

Connecticut Agricultural Education

Environmental/Natural Resources Career Development Event

Friday May 17th 2019

University of Connecticut

Contest Superintendent:

Audra Leach

Audra.Leach@gmail.com

860-483-0018

Purpose:

Environmental and natural resource education has a responsibility to educate the public and prepare students to enter careers in the environmental and natural resource industry. The purpose of the environmental and natural resource career development event is to foster student interest, promote environmental and natural resource instruction in the agricultural education curriculum and provide recognition for those who have demonstrated skills and competencies as a result of environmental and natural resource instruction.

Event Rules:

- Each school team will be comprised of four students. All four scores will be added to determine the total team score.
- Advisors are required to **register with UCONN by Monday April 8, 2019**.
- Advisors are asked to **Please e-mail team list to Audra Leach by April 8, 2019** for planning purposes and **bring registration form** on the day of the contest (attached)*.
- The contest will start at 9:00 am shortly after a greeting by UCONN representatives.
- Participants should come prepared with: **sharpened #2 pencils, clipboards, GPS units (if necessary) and weather appropriate clothing/footwear**. The event will be conducted regardless of the weather. Participants should have rainwear, warm clothes and appropriate footwear.
- Students should also bring an **electronic calculator**. Calculators used in this event should be battery operated, non-programmable and silent. Cell phones or any other electronic device **CANNOT** be used in place of a calculator.
- Teams will be broken down and contestants will be assigned to groups. Students will have specified time limits to complete each event. Students must stay on task and follow instructions carefully. Answer sheets must be properly labeled, completed, and submitted following each even. Lost sheets are lost.

- Contestants caught cheating will have their team removed from the contest. Students are allowed to collaborate **ONLY** during the team event. All written material will be collected at the event. No written material shall be removed from the site.
- **Cell phone/cell phone use is prohibited** during the contest. If caught using a cell phone the team member will be disqualified from the contest.
- If time permits contest personnel will discuss event solutions at the completion of the contest.
- Scores will be released within a week of the contest via email and mail.

Event Format:

A 6-year rotation for the event will be as follows:

2018	2019	2020	2021	2022	2023
General Knowledge Test	General Knowledge Test	General Knowledge Test	General Knowledge Test	General Knowledge Test	General Knowledge Test
Identification	Identification	Identification	Identification	Identification	Identification
Soil Profile	Data Analysis	Soil Analysis	Soil Profile	Data Analysis	Soil Analysis
GPS Practicum	Environmental Analysis	GPS Practicum	Environmental Analysis	GPS Practicum	Environmental Analysis
National/Global Issue: Ecosystems	National/Global Issue: Water Analysis	National/Global Issue: Waste Management	National/Global Issue: Ecosystems	National/Global Issue: Water Analysis	National/Global Issue: Waste Management

This year's contest will consist of the following five events.

- | | |
|--------------------------------|------------|
| 1. General Knowledge Test | 100 points |
| 2. Identification | 100 points |
| 3. Data Analysis | 100 points |
| 4. Environmental Analysis | 100 points |
| 5. Water Analysis (Team Event) | 200 points |

Contestants will compete in all five events. The team with the highest total score will represent Connecticut at the National FFA Convention in the fall.

Event Descriptions:

1. General Knowledge:

The general knowledge test will consist of 50 multiple-choice questions relating to natural resources and the environment. Questions will be drawn from previous exams and the following resource.

Resource

Managing Our Natural Resources. Camp and Heath-Camp. Delmar Cengage Learning. 2008.

2. Identification

Students will identify fifty (50) items from the following combined areas:

- a. Equipment
- b. Mammals
- c. Fish
- d. Reptiles/Amphibians
- e. Birds
- f. Plants
- g. Non-Native Invasive Species

During this event contestants will be provided with lists for each of the ID groups. They will have to identify the items by matching the item with their common names on the lists provided. The items may be presented as live specimens, scat, pelage, plumage, track, calls, or bone. Clues about habitat, feeding habit, or other niche related information may also be provided as clues for identification purposes. Tools, pictures, written descriptions, or other clues may also be provided. Identification list can be found below.

