

2008 CANON ENVIROTHON Issue  
"Recreational Impacts Upon Natural Resources"  
Learning Objectives

## 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.



2008 CANON ENVIROTHON Issue  
**“Recreational Impacts Upon Natural Resources”**  
Outcomes and Indicators

**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 upon 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.