



The Green Sheet

Central Pennsylvania Golf Course Superintendents Association

Volume 23 Issue 6

Founded ~ April 11, 1939

September 2016

October Meeting

Oktoberfest Open

West Shore Country Club

October 3, 2016

Speaker - 10:00 AM

Lunch - 11:00 AM

Golf - 12:00 Noon Shotgun

Dinner - following golf

*There will be a CPGCSA Board Meeting
at 8:00 AM.*

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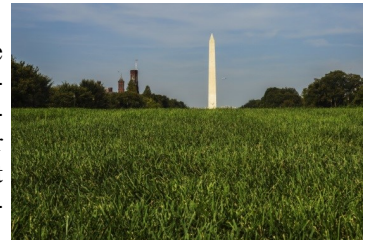
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Once Barely Surviving, The Grass on the Mall Gets a Serious Makeover

By Adrian Higgins Gardening columnist
The Washington Post
Home & Garden
September 20, 2016

Green once more: A nine year effort to restore the worn out turf on the Mall is nearing completion. The result is a new greensward designed to take a lot of use. (Bill O'Leary/The Washington Post)

All eyes this week are on the opening of the National Museum of African American History and Culture, but another profoundly important project on the Mall is nearing completion and worth celebrating.



We refer to the final stages of the \$40 million reconstruction of the iconic central grassy spine of the Mall between Third and 14th streets. The area consists of eight grass panels totaling 18 acres, and the first three, on the Capitol side, were completed in 2012. The fences are coming off the other five in the coming weeks, although barriers will continue to keep people away from the grass to allow its root system to grow over the next few months.

The grass panels will be opened (with protection) for the inauguration but won't be otherwise accessible until spring, said Michael Stachowicz, the National Park Service's turf guru. Stachowicz was hired in 2012 to oversee the nation's most conspicuous front yard. He had previously worked on golf courses.

Ironically, as the science and practice of turf care advanced over the past three decades, the condition of the Mall deteriorated to a point where standard lawn renovation techniques — aeration, dethatching and reseeding — couldn't possibly reverse the decay.

"Everyone has a vision of the National Mall they see from a helicopter, and everything looks wonderful," said Teresa Durkin, senior project director of the Trust for the National

.....Continued on Page 7.....

President's Message

Hello Everyone!

Did you hear that? The weatherman just proclaimed there would be lows in the 50's? Wait-what? It's gonna rain this week? The official end of summer has come, and it's about friggen time.

As I'm sure everyone is aware, we backed off on holding golf meetings during the heat of the summer, so that we can focus on our jobs when we are needed the most. We did, however squeeze in our social event a few weeks ago at the Penn State vs Temple football game. It was a great day to catch up with a bunch of Superintendents and affiliates to share some of our adventures of the past summer. Unlike last year, the weather was great and we had a blast. I'm already looking forward to next year's game!

Speaking of meetings, we are off to West Shore Country Club on October 3rd for our Oktoberfest Open. This is our final golf meeting of the year, at a great venue. So, if you haven't been able to attend a meeting this season, put this one on your calendar!

Hope to see you there!

Chad

Superintendent Profile

Brendon Clark has been Golf Course Superintendent at West Shore Country Club since June 2009. Originally from New Zealand, Brendon has been in the industry 23 years and worked at all types of golf courses including public, semi private, resort and totally private. Most notably he worked at Oakmont Country Club for 6-1/2 years and was Assistant Superintendent for 3 of those years which during that time hosted a Men's U.S. Amateur in 2003, a Men's Open in 2007 and a Women's U.S. Open in 2010. Brendon carried out a 7,500 hour apprenticeship in New Zealand and was administered through the New Zealand Open Polytechnic which took 3-1/2 years to fully complete. In 2002, he began what was supposed to be an 18 month international internship program administered through the Ohio State University which turned into a more permanent situation. Brendon enjoys all types of sports and is a huge Pittsburgh Steelers/Pirates/Penguins fan.

Golf Course Profile

Established in 1928, West Shore Country Club is situated on the west side of the Susquehanna River just 5 minutes away from Harrisburg City. Originally a nine hole course designed by George Morris (his great uncle was Old Tom Morris) in 1928, nine more holes were added in 1938 and all 18 greens complexes were reconstructed in 1943 by Ed Tabor. Gil Hanse (Architect for renovating the first ever Olympic venue for golf) redesigned and built the bunkers in 2004. While the course is reasonably short by today's standards (6,600 yards from the tips), it is regarded as one of the most challenging golf courses in the area because of its small, undulating greens complexes which places a premium on shot accuracy.

