



LEARNING ACTIVITY:

Mining Creates Reservoirs and Habitats

GRADES 6–9

MATERIALS

- Computer with internet access, library, local water supply utility, city utility company, or other source of research information



Stock piles of sand and gravel produced by mining a location like the reclaimed site in the second image.

Credit: Pixabay/Javier Alamo



Source: Minerals Education Coalition. Adapted with permission.

There is an important interconnection between local mines and quarries that later become reservoirs and supply crucial water resources to local communities. The life cycle of a mine has different phases. Production supplies important resources such as construction materials and other important minerals. Then with the mine's closure and reclamation, it is sometimes used for freshwater storage and supply for the local community. Another part of a quarry's life cycle can be to offer new habitats and support biodiversity.

In this activity you will research information about community water sources and compare this to the amount a specific reclaimed quarry can contain.

PROCEDURE

- 1 Research information about your local community and learn the answers to these questions:
 - What are the characteristics of potable water?
 - What are the sources of potable water in your community?
 - What is the average daily potable water use in your community?
 - How is the potable water supply in your community kept safe to drink and use, as it is distributed to your homes, schools, businesses, and industries?
- 2 Look at the image of the geese swimming, which shows a reclaimed sand and gravel mine site where construction materials were mined to make concrete, asphalt, and other important things in a community. The reclaimed site is now a freshwater reservoir that contains 500,000,000 gallons (approx. 66,840,300 cubic feet) of water.
 - How many days would this reservoir full of water supply your community's needs?
 - If the reservoir were in your local ecosystem, what new habitats might be created? What kinds of animals, including fish species and vegetation, benefit from these new freshwater habitats?



A reclaimed sand and gravel mine site.

Courtesy of St. Louis East Lake Reclamation

EXTENSION

Find out where the nearest sand and gravel operation is. What products are mined or quarried there? Research how these products are used in constructing things like roads, buildings, and other important structures. Go to [MineralsEducationCoalition.org](https://www.mineralseducationcoalition.org) to learn more about aggregates (stone, sand, and gravel) and try more activities about their important uses.

Go to [MineralsEducationCoalition.org/esw](https://www.mineralseducationcoalition.org/esw) for a new, accompanying lesson plan and more detailed standards correlations.

NGSS CONNECTIONS

- Science and Engineering Practices — Analyzing and Interpreting Data
- Disciplinary Core Ideas — Earth and Human Activity
- Crosscutting Concepts — Scale, Proportion and Quantity