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Environment of Fair Haven

Curriculum Unit 79.06.03
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Science is clearly a broad area of study. It can be divided and those divisions subdivided once again. The disciplines of plant and animal ecology, urban and regional planning, economic geography, meteorology, agriculture, and others—all have been placed under the guise of environmental science by Kenneth E. F. Watt, in his text “Principles of Environmental Science.” This is the premise upon which I proceed. This unit is indicative that his assertion is indeed valid. The study of all of these disciplines contributes to a better understanding of an environment in this case the environment of Fair Haven.

The Quinnipiac River is our starting point. This geographic body is responsible for the development of the surrounding area. The river had a number of practical uses, both economical and recreational. The area surrounding it contained arable land, thus acreage was parceled to those desiring it. We are referring to the region between the Mill and Quinnipiac Rivers. Farm land was available on the east side of the river. A bridge was constructed in 1791, where today’s Grand Avenue bridge is located.

The river provided area inhabitants with a wealth of natural resources. Oysters and other shellfish abounded. Their large quantities are hinted at the names assigned to nearby places—Oyster River, Oyster Point, (present day City Point) and Oyster Shell Field (the Wooster Square area). Reportedly the oysters were devoured due to the minimal coats and desirable taste. In fact, the town of New Haven, in an attempt to insure their availability, instituted ordinances which protected oysters during their propagation period. This was as early as 1762. But as with any law, enactment alone will not deter all those for whom it is intended. Enforcement becomes necessary. Therefore, oyster watchhouses were constructed for this reason.

Let us stop and review the situation. The mere existence of a river and corresponding natural resources had necessitated the enactment of regulations concerning use, and the construction of physical structures to aid in the enforcement of these ordinances. Also, personnel had to be recruited to carry out these directives. Try to develop a feel for the growth that was occurring. Examine the areas of interest being affected: 1) geography; 2) politics; 3) the economy (factions included are the job market, a new industry oystering, the construction of physical structures—oyster houses, bridges, boats etc.) 4) history (an event in time is a piece of history). The oyster industry had as much influence on Fair Haven as any other single factor. Let us trace its roots more closely.

Houses were designed to allow for the processing of oysters. An underground room for opening oysters was included in the construction of the homes. This room was large enough so that a barrel of oysters could be

wheeled in easily. The women of the home usually performed this task during the day. Most of these homes were used for this purpose and many of these very structures still exist. As the industry grew, special shops were set up, functioning as processors. Even then the depletion of supplies was a problem. However by the time the supply became thinned (not exhausted!) the rush was over and enough oysters remained for propagation, guaranteeing next season's supply would meet its demand. This statue remained until about 1830. At this time the demand now outstripped supply; consequently, the river bottom became the new home of oysters transplanted from Virginia.

The processing of the oysters not only required special structures, equipment, and breeding procedures; but the number of assemblyline tasks expanded. The New York Tribune described the packing process quite clearly in an *article run in its January 9, 1857* edition.

"There are the openers, the washers, the measurers, the fillers, the packers, etc., each of which performs only the duties pertaining to its own division. At this season of the year (January), few of the oysters are "planted," but they are generally taken directly from the vessels to the openers.

An expert at this branch will open 100 quarts per day, but the average is not perhaps over 65 quarts; the standard is, I think, 21/2 cents per quart. This work gives employment to many hundreds of women and boys, and much of the work is done at private dwellings, by persons who cannot go into a general workshop.

The oysters, as they come from the vessel, are heaped upon the middle of the room, the operators occupying the wall sides. Each person has before him a small desk or platform, some three feet in height, on which is placed, as occasion requires, about a half bushel of oysters, from which the opener takes his supply. On the stand is a small anvil, on which, with a hammer, the edge of the shell is broken.

The operative is provided with a knife and hammer, both of which are held in the right hand; when the shell is broken then the hammer is dropped and the knife does its work. Two tubs or pails, of about three gallons capacity each, are placed within about three feet of the workman, into which he throws with great dexterity and rapidity, the luscious morsel which is to tickle the palate of some dweller in the Far West. The object of placing these vessels of reception so far from the operator is to prevent, an much as possible, the deposit of the original liquor with the oysters...From the opening room the oysters are taken to the fillingroom, and thence to the packing department.

