

California Nitrogen Assessment | Summary

Nitrogen plays a critical role in the global food supply, but the tradeoffs of excess nitrogen application involve increased costs for farmers and consequences for the environment and human health. Despite increasing awareness of the importance of these tradeoffs, there is still a lack of cohesive knowledge that gives a big-picture view of California's nitrogen system. The California Nitrogen Assessment (CNA) is designed to fill this void.

Our approach: The CNA is a comprehensive effort to examine the existing knowledge on nitrogen science, policy, and practice in California. Our scientists collect and synthesize a large body of data to analyze overall patterns and trends. Our methodology is modeled on integrated ecosystem assessments like the Intergovernmental Panel on Climate Change and the Millennium Ecosystem Assessment.

What is unique about the CNA: Unlike conventional research projects, the CNA will not generate new primary data. Instead, the CNA looks at existing knowledge to distinguish between what is well-known about agricultural nitrogen, and that which is more speculative. A large amount of information already exists on agricultural-related nitrogen in California which has never been looked at as a whole – and the CNA adds value by sorting, summarizing, synthesizing, analyzing, translating, and communicating this information.

Stakeholder involvement: A primary goal of the assessment is to develop information and products that are relevant to stakeholders' needs. Because of this, stakeholder participation is a vital part of the assessment, and we are conducting outreach to producers and industry groups, policy makers, non-profit organizations, and government agencies, so that these groups can play a key part in shaping the direction of the assessment and disseminating its results.

Our team: Our project is led by four principal investigators – Thomas P. Tomich, Dan Sumner, Kate M. Scow, and Randy Dahlgren – professors at the University of California, Davis. Additional project staff includes three post-doctoral research fellows, two communications and outreach fellows, and academic and communications coordinators. A distinguished eight-member technical advisory committee provides oversight for the project, a stakeholder advisory board provides comment and review from stakeholder perspectives, and an eight-member multidisciplinary faculty workgroup on nitrogen science and agriculture conducts complementary research.

Background: The California Nitrogen Assessment is funded by a grant from the David and Lucile Packard Foundation. Work on the assessment began in January 2009, and will continue through June 2011. Our institutional partners are: Sustainable Agriculture Research and Education Program (SAREP); the University of California Agricultural Issues Center; and the Kearney Foundation of Soil Science.