

Commerical Pool Case Studies

Effects and Statistics

CWS Case Study:

Spring Valley YMCA

Cost/Systems Benefits of PoolMoss®

This report provides data compiled by the Spring Valley YMCA (Limerick, PA), and Main Line Commerical Pools (King of Prussia, PA). Main Line is a highly regarded commerical pool builder, service provider, and Creative Water Solutions dealer.

The Spring Valley YMCA had PoolMoss® and SpaMoss® installed in their systems during June 2012, and began to acheive significant benefits almost immediately. Their success clearly illustrates the potnetial for cost, performance, and efficiency benefits in any number of situations.

Information was independently collected, recorded, and measured by Steve Waldman of Spring Valley YMCA, and Gary Grimes of Main Line Commercial Pools.

Findings

Pre-Moss

Pool	Flow Rate	Backwash Frequency	Chlorine Level
Lap (120,000 gal)	400/gpm	Once/per Week	2.3 - 2.6/ppm
Family (54,000 gal)	380/gpm	Three Times/per Week	2.3 - 2.6/ppm

Pool	Flow Rate	Backwash Frequency	Drain/Fill	Chlorine Level
Spa (3,600 gal)	100/gpm	Once/per Week	Every Week	2.3 - 2.6/ppm

- Total Chlorine Usage = **720** gallons @ \$2.43/per gallon.
- Total Chlorine Usage = **\$1,849.60/per month.**

Post-Moss

Pool	Flow Rate	Backwash Frequency	Chlorine Level
Lap (120,000 gal)	400/gpm	Once/per Two Weeks	1.4 - 1.6/ppm
Family (54,000 gal)	380/gpm	Once/per Week	1.4 - 1.6/ppm

Pool	Flow Rate	Backwash Frequency	Drain/Fill	Chlorine Level
Spa (3,600 gal)	100/gpm	Once/per Week	Every 3 - 4 Weeks	1.4 - 1.6/ppm

- Total Chlorine Usage = **350** gallons @ \$2.43/per gallon.
- Total Chlorine Usage = **\$874.80/per month.**
- PoolMoss[®]/SpaMoss[®] = **\$750.52/per month.**

YMCA Savings

Water Savings (\$82.80 per Month)

Pool	Water Savings (per/Mo)	Cost	Total Cost Savings (per/Mo)
Lap	1,000 gallons	.006/per gallon	\$6.00
Family	2,000 gallons	.006/per gallon	\$12.00
Spa	10,800 gallons	.006/per gallon	\$64.80

Sewer Savings (\$82.80 per Month)

Pool	Water Savings (per/Mo)	Cost	Total Cost Savings (per/Mo)
Lap	1,000 gallons	.006/per gallon	\$6.00
Family	2,000 gallons	.006/per gallon	\$12.00
Spa	10,800 gallons	.006/per gallon	\$64.80

Chlorine Savings (\$899.10 per Month)

Pool	Chlorine Savings (per/Mo)	Cost	Total Cost Savings (per/Mo)
Lap	249.50 gallons	\$2.43/per gallon	\$606.29
Family	111 gallons	\$2.43/per gallon	\$269.73
Spa	9.5 gallons	\$2.43/per gallon	\$23.08

Energy Savings (\$42.12 per Month)

Pool	Water Savings (per/Mo)	Cost to Heat	Total Cost Savings (per/Mo)
Lap	1,000 gallons	1.22 per/therm	\$3.05
Family	2,000 gallons	1.22 per/therm	\$6.10
Spa	10,800 gallons	1.22 per/therm	\$32.97

Labor Savings (\$234.00 per Month)

Type	Unit	Cost	Total Cost Savings (per/Mo)
Service	12 Hours (Time + 1/2)	\$13.00/per hour	\$234.00

Facility Savings **1,340.82 per Month**

Cost of PoolMoss® **750.52 per Month**

Monthly Savings **\$590.30**

Annual Savings **\$7,083.60**

KEY BENEFITS and EFFECTS

- **NO CHLORAMINES** (0.0 ppm)
- **NO ODOR** in Natatorium
- **NO SCUM LINE** on ANY POOL
- **CRYSTAL CLEAR WATER**
- **"SILKY" FEEL TO WATER**
- **MUCH EASIER CLEANING**
- Continually **REDUCED OVERTIME** for Pool Operations
- BECS Controllers **MORE EFFICIENT**
(Less Cleaning of Probes and Screens)
- **PUMPS NOT RUNNING AS HARD**
(Longer Impeller Life)

Summary

The exciting effects and savings benefits being experienced by the Spring Valley YMCA are emblematic of those being enjoyed by thousands of Creative Water Solutions customers. Among other robust advantages, the unique power of Sphagnum moss helps commercial and residential pool and spa owners reduce chemical usage, scaling and corrosion, and energy costs, while generating remarkably clear and comfortable air and water quality.

