

GOLF COURSE



HOSPITAL



**WILDLIFE
HABITAT**



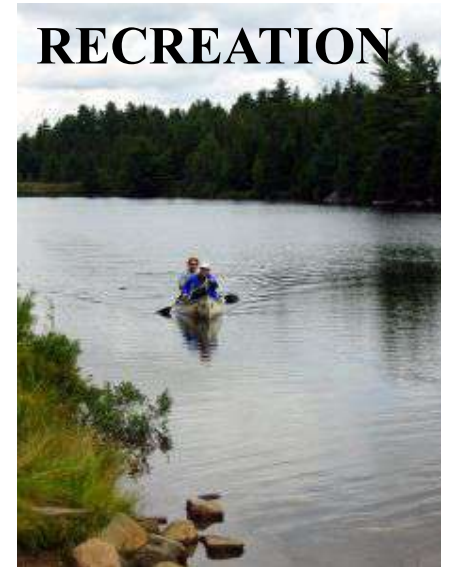
WETLANDS



OPEN SPACE



RECREATION



**WHAT DO ALL THESE PLACES
HAVE IN COMMON?**

AGRICULTURE



SCHOOL

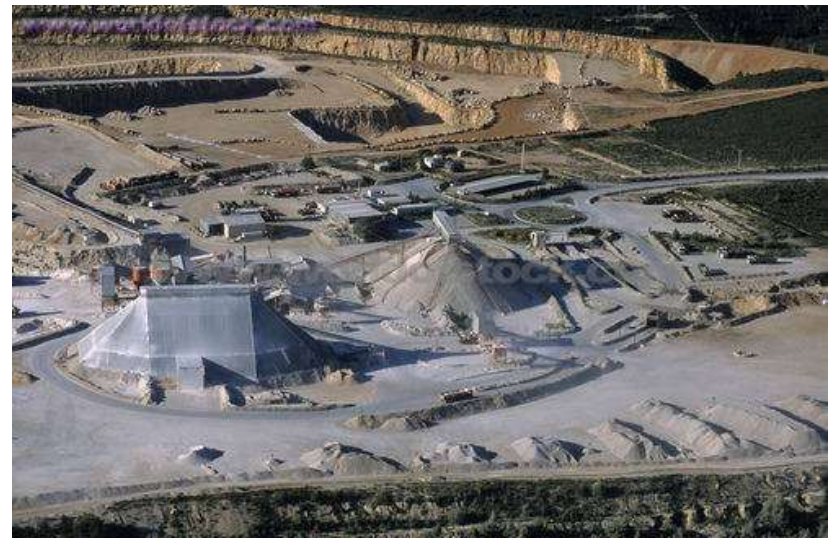


**HOUSING
DEVELOPMENT**





THEY ARE ALL RECLAIMED
MINING SITES!



WHAT DO WE
KNOW
ABOUT
MUNICIPALITY?

Every American Born Will Need . . .



3.7 million pounds of minerals, metals, and fuels in their lifetime

“If it can’t be grown, it must be mined”

What do we mine?

Why do we mine?