In the fillingroom, on a platform are placed a dozen or more kegs, with the bungs out. The oysters are first poured into a large hopper pierced with holes, in which they are thoroughly washed and drained, when they are ready to be deposited in packages. This is done by placing a funnel in the aperture of the keg by one person, while another measures and pours." This operation is performed with great rapidity, two or three men being able to fill some 2,000 kegs in a day.

After depositing the requisite number of "solid oysters," as they are termed, in each package, a pipe conveying fresh water is applied, and the vacant apace filled with nature's beverage, the bungs placed and driven home, when it is ready to be shipped. In hot weather. kegs are placed in boxes surrounded with broken ice."

Again, let's take a peek at the snowballing effect this industry had on the area. The previously described packing of the oysters required many barrels and boxes, thereby leading to the birth of factories designed to furnish these necessary articles. Three examples were the J. A. Preaton Keg, The Fair Haven Keg Co., and The Kellogg and Ives Keg Co.

The oyster trade spawned the shipbuilding industry here. Shipyards were constructed by necessity. The “sharpie” was launched to retrieve oysters from river beds. Its construction was conducive to this activity.

The area’s growth was remarkable. But an environment will flourish under almost any circumstances, provided someone or something supplies the impetus. When using the term *environment* it is more accurate today to refer to the total community, citing the union of climatic, edaphic, and biotic factors that act upon an organism or an ecological community and ultimately determine its form and survival.

GENERAL OBJECTIVES

1. Students will appreciate the process of community development.
2. Students will develop a sense of awareness that supersedes superficial investigation.
3. Students will increase their general knowledge of Fair Haven.

BEHAVIORAL OBJECTIVES

- 1 Students will be able to write a paper 2 to 3 paragraphs in length explaining the various disciplines contained in the field of environmental science.
2. Students will be able to construct a map of Fair Haven in 1856.
3. Students will be able to compile a flat of the types of seafood available in Fair Haven in 1856.
4. Students will be able to locate existing structures and businesses that sprang from the period of community expansion in the 1800’s
5. Students will be able to cite laws designed to protect fish propagation as early as the mid1700’s
6. Students will be able to explain the necessity of the propagation period of area seafood to the expansion of Fair Haven.
7. Students will be able to expound upon the business of oyster processing in the 1800s.
8. Students will be able to use the following terms in proper context.

- | | |
|-----------------------|---------------|
| a) environment | l) processing |
| b) discipline | m) transplant |
| c) ecology | n) community |
| d) inhabitants | o) sharpie |
| e) oyster | p) river bed |
| f) minimal | q) washer |
| g) institute | r) opener |
| h) propagation | s) measurer |
| i) oyster watch house | t) filler |
| j) ordinance | u) packer |
| k) industry | |

*Letters qu refer to oyster processing.

9. Students will be able to write a paper, consisting of no more than 3 pages, relating the importance of the Quinnipiac River to the Fair Haven area.

SAMPLE LESSONS

Lesson I

A) Paraphrase information from Watt's textbook, concerning the various disciplines that are involved in studying environmental sciences. Duplicate appropriate passages from the preface, as this will provide insight to the desired train of thought. Read this information orally in class, encouraging student participation. The vocabulary may be somewhat difficult, therefore oral reading and questioning of material is important.

B) To insure students understand the vocabulary, have all students complete activity #1.

Lesson II

An attempt to develop student awareness of physical surroundings is necessary. An oral discussion generalizing the concepts will be an appropriate introduction. When you feel some headway has been established, have the students complete activity #4. (This can be a group type assignment).

This activity contains many elements of the learning process—researching, reading, writing, and drawing. If the structure does not exist physically in the community and there are no pictures or sketches provided in textbooks; the student will now be forced to form a mental projection based upon the written material and place that projection in a drawing of his own. This activity can lead to class and/or group discussion.

