



## 2020-2021 Oral Presentation Virginia Dominion Energy Envirothon

### Water Resources Management: Local Control and Local Solutions

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Drinking water is a resource we all depend on and, because it is safe, reliable, and readily available in most cases in the United States, something we may take for granted. In 1974, Congress passed the Safe Water Drinking Act (SWDA) to establish national standards for drinking water quality in the United States. The SWDA applies to public water systems (water utilities), also known as waterworks in Virginia, but does not extend to private wells, which might be a source of drinking water for populations less than 25 people. Through the SWDA, the U.S. Environmental Protection Agency (EPA) is responsible for establishing water quality standards that water utilities must meet when providing drinking water to the public. EPA or the states and tribal nations, if they have delegated authority from EPA, enforce the Act's requirements. In Virginia, the Department of Health, through its Office of Drinking Water, has delegated authority from EPA to regulate water utilities and water quality. Local health departments in each city and county permit private well construction, but do not monitor or regulate water quality from those wells.

Drinking water comes from various sources – groundwater, rivers, lakes, reservoirs, and springs – and may, or may not depending on the source, be treated in some way prior to being ready for use. However, many people do not know the source of the water that comes out of their tap or, in some cases, whether it comes from a water utility or private well. This lack of awareness raises two questions: what is the best way to educate people about their drinking water and, what type of best management practices exist to protect the source of drinking water?

For this year's Oral Presentation, you and your team are tasked with the following:

#### **Create a Drinking Water Awareness & Outreach Campaign focusing on your school**

- For this this campaign you need to answer the following questions
  - o Focusing on your school's drinking water-
    - Where does it come from?
    - Who controls the drinking water supply?
    - What federal, state, and local laws exist to protect the drinking water supply?
    - What is a Consumer Confidence Report (CCR)?
      - What does the CCR say about the overall quality of the school's drinking water?
      - Does the water meet all the water quality standards?
      - Has the water quality been consistent over time? If not, what actions has the water utility taken to address water quality issues?

- What is the relationship between the following possible contaminants and the surrounding environment?
    - Nitrate
    - Turbidity
    - E.Coli
  - If the drinking water source is surface water (river, lake, reservoir), what are the most significant threats to water quality for that source?
  - If the drinking water source is groundwater, what is being done to address the longevity of the aquifer? How is groundwater managed differently than surface water?
  - What are some best management practices that can be used to protect the drinking water?
- With all the information you find, your team then needs to develop an Outreach Campaign which will include
- Three Key Messages
  - Actual ways of your team will share these messages with
    - Your school classmates
    - Two other targeted audiences
  - How you will evaluate your Outreach Campaign