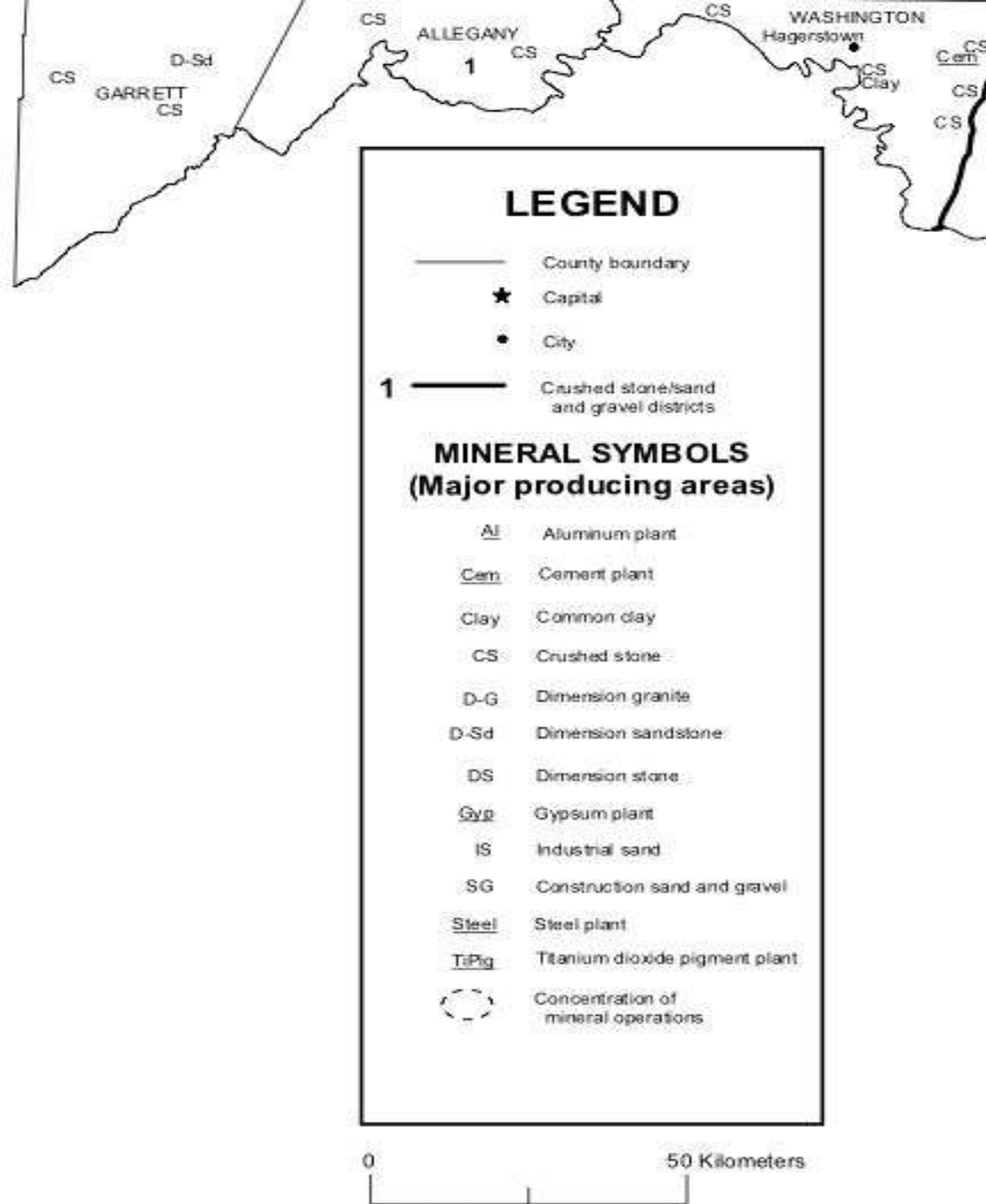
Mining in the United States

- ❑ According to US Bureau of Mines, it is estimated that Americans consume 4.5 billions metric tons of minerals each year. This figure includes 3.2 metric tons of coal used for electricity production
- Approximately 57% of electricity is generated in the U.S. from coal, more than any other single electricity fuel source.
- ❑ Aggregate (crushed stone and sand and gravel) accounts for approximately 1/2 of the non-fuel-mining volume in the U.S.

Day 2 - Mining in Maryland

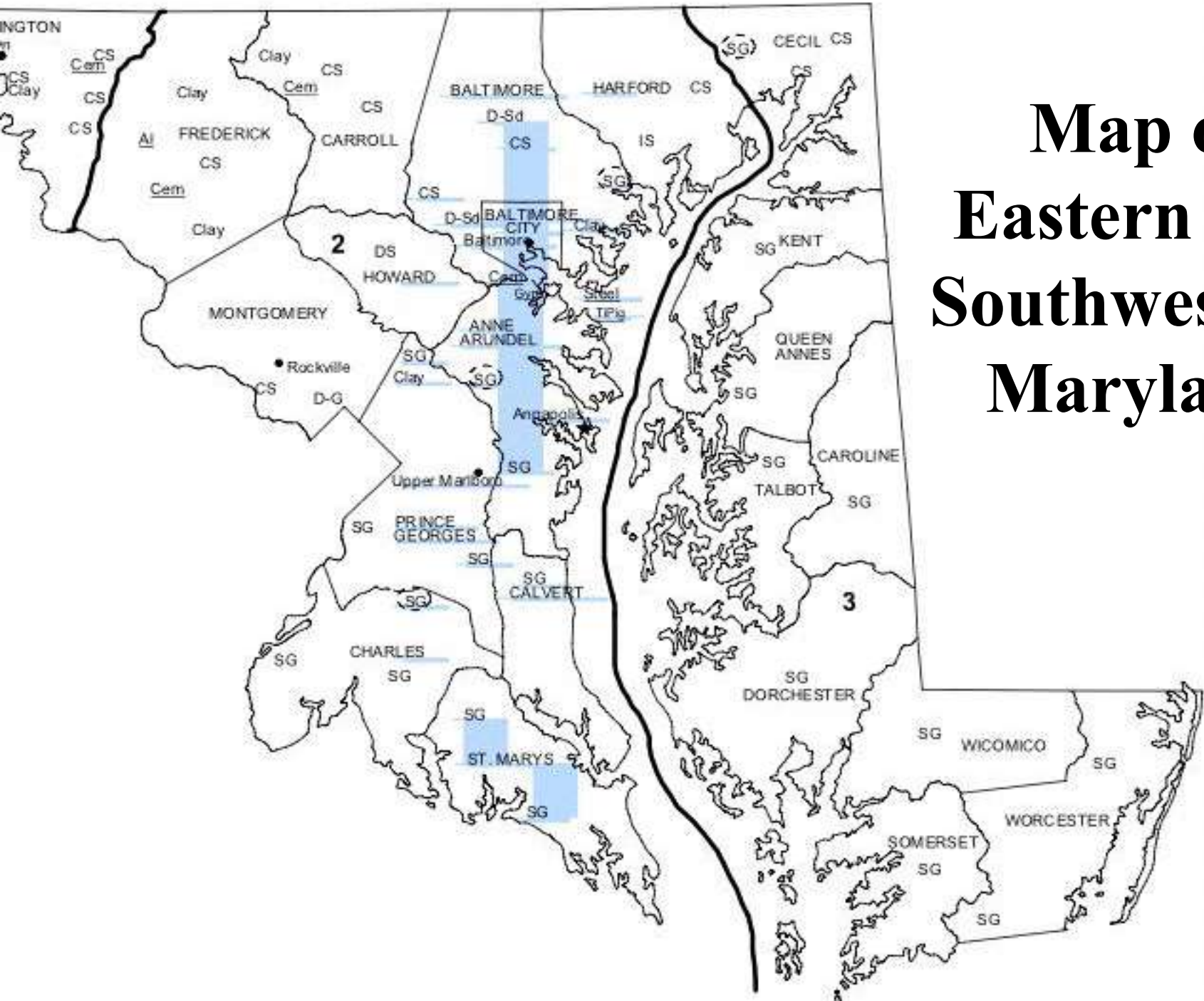
An aerial photograph of a mining operation in Maryland. The image shows a large, open-pit mine with terraced levels, surrounded by green hills and a river. A yellow outline of the state of Maryland is superimposed on the image, with the mine located within the state's borders.