CWS Case Study

University of Maryland

Cost/Systems Benefits of PoolMoss®

After reviewing our data, the results from the University of Maryland auger well for similar cost and efficiency benefits in any number of situations. Their implementation was actually initialized and paid for by UMD Students and the Office of Sustainability, but became the penultimate apple of the aquatic department's eye.

This study also illustrates the remarkably immediate impact it makes on cost and efficiency savings. The moss was installed on September 1, 2011, and we established our baseline measurements immediately prior to implementation.

Study Parameters

- Administered by UMD staff and students, the water was managed according to state guidelines and recommendations from CWS. This speaks to the ease of implementation and management, and level of support available from Creative Water Solutions.
- Pool water and filtration parameters were measured and recorded every two hours, which meets with standards for accuracy.
- Chemical costs and savings were computed by the University of Maryland, to help quantify and validate the findings.
- We helped analyze water and energy savings through supplied parameters.
- These are measurements for approximately 1.4 million gallons of water, with results and an environment that can be easily translated into real projections for most institutional facilities.

Total chemicals used and cost (4 pools): 12 months prior to PoolNaturally® Plus system vs. 24 months with PoolNaturally® Plus

Before PoolMoss® Pro 2010-2011

Month yr	Poly A	Accutabs	Acid	Co2	Shock	Bicarb	Total
Sep-10	\$4,320	\$5,928	\$331			\$1,204	\$11,783
Oct-10		\$2,964	\$340				\$3,304
Nov-10						\$4,320	\$4,320
Dec-10		\$2,717	\$280				\$2,997
Jan-11		\$2,964					\$2,964
Feb-11		\$2,964	\$419	\$1,809	\$2,770		\$7,962
Mar-11							\$0
Apr-11		\$2,964	\$307				\$3,271
May-11		\$2,964	\$559				\$3,523
Jun-11		\$6,240	\$531				\$6,771
Jul-11		\$541	\$267	\$170			\$978
Aug-11		\$596	\$356	\$101			\$1,053
2010-11 Totals	\$4,320	\$30,842	\$3,390	\$2,080	\$2,770	\$5,524	\$48,926

First Year With PoolMoss® Pro 2011-2012

Month yr	Poly A	Accutabs	Acid	Co ₂	Shock	Bicarb	Total
Sep-11		\$324	\$356	\$156			\$836
Oct-11		\$325		\$260			\$585
Nov-11		\$54	\$216				\$270
Dec-11		\$162					\$162
Jan-12		\$541	\$267				\$808
Feb-12							\$0
Mar-12		\$1,300	\$492	\$10			\$1,802
Apr-12		\$780	\$163	\$333			\$1,276
May-12		\$6,240	\$164	\$360			\$6,764
Jun-12			\$492	\$75			\$567
Jul-12							\$0
Aug-12		\$6,240	\$419			\$564	\$7,223
2011-2012 Totals	\$0	\$15,966	\$2,569	\$1,194	\$0	\$564	\$20,293
Savings dollars	\$4,320	\$14,876	\$821	\$886	\$2,770	\$4,960	\$28,633
percent	100%	48%	24%	43%	100%	90%	59%

Second Year With PoolMoss® Pro 2012-2013							
Month yr	Poly A	Accutabs	Acid	Co2	Shock	Bicarb	Total
Sep-12		\$1,215	\$383	\$75	\$464		\$2,136
Oct-12		\$405	\$1,215	\$273			\$1,893
Nov-12		\$675	\$360	\$884			\$1,919
Dec-12		\$810	\$248		\$232		\$1,290
Jan-13		\$1,215	\$180	\$313	\$696		\$2,404
Feb-13		\$1,823	\$180	\$324			\$2,327
Mar-13		\$1,350	\$338	\$88			\$1,775
Apr-13		\$1,620	\$45				\$1,665
May-13		\$1,755	\$878	\$173	\$232		\$3,038
Jun-13		\$1,485	\$135	\$173	\$116		\$1,909
Jul-13		\$1,350	\$360	\$522	\$348		\$2,580
Aug-13		\$1,620	\$833	\$219	\$522		\$3,193
2012-2013 Totals	\$0	\$15,323	\$5,153	\$3,043	\$2,610	\$0	\$26,128
Savings dollars over Before PoolMoss® Pro		\$15,520	-\$1,763	-\$963	\$160	\$5,524	\$22,798
Savings percent over Before PoolMoss® Pro		50%	-52%	-46%	6%	100%	47%
Savings dollars over PoolMoss® Pro Year 1		\$643.50	-\$4,332	-\$2,157	\$160	\$4,960	\$2,505
		4%	-169%	-181%		879%	12%
Year 1							

