



Model United Nations
2-5 November, 2017
Inclusion of vulnerable groups: Adolescents in focus

Guide

United Nations Environment Programme

Topic 1: Engagement of adolescents in conservation and restoration of ecosystems in urban areas

Topic 2: The impact of pollution on marine life and the engagement of adolescents to prevent it

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Topic 1: Engagement of adolescents in conservation and restoration of ecosystems in urban areas

Introduction.

Restoration ecology emerged as a separate field in ecology in the 1980s. It is the scientific study supporting the practice of **ecological restoration**, which is the practice of renewing and restoring degraded, damaged, or destroyed ecosystems and habitats in the environment by active human intervention and action. The current environmental degradation and destruction of many of the Earth's biota is considerable and is taking place on a "catastrophically short timescale". Estimates of the current extinction rate is 1,000 to 10,000 times more than the normal rate.

On a more anthropocentric level, natural ecosystems provide human society with food, fuel, and timber. Fundamentally, ecosystem services involve the purification of air and water, detoxification and decomposition of wastes, regulation of climate, regeneration of fertility and pollination of crops. Such processes have been estimated to be worth trillions of dollars annually.

Habitat loss is the leading cause of both species extinctions and ecosystem service decline. The two ways to reverse this trend of habitat loss are conservation of currently viable habitat and restoration of degraded habitats.

Nature scarcity in cities has been observed for centuries. Only recently have we detailed the acute symptoms of separation anxiety felt by urban society. Urban greening creates projects that simultaneously restore our health and invite plants and animals to reclaim their place among us.

Many landscape features that increase livability for people can also play an important role in sustaining native wildlife populations. Cities are often built in close proximity to features important to fish and wildlife habitats, such as the confluence of rivers. While urban development can fragment larger habitat areas, urban areas can contain key natural areas and features that offer significant benefits to fish and wildlife. The role for urban ecosystems in fish and wildlife conservation has become increasingly recognized in recent decades. Public green spaces set aside in urban areas engage people in nature and enable residents to enjoy

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the outdoors where they live and work. This builds an awareness of habitat conservation and restoration actions that they can see every day.

Definition of Key Terms

Adolescents - A young person, usually between the ages of 12 and 18, who is developing into an adult.

Conservation - the preservation or efficient using of resources (in an efficient or ethical manner), or the conservation of various quantities under physical laws.

Restoration - the return of a landscape, ecosystem, or other ecological entity to a predefined historical state; the practice of renewing and restoring degraded, damaged, or destroyed ecosystems and habitats in the environment by active human intervention and action

Ecosystems - a community of living organisms in conjunction with the nonliving components of their environment (things like air, water and mineral soil), interacting as a system. These biotic and abiotic components are regarded as linked together through nutrient cycles and energy flows.

Urban areas - a human settlement with high population density and infrastructure of built environment. Urban areas are created through urbanization and are categorized by urban morphology as cities, towns, conurbations or suburbs.

Background information

Conservation in Urban Areas

Urban areas can contribute to conservation goals in a number of ways. They can maintain ecologically important natural areas inside of urban growth boundaries, and contain or direct growth in ways that protect habitat in more rural areas. Urban areas can promote “green” buildings, reducing hazards such as buildings prone to **bird strikes**. Partners can work collaboratively on developing a green infrastructure in urban areas, which is an interconnected network of protected natural areas and features designed to support native species, maintain natural ecological processes, sustain air and water resources, and contribute to the health and quality of life in our communities. Urban residents can be engaged in

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restoration activities at the backyard, neighborhood, and watershed scales. Urban areas provide tremendous opportunities for reaching and engaging the public in wildlife conservation efforts both within and beyond their local communities.

Human-created habitats can also provide significant habitat for wildlife in urban areas. For example, green infrastructure strategies, such as protecting riparian corridors and floodplains, building green roofs, and establishing urban tree canopy, provide environmental and community benefits. Native plant gardens and native landscaping, backyard ponds, and bat and bird roost and nest sites on buildings, bridges, and utility poles can provide places for some wildlife species to feed and rest.

