

Country Club Ichthyicide

LESSON 4 The Clean Up Debate

Overview

Students participate in a role-playing simulation as representatives of concerned organizations attending a meeting to choose a clean up plan for the contaminated site at Country Club Watershed. Students prepare for their roles as stakeholders representing differing views on cleanup and differing missions of their organization. The City of Austin representatives will ultimately select the cleanup method to use in the Country Club watershed after hearing from each of the stakeholders. Finally, students discuss how closely their decision-making process models procedures used in deciding the historical clean up of Mabel Davis.

TEKS (8th Grade Science)

2A, 2C, 2D, 3A, 4A

Time

One class period

Purpose

The students will:

1. Understand there is no right answer in issues of policy, but there are options with associated advantages and disadvantages.
2. Investigate the relationship between interests (values) of various organizations and individuals and decision-making.
3. Understand the relationship between a decision-making strategy and the decision or outcome.
4. Develop debating and questioning skills.

Materials

For the students:

Student Sheets:

- 4.1 The Players
- 4.2 Clean Up Plans (8" x 14")
- 4.3 Preparing for Your Role
- 4.4 Mabel Davis Now
- Index cards or sticky notes (enough for at least one per group)
- Organizational name plates for each student team

For the teacher:

Overhead transparencies:

- Mabel Davis Investigation Report
- Clean Up Plans
- Advantages/Disadvantages of Decision Making Methods
- May 14, 1979 Meeting
- Events After the May 14, 1979 Meeting

Getting Ready

1. One copy of Student Sheet 4.1 should be cut up to make Stakeholder cards for student teams. You can laminate and use these cards for each class.
2. Duplicate Student Sheet 4.2 for each student on 8" x 14" paper (can be reused with each class so you only need a class set).
3. Duplicate Student Sheet 4.3 for each student team representing a stakeholder.
4. Duplicate Student Sheet 4.4 for each student and arrange for internet use.
5. Make a transparency of Mabel Davis Investigation Report, Clean Up Plans and Advantages/Disadvantages of Decision Making Methods, May 14, 1979 Meeting, and Events After the Meeting.
6. Make organizational name plates for each student team.

Vocabulary

Berm – a man-made ridge or hill that can hold spilled pollutants and prevent them from flowing from the site.

Mitigate – To make less severe

Stakeholder – person or group of people affected by the outcome of a decision

THE ACTIVITY

1. Introduction

➤ **Introduction:** Inform the students that they will now participate in a simulation of a City meeting held to choose a clean up plan for the contaminated site at Country Club Watershed. At the meeting, teams of students will assume roles of organizations representing somewhat differing views (views that are based on the mission or concerns of the organization they are representing). Student teams will lobby for particular clean up plans based upon their organization's mission or value.

This activity emphasizes the difference between *scientific evidence* and *policy*. Evidence can be furnished by a scientist, but *to enter the realm of policy and decision making is to leave the realm of pure science and enter the realm of sociology*. People, with their opinions and concerns as well as their interpretation of the data, will ultimately make the decision.

2. Report of Investigation

➤ Display the transparency, “ *Mabel Davis Investigation Report.*” Read the report. Ask the students why it is important that the pesticide be cleaned up quickly. Some will call attention to the danger to surface and groundwater, besides the immediate danger to the residents of the Country Club Watershed. There is also the possibility that a sudden storm could wash the pesticide over the berms into the creek and down into the Colorado River, downstream of our source of drinking water but still a recreational fishing river.

3. Examining Clean Up Plans

- ☛ Define mitigate. Solicit suggestions for mitigation.
- ☛ Display the transparency, “ *Clean Up Plans.*” Introduce the different clean up plans outlined. Define **berm** and **water quality pond** when explaining the last plan (to permanently close the location).
- ☛ Pass out Student Sheet 4.2. Discuss the advantages and disadvantages of each clean up method.

4. Preparing for the Meeting

Tell students they will choose a plan to clean up the contamination at Mabel Davis Park at a special meeting of concerned organizations (stakeholders) using an agreed-upon decision-making method.

- ☛ Display the transparency, “ *Advantages/Disadvantages of Decision Making Methods.*”

1. Ask students to identify a situation in our society where we use each method.
2. Discuss the advantages of disadvantages of each method.
3. Assist the students in choosing a decision-making method they will use.

- ☛ Review the stakeholders.

NOTE: if you have a small class, the roles of “TX dept of Agriculture” and “Texas Health Dept” may be eliminated.

1. Country Club Neighborhood Association
2. Girls Little League Softball Team Representatives
3. Robstown Buena Vista Mobile Home Park Association
4. Austin Travis County Health Department (ATCHD)
5. Texas Department of Water Resources (TDWR)

Note: This organization is presently named Texas Commission on Environmental Quality (TCEQ)

6. City of Austin

- ☛ Review Student Sheet 4.3 Preparing for Your Role. Tell the students a 2-3 minute presentation is suggested. Each team may assign one member to present, or divide up responsibilities within the team.

- ☛ Ask for volunteers, or assign students to various teams. Give each team the role card assigned and Student Sheet 4.3. Do not allow student teams to inspect cards for other roles. Tell students they have 10-20 minutes to discuss their role.

5. The Community Meeting

☛ **Set Up:** Display the clean up options on the board before the meeting. You may wish to make nameplates for each of the organizations represented.

☛ **Stakeholder Presentations:** As moderator, welcome the organizations and introduce the student actors. Remind everyone of the meeting agenda and format. Each team will be given the agreed upon time limit to make a short presentation. You may elect to give a 30-second time warning so that presentations do not run over the allotted time, or use a timer that is visible to the presenters.

