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PIONEER PRESS PHOTOS: RICHARD MARSHALL

**Above:** Dr. David Knighton displays a handful of the moss. **Below:** Izzy Griffin, 6, of West St. Paul, left, and her cousin Josie Lenartz, 7, enjoy almost chlorine-free swimming at St. Paul's Highland Park Aquatic Center pools, thanks to sphagnum moss in the filtration system.

## HAIL! SPHAGNUM MOSS

By letting nature lend a hand at several St. Paul city pools, a new process using an age-old germ fighter that gives swimmers 'great water' with much less eye-burning chlorination.

By Dennis Lien  
dlien@pioneerpress.com

You're a swimmer, but you hate all the things that chlorine does to your eyes, skin and hair. What do you do?

You head to St. Paul's Oxford Community Center.

Two pools there, as well as ones at the Highland Park Aquatic Center (which close for the season after today) use naturally grown sphagnum moss as the main ingredient to treat the water, leaving swimmers with a sense they could be in a clean, clear lake.

"It's phenomenal; it really is," said Lynn Waldorf, aquatics supervisor for the city of St. Paul. "It's probably the coolest thing I've ever been involved in."

She said the process, used for the first time this summer on such a large scale, not only is healthier and makes the water feel better but also reduces chlorine and other chemical use and cuts pool operation and maintenance costs.

The patented system was developed by Plymouth-based Creative Water Solutions, which started using it in residential spas and pools, and is just now entering the



commercial pool arena. Its co-founder said two types of sphagnum moss that the company has identified limit bacterial growth in pools, clearing the way for much lower amounts of chlorine to be

used to kill free-floating bacteria. "We're rediscovering what has been around forever," said Dr. David Knighton, a scientist and former vascular surgeon who developed the process and is the

company president and CEO.

If the approach takes off, he said, it could jump-start a sphagnum moss industry in northern Min-



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**Dr. David Knighton supervises the lowering of baskets of New Zealand sphagnum moss into an intake chamber at the Highland Park Aquatic Center. Swimmers prefer the filtered water, said Lynn Waldorf, city of St. Paul aquatics supervisor.**

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nesota as well. Sphagnum moss is a small, leafy plant that grows in bogs there and at similar latitudes elsewhere in the world.

For now, though, the company is importing it from New Zealand.

At the pools, sterilized moss is placed in containers, and water is allowed to flow slowly through it. Knighton said the moss acts as a filter, removing heavy metals such as iron, and as a conditioner, limiting the growth of bacteria, algae, mold and fungus. He said the pH level, or alkalinity, of the water also is more stable.

Knighton said he came across the idea accidentally.

On an airplane flight from Europe eight years ago, he said he read an article about the use of sphagnum moss as a dressing for wounds in

World War I. It noted that people had been using it for centuries, particularly during wars.

"I knew it had to have some antimicrobial qualities," Knighton said, adding its use fell off after the advent of penicillin.

Battling to keep his own pool clean and smelling fresh, Knighton said he began looking into ways to use sphagnum moss to accomplish the job.

Aware that northern Minnesota lakes with bogs and sphagnum moss are especially clear, he had his company test many types of moss and found two kinds that work well. For purposes of cleaning pools, he said, other types don't.

Even though the moss grows in northern Minnesota, a highly developed industry already exists in New Zealand, providing him with a ready supply.

But he said he hopes the state develops a similar sus-

tainable industry, and he spent part of last winter lobbying legislators to adopt New Zealand's harvesting policies.

He said he would try again next session.

"Minnesota is the Saudi Arabia of moss," he said. "It's a huge resource."

After hearing about the process, Waldorf said she contacted Knighton about trying it on a larger scale in St. Paul city pools.

He agreed and said the company donated all costs for this year. Initially, it was placed in the Highland Park complex, then added a month ago to the Olympic-size and toddler pools at Oxford.

Waldorf said she didn't announce the change because she wanted honest answers from users. She said she got them.

"They keep coming up to me and saying, 'Thank you for such great water,' " Waldorf said.

"It's made it a lot nicer experience for our swimmers," St.

Paul Mayor Chris Coleman said. "And from a practical standpoint, it has made it less expensive ... by a third to a half.

"This is better for the skin, the hair, the eyes, for everything," Coleman added. "And certainly for the environment."

Coleman and Waldorf also stressed air-quality improvements at the Oxford pool, which remains open year-round.

In fact, Waldorf said three asthma sufferers who use the pool have told her they no longer have to use their inhalers there.

Visitors at the Highland Park pools also give moss a strong endorsement.

"I'm impressed with the clarity and the cleanliness I'm seeing now," said Chris Boehner, who was there last week with her granddaughters. "And I'm not overcome with the chlorine odor and the eye burning that you get in some pools."