In addition, setting aside functional habitats and enabling the use of that habitat by incorporating design features, such as wildlife corridors and safe road crossings, can help to accommodate the needs of fish and wildlife within the built environment. Finally, knowledge of the smaller or less mobile species that may be present while doing work around the house clearing brush, burning brush piles, moving rock piles, or putting in structures or utility lines can minimize negative impacts to species.

Protecting & restoring natural systems for cities:

Many of the ecosystem services that cities depend on are undervalued or missing from the marketplace or statehouse, particularly those services that are common or public goods. Unless these links between city and countryside are properly valued in decision-making, they are likely to be further degraded.

Building an urban constituency for conservation:

There is declining interest in conservation and the environment among many urban dwellers. For instance, fewer and fewer Americans are using their free time to visit national parks, and instead are spending more time with their computers and TV screens. Since formative experiences with nature have been shown to be key to a lifelong interest in conservation, this trend poses a threat to the Conservancy's financial foundations. Moreover, it is unclear whether the billions of new urbanites in cities in Asia and Africa are interested and engaged with the conservation movement. Whether a new environmental ethic will emerge from the urban middle classes in places like China and India is of central importance to the future of conservation. Urban dwellers are unlikely to be engaged and passionate about conservation unless they see conservation improving their lives. The return on investment of urban conservation projects is not just the biodiversity benefits, but also the benefits in terms of motivating a new generation of urban dwellers to care about conservation.

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There are many reasons to restore ecosystems. Some include:

- Restoring natural capital such as drinkable water or wildlife populations
- Mitigating climate change (e.g. through carbon sequestration)
- Helping threatened or endangered species
- Aesthetic reasons
- Moral reasons: Human intervention has unnaturally destroyed many habitats, and there exists an innate obligation to restore these destroyed habitats

Organizations involved

1. Defenders of Wildlife

Defenders of Wildlife is a non-profit conservation organization based in the United States. Its mission is to protect all animals and plants native to North America in their natural communities.

2. European Wildlife

A Pan-European non-profit organization. Its main goal is nature conservation. The European Wildlife key objective is to conserve biological diversity and to reduce the impact of climatic changes on nature and humankind.

3. The Nature Conservancy

The Nature Conservancy is a charitable environmental organization, headquartered in Arlington, Virginia, United States.

4. Wildlife Research and Conservation Trust

Wildlife Research and Conservation Trust is a non-governmental conservation and research organisation based in Nilambur, India

5. European Environment Agency

The European Environment Agency (EEA) is the agency of the European Union (EU) that provides independent information on the environment, thereby helping those involved in

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developing, adopting, implementing and evaluating environmental policy, as well as informing the general public.

6. Global Environment Facility

The Global Environment Facility (GEF) unites 183 countries in partnership with international institutions, civil society organizations (CSOs), and the private sector to address global environmental issues while supporting national sustainable development initiatives

7. International Union for Conservation of Nature

is an international organisation working in the field of nature conservation and sustainable use of natural resources.

8. Habitat conservation

Habitat conservation is a management practice that seeks to conserve, protect and restore habitat areas for wild plants and animals, especially conservation reliant species, and prevent their extinction, fragmentation or reduction in range. It is a priority of many groups that cannot be easily characterized in terms of any one ideology.

9. United Nations Environment Programme

As a leading global authority on the environmental theme that determines the environmental agenda, the United Nations Environment Program (UNEP), which was founded in 1972, emphasizes and promotes the sustainable development in the field of environmental issues within the United Nations and global pleader and advocate for the concern of the environment.