West Shore Country Club

100 Brentwater Road
Camp Hill, PA 17011

President

Chad R. Oxenreider
Galen Hall Country Club
717-484-2523
grmsmower@aol.com

Vice President

Brian L. Ahrens
Reading Country Club
610-779-8888
Brian@readingcountryclub.com

Secretary/Treasurer

Stuart Hartman
Lederach Golf Club
215-513-9877
shartman@lederachgolfclub.com

Past President/Social

Alan FitzGerald
LedgeRock Golf Club
610-777-9890
alan@ledgerockgolf.com

Directors

Cody Frederick - 2018
LedgeRock Golf Club
610-777-9890
chody87@yahoo.com

Jeff Green - 2019
Carlisle Barracks Golf Course
jeffreygreen2011@yahoo.com

John Long - 2017
The Links at Gettysburg
443-643-5050
psuturf@yahoo.com

Kevin Skarbek - 2018
Berkshire Country Club
610-374-2952
kevinskarbek@yahoo.com

Patrick Michener - 2019
Country Club of York
717-846-9522
pmichener@ccyork.org

Affiliate

Thomas Mahute
tmahute@fisherandson.com

Executive Director/Newsletter Editor

Wanda S. Fry
717- 279-0368
cpgcsa@hotmail.com

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Bus Trip to Penn State vs. Temple



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October Education

ABW And A Year In Review

Our Speaker for the October Meeting at West Shore Country Club is Michael L. Agnew, Ph.D. Dr. Agnew is a Senior Technical Manager for Syngenta L&G, Greensboro, North Carolina and former Associate Professor and Extension Turfgrass Specialist at Iowa State University. He earned a B.S. and a M.S. in Horticulture and a Ph.D. in Horticulture with specialization in Turfgrass Science and Plant Stress Physiology from Kansas State University.

Dr. Agnew has been providing service to the Turfgrass and Golf Industries locally, nationally, and internationally for 35 years. He currently provides technical support for Syngenta customers and staff;



Drought Report

September 20, 2016

<http://www.dep.pa.gov>

Preface

This report summarizes the various indicators utilized in drought monitoring. Each parameter (groundwater, surface water, precipitation, and palmer index) has their own individual indicator for each county. When readings hit a pre-determined trigger level, the indicator is coded as “Normal”, “Watch”, “Warning”, or “Emergency” for that county. These indicators are used to evaluate the drought status of a particular county; they are not, themselves drought declarations. Drought declarations are determined by the Commonwealth Drought Coordinator, with support of the Drought Task Force, and given final approval by the Governor.

Summary

The rainfall the Commonwealth received on September 19 with greatest depths in the northeast, resulted in minor improvements to streamflow. Instantaneous flows on most streams have already begun to fall or remain below normal with variation of depths across the state based on local rainfall depths. No one region of the state has instantaneous stream flows exceptionally worse or better than any other. However, over the 30-day average, stream flows are declining in 10 counties.

Despite modest rainfall this past week, precipitation departures, recorded through September 19, increased during the last 7 days in the lower half of the Susquehanna River Basin where departures were up to -0.7 inches. However, groundwater levels remained consistent with last week with improvement in one county moving to “Normal” and 1 county decreased from “Normal” to “Watch” over the last seven days.

7-day forecasts call for minimal precipitation of approximately 0.1 to 0.25 inches with the northwest have the greatest potential for rainfall of a little over 0.25 inches.

The Delaware River Basin Commission had been making releases to supplement streamflow in the lower portion of the basin. Based on local rainfall they ceased directing releases from Beltzville and Blue Marsh reservoirs over the weekend.

Potter County remains in Drought Warning with the following counties in Drought Watch: Armstrong, Bedford, Berks, Blair, Bradford, Cameron, Carbon, Center, Chester, Clarion, Clearfield, Clinton, Cumberland, Dauphin, Elk, Forest, Fulton, Huntingdon, Indiana, Jefferson, Juniata, Lawrence, Lebanon, Lehigh, Lycoming, McKean, Mercer, Mifflin, Northampton, Perry, Philadelphia, Schuylkill, Snyder, Sullivan, Tioga, Union, and Venango.

