



# EarthCircles

## Water at Work

### LESSON 8: LOCAL WATER SUPPLY FIELD TRIP

#### **OVERVIEW:**

**Concept:** How people gather and distribute water has changed dramatically over time. Creating large reservoirs to supply metropolitan areas affect people whose homes were located where the valley was flooded.

#### **Lesson At A Glance:**

Materials

Preparation

Background

#### **LESSON PLAN:**

##### **Group gathering**

**Activity:** Kids visit the local ponds or rivers that were water sources for Native American populations and early settlers, and the reservoirs, wells, pump stations, and/or water towers that may be in use now. They observe and learn about the changes in water supply sources near their homes and methods over the course of time.

Field trip

Discussion:

Principles in Practice

Closing Circle

##### **Note:**

This lesson is about exploring your town or regional water supply. We have included information about Boston and Bedford, Massachusetts as examples of what kind of information you'll be looking for. Every congregation will have its own story to tell.

##### **Materials:**

- Permission slips
- Map of your town with local reservoir, wells, water tower, surface water systems, and streets for Kids to locate their homes.
- Books about local water supply histories, for example:



- *Letting Swift River Go* by Jane Yolan. This is a picture book that illustrates the Quabbin story and the process of moving families from a Kid's perspective.
- *Someday* by Jackie French Koller; a children's novel that also depicts the Quabbin story from a child's perspective.

**Options:**

Articles on town history relating to drinking water.

Local water history expert to accompany you on the field trip.

Hot chocolate if weather is cold.

**Preparation:**

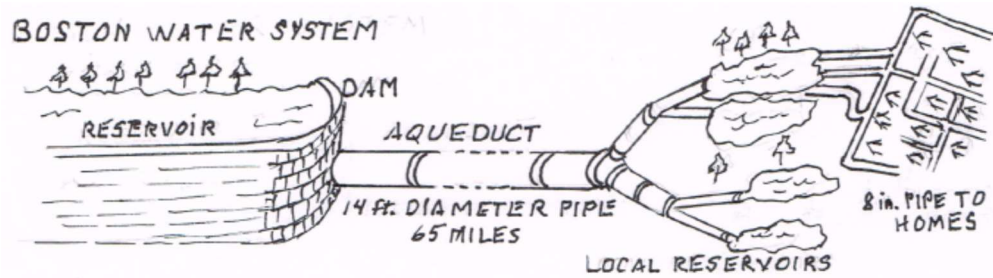
- Contact resources such as the Historical Society, Conservation Commission, Town Water Department, and/or library for information about town water history and a possible resource person.
- Plan the field trip and a set of directions for drivers and leaders.
- Send permission slips home two weeks in advance, to be signed by parent and returned the next week.
- Recruit volunteers to drive and lead Kid's groups.
- Arrange for carpooling, and copy the directions for each vehicle.
- Have copies of the town map, one for each group of 3-4 Kids.
- <http://www.youtube.com/watch?v=frlvDdrbTeg> to access Video clip.

**Background for teachers:**

A **reservoir** is a body of water that is created for a water supply. Many are developed by damming a river, thus making a large lake. When a reservoir is far from those who are going to use it and serves a large population, then huge pipes carry water from the lake to the cities and towns. Each town then has its own distribution system that brings the water to the homes, businesses, industries, schools, hospitals, any place that needs water.

For example, in the case of Boston, originally it was essentially an island in the ocean at high tide. Early settlers depended on collecting rain and snow melt. Then a town well was built, where everyone went to get water. Eventually individual families dug wells. In the 1700's an entrepreneur piped water from a lake a few miles inland into the growing city and sold it to the residents. This was private enterprise. When this system brought in too little water, the city took over and extended the pipe to a larger lake further inland. Water supply again became a problem in the late 1800's. City officials bought land in central Massachusetts for the purpose of developing a reservoir, the Quabbin Reservoir. They had the wisdom to buy enough land to

create a buffer zone around the water, protecting it from pollution from farming, industry, homes, and other human activity.



To this day, the Quabbin is a very safe and clean water supply. As population in the towns around Boston grew and their local water supplies were no longer adequate, they turned to this regional resource to supply their water needs. Now around fifty cities and towns get their water from the Quabbin. This puts a strain on the reservoir, especially in time of drought.

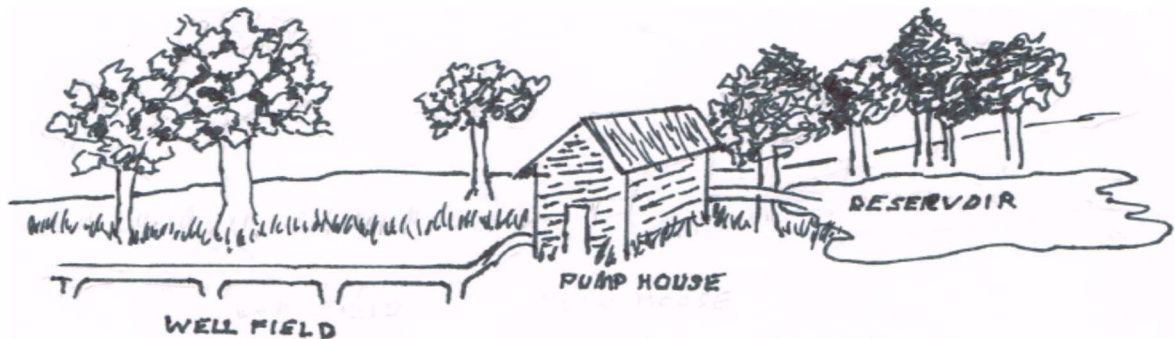
The history of water supply follows a similar sequence for every community, small or large. On our field trip we explored how and why Bedford's drinking water methods changed over time. We reviewed how people once gathered water from surface sources such as rivers, streams and lakes; then dug personal wells; later created small reservoirs; then the town built well fields. Now most of our water supply comes from Quabbin Reservoir. Ultimately, this large reservoir in central Massachusetts was needed to supply water to the growing population of Boston and towns surrounding it. But creating the reservoir flooded a large land area with four towns where other people lived.

