



GLOBAL IMPACT SERIES

SOIL HEALTH AND THE SAGINAW BAY WATERSHED | THE NATURE CONSERVANCY

Wheat field. Photo by Polina Rytova on Unsplash. Inset: (From left), Hannah Paton, Rebeka Rooks, Lindsay Green, and Linnet Leon.

// [Consumer pressure] might not impact a farmer or commodity groups as directly, so partnering with consumer-packaged goods companies who have consumer pressure to be more sustainable is more convincing and leads to more potential partnerships.”

- Lindsay Green

Healthy soils allow plants to thrive while eliminating the need for chemical fertilizers and pesticides. The soil is disturbed as little as possible, allowing for the growth of helpful fungi and microorganisms to deter pests, produce healthy nutrients for the plants to grow, and break down plants, microbes, and fungi into soil organic matter. Organic matter holds the soil together, increasing the water retention capacity, reducing harmful runoff and enabling plants to better withstand drought.

Michigan agriculture contributes more than \$104.7 billion annually to the State of Michigan economy, and is second in the diversity of crops to California. Farming practices significantly affect soil health, but unfortunately soil health is not currently prioritized in most farms. Practices that promote soil health include cover crops, mulch tillage, no till, and nutrient management.

The **Saginaw Bay Watershed** (the largest drainage basin in the State of Michigan) is experiencing issues attributed to agricultural runoff that threatens the water supply for local communities. In an effort to reduce agricultural runoff, **The Nature Conservancy (TNC)** works with farmers to encourage the adoption of healthy soil practices. In addition to working with farmers, TNC also wants to work with consumer-packaged goods companies that source agricultural products from the Saginaw Bay Watershed. A Dow Fellows Team partnered with TNC to identify potential consumer-packaged goods companies to accelerate the adoption of sustainable farming practices in the Great Lakes Bay region.

// [TNC] has such close connections with so many farmers, and they know industry and commodity groups really well. What’s missing for them is... connecting with those really big private companies that have a really massive impact on sustainability initiatives... and say *‘hey we know you that you source products from our region, we care about soil health and water health, and these are ideas for partnership’*.”

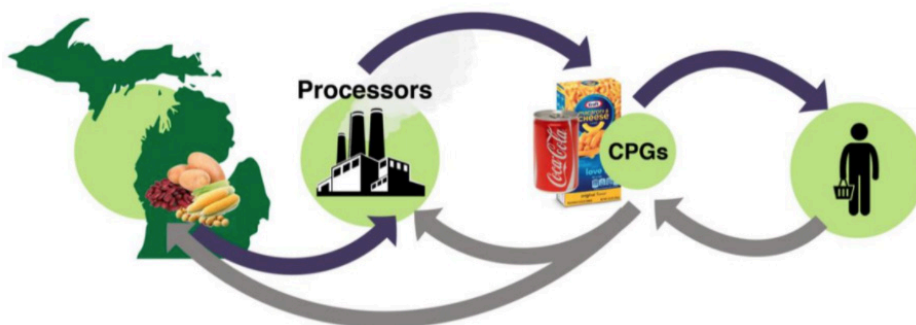
— Hannah Paton

GATHERING INFORMATION

Due to the high diversity of crops grown in the region, the Dow Fellows Team and TNC selected four of the most abundant crops in the region to focus on: corn, soybeans, dry beans, and potatoes. In order to identify consumer-packaged goods companies for TNC to pattern with, the team first performed an extensive literature to understand where each crop flows throughout the region. They then conducted interviews with each crop’s respective Crop Associations, processors, and other stakeholders to make connections with potential consumer-packaged goods companies. After identifying potential companies, the team evaluated each one on their public-facing sustainability goals and initiatives.

IMPACT

This work is important for TNC to establish partnerships on all steps of the supply chain to promote soil health and water quality in the Saginaw Bay Watershed. Consumer-packaged goods companies feel more direct consumer pressure for sustainable food than farmers. The current rising consumer pressure for sustainable food products creates a ripe opportunity for TNC to partner with companies to help promote sustainable agricultural practices.



PROJECT TEAM

- Lindsay Green, School of Public Health (SPH)
- Rebeka Rooks, Taubman College of Architecture and Urban Planning
- Linnet Leon, Erb Institute, Ross School of Business/School of the Environment and Sustainability
- Hannah Paton, Law School

FACULTY ADVISOR

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CLIENT

- Saginaw Bay, [The Nature Conservancy](#)

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This project addresses the following United Nations Sustainable Development Goals.

SUSTAINABLE DEVELOPMENT GOALS



The Dow Sustainability Fellows Program at the University of Michigan (U-M), made possible by Dow, supports full-time graduate students at U-M who are committed to finding interdisciplinary, actionable, and meaningful sustainability solutions. The program prepares future sustainability leaders to make a positive difference in organizations worldwide. We believe that diversity, equity, and inclusion are key to individual empowerment, and the advancement of sustainability knowledge, learning, and leadership. See: <https://graham.umich.edu/dow>