The next Commonwealth Drought Task Force meeting is scheduled for October 5th at PEMA.

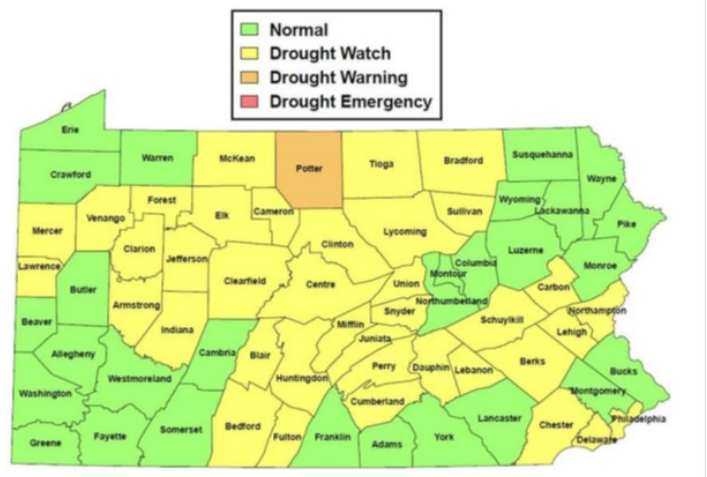
Drought Report Details Water Resources Planning - 2 - September 20, 2016

Precipitation –Over the last 7 days, there was varying precipitation across the state, county average rainfall was from 0.3 inches in southcentral area to 2.3 inches in the northeast. The more significant rainfall occurred in the eastern part of the state and the northwest corner. The 90-day precipitation deficit shows counties ranging from 50% below to 25% above normal precipitation.

The precipitation indicators based on a 90-day departure are showing 14 counties in “Watch” (Adams, Bedford, Cameron, Chester, Clinton, Delaware, Fulton, Huntingdon, Northumberland, Perry, Philadelphia, Potter, Tioga and Union) and 5 counties in “Warning” (Blair, Juniata, Mifflin, Montgomery and Snyder) and no counties in “Emergency” status. There was improvement in 7 counties for precipitation and 3 counties declined from last week.

Surface Water- Instantaneous streamflow across the Commonwealth ranged from above normal to much below normal. For this date there are 5 gages with instantaneous flow at less than the 10th percentile, compared to 17 gages last week. There were no gages recording record low instantaneous flows.

The 30-day running average streamflow indicators are showing 17 counties in drought “Watch” (Bedford, Berks, Bucks, Carbon, Chester, Clinton, Cumberland, Delaware, Franklin, Lehigh, Monroe, Northumberland, Perry, Potter, Snyder, Union and York), 5



counties in “Warning” (Adams, Huntingdon, Juniata, Northampton and Tioga) and 2 counties in “Emergency” (Juniata and Philadelphia). Since our last report, there were no counties showing improvement with 10 counties declining.

Groundwater – The 30-day moving average indicators for groundwater levels are showing 17 counties in drought “Watch” (Bedford, Carbon, Centre, Chester, Clinton, Cumberland, Delaware, Elk, Franklin, Fulton, Lackawanna, Lancaster, Monroe, Montour, Philadelphia, Pike and Union); 7 counties in “Warning” (Berks, Dauphin, Lebanon, Lehigh, McKean, Northampton and Potter) and 2 counties in “Emergency” (Lawrence and Mercer). Since our last report, one county improved and one county declined.

Palmer Drought Severity Index – now appearing for this report period, all 67 counties of the Commonwealth now fall into at least one of three national level drought severity index classifications– “moderate”, “severe” or “extreme” drought. For Pennsylvania drought monitoring purposes, these classifications are identified as “watch”, “Warning” and “Emergency”.

