an Invasive Species Problem (ApplyingInvasiveProblem)

Applying Critical Thinking to the Amphibian Decline Problem (ApplyingAmphibianProblem)

Parrots and Palms: Analyzing Data to Determine Best Management Strategies and Sustainable Harvest Levels (ParrotsLevels)

Selecting Areas for Conservation: An Oral Communication Exercise (SelectingCommunication)

Sharpen Your Oral Communication Skills! (SharpenSkills)

Practice Your Data Analysis Skills! (PracticeSkills)

What Is Biodiversity? Analyzing Data to Compare and Conserve Spider Communities (WhatCommunities)

Why is Biodiversity Important? An Oral Communication Exercise (WhyCommunication)

Exploring the Social and Ecological Trade-offs in Tropical Reforestation: A Role-Playing Exercise (ExploringReforestation)

Biogeography in Conservation (BiogeographyConservation)

Bird Conservation Along the Lower Colorado River (BirdColoradoRiver)

Building Marine Reserve Networks to Fit Multiple Needs: An Introduction to Marine Spatial Planning Using SeaSketch (BuildingMarine)

What's in the Water? Using environmental DNA for Marine Monitoring and Planning (WhatsEDNA)

Bat Ecology, Conservation, and Bioacoustics (BatBioacoustics)

Modeling Suitable Habitat for a Species of Conservation Concern: An Introduction to Spatial Analysis with QGIS (ModelingQGIS)



Parasite Biodiversity (ParasiteBiodiversity)

Systems Thinking Collection (SystemsThinking)