What can we learn about
the mining industry?



Map of Northwestern Maryland

Map of Eastern and Southwestern Maryland



Collaborative Research

Day 6

Digging for Coal Demonstration

Surface Mining

What is disrupted at sites where surface mining is done?

- ✓ rock formations
- ✓ soil
- ✓ plants
- ✓ wildlife
- ✓ water / drainage patterns
- ✓ possibly archaeological research

Mining

**So what exactly does happen to the land
after it's been mined?**

Are the mining sites abandoned?

**Does the land just magically restore
itself to its natural state?**

**How does a mining site go from
this...**

...to this?

Mine Reclamation



process of protecting, restoring, and possibly even improving the land before, during, and after mining



Result: land is preserved, nature has been protected, water and soil are conserved.

Mine Reclamation

Land that once looked
like this....

Can become...



Mine Reclamation Success Stories

Mine Reclamation

Reclamation Objectives:

- ✓ Eliminate threats to public safety, including threats to people, property, livestock or wildlife
- ✓ Protect land and water from erosion, sedimentation, or contamination
- ✓ Return the mined land to beneficial use or the pre-mining condition

A photograph of a park with several large, leafy green trees in the foreground and middle ground. The ground is covered in green grass, with some shadows cast by the trees. In the background, a black metal fence is visible, and beyond that, some parked cars and buildings can be seen under a clear blue sky. The text "How does reclamation help the environment?" is overlaid in a large, bold, black serif font, centered across the middle of the image.

**How does
reclamation help
the environment?**

**How does the
government regulate
the mining industry?**

Role of the Government

Federal and State laws and regulations have been established that require mining companies to develop operation and reclamation plans to eliminate or minimize environmental impacts.

Role of the Government (Maryland)

“extraction of minerals by mining is a basic and essential activity making an important contribution to the economic well being of the State and the Nation... “

legislative intent section of Maryland
Surface Mine Law

Statement reflects the importance of mining to our society, but the law states that the affects of mining must be regulated to provide for the protection and conservation of the natural resources of the State and reclamation of lands impacted by mining.

Maryland Department of the Environment



The mission of the Mining Program is to protect the public and the environment from the potential impacts of active mining; and to promote the restoration and enhancement of active and abandoned mine land and water resources.

Maryland Department of the Environment

- **MDE oversees the reclamation of mine sites to ensure that no adverse environmental/public impacts occur.**
- **MDE also requires a permit prior to the start of any mining operation because of the potential impact mining can have on the environment.**

List of required permits

Maryland Department of the Environment

MDE honors industries and gives awards to companies that make an effort to return a mine site to productive use.

A park, complete with a pond, wildflower field, picnic pavilion, and ball park now stand where a mine site was once operated.

Source: <http://mii.org/gardner/elgardner.html>