

BY JOHN WALSH

**T**hey're coming, and Sandy Clark and Don King want to be prepared, as well as proactive.

Much like their neighbors in Arizona and Nevada, golf facilities in Southern California are staring at water-use restrictions coming down the pike that could be implemented as soon as July.

"It's inevitable," says King, executive director of golf operations at Barona Creek Golf Club, which is located in Lakeside, Calif.

"San Diego is ground zero for water cuts," says Clark, certified golf course superintendent at Barona Creek. "Water reductions could be substantial. Considering the levels of Lakes Mead and Powell, Colorado River allotments and the snow pack in the Sierra Mountains, this could be a 20-year thing. And the high-end private clubs won't be able to buy themselves out of the restrictions. Everyone will be told to cut back X percent."

So, in a voluntary approach to water conservation and environmental stewardship, Barona Creek is in the midst of the second phase of a three-phase turf reduction project that will lower course irrigation and maintenance needs while enhancing its conservation of natural resources. The first phase started in September 2008, and the third

phase is scheduled to be completed in October 2010. The exact cost of the project, a capital expenditure, is confidential.

"Our commitment to protecting and preserving the environment always has been at the forefront of the golf industry," King says. "Our goal is to further reduce our carbon footprint by moving forward with this turf-reduction initiative."

In the face of continued drought conditions in the Southwest, governments in California, Arizona and Nevada are requesting voluntary water use restrictions and limited acreage requirements on new construction and new golf course developments. The Barona Band of Mission Indians, owners of the Barona Valley Ranch Resort & Casino, is addressing the issue with a proactive approach that could result in a trend for the golf industry.

"The Barona Tribe has made a legacy commitment to preserving the natural resources on our reservation," says Edwin "Thorpe" Romero, chairman of the Barona Band of Mission Indians. "It's our hope the innovative environmental practices we've implemented will serve as a model for the golf industry. And, as we watch the global climate changes, we also feel a responsibility to our tribal mem-

# SCALING BACK

Barona Creek implements a turf reduction project  
to reduce water, inputs and energy use



“We want to be an example of what you can do to help reduce water use. Barona has made a tremendous commitment to the environment. We’re showing the respect of living in harmony with nature.” – SANDY CLARK





bers, the guests of our resort and our neighbors to do everything we can to conserve all natural resources.”

#### PHASING IT IN

Phase one of the turf-reduction project, which was completed in September 2008, entailed removing about two acres of turf from the course and replacing them with 14 waste bunkers. The sand in the bunkers on the course is 75 percent Augusta white and 25 percent desert tan. To match the waste bunkers with the existing bunkers (the original mix has faded), Clark used a 50/50 mix of the two sands.

Most of phase one, which was contracted to Temecula, Calif.-based Weitz Golf International, was done while the 7,448-yard, par-72 course was closed to allow the maintenance crew to implement its winter maintenance program, which includes overseeding tees and rough. The course typically closes for three to four weeks

in September, depending on what's involved. In 2008, it was closed from Sept. 8 until Sept. 29.

The course features 419 bermudagrass on the fairways; Bull's-Eye (that's thinning because they didn't overseed this year) and Tifway II bermudagrass in the rough, which is usually overseeded with perennial ryegrass; 419 on the tees and A-4 bentgrass on the greens. It also features more than 170 mature native oak trees transplanted from other regions of the Barona Indian Reservation.

Phase two, which will be done in-house by Clark's staff, will eliminate alternate tee boxes – there are between five and eight on every hole – and remove about two acres of sod surrounding tees and about eight acres in out-of-play areas, converting them to more natural areas. The teal-colored tees, which are right behind the burgundy-colored ladies' tees, are being eliminated. The goal is to have four sets of tees on every hole.



Less than 1 percent of the number of rounds played were from the teal tees, which were designed for lower handicap women golfers. In addition to the burgundy and teal tees, the course features silver, gold and black tees, which are the championship set.

Phase three will consist of completing what doesn't get finished during phase two and analyzing what was done overall.

“Anything we can reduce will be a benefit,” King says, adding the staff is always thinking about technology to help the club use less water to maintain the golf course.

#### BLENDING IN THE CHANGES

Most golfers didn't notice the turf reduction because architect Todd Eckenrode, of Irvine, Calif.-based Origins Golf Design, blended it in so nicely, King says. No holes have been closed since the turf-reduction project started.

