

Water Conditioning

The First All-Natural Green Products for Pools, Spas, Hot Tubs

PoolNaturally® & SpaNaturally® Backgrounder

"In my 30 years as service provider in the spa and hot tub industry, I've seen a lot of new products come along that claim to be effective or natural, and usually they have very limited benefits or turn out to be 'snake oil,' but SpaNaturally really works...Sometimes at night, the water in my hot tub is so clear, you have to touch it to make sure it's there. That's how effective this product really is." — Steve McFarland, owner of McFarland Hotwater Technology Company, Hopkins, MN

Nature has been conditioning water for eons by controlling the growth of microorganisms such as bacteria, algae and other waterborne agents and by reducing metals and other deleterious elements. It does so by using a species of sphagnum moss to clarify the water and improve its overall quality. That same moss has now been harnessed in PoolNaturally® and SpaNaturally® — the first breakthrough, all-natural Green products for the home from Creative Water Solutions (CWS). Moss-based applications/products for whole home water treatment, ponds, aquariums and in other industries are also planned.

For residential pool and spa users who spend more than \$3 billion annually for chemicals and other devices to stabilize water quality and clarity and to make their pools and spas usable, the benefits are dramatic:

- **Up to as much as 90% reduction in the use of harmful and expensive chemicals, including traditional sanitizers and additives such as shock, algaecide, clarifier, metal and scale remover, etc.**
- **Half the time it usually takes to maintain pools or spas managing pH, alkalinity, algae**
- **Less chemical corrosion of pipes, heaters, pumps and liners — and less costly repairs**
- **No more irritating side effects: burning eyes, dry skin and hair, sanitizer odors, faded swim wear**

Patented Products Tackle Major Water Nemesis, Biofilm, which Renders Chlorine Ineffective

Hand-harvested and 100% biodegradable, the sphagnum moss-based PoolNaturally and SpaNaturally products were introduced in 2007 and 2004 respectively. They were patented in 2009. But the science about how the sphagnum moss works continues to evolve and presents innovative new ways of thinking about water treatment. After a decade of research, the evidence is becoming clearer: The moss' natural water conditioning molecules interfere with the real nemesis in all water environments, including pools and spas — Biofilm — the secreted shell formation that bacterium creates to protect against "attackers," including chlorine, which it absorbs and renders ineffective (See Biofilm Backgrounder in Media Kit and online <http://www.cwsnaturally.com/about/media.php>).

By using Nature's water conditioning power, the PoolNaturally and SpaNaturally products restore the real recreational value that people bought their pools, spas and hot tubs for in the first place by giving them greater water clarity, lower maintenance times and less costly repairs. To date, CWS has been recognized in Minnesota, its home base, and nationally:

- **The Top 50 Top Pool Products of 2009 — Pool & Spa News**
- **Dr. Knighton, William B. Fritzsche Memorial Top 50 Awards, 2009 —Water Conditioning and Purification**
- **Best Practice in Innovation and Technology 2008 — [Upsize Magazine](#)**
- **Innovator of the Year, Dr. David Knighton 2006— [Finance and Commerce](#)**

Watch an in-depth report about the products from the Twin Cities CBS affiliate, WCCO TV:

<http://wcco.com/video/?id=45959@wcco.dayport.com>

Visit Creative Water Solutions for more information at: www.cwsnaturally.com



About Creative Water Solutions, LLC

Creative Water Solutions LLC was founded by medical device entrepreneurs and business partners, **David Knighton, M.D.**, and **Vance Fiegel**. Knighton is President and CEO of CWS; Fiegel serves as its Chief Scientific Officer.

In the past, both Knighton and Fiegel were principals of Curative Technologies Inc., specializing in blood platelet research and wound healing centers. Later, they formed Embro Corporation and Embro Vascular, and patented tools for harvesting veins for heart bypass surgery and orthopedics (See Bios).

Dr. Knighton is also the founder and former CEO of the Institute for Reparative Medicine (with offices in St. Cloud and Minneapolis) and the founder and CEO of Knighton Real Estate and Knighton Transportation.

