**SSC Step One application**

**PROJECT CONTACTS**

**Faculty/Staff Member Contact Information**

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**PROJECT INFORMATION**

**Project Name:** Woodchip Bioreactor

**Project Topic Areas (Choose one):**  Water

**Project Summary:**

Nitrogen, along with phosphorus, are the main nutrients contributing to hypoxia in the Gulf of Mexico. Nitrogen, in the form of nitrate is very soluble, and is primarily transported in water. Systems that are designed to quickly remove water from cultivated fields, will also remove nitrate dissolved in the soil water. Bioreactors have been developed to help remove nitrates leached into tile drains. Each bioreactor consists of a buried trench with woodchips through which the tile water flows before entering a surface water body.

The Urbana campus is 7.1 square miles and over four square miles are outside the main campus as South Farms. The South Farms have a number of tile drainage systems, and researchers would like to install a woodchip bioreactor to act as a waste water treatment facility for agricultural tile drainage water on campus as a demonstration site for “technology transfer” and for reduced non-point-source pollution from the South Farms. For details of the proposed system, see the [draft brochure on the iCAP Portal](http://icap.sustainability.illinois.edu/files/projectupdate/1801/trifold_Bioreactor.pdf).

**Student Involvement:**

The research group includes students. We can also use students to help with promotional information about this system and potential expansion around campus and university-owned farms.

**Timeframe:** one year

**Anticipated Budget:** $10,000

**Submit though online form at** [**http://ssc.union.illinois.edu/application.aspx**](http://ssc.union.illinois.edu/application.aspx)**, by January 28, 2014.**