

Freshwater Collaborative Talking Points

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The Freshwater Collaborative of Wisconsin will:

- Create a statewide pipeline to propel job creation
- Create and train the next generation
- Showcase Wisconsin as an international water research and educational hub

Summary

The [Freshwater Collaborative of Wisconsin](#) (FCW) is a **partnership of Wisconsin's 13 public universities**, connecting with industry partners, local communities, policymakers and advocacy groups to build and expand a **statewide pipeline** of career-focused education and training as well as world-class research and innovation that will **propel job creation**.

FCW's core purpose is to address **Ten Grand Water Challenges** facing Wisconsin, focusing initially on the first three areas of **agricultural water management, water quality and safety, and emerging contaminants**.

The state's investment will create a research network, hire new faculty who will bring research funding to the state, provide graduate assistantships, undergraduate scholarships and post-doc fellowships to encourage student enrollment, direct inter-institutional research programs, establish new curricula and degree programs, internships, stakeholder engagement, marketing and administrative support.

Funding of FCW in the next biennial state budget, totaling \$9 million over the two years, will benefit all of Wisconsin by **creating programs to train the next generation** of water professionals and establishing the state as an **international water research and education hub**.

Projected growth with the initial \$9 million investment includes 400 undergraduate students enrolling across the UW-System within 5 years, generating approximately \$4 million in tuition, **creating significant return on investment** that will grow for years to come making Wisconsin the world water hub.

Federal and private research funding is brought in by professors, scientists, and staff to match state funds. Approximately 50% of the initial investment will support the hiring of the people who will secure that federal and private funding. For example, four universities from all corners of the state have generated \$43.3 million in research dollars since 2017. Hiring additional staff through the Freshwater Collaborative will expand those research dollars.

FCW will train tomorrow's water professionals, meeting a critical need: Two-thirds of **Wisconsin industry surveyed say they don't have enough qualified water employees**, and that new hires require extensive training because of their lack of knowledge.

Half of statewide industry respondents to a survey also said water-related positions are a growth area in their organization. Their **need for qualified employees will only increase**.

Projected job growth

In June of 2018, the Brookings Institute identified “1.7 million workers were directly involved in designing, constructing, operating, and governing U.S. water infrastructure” alone, and “they consistently represent 1 to 2 percent of total employment in the country’s metro and rural areas.” This matches up with a UWM analysis of workforce data, which suggests a **Wisconsin water workforce of more than 60,000, or about 2% of the state’s total employment**. According to the same Brookings report, water occupations pay well, and consistently exceed the national average for all occupations.

Lack of talent threatens the success of our water and water-dependent industries, hampers their growth and drives these industries to look for skills, ideas, and investment outside our state. Eighteen of the 29 most common occupations that require a BA/BS or higher had fewer Wisconsin graduates in 2016 than the estimated number of water sector job openings available. State graduates could only meet 11% of the industrial engineering jobs and ~50% of the mechanical engineering jobs available.

Wisconsin is uniquely positioned to succeed in this bold initiative – to become the Freshwater research and development capital of the world. We have **unprecedented diversity in water-focused natural resources** including the world’s largest surface freshwater system and one of the world’s largest river systems; **existing and strong (but currently isolated) water programming** throughout the state; and support from state government, industry leaders and other stakeholders.

FCW will attract students and faculty from around the country and beyond, confirming Wisconsin and the UW-System as the world’s water hub. This will in turn attract **additional investment and economic development** from industry and other stakeholders.

UNESCO's executive brief about the UN World Water Development Report estimates that more than 1.4 billion jobs, or 42% of the world’s total active workforce, are heavily water-dependent. It is further estimated that 1.2 billion jobs, or 36% of the world’s total active workforce, are moderately water dependent. These are sectors that do not require access to significant quantities of water resources to realize most of their activities, but for which water is nonetheless a necessary component in part(s) of their value chains. Examples of sectors with moderately water-dependent jobs include construction, recreation and transportation. In essence, **78% of jobs constituting the global workforce are dependent on water**. Investments in infrastructure and operation of water-related services can provide high returns for economic growth and for direct and indirect job creation.

Initial Investment

To meet our **ambitious but critical goals for expansion** and program development, FCW requires \$9 million over the next two years: an initial investment of \$3 million for 2021-22, and \$6 million for 2022-23.

The initial investment of \$9 million will be used to fund three areas key to FCW’s success: encouraging enrollment and **supporting student success** through scholarships, fellowships and internships; **supporting and enhancing the statewide network of educators and innovators** who bring in grant dollars; and fostering a statewide ecosystem of water engagement and learning that involves **every campus within the UW System as well as local communities**.

STUDENT SUPPORT ~40%: FCW will support **student success** through scholarships, fellowships and internships, including year-round undergraduate opportunities in lab and field. These **transformative experiences** will occur across the state and will prepare students for careers after graduation by providing them with **real-world skills**.

Planned transformative experiences include a groundwater program built around our UW partners at Stout, Eau Claire and River Falls, and an emerging contaminants immersive learning experience that Oshkosh and Milwaukee campus partners are developing. These **student success-based initiatives** will be supported with about 40% of the initial biennial investment. Coursework moves between science, technology, engineering, humanities, business and many other critical fields.

FACULTY AND STAFF SUPPORT ~50%: We will support the researchers and scientists providing these programs by adding and supporting faculty across the 13 UW System campus partners. This portion of our budget, approximately 50% of the initial investment, will include the projected hiring of up to 26 new faculty members and 13 support staff in the first two years. These faculty members will bring valuable research grant dollars for an immediate return on investment.

PROGRAM OPERATIONS SUPPORT ~10%: To foster a statewide ecosystem of water engagement and learning that involves every campus within the UW System, as well as local communities, we will use approximately 10%, for campus programs and operations. This includes program operations, director's office, career services, student orientation, etc. To ensure a seamless experience for students, faculty, stakeholders and other community partners, we will build and maintain an infrastructure, including administration, marketing, recruitment, communication with K12 and the Department of Public Instruction to encourage water careers across the state and an annual water conference.

Additional Reference Links:

Brookings, Renewing the water workforce: Improving water infrastructure and creating a pipeline to opportunity: <https://www.brookings.edu/research/water-workforce/>

UN World Water Development Report: https://www.unwater.org/publication_categories/world-water-development-report/

UNESCO's executive brief about the UN World Water Development Report: <http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/wwdr/2016-water-and-jobs/>

Pacific Institute, Sustainable Water Jobs: A National Assessment of Water-Related Green Job Opportunities: <https://pacinst.org/publication/sustainable-water-jobs/>

Bureau of Labor Statistics, info about Water Utilities jobs: <https://www.bls.gov/careeroutlook/2017/article/water-utility-jobs.htm>

Bureau of Labor Statistics, info about Water Conservation jobs: https://www.bls.gov/green/water_conservation/water_conservation.pdf

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