Allan Schwartz, Vice President of Sales and Marketing, is a veteran of the business world. He has executive- and management-level experience and brings a broad knowledge in sales, marketing and business development from a variety of companies, including IndiVisual Learning, NCS/Pearson and others.

Gina Chavez, Vice President of Operations, brings to CWS extensive background in research, with analytical and organizational skills developed through an accomplished work ethic and educational history. She has led ongoing product research, development of CWS's social media presence and manages the company's production and inventory schedule, critical supplier relationships, and import/export processes.

The company is based in the Twin Cities area and supplied by sphagnum moss harvesting operations in New Zealand. It is the OEM for BerryStart™ and BerryPure™, the water conditioning feature of the new Canadian-based SpaBerry™ product now on the market.

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More about Sphagnum Moss and the Benefits of PoolNaturally® and SpaNaturally®

The leaves of the plant contain natural water conditioning agents

The Native American Ojibwa Indians of White Earth and Red Earth, Minnesota, consider it sacred for its healing powers. The Japanese use it to wrap delicate, expensive orchids. And nature has been using it forever to give lakes their pristine water quality. Sphagnum moss – the generic term for the breakthrough water-conditioning substance used in the PoolNaturally and SpaNaturally products – has been conditioning water around the world for eons. And yet, its recent “discovery” as a revolutionary innovation in pool, spa and hot tub maintenance for its water-clarifying properties could make it one of the most significant “green” products ever introduced in the \$9 billion pool, spa and hot tub industry.



*Sphagnum moss plant from
New Zealand in its natural state*

There are hundreds of different species of sphagnum moss and it is plentiful across the world. Sphagnum moss is a soft, lush plant with small leaves that typically grows in bogs as a layer of vegetation, almost floating on the water underneath. When it decays, it becomes peat. Leaves from the plant are used in the production of PoolNaturally and SpaNaturally.

Sphagnum moss is found in the higher latitudes of both the northern and southern hemispheres. Much of northern Minnesota and southern Ontario are covered with moss bogs. Similar latitudes in Europe, Russia, Chile and New Zealand (where Creative Water Solutions sources it for production) also contain large areas of Sphagnum moss bogs.

Commercial Uses

Today, Sphagnum moss is harvested in Wisconsin, Scandinavia, Chile and New Zealand, mainly for applications in the flower industry where it is used to germinate plants and wrap orchids. In Wisconsin, machines are used to harvest the moss, while in New Zealand it is harvested by hand and transported out of the bog by helicopter to prevent any environmental damage. It grows in 18-36 months after harvesting from the roots and seeds left behind in the bogs.

From the bogs of New Zealand to your pool and spa anywhere in the world

Once harvested, the New Zealand moss is processed for pools and spas.

- The leaves of the moss are dried on racks or under large industrial blowers
- The moss is then compressed and cut into different-sized units for pools and spas
- The moss is shipped to the Twin Cities where it is ETO sterilized to kill any microbes that may be present
- The different-sized pieces are fitted into blue-mesh containers resulting in inserts that look like large, flow-through tea bags by a team of adults from Lifeworks (www.lifeworks.org)
- Once the pool and/or spa has been prepared, the inserts are placed into the water and go to work (See FAQs at <http://www.cwsnaturally.com/science/faq.php> about usage)



The special flow-through sphagnum moss inserts for pools, spas and hot tubs

How the moss works in pools and spas

Before going to market, years of testing and research were conducted on sphagnum moss' effectiveness in conditioning water. CWS found that the moss acts like an absorptive filter, a buffer, and releases water conditioning agents to improve water clarity and quality while inhibiting biofilm formation (See Biofilm Backgrounder in Media Kit or online <http://www.cwsnaturally.com/about/media.php>).

- It actively removes ions from water through an ion-exchange process located within the pores of the leaves of moss.
- This ion-exchange process binds specific molecules such as iron, calcium, mercury, lead and cadmium.
- Once bound, the molecule is removed from the fluid.
- The moss likewise actively buffers the pH of a solution. Once the pH of a solution is set, these buffers keep the pH stable over a period of time.