Timeline of Events

Date	Event	Outcome
1972	United Nations Conference on the Human Environment, held in Stockholm. London Convention	1.Environmental reasearch must be promoted, particularly in developing countries 2.Governments should plan their own appropriate population policies 3.Rational planning should resolve

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		conflicts between environment and development
November 1988	The United Nations Environment Programme (UNEP) convened the Ad Hoc Working Group of Experts on Biological Diversity	Explore the need for an international convention on biological diversity
22 May 1992	Nairobi Conference	The Adoption of the Agreed Text of the Convention on Biological Diversity.
5 June 1992	the United Nations Conference on Environment and Development (the Rio "Earth Summit").	The Convention on Biological Diversity was opened for signature, Made a start towards redefinition of measures that did not inherently encourage destruction of natural ecoregions and so-called uneconomic growth.

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28 April and 2 May 2014,	Convention on Biological Diversity Workshop: Towards ecosystem restoration in Southeast Asia	The CBD workshop in Jambi included presentations, panel discussions, working group exercises, and a field trip to the Harapan Rainforest. practical, interactive exchanges between the participants at regional-level.
18 December 2016	UN Biodiversity Conference	The global restoration movement, methodologies used and the way forward; country experiences with forest landscape restoration (FLR)
1–4 June 2015	First International Conference on Biodiversity, Ecology and Conservation of Marine Ecosystems	The conference provided a timely platform for participants from the government, academia and the environmental education and management sectors to exchange their knowledge and experience in the field, build professional network and establish research collaboration. A training workshop on the application of stable isotopes in ecological studies

Previous Attempts to solve the Issue

Land managers, laypeople, and stewards have been practicing ecological restoration or ecological management for many hundreds, if not thousands, of years, yet the scientific field of "restoration ecology" was not first formally identified and coined until the late 1980s,

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by John Aber and William Jordan when they were at the University of Wisconsin-Madison. Around this time environmental disasters caused by industry were taking place motivating people toward restoration. They held the first international meetings on this topic in Madison during which attendees visited the University of Wisconsin's Arboretum—the oldest restoration ecology project made famous by Professor Aldo Leopold. The study of restoration ecology has only become a robust and independent scientific discipline over the last two decades; the commercial applications of ecological restoration have tremendously increased in recent years.

People have challenged the objectives of restoration projects as well as species restoration technologies, and while collaboration and community involvement have proved to be critical to the long-term success of many restoration efforts, the pathways for enabling and guaranteeing that involvement remain unclear if not downright hidden. Restorationists must not only map the ecological processes and species of novel ecosystems, but must also anticipate the charged social-political atmosphere of neighborhood groups, birders, cyclists, city administrations, dog walkers, animal rights groups, and other organizations with differing interests in how a piece of urban land is managed and ways of valuing nature.

The science of urban ecology, developing in places like the Cary Institute for Ecosystem Studies in Milbrook, New York, the U.S. National Park Service's Center for Urban Ecology, and the Australian Research Centre for Urban Ecology in Melbourne Created a number of new models and approaches for systematically assessing and mapping social and ecological factors together in urban contexts Although not particular to urban settings, ecologists are also developing new conceptual frame to understand the linked dynamics of social and ecological systems, in particular how those systems adapt to change. Part of this effort is the continued move of ecology as a discipline away from longstanding metaphors of growth, equilibrium, and stability to systems demanded by novelty, memory (which enables learning), and instability.

Protected areas. Establishing protected areas through legal measures can serve to protect and preserve critical ecosystems. In 1998, 6,264 km² of the Danube Delta (Romania and Ukraine) were protected as part of the UNESCO Man and Biosphere program. The Danube Delta lies on the coast of the Black Sea and is Europe's largest wetland and reed bed. It is a critical ecosystem for capturing and cycling nutrients.

Land purchases and establishment of conservation easements. Public and private purchases of ecologically valuable land as well as establishment of conservation easements

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(i.e., the purchase of development rights) can help reduce nutrient pollution by protecting ecosystems that capture and cycle nutrients.