Resource

The Identification List has been posted on CAAE website.

3. Data Analysis

Student will be provided a survey analysis (waste, soil, air or water) and they will be expected to answer questions related to this report.

4. Environmental Analysis

Areas that could be analyzed are as follows: forest ecosystems, grassland ecosystems, aquatic ecosystems, wetland ecosystems, and farm land ecosystems. Any of these areas could be bordered by industry, urban development, recreational areas, etc. Basic ecological concepts, management of ecosystems, and non-native species effect on ecosystems will be discussed.

Students will address the following five aspects:

- a. Living organisms: students will identify and list as many living organisms (both native and invader) as they can find within the marked boundaries of the site. Additional species may be artificially introduced as mounted or preserved specimens.
- b. Non-living components (shelter, nutrients): students will inventory resources such as water, shelter, etc. upon which resident species depend on survival.
- c. Food web: students will define relationships among the plants and animal species that are found or introduced in the study area.
- d. Ecological succession: students will identify the stages of succession of various grasses, shrubs, and trees. They will also identify causes of changes in succession patterns.
- e. Situation analysis: students will determine whether a healthy balance exists between the environmental and the species that depend upon it. They will also check remediation practices where needed.

5. National/Global Issue Team Activity *PRACTICUM*

Students will be provided with a scenario that deals with an environmental/natural resource problem. The scenario will deal with one or a combination of the following areas: water, ecosystems or waste management. This year the team event will be based on water quality.

Water Analysis Practicum

- Importance of water
- Factors that influence the quality and quantity of water
- Management practices to ensure water quality and quantity.

Other Event Descriptions:

Soil Profile Test

Students will be furnished with a scorecard, an interpretation guide and a pre-dug soil pit or core/monolith to judge. The participants will identify soil horizons, textures, percentage coarse fragments, pH, horizon colors, slope, geologic origin, soil permeability, irrigation suitability and soil structure types of the soil present in the given example.

Using the information from the scorecard and interpretation guide, the student will then identify the most appropriate use for the given area and the erosion control practice that best fits the designated use for the land. Connecticut Soil Manual and FFA Rubric are included in a separate file.

Resource

The FFA/Envirothon Soil Profile Guide has been posted on the website.

GPS Practicum

Participants will utilize the global position system (GPS) unit (supplied by the team) to complete one of the following:

- Use GPS unit to identify coordinates of various locations utilizing various coordinate systems and datum.
- Identify boundaries of a given area including calculation of land area and perimeter feet of boundary.
- Use GPS unit and topographic map to layout the location of fence line, pond, drainage structure or other related facility.
- Use a GPS unit to mark the location of a path or road through a given area.
- Use GPS unit to determine slope of land area for installation of drainage and or other related facilities.
- Use GPS unit to navigate to a given set of coordinates and measure linear distance between various points.
- Additionally, participants should be able to demonstrate a working knowledge of global positioning systems and their GPS receiver via written exam.

Resources

http://www.trimble.com/gps_tutorial/whygps.aspx

<https://www.gps.gov/>

Team Event : Ecosystems

Participants will be presented with a scenario. Possible scenarios revolve around:

- a. Basic Ecological Concepts
- b. Management of Ecosystems
- c. Grassland Ecosystems
- d. Forestry Ecosystems
- e. Aquatic Ecosystems
- f. Wetland Ecosystems
- g. Non-native species effect on ecosystems

Resources

Scenario and directions will be posted in February of 2018.

Registration Form: Connecticut Agriculture Science and FFA Education**Environmental/Natural Resources - Career Development Event**

University of Connecticut

May 11, 2018

Directions: Please email/mail this registration form to Audra Leach by March 31st for planning purposes. Also, please bring this registration form to the CDE event.

Chapter Name:

Advisor/Coach Name & Email:

Chapter No:

<u>Students Number</u>	<u>Students Name</u>	<u>FFA Member (Yes or No)</u>