PoolNaturally®

SpaNaturally®

The Benefits of Using PoolNaturally and SpaNaturally

- **Better pool and spa water clarity and quality**
- **Greater alkalinity and pH stability**
- **Less foaming and odor**
- **No more burning eyes, dry hair and skin, or bleached swimwear**
- **Less impact and repairs to internal plumbing, pumps and heaters, and surfaces and liners of the pool or spa**
- **Fewer water changes (and lower water bills)**
- **Easier pool and spa maintenance (up to half the time usually)**
- **Less pool chlorine and bromine for the spa (for extra cost savings)**
- **Less additives needed, including shock, algaecide, stain remover, scale remover, cyanuric acid, and cleansers (another added cost savings)**
- **Silkier, softer water is one of the lasting benefits of using both products**
- **Time-enhanced conditioning: Water improves with every new moss refill change**
- **Less chemically polluted waste water once you drain your pool or hot tub**
- **Earth-friendly: Both products are 100% biodegradable**

Biofilm, Water and Sphagnum Moss

"It's not yet well known, but chlorine and other chemicals used to kill bacteria are actually absorbed by biofilm — rendering those chemicals ineffective — especially in the pipes, liners and other pool and spa areas." — Vance Fiegel, Microbiologist, Chief Scientific Officer, CWS



*Even a brand new spa can exhibit biofilm buildup
(foam and brown area appear during flushing process)*

The slimy rocks in the lake. The tarter on your teeth. That foam in your spa. All of those things and more are caused by biofilm, nature's protective way of providing bacteria in moist or water-filled areas with a suitable environment (a shell-like secretion) in which to proliferate, communicate, and survive, especially in harsh environments. Only within the last decade have scientists and researchers gained a better understanding of how bacteria live, communicate and grow in a water environment.

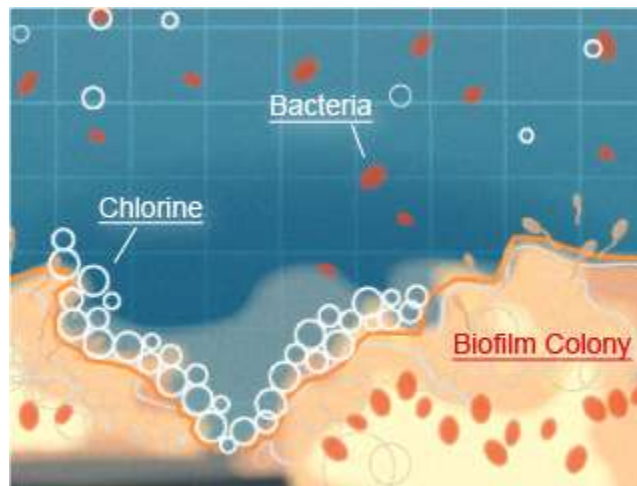
Biofilm's unique protective coating and extraordinary survival mechanism is made up of complex sugar molecules. These sugar molecules provide a backbone for the additional accumulation of proteins, DNA, calcium and other inorganic materials and substances that flow over the bacteria's protective shield and become incorporated into the biofilm mass.

Contrary to common beliefs, bacteria gravitate to the inside surfaces of pipes and the liners of pools and spas rather than remain suspended in the water. More than 99 percent of all bacteria in a water system may live within biofilm. **Once the bacteria adhere to the surface, they begin the process of colonization and biofilm formation. The biofilm maintains the moist environment, captures and holds nutrients, and provides protection from toxins, such as chlorine and bromine.**

Up to 80% of water management issues are directly attributable to contamination by biofilm
Only when bacteria are released from biofilm's protective shield are these free-floating, unprotected planktonic bacteria vulnerable to deadly chemicals and sanitizers such as chlorine and bromine. But research — at Montana State University's Center for Biofilm Research* and other research centers, including CWS — has confirmed that **as little as 1-percent of the bacteria stay in suspension. Bacteria actually migrate to a surface and quickly attach themselves.**

That's why up to 80% of water management issues are directly attributable contamination by biofilm.

*To learn more about biofilm research, visit the website of Montana State University's Center for Biofilm Research <http://www.erc.montana.edu/>.



Biofilm colonies growing on an underwater surface.

