

# Land and Life: An Undergraduate General Education Soils Course

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## Background

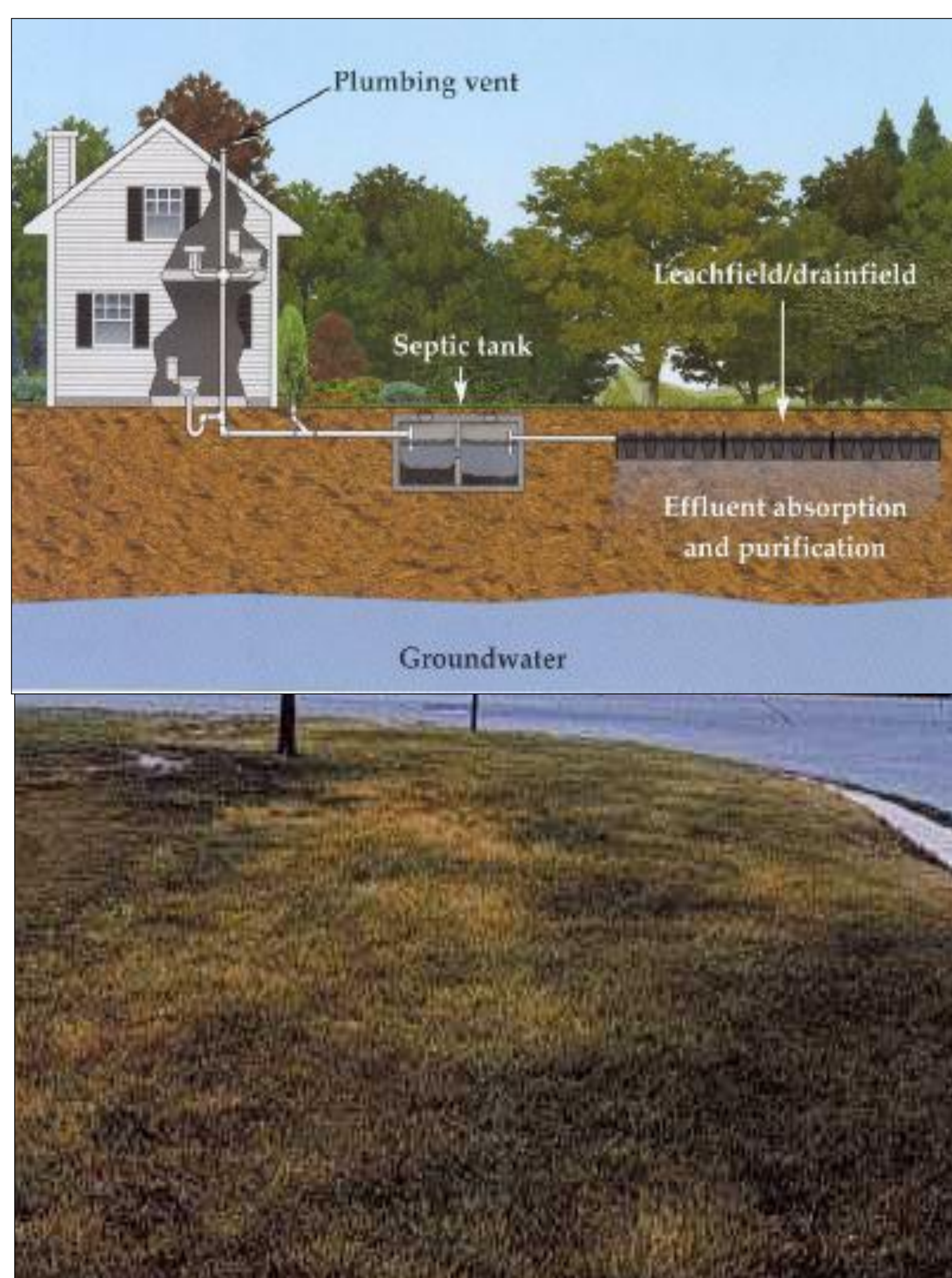
A recent survey by the Soil Science Society of America was conducted to quantify trends in student enrollment, faculty positions, pertinent educational issues, and career/job opportunities in soil and related sciences (<https://www.soils.org/about-society/trends>). Interpretation of the survey results generated several recommendations, one of which stated:

*“Increasing public awareness of and appreciation for the importance of soil in everyday life requires numerous approaches in public education. One important educational approach is to develop and include a basic soil and related sciences course available in the curriculum to any college student as part of their required general education science credits”.*

Land and Life, an undergraduate general education course, was developed for this purpose.