The Palmer soil moisture indicator is showing 37 counties in “Watch” (Adams, Berks, Bradford, Bucks, Carbon, Chester, Clarion, Crawford, Cumberland, Dauphin, Delaware, Erie, Forest, Franklin, Jefferson, Lackawanna, Lancaster, Lebanon, Lehigh, Luzerne, McKean, Mercer, Monroe, Montgomery, Northampton, Philadelphia, Pike., Potter, Schuylkill, Sullivan, Susquehanna, Tioga, Venango, Warren, Wayne, Wyoming and York), 19 counties in “Warning” (Bedford, Blair, Cambria, Cameron, Centre, Clearfield, Clinton, Columbia, Elk, Fulton, Huntingdon, Juniata, Lycoming, Mifflin, Montour, Northumberland, Perry, Snyder and Union) and for the first time during this drought period 11 counties are in “Emergency” (Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Somerset, Washington and Westmoreland). No counties showed improvement from the last report with 15 counties declining.

Forecast – The 7-day forecast indicates approximately 0.1 to 0.25 inches of precipitation for the state, with the highest rainfall amounts forecasted to be in the northwest corner of the state.



Bill Mast

Cell: 610-608-8319

bmast@aer-core.com

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The Grass on the Mall Gets a Serious Makeover ...continued

Mall. "It's not until you get down and walk around and see the impact of the sheer use — 3,000 permitted events, sometimes up to 33 million visitors per year."

The resulting bare patches had the density of cinder block, and even the weeds had difficulty surviving.

"I couldn't believe the weeds were even growing there," said Peter Landschoot, a professor of turf-grass science at Penn State and an early consultant on the project, which began in 2007. "It was in pretty bad shape."

The central grass panels are flanked by other lawns shaded by American elm trees. Together they form the grand avenue that connects the monumental core of the nation's capital, laid out in the 1902 blueprint known as the McMillan plan. But the Mall also functions as America's common, a place of public gathering, for entertainment, for demonstration, for great civic events. That has always been the underlying tension and one, post-restoration, that the Park Service is trying to balance more in the lawn's favor. A new plan for the Mall, along with a Park Service operating manual, is designed to minimize the damage caused by human activity.

One thing is sure: The central axis connecting the Capitol to the Washington Monument hasn't looked this good in decades, maybe generations, even if many other areas are badly in need of repair. (The Park Service's latest estimate for total deferred maintenance for the National Mall and Memorial Parks exceeds \$850 million.)

The key to the new turf's vitality is the dominance of coarse sand in the mix, which will promote a vigorous root system. The sand resists physical compaction but also contains much more oxygen, which roots need to grow, than a regular loam soil, said Norman Hummel, a consulting soil engineer who worked on the project.

"You get a better, aerated soil," he said. Could we try this at home? Not easily, and not on this scale. Sandy soil dries out quickly and doesn't hold nutrients in the same way as clay or loam soils. To build a Mall-like system at home would require deep pockets. "In some situation where somebody with a lot of money wants an event lawn on their property, they'll go to this type of system, but for the average homeowner, it's kind of tough," Hummel said.

One of the most remarkable aspects of the turf renovation is that so much of the work is not obvious or visible. Peeling back the layers offers lessons in landscape architecture, soil science and turf-grass breeding.

Design

Protecting the Mall from abuse will be key to its longevity. So the grass panels are framed for the first time in a light granite curb, and the paths that crisscross the spine of the Mall have been broadened to keep feet, equipment and event structures off the grass as much as possible. The old paths were approximately 45 feet wide, and the new design increases them to about 60 feet. Above the 12th Street tunnel, the paved area has been broadened to 105 feet.

Soil: The old soil — lifeless dirt, really — was scraped off and trucked away. After the subterranean infrastructure was built, the panels received a four-inch-deep sub-layer of pea gravel, on top of which was laid a soil mix that consisted of 80 percent sand blended with 10 percent topsoil and 10 percent peat. Each panel received about 3,000 tons of new soil mix.

Grass: Direct seeding is the preferred method of establishing a new lawn, but the Park Service team laid sod so that the work could progress at times of the year when seeding isn't optimal, and to be ready for its first big event: January's inauguration.

The grass mix was customized for the Mall and grown from seed at a turf farm in southern New Jersey. The farm was selected for its native sandy soils, to match the Mall's engineered soil. The grass consists of 90 percent by volume turf-type tall fescue varieties and 10 percent Kentucky bluegrass. However, because bluegrass seed is much smaller, the seed mix is roughly equal parts bluegrass and fescue.