Water and Energy Savings

- **First year on PoolMoss® Pro**
 - 760,500 gallons due to decreased frequency of backwashing filters
 - \$15,362 saved in water, sewer and water heating costs
- **Second year on PoolMoss® Pro**
 - 809,100 gallons saved due to decreased frequency of backwashing
 - 48,600 gallons saved over and above savings in year one with PoolMoss® Pro
 - \$15,798 saved in water sewer and water heating costs
 - \$436 saved over and above savings in year one with PoolMoss® Pro

Chemical Savings

- **First year on PoolMoss® Pro**
 - \$28,633.00 compared to the same time period before starting PoolMoss® Pro
- **Second year on PoolMoss® Pro**
 - \$26,128.00 compared to before PoolMoss
 - \$2,505.00 over the first year on PoolMoss

Total Savings

- **First year on PoolMoss® Pro**
 - \$43,995 compared to the same time period before starting PoolMoss® Pro
- **Second year on PoolMoss® Pro**
 - \$46,936 compared to the same time period before starting PoolMoss® Pro

Cost of the PoolMoss® Pro

- **First year on PoolMoss® Pro**
 - \$46,652
- **Second year on PoolMoss® Pro**
 - \$46,652

More information (from UMD):

UV System

- UV system is used less, because it wasn't having much effect
- System required less maintenance. The UV crystal was able to "see" the water more clearly, because it wasn't blocked by organic matter and contamination
- Prior concerns about chloramine smell during UV use, and potential for THM increase with UV usage

A few benefits in Human Terms (from UMD):

Staff Benefits

- More time available (and applied toward) record keeping, accountability, customer service, and staff training
- No late-night/early-morning shocking
- No discernable organic contamination
- More stable pools= less attention to making adjustments
- Less frequent preventative maintenance
 - Heater
 - Probes
 - Vacuuming/scrubbing

Coach Jim Ellis

Jim Ellis had a problem. As a storied swim coach, his legendary commitment to bring competitive swimming into the inner-city community, had already made him the central focus of the motion picture "Pride" (2007). Now the coach at the Salvation Army Ray & Joan Kroc Center in Philadelphia, his kids were suffering.

The Kroc Center is a wonderful facility, which features a beautifully designed Myrtha competition pool, and some of the industry's best filtration equipment. Still, with an enormously large and active bather load, his pool staff was constantly battling serious water and air quality issues.

With a high concentration of asthma in his community, many of his kids were commonly experiencing active symptoms during practices and meets. Clearly, this not only impacted their performance and happiness while swimming, but their level of general health, as well.

And, privately....Jim was feeling the effects, too, and beginning to think about retirement.

A New Concept

Jim and his staff were at their wit's end. He brought in Main Line Commercial Pools (*King of Prussia, PA*) to help develop a strategy to overcome the issues. Gary Grimes, the owner and President of Main Line, began talking about Sphagnum moss and Creative Water Solutions. He had only been working with the product a short time, but had already begun to see remarkable effects in some very difficult situations. For Jim, using moss in a swimming pool certainly seemed a peculiar remedy, but trusted Gary and agreed to put it on his pool.

A New Hope

In the days following their moss installation, it became apparent that things were changing. The cloudy water began to clear, and the natatorium just didn't seem to smell quite so badly.

After two weeks, it was like a different place. The "pool smell" was gone, and the water was clear. Jim noticed that his swimmers were using their asthma inhalers less and less. In fact, he estimated that inhaler usage dropped by 65% during the first two weeks on the moss.

Practices were getting more productive, and people began to notice the difference.

Things were also changing in the pump room. Chemical usage began to drop. For example, chlorine had been hovering between 4 and 5 ppm, and dropped to 1.5 ppm. Even with the drop in chlorine, their ORP increased from 730 to 770. They were using less chlorine, but achieving greater effects.

Happiness

By the time six weeks passed, the Kroc Center had a truly new lease on life. Coach Ellis now presided over a beautiful facility with some of the best air and water quality in the industry. Most importantly, it showed with his swimmers.

Coach Ellis estimates that after Creative Water Solutions PoolMoss® was installed:

- Asthmatic Difficulties were Reduced by 95%
- (Severe) Headaches were Reduced by 99%
- Vomiting was Reduced by 100%
- Visiting Coaches and Swimmers Routinely Praise the Facility and Water Conditions

Every single swimmer has achieved their personal best time since the introduction of PoolMoss®.

And...Coach Ellis now says that "PoolMoss® will allow me to coach for another 20 years!"

Pride indeed.

For technical support please contact [Clear Water Supplies International Limited](#) or visit www.CWSNaturally.co.uk