Continuing studies likewise demonstrate that biofilm is resistant to typical concentrations of most pool and spa chemicals. According to Vance Fiegel, Microbiologist and Chief Scientific Officer for Creative Water Solutions (CWS), "It's not yet well known, but chlorine and other chemicals used to kill bacteria are actually absorbed by biofilm — rendering those chemicals ineffective in the pipes, liners and other pool and spa areas. With biofilm present, testing the water in a pool or spa doesn't detect the chlorine absorbed by biofilm. **Adding more chemicals doesn't help: they simply bind to the increased amount of biofilm.**"

If external conditions deteriorate, the bacteria can remain alive but go dormant for very long periods of time. When conditions again become favorable for growth, the bacteria then start to proliferate and re-colonize. Almost immediately, pieces from the active bacterial colony break off with the biofilm and then attach to new areas where they start growing. This happens very quickly over just a few hours and is repeated thousands of times. **Removing or preventing biofilm from forming on surfaces is very difficult and can require strong and toxic acids. This important aspect of bacterial contamination has defied most conventional efforts of inhibition or eradication.**

Biofilm will rapidly remove all sanitizers from water in pools or spas with lots of biofilm

If a pool or spa has a lot of biofilm, it will rapidly remove all sanitizers from the water. Pools and spas using the PoolNaturally or SpaNaturally systems have very stable sanitizer levels. After years of testing, CWS found the sphagnum moss conditions water through its activity as an absorptive filter, as a buffer, and by releasing conditioning substances. Moss actively removes ions from water through an ion-exchange process located within the pores of the leaves of moss. This ion-exchange process binds specific molecules such as iron, calcium, mercury, lead and cadmium. Once bound the molecule is removed from the fluid.

CWS has determined the unique characteristics of sphagnum moss can naturally reduce biofilm accumulation and bacterial proliferation — and help condition water in three ways:

- **Nearly a decade of studies shows that this species of sphagnum moss has the ability to control the growth and proliferation of various bacteria.**
- **The ability of the moss to reduce biofilm leaves bacteria exposed and vulnerable to chlorine and deadly sanitizing chemicals. Because bacteria are exposed, fewer chemicals are needed to effectively control bacteria.**
- **Moss has strong natural buffers that stabilize pH and reduce the need for additional chemicals. With fewer chemicals, water chemistry is easier to balance and maintain.**

David Knighton, M.D.
Chairman, CEO, President/Creative Water Solutions

"More and more pool and spa owners, sellers and service companies are discovering how effective and healthier the PoolNaturally and SpaNaturally products really are, not only for themselves and their families, but for the better upkeep of their hardware and the environment. There's no need to keep throwing chemicals at chemicals to enjoy your pool or spa." —Dr. David Knighton

Medical doctor, inventor and entrepreneur, Dr. David Knighton is an award-winning innovator and wound healing expert. His patented medical inventions are not only extremely pragmatic applications, but they reflect the creativity, innovation and empathy that are the hallmarks of his distinguished medical and business careers.

Working with his longtime colleague, business partner and microbiologist, Vance Fiegel, Knighton has continued on his path of creativity and innovation through the development and commercialization of **SpaNaturally® and PoolNaturally®**, the water-conditioning systems launched by Creative Water Solutions (CWS). Both green products offer solutions to a wide variety of problems not currently being successfully addressed in the chemical treatment of residential pool and spa water.

Knighton and Fiegel share several patents for medical devices and methods of harvesting veins for use in heart bypass operations and issues related to varicose veins and orthopedics and one for moss-based water treatment devices. Together they have founded and operated a number of companies, including:

- **Curative Technologies, Inc. (CTI)** (1984-1993), Dr. Knighton founded CTI in 1984. Using patented technologies that resulted in growth factors being released by the platelets, CTI established wound care centers around the country. Patients with non-healing wounds from diabetes, venous stasis, pressure sores and other etiologies were treated with growth factors released from their own platelets. More than 200 such centers were started around the country and later the company conducted a successful Initial Public Offering . Dr. Knighton served as Chairman of the Board through 1989 and stayed with the company through the public offering (1991-1993).
- **Embro Corporation** (1991-present), a privately held biomedical research and development company creating technologies for vascular surgeries, wound healing and infectious diseases. Currently Chairman and Chief Scientific Officer.
- **Institute for Reparative Medicine** (1992-2008), vascular surgery clinics in St. Louis Park and St. Cloud. Founder and former CEO.
- **Embro Vascular, LLC** (1998-present), established as a business to commercialize a patented endoscope and method for vein removal. Technology and patents sold to Guidant Corporation. Currently Chairman.
- **Atlantic Bio Ventures, LLC** (2002-present), majority owner of Creative Water Solutions, LLC, to commercialize products based on sphagnum moss technology.