“And that's the way we wanted it,” King says. “We wanted to make sure the turf-reduction project didn't take away from the look or playability of the course. And we accomplished that with the help of Todd.”

When first working with the Barona Band of Indians to build the course about 10 years ago, Eckenrode learned the tribe has a great affinity for its land and wants it to be cherished and showed off.

“We moved very little dirt when we built the course,” he says. “The whole design and feel of the course was supposed to be about nature. The original turf allocation was typical of a desert course; they just wanted to take it a little further this time.”

The club was receptive to Eckenrode's idea of replacing the turf with waste bunkers instead of native grass to help keep the course's playability the same. Golfers can hit out of waste bunkers instead of tall native grass. To help reduce the maintenance required of the waste bunkers, Eckenrode's design included native grass surrounding them.

“We wanted to take out all the frills without the course looking too drought stricken,” says Clark, who has been at Barona nine and a half years, since the grow-in.

A few regular golfers noticed finish work taking place after Barona reopened after winter maintenance. The Barona staff told golfers what the project entailed and why the resort was doing it. The upside for golfers is that the golf course will remain open during the turf reduction and

**The New Standard in Turf Maintenance**

## SUPER 500

**Universal Turf Maintenance Machine**




Sweeping • Verticutting • Core Pulverizing • Flail-Type Mowing • High Dump Feature





**We offer everything for turf maintenance.**

**Please contact us for detailed information!**



**Wiedenmann**  
North America, LLC • Savannah, GA

**Phone (912) 790-3004 • Toll free (866) 790-3004**

**office@terraspike.com • www.terraspikeusa.com**



## COURSE MANAGEMENT

reseeding process, which, when completed in late spring, will result in better course playing quality with enhanced natural surroundings, Clark says.

### LESS CONSUMPTION

Clark, whose crew consists of 31 full-timers year round, has been looking at turf reduction for some time and discussed the idea with superintendents at courses in Arizona that have reduced turf.

"This plan will further reduce our water usage," says Clark, who was awarded the 2004 Environmental Leader of the Year by the GCSAA and Golf Digest Magazine. "Being more environmentally friendly and aesthetically appealing aren't mutually exclusive terms. We will still be green and gorgeous."

The multiphased project also includes limiting overseed-

Sandy Clark (left) and Don King are preparing Barona Creek for impending water-use restrictions in Southern California.



## Consultant/Specifier, Pumping Station Producer, Owner/Superintendent *Finally a water filter they all agree on*

### ORI Series

#### Line Pressure Powered Filters

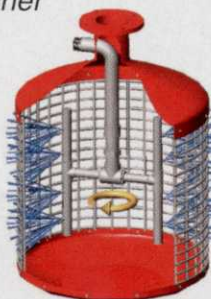
- For irrigation system protection
- 50-12,000 gpm



### ORS Series

#### Pump Suction Strainer

- Fully automatic
- 100-5,300 gpm
- Heavy duty bearing



### ORE Series

#### Electric Powered Filters

- For high dirt load
- 50-6,000 gpm



### Case Study

Bodega Harbor Country Club recently replaced its three carbon steel Filtomat (now owned by Amiad) filters with all **Stainless Steel** construction Orival Filters



213 S. Van Brunt St.,  
Englewood, NJ 07631  
(800) 567-9767  
(201) 568-3311  
Fax (201) 568-1916  
www.orival.com  
filters@orival.com





Barona Creek removed about two acres of turf from its golf course during the first phase of its turf reduction program.

ing to tees and roughs, lowering maintenance requirements by an additional 10 to 15 percent. These measures will address several important environmental issues, ranging from reduced fuel and energy consumption to the use of fewer fertilizers and chemicals used for maintenance.

"What makes this program even more important, especially in a dry, drought-prone region such as San Diego, is the water savings that could run as high as 100 percent in those turf areas that will be eliminated or returned to native plantings," King says.

Clark, whose maintenance budget is about \$1 million, says it's too soon to determine what percentage of fuel, energy, fertilizer and chemical use will be saved by the program, but he's hoping it's at least 15 percent. Time will tell. He also doesn't know exactly how much money the project will save. But any savings will be put into detail work on the course, which features 130 bunkers, and improving the property.