## General Course Description

*Land and Life* provides practical information on soil properties and processes and their importance to world food security, sustainable agricultural production, water and air quality, and waste disposal. Impacts of human activity on soils and their function in natural and disturbed environments are discussed.



## Land and Life SSC 185

### Course Goal

*Establish an understanding of relationships between soils, water, plants, and the environment; and their influence on and interaction with daily life.*

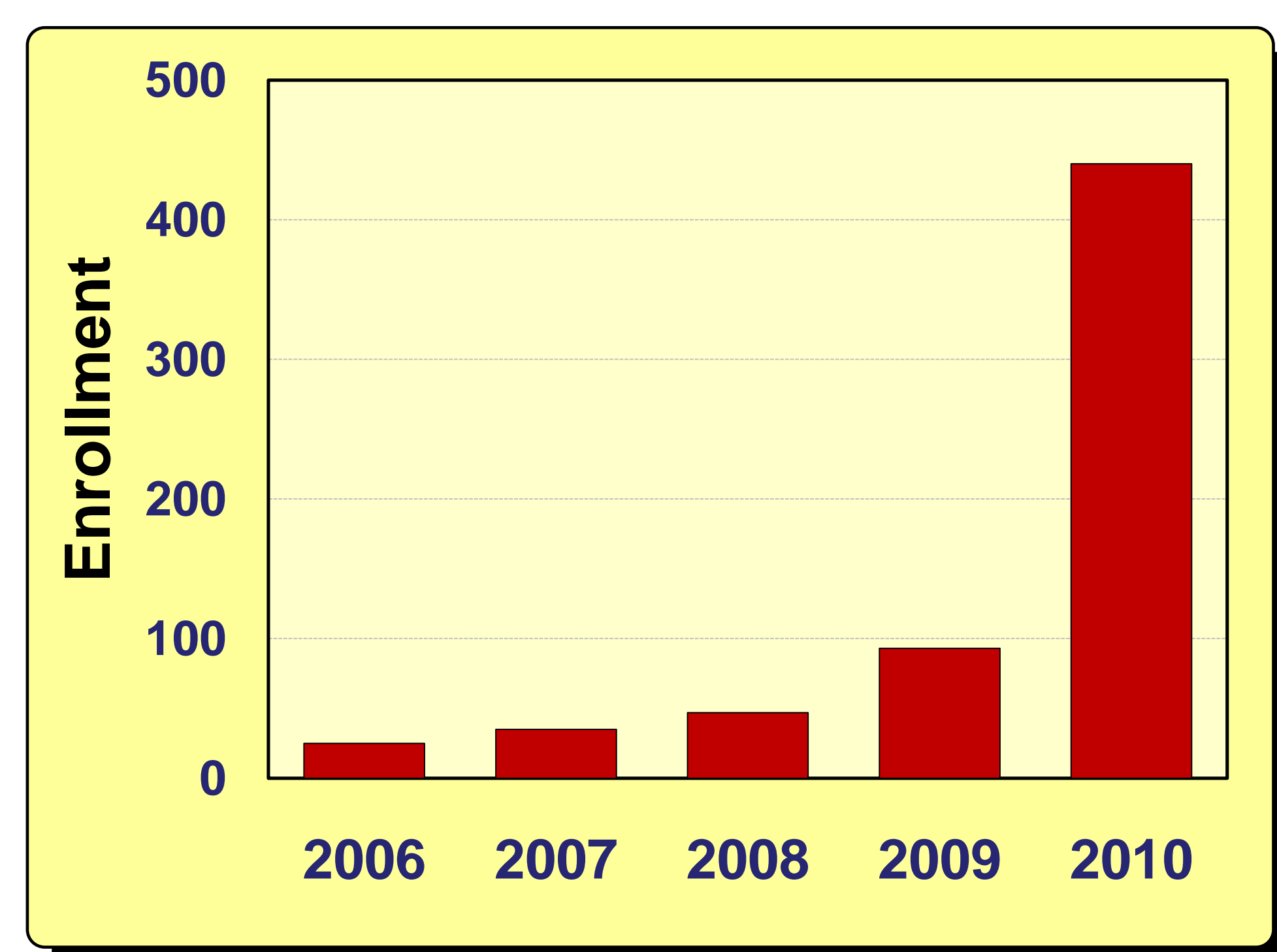


Figure 1. Annual student enrollment. One section/year except 2010 where 3 sections were scheduled.