Knighton earned his M.D. degree at Abraham Lincoln School of Medicine at the University of Illinois, with postgraduate surgical studies at the University of California (San Francisco), where he later became Chief Resident Surgeon. He has received more than a dozen honors, including "Who's Who in America," has written numerous publications on various medical subjects and belongs to a host of professional organizations. Dr. Knighton is the recipient of more than a dozen research grants, including those from the National Institute of Health and Veterans Administration. In addition to the above-mentioned companies, the doctor also is Founder and CEO of Knighton Real Estate, Inc., and Knighton Transportation, LLC, and has served on the Board of Directors for Surgidyne (1993-2002). He also served on the faculty of the University of Minnesota Hospital and Clinic (1984-2000). Knighton is a licensed pilot and an avid fly fisherman and outdoorsman.

Vance Fiegel, B.S.

Co-founder and Chief Scientific Officer, Creative Water Solutions

"We strive to create things that are really needed in the lives of people who benefit from our work."

– Vance Fiegel

Vance Fiegel is the kind of scientist-cum-business-partner that any company involved in biological or medical research would readily welcome. His steadfast research and critical thinking have helped shape the many successful business ventures he's forged with David Knighton, M.D. Fiegel did research at the University of Minnesota for 15 years after earning his Bachelor of Science degree in Biology there. In the early years of his career, Fiegel's research focused on inflammation, infectious diseases and work related to wound healing.

Fiegel and Dr. Knighton met in the University's Department of Surgery and have been associated in one business enterprise or another since 1984, when they cofounded Curative Technologies, which was initially a research-driven endeavor begun to study chronic non-healing wounds. The two discovered that a patient's blood platelets contained healing agents that could lessen or resolve the chronic problems associated with such wounds. Eventually, they devised a chronic-wound-care program that became a national model for similar centers around the country, including such Twin Cities medical facilities as Fairview and HealthEast. Curative Technologies went public in 1991 and raised more than \$28 million.

"We were filling a big need in the market," Fiegel notes, "and for a time, these centers and our research were very well received." While that formative business helped establish Fiegel as a first-rate – and bankable – researcher, it also set the philosophical tone for subsequent ventures that he and Dr. Knighton would undertake. "We strive to create things that are really needed in the lives of people who benefit from our work," says the innovative biologist, whose research with wound healing led to studies of vein-harvesting techniques and the formation of Embro Corporation, then Embro Vascular, a company established to commercialize a tool and technique for harvesting veins in heart bypass surgery and orthopedics. Technology and patents from Embro Vascular were later sold to Guidant Corporation.

Fiegel's next area of scientific breakthrough and business opportunity came with the research into sphagnum moss for the SpaNaturally product developed for CWS. Ongoing research indicates that the moss appears to control the formation of biofilm, whether in northern Minnesota lakes and New Zealand bogs, or in a swimming pool or spa. It acts as a natural water conditioning agent, and it received its first patent in 2009, greatly benefiting the users of spas, swimming pools and other water environments by making consumers less dependent on the harsh chemicals currently required for water treatment. A native of Rochester, Minnesota, Fiegel has published extensively in his 30-year career in both medical publications and textbooks. Along with Knighton, he holds several patents for a vein-harvesting system and other medical technologies and one patent for moss-based water treatment devices.

Of his business partner and longtime friend and colleague, Dr. Knighton notes: "Mr. Fiegel is a first-rate researcher who is one of the most creative scientists I know. He can successfully determine the real scientific value of a project or process. He's ultimately the one who validates our business and intellectual property, and he does a terrific job."

