

A satellite map of Northwest Arkansas showing several quarries. The quarries are highlighted in white and yellow, contrasting with the surrounding green forest. The largest quarry is on the left side of the map, and another significant one is on the right. The text 'NWA Quarries' is overlaid in the center in a large, white, sans-serif font.

NWA Quarries

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Introduction

The quarries in Northwest Arkansas provide an essential source of construction materials, but their operations can cause significant environmental and human impacts. This project aimed to assess the environmental and human impact of quarries in Northwest Arkansas.

Project Overview

The initial EMPACTS project I had devised was an interactive pyroclastic flow and lahar simulation for school aged children. I had enlisted help from my Grandfather and dad when it came to building and mechanics for my project.

During the process of sketching and scaling the models, my family was hit with unfortunate news and illnesses. I ultimately had to go back to the drawing board and come up with a new plan; one that I could work solo and my own time.

Project Overview

After scouring for topics online, my dad gave me the idea to look into the quarry in Sulphur Springs, AR. Thus my new project was born.

I began by identifying the active quarries in both Benton and Washington County. This included who they were owned by and what they mined. I then checked to see if they reside close to homes and streams.

I had also read through and joined online groups from NWA residents that live near the quarries. Many were concerned and aggravated by the quarries expansion and plans.

Project Overview

Google Earth allows to to create a timelapse from 1987 to 2022. It allowed me to look at the expansion of the quarries and estimate how much they have grown.

With my findings I began creating a story map related to the quarries and their effects.

Community

My projects main demographic are residents in Benton and Washington County. It serves as a way to inform people of the concerns neighbors have towards NWA quarries, while also provide them with understanding as to why they exist.

Contacts

Spoke with residents affected in person.

Joined groups such as, Cross Hollow Quarry on Facebook, to better understand people's concerns.

Curriculum

- Discuss environmental effects of resource extraction
- Recognize the relationships between humans and the environment

Technology Used

- ArcGIS Story Maps
 - Google Earth - Timelapse
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Methodology

- Researched NWA Quarries
 - Listened and read about concerns
 - Created a Story Map
 - Created a geographical map with in Story Map
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Feb 12 -
Feb 28



Mar 1 -
Mar 20



Mar 21
- Apr 20



Apr 20 -
May 2

1st Project

Began creating scaled down designs of models

Started creating lesson outline

Brainstorming

Fall through of first project

Began brainstorming new ideas and topics to cover

Second Project

Began researching and collecting information.

Collected Google timelapses

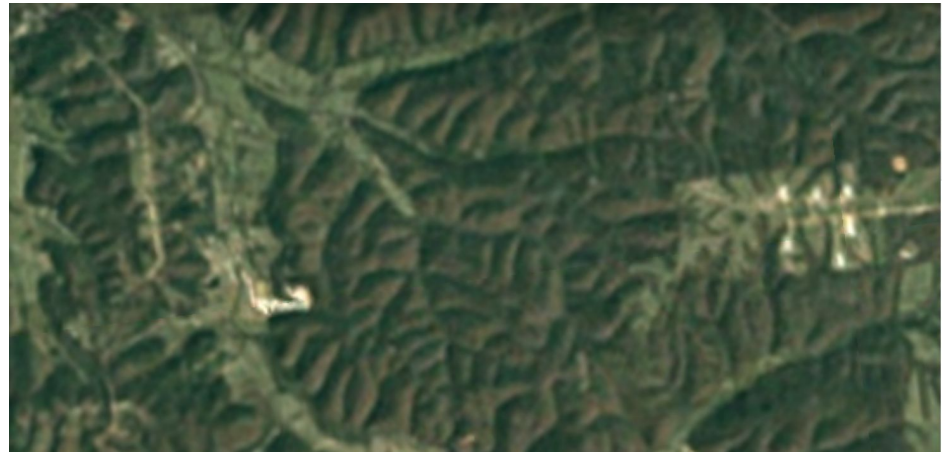
Story Map

Started the creation process in Story Map

Project Results

As a result of this project I was able to expand my knowledge of NWA quarries and create a Story Map to help inform others. It also allowed me to:

- Gain efficient understanding of ArcGIS Story Maps.
- Connect with the community
- Evaluate to pros and cons to limestone mining
- Produce a story map Story Map - <https://arcg.is/CXOne0>



References

Story Map - <https://arcg.is/CXOne0>

USGS -

<https://pubs.usgs.gov/fs/2008/3089/fs2008-3089.pdf>

Google Earth -

<https://earth.google.com/web/@-75.22796322,-101.5541842,85a,281319d,35y,2h,33t,0r/data=CjISMBIqNTQ0MGEwNzIxMzI1MTFIYTk0NDM4YmI2ODk0NDUyOTciDG1haW5Ob1JhbmRvbQ>

Nat Geo -

<https://education.nationalgeographic.org/resource/quarry/>

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- **Cross Hollow Quarry Group**
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