For example, the Worcester Land Protection Partnership is a partnership between the city of Worcester (Massachusetts, U.S.) and the Trust for Public Land, a nonprofit land conservation organization, aimed at identifying and acquiring priority watershed land for the purpose of improving and maintaining water quality within the rivers and reservoirs .

Habitat restoration. Often the aquatic ecosystems most severely impacted by eutrophication are the ones that have been already degraded due to other causes. Human pressures on fish stocks, shoreline erosion, and loss of submerged aquatic vegetation make ecosystems more vulnerable to the impacts of eutrophication. In the United States, Maryland and Virginia have both funded restoration efforts aimed at restoring submerged aquatic vegetation and replenishing oyster beds in the Chesapeake Bay.

Possible Solutions that adolescents can achieve

1. Seed Propagation and Pollination

Growth and flowering of installed plants is only one part of the demographic process of restoration. All natural communities interplay with the surrounding landscape

Direct resources towards populated and ethnically diverse areas to educate Oregonians about Oregon's natural heritage, show

2. Adolescents should build and appreciation and get involved in conservation and restoration programs so that citizens in urban areas will follow their example.

People real-world examples of important habitats and projects, and build an appreciation that will lead to citizen actions and support for conservation. Stewardship, involvement in restoration projects, and opportunities to view fish and wildlife and experience nature can have high value when experienced as part of people's daily lives. Additionally, protecting nature in cities provides opportunities for education and outreach close to home that may not otherwise be available to the general public.

Provide instruction, guides, and Best Management Practices to maintenance and operations staff in municipalities. Guidance about small actions, such as Avoiding Impacts on Nesting Birds During Construction and Revegetation Projects, and details on how and

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when to remove a tree, clear brush, use pesticides, or work on utilities or sewers, can add up to big benefits for Oregon's native fish and wildlife. Outreach about the impacts of outdoor cats can help residents understand their role in stewardship of native wildlife. Promote urban green spaces programs that provide the public a local opportunity to enjoy wildlife and open space which will help limit use of more natural areas outside urban centers. Encourage urban residents to appreciate and engage in outdoor activities.

3. Support and promote innovative campaigns and programs to reduce wildlife hazards.

Work with municipalities to develop policies, such as wildlife-friendly building guidelines, wildlife-friendly lighting strategies, and integration of wildlife crossings into transportation plans to reduce hazards. Support research into better urban wildlife hazards and the management strategies to reduce those hazards. Communities can establish "Adopt a Park" programs where residents volunteer to weed a park instead of applying pesticides. Communities, local governments, and nonprofit organizations can promote bird-safe building design and outreach efforts about the impacts of cats on wildlife.

4. Develop and implement green infrastructure strategies,

Such as maintaining important natural areas (e.g., riparian corridors, wetlands, floodplains, and upland forests) and incorporating green streets, green roofs, urban tree canopy, and other sustainable storm water management strategies into the built environment. Work within Oregon's planning and regulatory framework to protect stream corridors, riparian areas, and floodplains. When needed, support mitigation actions. Seek ways to incorporate ecological considerations into development activities.

5. Increased recognition of the significance of the fields of urban ecology and environmental social sciences will attract research and monitoring attention to studying these issues in and around urban systems.

Build partnerships between researchers and data users, and seek resources for research that will increase understanding of how urban systems can be designed to help sustain fish and wildlife populations with a high level of public support and involvement. As the fields of urban ecology and environmental social sciences become more established, more sources of funding can be identified. Applying this information to open space acquisitions, habitat restoration, regional and local land use planning, environmental education, public outreach, and other aspects of conservation is critical for building effective conservation strategies and public support now and into the future.

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Useful links:

1. <http://www.sciencedirect.com/science/article/pii/S1679007316301657>
2. <https://www.conservationgateway.org/News/Pages/big-idea-conservation-urb.aspx>
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5. <http://www.conservationmagazine.org/2014/02/7-benefits-bringing-nature-back-cities/>
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