



Docket Number  
20121221

## Ecosystem-Based Water Retention/Reuse System (eco-WARES) Patent Pending

Laboratory and field studies have demonstrated eco-WARES technology maximizes storm water and irrigation runoff related pollutant removal and water retention efficiencies of green infrastructure vegetated systems and also allows for water storage and reuse.

### Florida A&M University Division of Research

**Contact:**

Rose Glee, Ph.D.  
Director  
Office of Technology  
Transfer, Licensing &  
Commercialization  
660 Ardelia Court  
Tallahassee, FL-32307  
Phone: 850-412-7232  
[rose.glee@famu.edu](mailto:rose.glee@famu.edu)

**Inventors:**

**Jennifer Cherrier, Ph.D.**  
[jennifer.cherrier@famu.edu](mailto:jennifer.cherrier@famu.edu)  
Alejandro Bolques, Ph.D.  
Michael Abazinge, Ph.D.

**Key Features:**

Eco-WARES technology maximizes runoff related pollution removal and water retention efficiencies of rain gardens and bioswales and also allows for water storage and reuse.

**Field:**

Environmental

**Technology:**

Ecosystem-based water retention and reuse system.

**Stage of Development:**

Development complete

**Status:**

Seeking investors to bring the eco-WARES technology to market.

**Patent Status:**

Pending

**Background:**

Water resources are under increasing human pressures and water sustainability is recognized as one of ultimate challenges for the 21<sup>st</sup> Century (i.e. 'blue' is the new gold). In particular, escalating land use changes over the last 50 years have created 'paved' landscapes that block water from being absorbed and filtered by the earth. As a result, the water that runs off our homes, streets, businesses and farms is one of the leading causes of pollution to our waterways and threatens our food and water supplies. This is a global multi-billion dollar environmental crisis that must be addressed.

**Statement of Problem:**

Recently the use of low-impact 'green' infrastructure such as rain gardens and bioswales has been gaining wide attention as a cost-effective approach for managing this runoff and protecting our water resources. These systems provide on-site management of water runoff, thereby reducing financial burdens on municipalities and regulatory agencies. Unlike conventional 'grey' infrastructure (i.e. pipes and pumps), retention ponds, and constructed wetlands these systems do not require a large land footprint. But, in their current design, these green infrastructure approaches are passive and their effectiveness for water interception and pollutant removal is variable and inconsistent. Their potential to adequately address water management needs is therefore compromised.

**Potential Solution:**

FAMU researchers have developed a novel ecosystem-based water retention and re-use system ("eco-WARES"; patent pending) technology that gives these green infrastructure approaches a needed boost to significantly and consistently improve their effectiveness. When incorporated into the design of rain gardens and bioswales, eco-WARES 'activates' these systems to control water retention times and soil conditions and thus maximizes pollutant removal efficiencies as well as allows for water storage and reuse. eco-WARES can be used for small scale residential applications to larger municipal, agricultural, and industrial installations. It is a simple, cost effective augmentation solution to green infrastructure approaches that effectively addresses water management needs.

**Commercialization Status:**

eco-WARES technology has been tested both in the laboratory and in the field and, while environmental and socioeconomic assessments of the system in different geographical and climactic settings continues (funded by NOAA), it is ready for commercialization. We are seeking investors, collaborators, and potential channel partners to help bring this technology to market.