#### WATER CONSERVATION EFFORTS

Before the turf-reduction program started, Barona Creek implemented water conservation efforts through its advanced water reclamation plant, computerized irrigation system, sophisticated weather-monitoring program and sustainable landscape plan. The water reclamation and wastewater treatment facilities allow the tribe to save and reuse almost every drop of water runoff at the resort.

"These water-saving innovations at Barona Creek are about more than self-preservation," Clark says. "They're also helping the environment and hopefully influencing the golf community at large."

Barona Creek's water supply comes from three sources: effluent water, which comes from the hotel; rain water, which is captured in a 22-million-gallon-capacity reservoir; and on-site emergency wells that contain nonpotable water, which is the last source Clark taps into. Some

## PENN STATE | ONLINE

Learn from a leader in turfgrass education



### Bachelor's Degree in Turfgrass Science Certificates in Turfgrass Management

- Employer-recognized and accredited
- Flexible, convenient, and entirely online
- Financial aid options available



[www.worldcampus.psu.edu/GCI](http://www.worldcampus.psu.edu/GCI)

U.Ed.OUT 08-0859bkh/yjw



## Unmatched Performance



Put the Gandy Dethatcher Overseeder to work on your course, and you'll be amazed at its performance. Here is unmatched quality, precision and economy in one machine.



The Category 1, 3-pt self-leveling hitch model is PTO-driven for tractors above 18 hp. The unit is 48 inches wide with 24 blades of 8-inch diameters to create slits on 2-inch centers. The overseeder has a stainless steel hopper bottom and slides and holds 100-125 lbs of seed. Material flows through a separate opening disc or shoe assembly for excellent seed-to-soil contact.

The Gandy Slice 'n Seed™ walk-behind Overseeder allows the operator to evenly and accurately place seed in smaller areas.

Talk to your Gandy dealer about how these Gandy Dethatcher Overseeders can work for you. Or call us. This year, look to Gandy turf equipment to bring more performance to the job. Gandy has been a name you can trust for over 72 years.



800-443-2476  
www.gandy.net  
custsrv@gandy.net

www.golfcourseindustry.com/readerservice - #33

weedalert.com

### The Turf Professional's Free On-line Source for Weed ID and IPM Control Recommendations

- Weed ID Photos • Regional Alerts
- Control Options • Turf School Links

**TEST YOUR WEED IQ!**  
**WEEKLY CONTEST-**

Correct ID  
Can Win This  
**Magic Mug**

With Disappearing Ink



An Industry Service From



An Employee-Owned Company

www.golfcourseindustry.com/readerservice - #34

## COURSE MANAGEMENT

water from the wells was used in 2008.

"The goal is to be 100 percent on reclaimed and captured water, using nothing from our wells," King says. "This past year we were very close. We manage every drop of water as best we can."

Barona also is involved in a pilot program with Toro in which mower-mounted sensors allow operators to see how much water different areas of the course are receiving. Additionally, Clark's use of wetting agents helps maximize water use.

The championship-caliber course, which features more than 100 multifingered bunkers and a series of lakes and ponds connected to the area's naturally fed streams, has been recognized for its environmental efforts by the U.S. Environmental Protection Agency and San Diego Earthworks. It also has won the Bronze Signature Sanctuary Certification from Audubon International in March 2002 for its conservation, environmental quality and land management efforts.

The PGA Tour also has acknowledged Barona Creek for its conservation efforts.

"Barona Creek Golf Club should be applauded for taking a proactive approach in their turf reduction plans," says Cal Roth, senior vice president agronomy for the PGA Tour. "Golf courses throughout the world need to look at their environmental issues and plan accordingly to ensure their courses meet their maintenance and conditioning goals. It's admirable how Barona Creek has become a leader improving their sustainable landscape and carbon dioxide footprint."

Barona Creek hosted the PGA Nationwide Championship in November 2007, but, at this point, isn't scheduled to host any other PGA Tour events.

"We want to be an example of what you can do to help reduce water use," Clark says. "Barona has made a tremendous commitment to the environment. We're showing the respect of living in harmony with nature."

The turf-reduction project at Barona was the first of its kind Eckenrode was involved with, but he thinks he'll be doing much more work like this in the near future.

"The water situation out West is dire," he says. "We're talking to a lot of clubs about turf reduction. It's going to be a trend in the industry, particularly out West. If clubs aren't paying attention, they could be in for a rude awakening. They need to form a plan and be ready to go." **GCI**