Fiegel is currently President and COO of Embro Corporation, Vice President and Treasurer of Embro Vascular and a principal of ABV and CWS. He has held numerous board positions in a number of organizations, including Ducks Unlimited, and has 20 years of coaching youth sports. He is also an avid fly fisherman and outdoorsman.

Gina M. Chavez, M.Ed.
Vice President of Operations, Creative Water Solutions

Gina Chavez serves as Vice President of Operations for Creative Water Solutions. She brings to CWS extensive background in research, with analytical and organizational skills developed through an accomplished work ethic and educational history. In 2002, Chavez joined the Embro Corporation researching the potential of sphagnum moss, prior to the formation of CWS in January 2003. Since then, as Operations Manager, she has managed ongoing product research, the development of product packaging, company finances, and production and inventory schedules, in addition to day-to-day operations of the company. She brought Lifeworks, a Twin Cities company that provides meaningful work and wages to people with disabilities, into CWS in 2004 to perform product assembly and packaging. In 2009, Chavez was named Vice President of Operations, which expanded her previous role to include import/export processes and documentation, critical supplier relationships, and growth, training and management of staff. With a family history and many ties to Minnesota's legendary Iron Range, Chavez (formerly Palazzari) is eager to pursue the development of a sustainable sphagnum moss harvesting industry in northeastern Minnesota, where abundant sphagnum moss bogs exist.

To date, her other major projects include:

- **Marketing/brand identity/retail packaging initiative with Integreat and Sussner Design, 2005**
- **Critical residential Minnesota pool study, 2006**
- **4 company website and 3 web store revisions, most recently with Sinard, Inc.**
- **Bi-lingual, international packaging design for BerryStart™ and BerryPure™ for the Canadian-based producer of the SpaBerry™, 2008**
- **Bi-lingual, international packaging design for Canadian-based distributor of SpaNaturally® products, Sani Marc, 2009**
- **Critical commercial pool study involving City of St. Paul, Minneapolis Jewish Community Center and Oak Ridge Country Club, 2009**
- **Development of CWS' social media presence, 2009**

Operations Experience Began at Age 10 in her Parent's Dairy Queen

Ms. Chavez jokes that her business education began in 1982 when her parents became owner/operators of a Dairy Queen franchise in Moose Lake, Minnesota. In 1984, at the age of 10, barely able to see over the counter, she began waiting on customers, making cones with that signature curl and malts with her high school aged coworkers. Her 10 years of experience working at the establishment alongside her parents and brother gave her a solid foundation in the management of inventory, product quality, and employees, as well as effective customer service and solid business-community relations.

Chavez began her research experience with three undergraduate years as a Missouri Space Grant Intern in the research laboratory of Earth Science Department with Chair, Dr. Raymond Arvidson, at Washington University in St. Louis. She graduated in 1996 with honors and an A.B. in Earth and Planetary Science. Following a brief stint as a laboratory technician for Edina-based Bergquist Company, she earned a B.S. degree with honors from St. Cloud State University in Science Education in Earth, Life, and General Sciences in 1998. She taught 8th grade earth science for three years, was an International Baccalaureate Middle Years instructor, multi-sport coach, and organized a number of extracurricular educational programs. In May 2001, she earned her Master of Education degree from Saint Mary's University in Winona with a final project on Poverty and Achievement.

Today Chavez is an accomplished pilot and flight instructor, an avid marathon, duathlon and triathlon athlete in Minnesota, Boston and elsewhere. She is also the mother of two young children. She lives with her husband and family in Crystal, Minnesota.

Case Study: SpaNaturally®
Steve McFarland, McFarland Hotwater Technology Company,
Hopkins, Minnesota

The Super-Nice SpaNaturally Experience **Longtime Minnesota Spa and Hot Tub Service Provider Sold on Benefits of All-Natural Product**

McFarland Hotwater Technology has seen every imaginable spa and hot tub problem since its inception in 1978. As the main service provider in the Upper Midwest for larger-brand spa and hot tub manufacturers, the company –based in Hopkins, Minnesota – averages 120 service calls a week these days. The demands keep all of the firm's 13 employees busy. All too familiar to founder and owner Steve McFarland are customer problems relating to trouble with the system's electronics to faulty pumps to corroded heaters. The culprit is often the chemicals that eat into the heart of the spa and hot tub while trying to do their job of sanitizing, stabilizing and otherwise making the water a welcome place to relax.