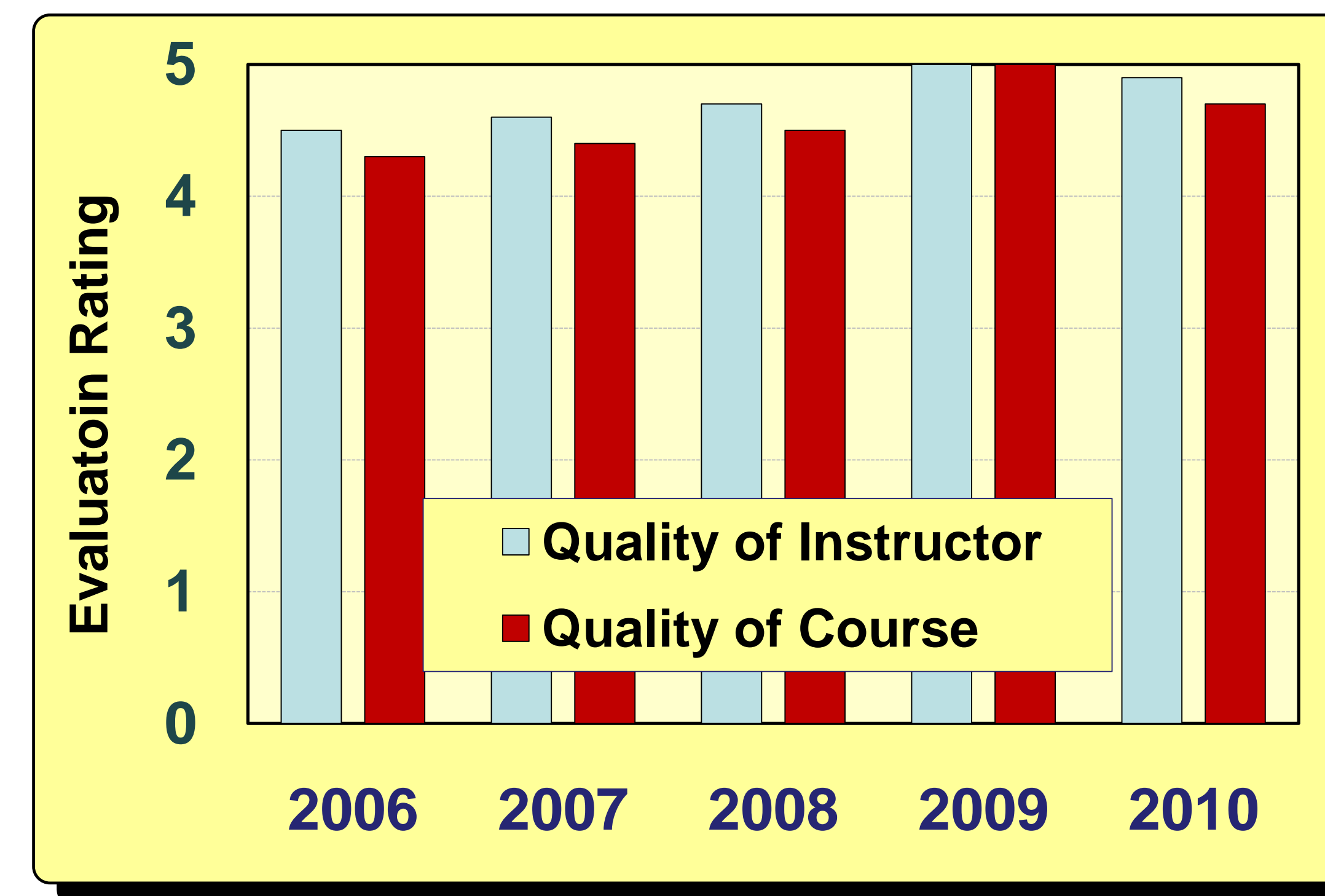


Figure 2. Student evaluations of SSC 185 over five years. 1=poor; 5=excellent

## Course Summary and Conclusions

Throughout the course students learn practical applications of important soil biological, chemical, and physical properties and processes that influence everyday life.

