Exploring the Association Between Confined Animal Feeding Operations and Adjacent Water Bodies
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Purpose
The purpose of this study is to determine if there is an association between CAFOs and adjacent water bodies and/or streams and to explore the possibility that there are more CAFOs than are officially documented by the state.

Overview
Confined Animal Feeding Operations (CAFOs) will continue to expand and site new locations in order to meet the demands of a growing population.

The existence of these operations raise issues such as: impact on the landscape, land use planning, possible pollution problems, and how they are operated.

Study Area
The Southeast Digital Orthophoto Quarter Quadrangle (DOQQ) of Huxley in Shelby County, East Texas was chosen for analysis because of its proximity to the Toledo Bend Reservoir.

Zooming in on the SE DOQQ reveals an apparent spatial pattern associated with the locations of CAFOs and adjacent water bodies.

Basin 5 data acquired from the Texas Commission on Environmental Quality indicates that large amounts of water are needed to flush out sewage lagoons adjacent to CAFO buildings. In this case, the water is most likely attained from the Toledo Bend Reservoir.

Further inspection of remote sensing imagery is necessary to compile a complete site map of all CAFOs in Texas. Once such an inventory is made, additional research can determine how Texas’ CAFOs are impacting the landscape.

Conclusion
Zooming in on the SE DOQQ reveals an apparent spatial pattern associated with the locations of CAFOs and adjacent water bodies.

A map using 2001 data from the Texas Natural Resources Conservation Commission (now the Texas Commission on Environmental Quality) shows CAFO locations at that time, but this study’s image analysis indicates 23 additional CAFOs now exist within the SE DOQQ in East Texas (right). When 2007 state data for CAFO locations were acquired, many possessed a PO Box address and therefore could not be geo-coded.

Two sewage lagoons appear to be utilized for the disposal of waste from five CAFOs (top).

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