Give each team a few blank index cards or sticky notes. Tells students that during the presentation and for a short time thereafter, members of the organizations in the audience may write questions on index cards that will be submitted to the moderator. Students should write their names on the cards so that they can be identified later. Questions should be directed toward specific organizations.

☛ **Question and Answer Period:** Collect the questions and selectively choose a few for each organization to answer. Call on the author of the question to read their question aloud, reminding them to be brief and to the point. The question-and-answer period should last for 10-15 minutes, as time permits.

☛ **Reconsideration:** At this point allow approximately 2-3 minutes for members of the organizations to discuss the question of clean up again. Remind them to consider new information learned during the meeting.

☛ **Decision:** Use the method students selected earlier in this lesson to reach a decision.

6. History and Current Status of Mabel Davis

☛ Display the overhead, “ *May 14, 1979 History*” and “ *Events After the Meeting.*” Discuss the reality of the historical meeting and the results.

☛ **Research:** Hand out **student sheet 4.4**. Students read about the current status of the park and complete student sheet **4.4**.

MABEL DAVIS INVESTIGATION REPORT

“On May 2 1979, after a heavy rain, a fish kill occurred in a small pond adjacent to the construction site of a ballfield in Mabel Davis Park. The State lab indicated that the water samples which were taken in Mabel Davis Park pond on May 4 showed pesticide levels which were exceedingly high.

The construction area of the proposed baseball field in Mabel Davis Park was inspected. The site turned out to be located on top of an old landfill. Parks and Recreation construction workers had unknowingly cut down into it to create the baseball field. In the cut site, investigators found paper bags filled with white powder that had a strong chemical smell. A label on one of the bags described the contents to be DDT and a combination of other pesticides manufactured by Acock Laboratories of Austin, Texas, a chemical company that went out of business. Lab results verified that the unknown powder was indeed DDT, Lindane, Toxaphene, and other organochlorine pesticides.

The City took action to confine the substance by completely encircling the source area with a heavy earthen berm. A series of test holes were dug radiating from the two pesticide sites and over half the baseball field. The test results seemed to indicate that the pesticides were primarily limited to the confines of the original two sites. The tests did not take into account that a quantity of pesticides had become accidentally mixed with the topsoil of the baseball field.

Water analysis from Newell Pond downstream of the park indicated no pesticides.”

Advantages/Disadvantages of Decision Making Methods

Ways to Make a Decision	Advantages	Disadvantages
One person makes the decision		
A group of people with particular expertise make the decision (e.g. TCEQ)	Expertise	Limited community input
A vote is taken, majority wins		
A vote is taken, 2/3 majority wins		
Consensus (unanimous)		
Elected group uses one of the above methods (City council)		
Court Case (suit)	Someone found to be responsible	Time consuming, while pollution gets worse.

CLEAN UP PLAN OPTIONS

1) Containment

2) Dig out Pesticide Pockets

**3) Dig out Pesticide Pockets &
Remove Topsoil**

**4) Permanently Close the Location
& Contain Surface Runoff**

May 14, 1979 Meeting

The Outcome:

Texas Department of Water Development (TDWR)

- Favored containment
- Enforced the clean up requirements agreed upon at the meeting.

Austin Travis County Health Department (ATCHD)

- Favored excavation
- Led the investigation after the report of the fish kill in Mabel Davis pond
- Felt removal of the topsoil mixed with the pesticides was unnecessary
- Coordinated and facilitated the clean up

City of Austin

- Mayor, Parks and Recreation Department, Environmental Resource Management Department involved
- Determined the extent of contamination from the pesticide waste through additional core drilling
- Paid for and did the clean up work

Those not present at the meeting:

Mr. Newell

- The neighborhood resident who contacted ATCHD because he was concerned about the fish in his pond downstream of the fish kill

Representatives of the South Austin Optimists Club Little League and other youth groups

- Did not voice their concern of a health hazard until October 1979 when there was a proposal to move their games to Mabel Davis Park

Robstown residents

- No documentation shows whether they were concerned or involved

Clean Up Plan decided at the meeting:

- Dig up the pockets of pesticide waste and the soils which had been contaminated with the pesticides and remove them.

Events After the May 14, 1979 Meeting

(Fish kill observed on May 3, 1979)

Date	Events	Clean up complete?
5/10/79	<ul style="list-style-type: none"> • Berm built to contain runoff 	NO
5/16/79	<ul style="list-style-type: none"> • Test holes dug and soil was tested 	NO
5/31/79	<ul style="list-style-type: none"> • The City excavated two chemical pockets and surrounding soil and transported to Robstown. • Clean soil was compacted into the excavation site. 	NO
7/5/79	<ul style="list-style-type: none"> • Found more contamination on the south edge of the ballfield, an area not included in the original tests. 	NO
Oct 79	<ul style="list-style-type: none"> • A 2nd clean up removed contaminated soil from the edge of the May site to the pond and replaced it with clean soil. 	NO
10/16/79	<ul style="list-style-type: none"> • ATCHD receives a complaint from the mailman that there was more pesticide exposed at the southwest side of the park located on private land. • The owners of Barrow Estates (land next to the park) were instructed to clean up more of the pesticides found mixed in their soil, presumably scattered there from the landfill's pollution. They chose containment. 	NO
1980's	<ul style="list-style-type: none"> • Ongoing monitoring • In 1986 ATCHD files a report that states, "The information from water sample analysis is sufficient for E.P.A. to close their file on the site, but [EPA] recommended that follow-up samples should continue in case some problem might arise in the near future." 	NO
May 2000	<ul style="list-style-type: none"> • Mabel Davis Park closed because elevated levels of a number of pesticides were detected, mainly in the area of the ballfield. 	NO