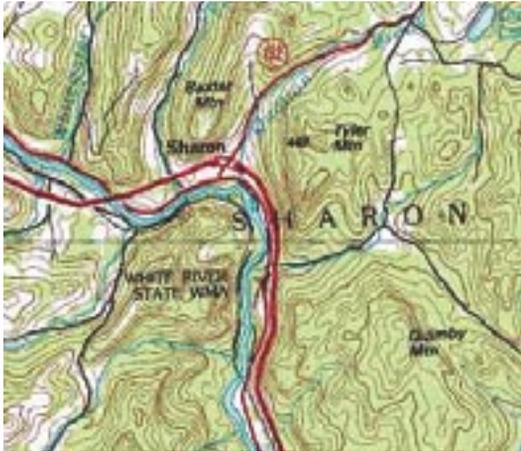


## THE WHITE RIVER WATERSHED IN SHARON, VERMONT



After an accidental discharge of raw sewage into the White River, which runs through the town of Sharon, Vermont, two biology classes at Sharon Academy decided to conduct a study of the White River watershed, focusing on *E. coli* testing, and including research on the spatial location of population numbers, sewage treatment facilities, mining, and agriculture operations within the watershed. Here's a sampling of what they were thinking and talking about:

“If we figure out some of the major pollutants in the White River, then towns working together can stop it. The White River has been an unpolluted river for a long time; if we give up now we'll be depriving future generations of its beauty. I'm just saying if everyone helped out, then it would get better.”

“There are many things that worry me about the quality of the White River in the near future. We need to limit the amount of fertilization by the river and make sure there is a barrier of trees along the river. We also need to make sure that our sewage treatment plants are functioning properly in order to prevent a future catastrophe as we saw this summer.”

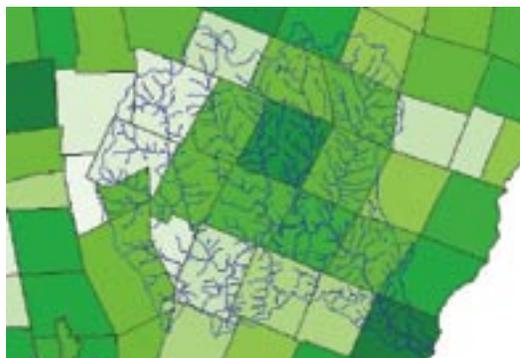
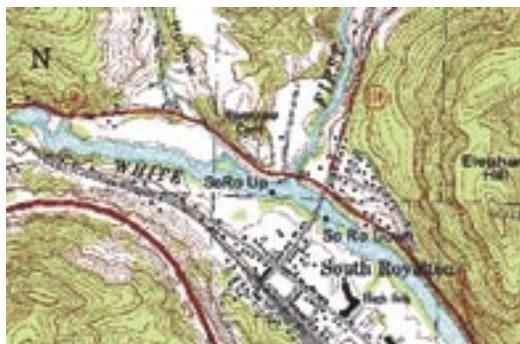
“The only concerns that I have for people living along the river are that there could possibly be more effluent waste mishaps, and also there could be so much erosion in the river that it wouldn't be swimmable anymore.”

“ There are a couple factors that could help the well-being of the White River watershed in particular. I think if there was a larger buffer zone between commercial land and different water sources. In doing this, it will cut back on the amount of pollution going into the river from the land. I think what farms use for pesticide should also be regulated.”

“ I think that people who have main effects on the river should be notified and informed about how they can not pollute the river.”

“ For now I don't have any major concerns for future generations, mostly just concerns for ours. We now know what hurts the environment, but many people don't seem to care. I think public awareness is going to be the only way, everyone has to help to make a difference.”

Students were taught how to use Internet resources for obtaining maps of any location. They were able to download topographic maps and aerial photographs containing the location of their school.



Topographic maps (top), aerial photographs (center), and a watershed map (bottom) color ramped to indicate population density.

They were able to use the topographic maps they downloaded from the Internet to locate their *E. coli* testing sites.

Students also learned general ArcView techniques in order to evaluate the spatial location of human factors that impact the White River.

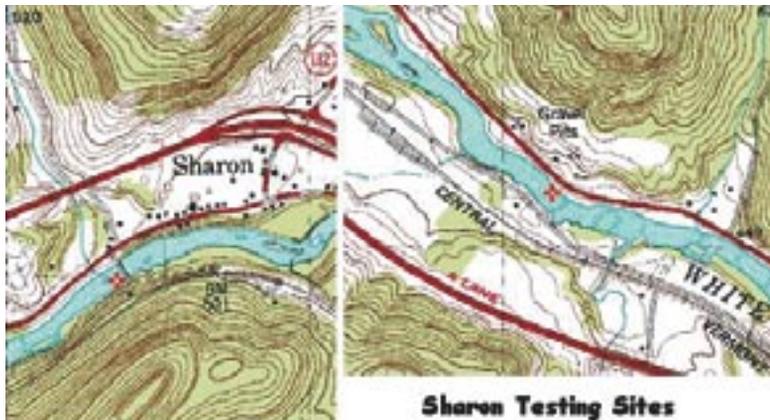
This project was part of The Orton Family Foundation's Community Mapping Program ([www.communitymap.org](http://www.communitymap.org)) and involved a partnership between the Foundation ([www.orton.org](http://www.orton.org)), the Vermont Institute of Natural Sciences ([www.vinsweb.org](http://www.vinsweb.org)), the

White River Partnership, the town select board, and ninth- and tenth-grade students of Ms. Jennifer Guarino at the Sharon Academy in Sharon, Vermont.

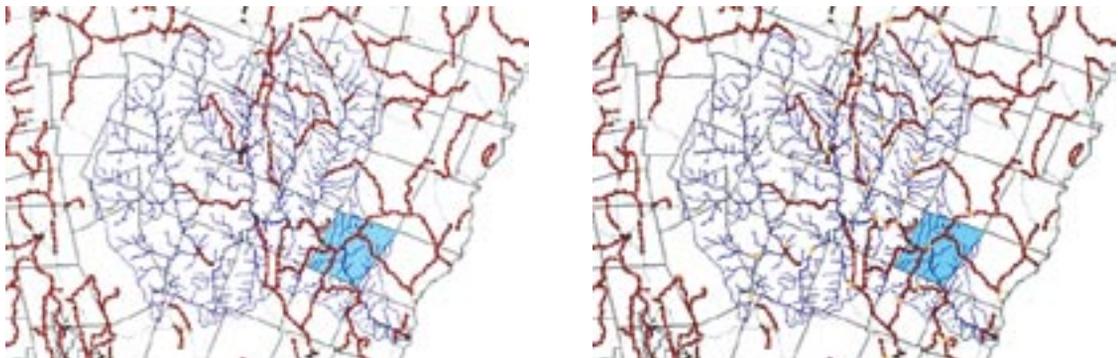
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*E. coli* testing sites on the White River.



Maps of the White River Watershed made by Sharon Academy biology students. The map on the right includes town centers.