

Water Quality and Agriculture: a comparative approach

Canterbury and California are half a world away for each other, yet are confronting very similar issues regarding water management. Whether it's dairy in Canterbury or almonds in California, both are regions that have been adapted to irrigation-intensive uses, and are confronting issues regarding water quality.

My paper will first undertake a comparative analysis of the water quality management schemes in each region. I will focus on the effectiveness of the federal Clean Water Act, as opposed to the use of the Resource Management Act in Canterbury. For instance, there is an interesting contrast in the fact that the United States appears to provide stronger protections for waterways of outstanding value than the equivalent New Zealand legislation; however New Zealand has been more effective across the board at regulating agricultural contaminants.

The paper will refer to case studies of specific water catchments in order to analyze the incentives that are created by these regulations, and how that affects the behavior of agricultural water users. In particular, I will address:

- why agriculture presents particular challenges for water quality;
- the regulation of agricultural runoff in New Zealand, as opposed to the broad exemption for most agricultural uses under the Clean Water Act;
- the effects of the different regimes on water quality; and
- the interaction between water allocation and water quality issues.

The second part of my paper will consider market-based solutions to water quality issues, as opposed to regulation. This will cover approaches such as the purchase of water rights for environmental protection purposes, and pollution trading systems. I will analyse the theoretical arguments for and against pollution trading, and examine the impact of the pilot water quality trading scheme in California.

Finally, I will suggest lessons that each region can learn from the other, and present proposals for legal and political change that will preserve and improve water quality.

Sarah Hoffman