Having used the SpaNaturally system personally for more than seven years, McFarland is convinced that the all-natural product is not only less destructive to spa and hot tub hardware, but also capable of making fantastic improvements to hot-water conditions. He's become a staunch advocate of the moss product, assuring his customers that it's a welcome complement to the conventional methods of treating and enjoying the spa and hot tub experience.

"Many people think that if a little chlorine or bromine is good for their system, then a lot must be better. But that often just creates more problems," says the expert. Some of the products that have hit the market in recent years have not lived up to their billing or customers' expectations – from products that claim to be natural (even though they're chemically based) to spa systems that actually come with their own built-in set of problems.

"No foam in my hot tub for seven years!"

"In my 35 years in the spa and hot tub industry, I've seen a lot of new products come along that claim to be effective or natural, and usually, they have very limited benefits or turn out to be 'snake oil,' but SpaNaturally is an effective product that's *not* snake oil," says McFarland. "I have used this product in my own spa for seven years, and I love it. SpaNaturally is No. 1 on my list of the best spa products available in the last 30 years."

Calling the SpaNaturally experience "super nice," McFarland reels off the product's many benefits with the unbridled enthusiasm of someone relishing a recent – and rewarding – discovery:

- **Better water clarity**
- **Reduced pH bounce**
- **Reduced required maintenance**
- **Reduced use of chemicals**
- **Better water stability**
- **Softer water with no side effects like burning eyes and skin, odors or dryness**
- **No foam**

"Since using SpaNaturally in my system, there's been no foam in my hot tub for seven years!" McFarland exclaims. "I think it's a good alternative to excess chemical use. My customers get very excited about it once they try it." To help spread that excitement, McFarland originally sent out more than 5,000 direct-mail pieces to his customers in the region, touting the breakthrough in spa and hot tub maintenance and water conditioning from the simple and easy of use of the moss. His personal enthusiasm isn't likely to ebb anytime soon, either.

"Sometimes at night," he says, "the water in my hot tub is so clear, you have to touch it to make sure it's there. That's how effective this product really is."

Case Study: SpaNaturally
David Quast
Cottage Grove, Minnesota

Water Works SpaNaturally Makes Jacuzzi Experience Worthwhile

As an engineer working in wastewater treatment issues for the Metropolitan Council in the Twin Cities area, David Quast has been exposed to many H₂O challenges – even at his Cottage Grove home. Quast and his wife have owned an outdoor, 350-gallon Jacuzzi for three years. They bought it for relaxation and therapeutic reasons. But like many hot tubs and spas, theirs presented a couple challenges they didn't anticipate: **skin irritation and the ongoing battle to balance pH and alkalinity.**

Seven years ago, the Quasts were introduced to a new product that changed the hassles of hot tub ownership into the happiness of contented hot tub customers. As part of the focus group that beta-tested the SpaNaturally system, including the use of SpaNaturally, the Quasts began using the all-natural water-conditioning program. Today, David Quast says the initial challenges associated with their Jacuzzi are largely history.

"There's no more itchy skin, no more complicated chemical addition to the pH and alkalinity adjustment," notes Quast. "SpaNaturally makes it much easier to treat the water, and you don't have to change the water as often, either." The wastewater expert says he's well satisfied with the SpaNaturally system, giving a thumb's up in nearly every category of the product trial survey, including "**Improved**" marks for:

- **Water clarity**
- **Water color**
- **pH stability**
- **Alkalinity stability**
- **Foaming**
- **How your skin feels while in the spa**
- **How your skin feels after using the spa**
- **Time between water changes**
- **Ease of use**

Like any inquisitive engineer working on water-system treatments, Quast is as curious about how SpaNaturally works as the scientists at Creative Water Solutions are – those who "discovered" the effectiveness of the moss. "I'm really interested in how the moss interacts with the water," Quast says. "I'd like to see the studies when they're complete." That day might come one day soon.

But until then, Quast can ponder the issue while relaxing in his vastly improved Jacuzzi water, savoring the experience of having hot water that doesn't harm his skin or waste the time it once took to balance the Jacuzzi's chemistry.

