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Do sustainability problems in mathematics really affect student attitudes? Preliminary report.

Mathematical models in sustainability provide provocative mathematical examples although there often seems to be a question of realism. In Calculus 2, we use several examples involving sustainability including estimates of greenhouse gases in the atmosphere, the sustainability of commercial shrimp farming, and the use of genetically modified salmon to ease world hunger. While the primary purpose is to motivate the mathematical ideas, a lab book given to students provides detailed scientific references, sources, and background information regarding the environmental situations. What effect does this approach have on students learning mathematics or on their attitudes towards the environment? In addition to exploring the mathematical examples, we will report on student feedback given at the end of the course and in subsequent semesters. (Received September 22, 2010)