

Learning Objectives: “Recreational Impacts on Natural Resources” 2008 CANON ENVIROTHON Issue

GOAL

Students will analyze long term and short term environmental, social, and economic factors relative to recreational impacts upon natural resources and their management.

ACTIVITIES

- Students will analyze the availability of natural resources and the diversity of biotic communities, focusing upon factors that invite outdoor recreational users.
- Students will research and identify recreational impacts upon natural resources, focusing upon their environmental implications.
- Students will examine unique challenges for natural resource managers in Arizona, due to its aridity, prolonged drought, and burgeoning human population and focusing on management concerns in the face of increasing recreation. .
- Students will identify key stakeholders in the business of recreation and tourism, including values and positions each holds toward outdoor recreation and natural resources.
- Students will describe interconnectedness between socio-economic, technological, and ecological aspects of recreation.

OUTCOME

Students will be able to recommend action relative to a natural resource management challenge that will:

1. minimize adverse impacts to natural resources
2. build consensus among key stakeholders
3. accommodate diverse audiences
4. contribute positively to the economic impact of a specified geographical region.

Outcomes and Indicators: “Recreational Impacts on Natural Resources” 2008 CANON ENVIROTHON Issue

I. Biotic communities and environmental factors

Investigate the biodiversity of northern Arizona by:

- identifying, comparing and contrasting the flora, fauna, of the following life zones: alpine tundra, fir forest, pine forest, oak-pine woodland, riparian systems, grasslands.
- analyzing natural ecological factors of each community to determine its suitability for river/aquatic recreation, terrestrial recreation, aerial recreation.

II. Recreation in arid climates

Analyze the current and potential recreational impacts upon an area by:

- identifying factors that attract recreation/tourism to an area, including proximity/access to travel, quality of destination site, amenities, suitability for intended purpose, safety.
- analyzing values and attitudes toward tourism from the perspective of various stakeholders: local residents, local businesses, local and regional land managers, state agencies, federal agencies.

III. Recreational impacts on natural resources

Assess known and potential environmental impacts created by recreation by:

- examining land usage and soil patterns following recreational activity or anticipated to be caused by future activity.
- analyzing historic and contemporary cultural attitudes toward ecological, social, and technological concerns.
- examining current and predicted water quality and quantity issues.
- considering wildlife needs and concerns of wildlife managers.
- examining relationships between the native and non-native vegetation of an area.
- evaluating data to estimate and recommend a future management plan for a selected site.

Resources and Contacts: “Recreational Impacts on Natural Resources” 2008 CANON ENVIROTHON Issue

Biotic communities and environmental factors

Arizona Game and Fish Department
<http://explore.azgfd.gov/> (biotic communities of Arizona)

Grand Canyon National Park
<http://www.nps.gov/grca/naturescience/index.htm> (Nature & Science, includes plants, animals, environmental factors, and Natural Features and Ecosystems)

Views of the National Parks
<http://www2.nature.nps.gov/views/#> (from this site click on multimedia version, this will open up another window. Note information for Fort Bowie, Grand Canyon National park, Tonto National Monument.)

Recreation in arid climates

Arizona Game and Fish Department
http://www.azgfd.gov/outdoor_recreation/outdoor_recreation.shtml

FirstGov
<http://www.recreation.gov/index.jsp> (As of 2/7/2007, “one-stop shopping” for federal outdoor recreation reservations; information on numerous outdoor activities)

Arizona State Parks
<http://www.pr.state.az.us/> (information about Arizona’s State Parks)

Arizona Office of Tourism
<http://www.arizonavacationvalues.com> (request free visitor’s guide; information on nature-related recreational opportunities)

National Forest Service
<http://www.fs.fed.us/> (“Recreational Activities” by state)

Recreational impacts on natural resources

Economic impacts

Michigan State University
<http://web4.canr.msu.edu/mgm2/default.htm> (Economic Impacts of Grand Canyon National Park Visitor Spending on the Local Economy, 2003)

Historic and Cultural impacts

National Park Service

<http://www.nps.gov/grca/historyculture/index.htm> (History & Culture, includes cultural features, both historical and prehistoric)

Ecological impacts

Leave No Trace

<http://www.lnt.org/programs/lnt7/index.html> (LNT principals)

Grand Canyon National Park

<http://www.nps.gov/grca/parkmgmt/crmp.htm> (Park Planning, includes General Management Plan, North Rim Development Plan, and Colorado River Management Plan)

Bureau of Land Management

<http://www.blm.gov/education/LearningLandscapes/menu/states/arizona.htm/> (information on outdoor opportunities available on public lands in Arizona – with links to other states)

Sonoran Desert National Monument

<http://www.sonoran.org/programs/pdfs/SDNM%20Rec%20Impacts.pdf> (Sonoran Desert National Monument Recreation Impact Inventory – Final Report)