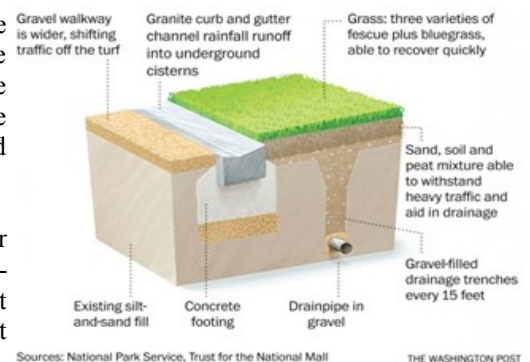
The nation's new front lawn

The seven-year, \$40 million project is in its final stages but will be off-limits, except for during the inauguration, until spring so that the new roots can take hold.



Boosting the turf

The renovation to the Mall's turf panels is nearly complete.





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The Grass on the Mall Gets a Serious Makeover ...continued

The designers picked grass varieties bred and tested for superior wear and drought resistance in the Mid-Atlantic region. Bluegrass, though harder to maintain, is valued for its ability to fill in bare spots in a way the clumping fescues cannot.

Drainage: Good drainage is essential for healthy turf and soil vitality, and the new system allows the grass to receive as much as four inches of rain without waterlogging. When the water load in the soil reaches a certain level, the suspended water drops into the gravel layer below. “It can actually be drier a day after a heavy rain that causes a flush than a lighter rain that doesn’t,” Stachowicz said.

Each panel is edged with French drains, as well as a grid of drainage lines laid 15 feet apart and four feet deep, out of the range of tent stakes. Subterranean columns of gravel connect the turf to the buried pipes. Rain and irrigation water is collected and stored in four new 250,000-gallon underground cisterns. This conserves water but also minimizes stormwater runoff. The water is filtered and disinfected with UV treatment before reuse in the irrigation system.

Irrigation: The grass panels have three rows of powerful sprinkler heads that can throw water as far as 90 feet. The system is linked to an automated weather station that monitors such data as temperature, humidity, wind and soil moisture.

Maintenance

The new grass panels will receive an aggressive level of maintenance to counter the effects of usage and the natural stresses facing cool-season grasses in hot, humid Washington. The maintenance regime, now employed on the three panels of Phase 1, will be applied as well to the remaining five panels.

Mowing: The new Mall turf will be mowed at least twice a week during the growing season. Frequent mowing (at the right height) encourages the grass plants to put their energy more into root development than top growth.

Watering: By watering well and then allowing the soil to dry, you encourage the grass to develop deep roots.

Overseeding and aeration: Overseeding is the term for spreading fresh seed on established lawn. One thinks of overseeding as an annual or semiannual step to lawn care, but the new Mall grass will get a weekly overseeding from mid-May to the end of October. Each panel will receive some 400 pounds of tall fescue seed per application. Aeration, in which plugs of soil are removed to ease soil compaction, will occur about twice a month.

Weed and feed: In March, April, September and October, crews will spread a chicken manure compost. Every two weeks during the growing season, they will spray a weak solution of urea as a foliar feed. Stachowicz uses a low-impact herbicide — applied at five ounces per acre — that controls crabgrass and other weeds without interfering with grass seeding in the way that pre-emergent herbicides would.

Protection

The third element in the turf renovation is a strategy to manage more tightly the events on and around the Mall: The footprint of the Smithsonian Folklife Festival, for example, has been reduced in size and relocated eastward. Event-related closures of Madison and Jefferson drives also allow a move to paved surfaces. Other events have been moved off the Mall. For those that remain, the thinking has shifted from one of fixing damage after the fact to preventing it beforehand, said Stachowicz, whose official title is turf management specialist. This includes keeping vehicles off the grass and requiring pedestrian decking that is translucent, allowing light to reach the grass. “We don’t allow plywood anymore,” he said.

Areas will be closed afterward to allow the turf to rebound from use. When all eight panels are opened next spring, Stachowicz will have more flexibility in juggling areas to open and those to close, he said.

“It’s there to get used,” he said. “But that means we have to give it every advantage we possibly can.”

@adrian_higgins on Twitter



Michael Stachowicz, a former golf course groundskeeper, is the National Park Service’s turf guru responsible for its upkeep. (Bill O’Leary/The Washington Post)

Adrian Higgins has been writing about the intersection of gardening and life for more than 25 years, and joined the Post in 1994. He is the author of several books, including the Washington Post Garden Book and Chanticleer, a Pleasure Garden.



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