Case Study: PoolNaturally
Jody Soderberg, Retired Resident
Small, Above-ground Pool
Minnetonka, MN

Pool mantra

“Less Chemicals, Less maintenance”

Jody Soderberg from the Twin Cities area of Minnesota is like a lot of small pool owners: She wants to relax in the pool on hot days, or after working in the yard or doing other chores. Retired now, she's taking life easier. Her small, above-ground pool is just right for her needs, and it suits the short pool season that often defines Minnesota summers.

But the summer of 2007 was a scorcher and it started early. That gave her reason to enjoy her pool even more – and PoolNaturally added to the enjoyment. Among the early adopters of the all-natural water-conditioning product, Soderberg says it's a breakthrough discovery!

“My pool water's been more beautiful since using PoolNaturally,” she noted. A local dealer told her about it and she was intrigued. “It's just so much nicer and silkier to the touch. I've been recommending it to other pool owners if for no other reason than I don't have to use so many chemicals and I don't have as much maintenance time: I'm all for ‘less chemicals, less maintenance’ -- that's my mantra!”

PoolNaturally Means More Pool Time in Brief Minnesota Pool Season

“Any time you can cut down the amount of chemicals you use in your pool and the time it takes to keep it clean, that's a good thing,” she says. With more leisure time to enjoy the pool, Soderberg says she often marvels at how soft the water has gotten since she started using the PoolNaturally product. “Sometimes the water is so clear, it looks like there isn't any water in it! The water's just so beautiful, silkier, much nicer to the touch than before.”

After enjoying the swimming pool more this summer because of the heat, Soderberg says she appreciates the product even more. “Believe me, I'm not big on pool maintenance in any kind of weather. Usually the season is so short here in Minnesota, you barely get to use a pool. But this year I had almost five months of pool time. The less work I had to do in maintaining the chemical stuff, the more time I had to enjoy relaxing in the water. And that's a good thing, too.”

Case Study: PoolNaturally
10,000 gallon in ground pool
Ed Townsend, McAllen, Texas

Chlorine made him sick, dad found a remedy
Texas Tot with Stomach Disorder Learning to Swim in More Natural Waters

When Ed Townsend and his wife discovered that their two-year old twin boy, Luke, had a severe stomach disorder that made him hypersensitive to foods and other things, they did all they could to make his life more comfortable. That included finding a more natural, less-chlorine-intensive water treatment regimen for their 10,000 gallon swimming pool that was part of a new home they purchased in McAllen, Texas near the border. The chlorine in the water simply make young Luke vomit while he was trying to learn how to swim.

After doing research online last spring, the Townsends discovered a video news story by a CBS affiliate in the Twin Cities that talked extensively about a new way to use fewer chemicals and spend less time maintaining a pool or spa. See the video here: <http://wcco.com/video/?id=45959@wcco.dayport.com>. The all natural system called PoolNaturally® uses a species of sphagnum moss to condition water and reduce chemical loads significantly (up to 90% in some pool owners' experience). Ed decided to give it a try and ordered it online for the 2009 pool season. It was just what they needed, Ed says.

"Our results this summer with the PoolNaturally product were very good," notes the relieved father. "We were able to use lower amounts of chlorine that eliminated the bad taste in the water. Before Luke would either gag or throw up in the water. But with less chlorine, he's not getting sick."

The family discovered other benefits of using sphagnum moss

Reducing the pool's chemical load solved the family's immediate issue with their son's reaction to chlorine. But they discovered the water was a lot clearer and had a silkier texture to it. "It's been crystal clear — even on real hot days, and McAllen is always hot in the summertime," Ed explains. "But we've had the hottest summer on record down here this year, with temps running around 105-degrees!"

With the pronounced heat has come increases of algae in the pool. The Townsends are hoping that the longer they use the moss that they might get the same positive result other users have found in its effectiveness against algae, too: It can help control its proliferation, even in hot climates.

The best news though is Luke is learning to swim and not getting sick. "I was looking for a good alternative to high chlorine use," Luke's dad says. The less I have to use in the water, the better it is for our son and for the rest of the family, too.