RIVER OF MERCURY: SOLUTIONS FOR TOMORROW

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PROJECT GOALS
Prevention and Containment: finding the best possible mercury filtration system.

THE HISTORY
The Penobscot River has served as the best method of transportation to move logs from point to point. As logging expanded across Maine, pulp and paper mills began to spring up in the hundreds. The waste these mills produced eventually made its way into the river in the form of elemental mercury. After methylation, the newly formed methyl mercury worked its way through the ecosystem, specifically the fish. These effects led to the problem today.

THE PROBLEM
This long time history of environmental injustice has led to unsafe levels of mercury as well as the slow destruction a river's ecosystem and of a culture's traditions. At mercury levels over the Environmental Protection Agencies limits, many Penobscot Indians have decreased the amount of fishing and thus slowly forgotten traditions.

We hope to change that.

METHODOLOGY

Water Collection
- Collected water samples from 5 different locations in the Penobscot River surrounding the Penobscot Indian Nation.

Data Collection
- Experiments were set up using two filtration systems.
- A carbon filter and carbon filter/reverse osmosis system were compared.
- Each solution was tested with mercury test strips and then compared against the control sample and each other.

FILTRATION ANALYSIS
- The control sample contained 0.05 ppm.
- The first carbon filter test had 0.05 ppm and the second cycle had 0.0 ppm. The RO system also had 0.0 ppm.
- With no difference in final mercury levels, the next steps should be looking towards a cost analysis

NEXT STEPS
- Use “Earth911” for information on mercury recycling.
- Research implementing a filtration system in the river.
- Research sources of possible funding.

ACKNOWLEDGEMENTS
A Special Thanks to,
Elio Daci
Elise Favreau
Tom Partington

REFERENCES

(Referencing sources here...)

(Additional notes or acknowledgments here...)

One collection site where sample water was gathered
Testing Solutions