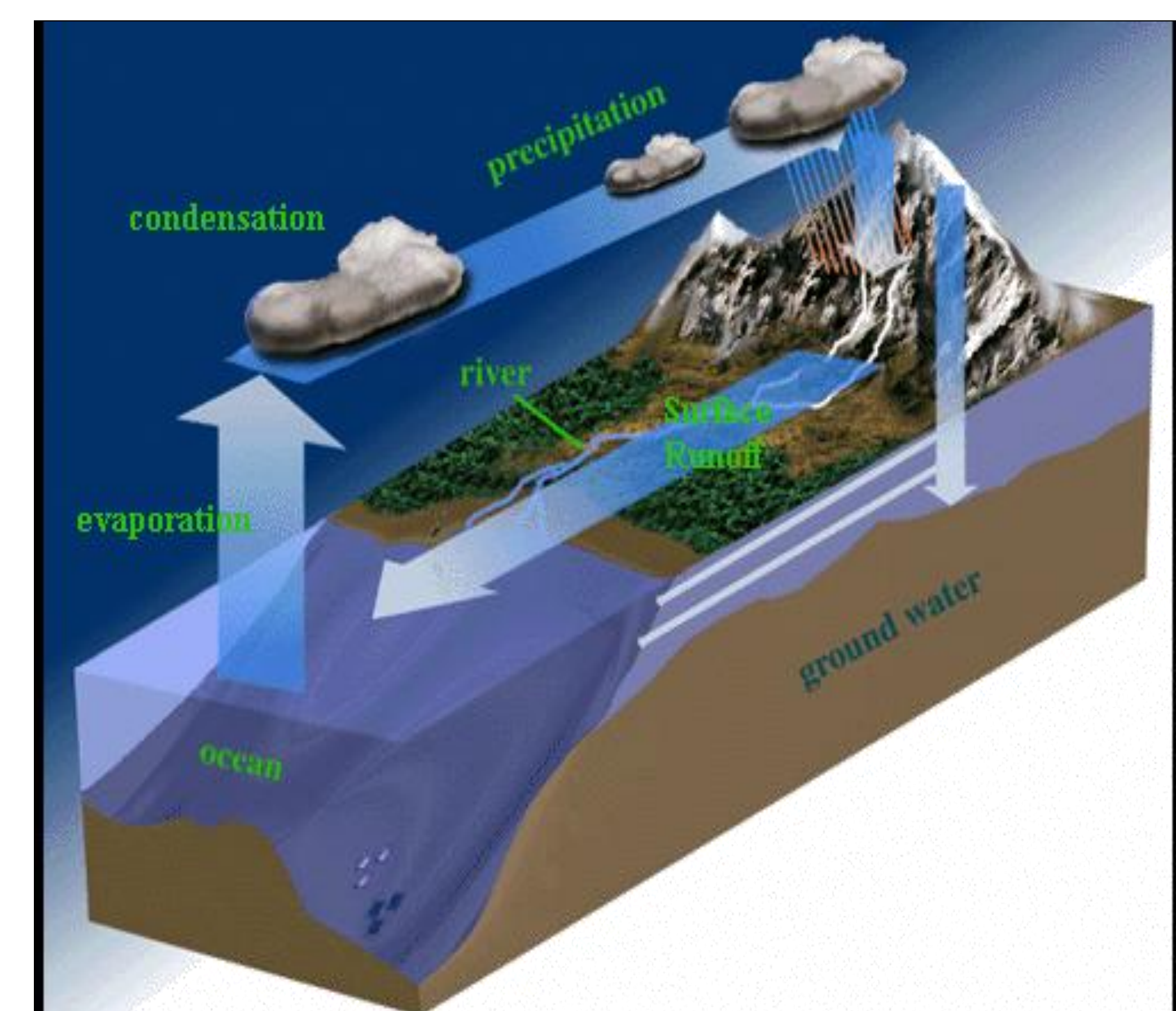
Students discover how human activities impact soils and their function in natural and disturbed (constructed) environments.

Over the last five years annual enrollment has grown from 20 to nearly 450 students (Fig. 1).

Student and peer evaluation of the course have been excellent (Fig. 2). Highly positive student response is primarily related to the course emphasis on practical connections between soils and human life on global, regional, and local scales .

Students greatly appreciate the mastery learning approach (formative and summative exams) utilized to evaluate student learning.

Opportunities for college students to learn scientific principles through the study of soil will substantially enhance public understanding of the importance of soil to life and encourage conservation of an essential natural resource.



### Course Content

- world food security issues (population growth, malnutrition, land use, and agricultural productivity)
- natural resources and their role in sustaining life
- soil and water resources critical to food/fiber production, homeowners, community residents
- basic soil and plant relationships pertinent to everyday life
- effects of natural resource degradation on food production, world food security
- agricultural production practices for common food sources
- Role of soils in societal and environmental issues (i.e. air & water quality, global warming, etc)

