

Dams

Helpful or Hurtful?

What is the issue?

- Dams are structures built across streams, rivers or estuaries to retain water.



The Environment...before and after dams:



What do you notice?

The Environment...before and after dams:



What do you notice?

The Environment...before and after dams:



What do you notice?

The process of building dams

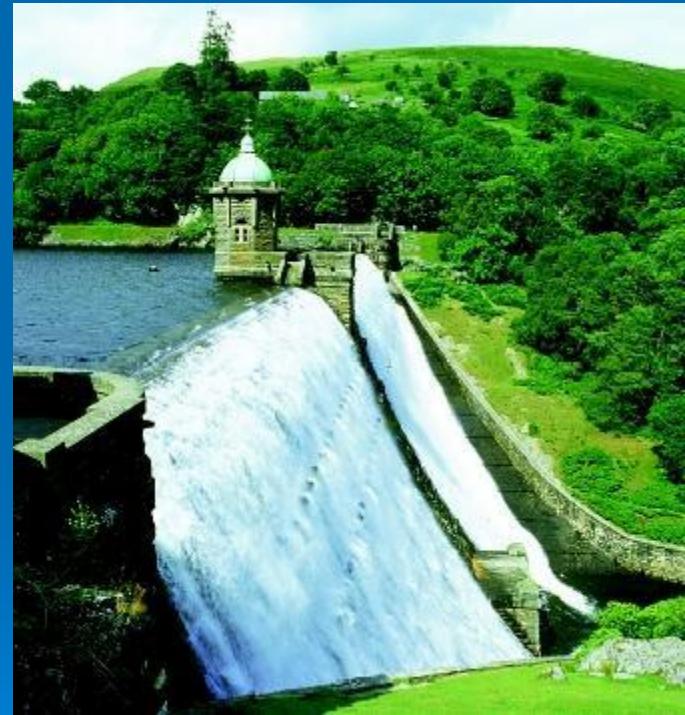
- Click on the following link to observe environmental changes and varying quality of dam construction. Be ready to think and share!
- [Dam Construction](#)



Benefits of Using Dams

➤ Dams provide many benefits including:

- Recreation
- flood control
- water supply
- hydroelectric power
- waste management
- river navigation
- wildlife habitat



Then what is the problem?

- Dams flood a vast area of land
 - Approximately 400,000 sq km worldwide have been flooded by dams
 - Forests are flooded and decompose
 - Dams can break and cause a massive flash flood.
- Riverbeds, banks, deltas, estuaries, and coastlines are changed
 - Disrupts natural seasonal changes in the river
 - Ends flooding that help to clean out the silt in rivers, causing them to clog
 - The silt that usually flows down to the Beaches and Estuaries is blocked by the dam.
 - Sediment load changes
 - Sediment settles to bottom of river
 - The settled sediment erodes and leaves poor habitat for fauna
 - The coast beyond the mouth of the river is eroded

Then what is the problem? cont.

- Water Quality- the water stops moving and causes:
 - Temperature changes
 - Removal of nutrients
 - Dissolved gases
 - Concentration of metals and minerals
 - pollution
- Reduction of biodiversity
 - Species are isolated upstream and downstream
 - Migrations are interrupted and often stopped
- Other Problems
 - Dams are expensive to build, and due to drought may become useless, or produce much less power than originally planned.

Who is causing it?

-Predictions??

Of course, man! BUT, why???



Who is Causing it?

- Communities across the world use dams
- Farmers benefit
- Households benefit
- Big business benefits



More opinions?

- Complete the final column of your note sheet for the “Who is causing it?” section.
- Be sure to consider how YOU are a part of the problem!
 - Should YOU be stopping the water from the Colorado River from going downstream to Mexico?
 - Didn't you already determine that ALL people should have an equal access/right to the Earth's water?

What is being affected?

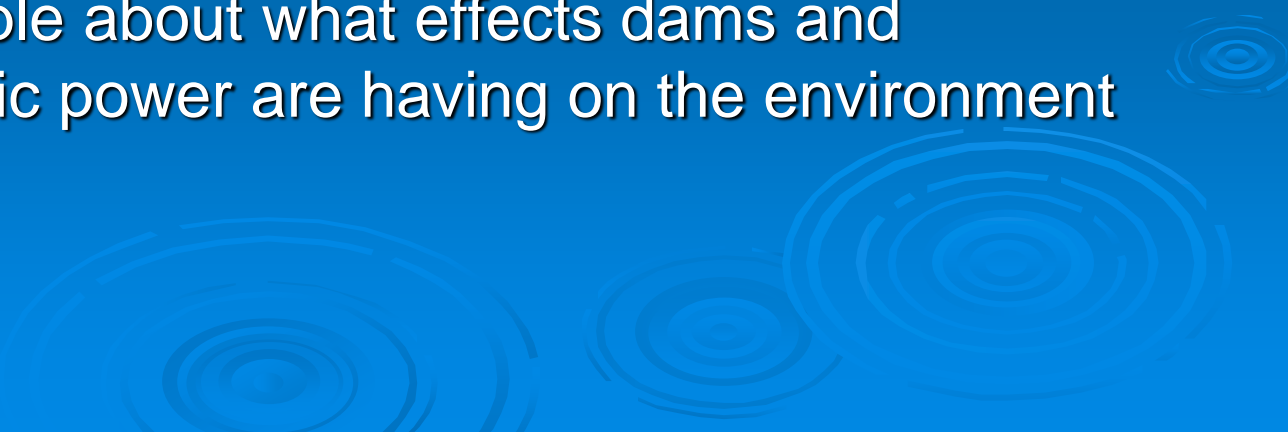
- Plant and animal species lose habitats
- Migrations of fish are interrupted and often stopped
- Ecosystems are destroyed (dried/flooded)
- Food chains/webs are interrupted
- Endangered species are at risk of extinction
- Erosion alters the land

Reflect on your learning:

➤ Discuss:

- How are the biotic and abiotic factors on our planet affected by the construction of dams?
- Are the causes of dams (the reasons we build them) worth the consequences?

What is being done to help?

- Suggestions for easing the effects of dam construction
 - make better use of the dams that already exist
 - try to make dams that have less environmental impact in the future
 - release more water from the reservoir that the dam created
 - inform people about what effects dams and hydroelectric power are having on the environment
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Final opinions?

- Complete the final column of your note sheet for the “What is being done to help?” section.
- What can YOU do?