Lesson III

Researching, and writing or discussing that research is certainly valuable. However, as a culminating activity, a walking tour beginning at Fair Haven Middle and ending at the oyster house on Quinnipiac Avenue would

provide students with an opportunity to see what they have been studying. Before leaving the classroom review vocabulary list so when walking you can casually discuss the area, without interrupting to define terms

ACTIVITIES

1. All students should have a working knowledge of the vocabulary used in this unit. Therefore they should define each of the following words as they apply in context to the text(s).

- | | |
|----------------------|---------------|
| a) environment | l) processing |
| b) discipline | m) transplant |
| c) ecology | n) community |
| d) inhabitants | o) sharpie |
| e) oysters | p) river bed |
| f) minimal | q) washer |
| g) institute | r) opener |
| h) propagation | s) measurer |
| i) oyster watchhouse | t) filler |
| j) ordinance | u) packer |
| k) industry | |

2. Research various laws (ordinances) protecting seafood then compare to today's laws.

3. Write a short informative article comparing the seafood available in Fair Haven, in 1856, to today.

4. Locate existing structures (in Fair Haven), describe and draw or sketch a picture of the structure. Include in your description the purpose served by this structure. If structure no longer exists, research information, describe, and draw a picture based on the written description.

5. Write a paper outlining the various jobs of oyster processors. You can list the occupations for the student or have the student first determine what the occupations are then describe each one. Below is a list of the tasks involved.

- a) openers
- b) washers
- c) fillers
- d) packers

6. Have students build a model of one of the following structures. They can be accompanied by written descriptions citing advantages and disadvantages.

- a) bridges
- b) boats (sharpies)
- c) watchhouse
- d) oyster houses

7. Student will attempt to write a paper built upon the premise that the oyster industry did not exist. What would happen to Fair Haven?

Field Trips

8. An interview with Mrs. Doris B. Townshend will provide both teacher and student with a wealth of information about the area. This will supplement the student reading list, which, due to a lack of pertinent written material, is admittedly brief.
9. A walking tour to the oyster house on Quinnipiac Ave. would highlight the unit.

TEACHER BIBLIOGRAPHY

1. Teal, J. and Teal, M. *Life and Death of the Salt Marsh*. Little, Brown, 1969.
2. Townshend, Doris B, *Fair Haven—A Journey Through Time*. New Haven Colony Historical Society, 1976.
3. Watt, Kenneth E. P. *Principles of Environmental Science*. McGraw-Hill, Inc. 1973
4. Whitaker, R. H. *Communities and Ecosystems*. MacMillan, 1975.

ANNOTATIONS

1. Part II "Ecology of Salt Marshes", the section entitled "Marsh Animals," p.124, refers to the concept of organisms in both general and specific terms. This should prove helpful in your basic understanding of wildlife development.
2. An entire reading would be useful. However for our purposes chapters 14 should provide enough information to teach the unit.
3. Begin by carefully reading the preface. This will indoctrinate you as to the specific premises from which the text evolves. Scrutiny of this short passage channels your thoughts in the desired direction, and only then will this text be useful.
- 3a. Time permitting, it would be useful to read as much of the entire text as you can. Vital sections, however, are: Chapter 1 "Some Essential Background from Biology, Mathematics, and Scientific Methodology"; Chapter 2 "The Principles of Environmental Science"; Chapter 14 "Urban, Regional, and National Planning in the Light of Ecological Principles."
4. Chapter 2("Populations") contains a section entitled "Competition and Crowding" p.20, which provides an interesting analogy.

STUDENT READING LIST

1. Townshend, Doris B. *Fair Haven—A Journey Through Time* . New Haven Colony Historical Society, 1976.
2. Watt, Kenneth E. F. *Principles of Environmental Science* . MacGrawH111, Inc., 1973.

ANNOTATIONS

1. Have students read chapters 1-4.
2. The problem the student will encounter is the vocabulary. However, have them attempt the preface and chapter one.

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