

SCIENCE BULLETIN: WINTER ROADS MAKE SALTY STREAMS	
Questions	Light Pollution
1. What abiotic factor(s) have people changed?	<i>People changed the salt (abiotic) in the ecosystem by applying salt to roads to melt snow and ice.</i>
2. Why do people change the abiotic factor? Why does it help us?	<i>People use salt (abiotic) to help melt snow and ice during winter months. This helps humans travel safely, but it hurts the environment.</i>
3. What are the consequences to the living (biotic) and non-living (abiotic) parts of the ecosystem of that abiotic change? Use the terms abiotic and biotic factors in your answer.	<i>The abiotic factor salt runs off into the water when the snow melts. Salt in the water kills the algae (biotic) that are the basis of the food web thereby harming the whole ecosystem. Salt is not bad for all ecosystems. It is important for saltwater systems but it harms living things in a freshwater ecosystem.</i>
4. How do you know these are the consequences? Describe the evidence or data that support the claim that changing this abiotic factor impacts the surroundings.	<i>Scientists gathered water samples from forested, suburban, & urban streams during the different seasons. They then analyzed the data, which showed that salt from roads are getting into Baltimore area streams.</i>
5. Suggest how you might solve this problem.	<i>Put money into research and development for new techniques to melt ice, use salt sparingly, create new tires/shoes with more traction, find alternatives to salt like CMA and Geomelt. Sustainable city planning for winter months that ensures that least amount of salt is used during snowstorms. Less sprawl, ie. fewer roads.</i>