### Field Trip Plan:

- Arrange for everyone to meet near the car pool area for prompt departure on the field trip.
- Check attendance, including expected leaders.
- Review our Seven Principles. Remind Kids of the importance of respect for others and the environments we are entering.
- Set up small groups of 3-4 Kids with a leader.
- Divide up into carpools.

**Procedures:**

- Show the map of your town with pipelines connecting the reservoir or pump house. Tell the Kids that this is where we are going today, to see where our water has come from in the past and discover where we get it today.
- Give the itinerary and map to the drivers. You do not need to give the Kids a detailed explanation at this point. The field trip is about the process of discovery and change.



**Example:** Bedford Field Trip Itinerary

1. Shawsheen River by Stop and Shop (10 minutes)

- a. Park on the far left side of the parking lot.
- b. Walk to the water's edge.
  - I. Native Americans settled areas along rivers. The water was important for drinking, cooking, cleaning and as a form of transportation.
  - II. European settlers probably first used open water sources in the same ways. They built their homes and farms near water and they hand-dug wells.
  - III. Note the state of the river today: lots of litter, no longer clean enough to drink.

2. Bedford Reservoir, old well, pump house (30 minutes including walking)

- c. Park in the far back corner of the cemetery.
- d. Walk as a group to the sign post by the reservoir.
- e. Break into smaller groups for exploring the NW corner of the reservoir, the well and the pump house. Let the Kids discover and see what they find that is manmade and relates to water. Let them run around some, too. (10-15 minutes). Ask them to make mental notes of what they see to discuss later.
- f. Gather at the sign post for a brief discussion of the history of the reservoir. Start the conversation by asking the Kids what they saw. Fill in details as they report their discoveries.

3. Bedford's new wells (10-15 minutes including walk)

g. Walk from Reservoir across the road to a well field.

h. Tell the story of when, why and where wells were built. Use the map of your town to show where the other wells in town are located. Do not mention the closing of the wells yet.

4. Pine Hill Water Tower (if time permits-10 minutes)

i. Simply walk over to the water tower.

j. Ask why do we pump water up to a water tower, only to let it come back down? **FIRE!!**

5. Back in the classroom (30 minutes).

Distribute hot chocolate.

**Discussion:**

- Point out where on the map the closed wells are located.
- Explain why they were closed.
- Discuss where our water comes from today. Mostly Quabbin.
- Share the story of

Quabbin, using *Letting Swift River Go* by Jane Yolan for reference as needed.



**Principles in Practice:**

- What Principles are disregarded when private land is taken for reservoirs or other large municipal projects?
- Is it fair? Has it benefited "the greater good?"
- How would you feel if your home and neighborhood were taken to make room for a reservoir or a highway or some other regional project?
- What can we do to conserve water?

**Closing Circle:**

Ask everyone to repeat these words together:

"Water flows from high in the mountains.

Water runs deep in the Earth.

Miraculously, water comes to us

And sustains all life. "

Thich Nhat Hanh

*Earth Prayers*, Harper, San Francisco, 1991



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## Water at Work

### WATER ACTIONS

Here are some water actions that Kids can take themselves or with their parent's help.

- Every time you drink a glass of water, take a moment of gratitude for the abundance of water in your life.
- Drink tap water instead of bottled water.
- Cut your shower length in half. Shortening a shower by 5 minutes can save 100 gallons of water.
- Do a water audit to check for leaks, and then help to fix them: a dripping faucet can waste 20 gallons a day and a leaky toilet can use 90,000 gallons a month (*Planet Green*). Organize several teams to do audits in a few houses each – make it fun!
- Only run full loads in your dishwasher and washing machine.
- Convert part of your lawn to hardy water-wise native plants. If you must water the lawn, reduce loss to evaporation by watering only during the cool part of the day.
- Rainwater is a terrible thing to waste! Take steps to keep it on your property by putting rain barrels on your downspouts and using the water for irrigation.
- Learn about your local watershed and what is being done to protect it. Participate in a watershed clean up or start your own. Pick up trash whenever you see it!
- Keep up with water news online: <http://www.circleofblue.org/waternews/>
- Learn about the UUSC's "Human Right to Water" initiatives: <http://uusc.org/gotwater>  
Share what you learn with the rest of us!
- Indigenous peoples' rights to their natural resources, and their stewardship of water and the environment, are impacted first and considered last in many communities. See if there are groups of people who are working to save water for future generations, and support their effort. worship
- Use the Water Justice Taize Ritual in a service:  
[http://www.uusc.org/sites/default/files/water\\_justice\\_taize\\_ritual.pdf](http://www.uusc.org/sites/default/files/water_justice_taize_ritual.pdf)