



Straddling the Environmental Border of Lake Tahoe

By Dr. John Stier, Department of Horticulture, University of Wisconsin - Madison

Ever wonder how life as a superintendent is elsewhere? This May I took a peek while attending the national extension natural resources conference at Lake Tahoe. This large, deep lake straddles the border of California and Nevada. A renowned ski resort area, the entire lake is ringed by 9,000 ft peaks, wilderness areas and national forest. Hemmed in between the lakeshore and the mountains is a thin line of homes, stores, and several golf courses. Extension specialists were there representing water quality, forestry, agriculture, and other diverse programs. Wayne Kussow and I presented a poster titled "Golf Courses and the Environment". We got great coverage as its location was next to the entrance of the main conference room.

One of the things that amazed me was the number of times turf management issues arose during the conference. While I had anticipated an

apathetic, if not hostile, response to our poster, I received only favorable comments. Several of the presentations dealt in some fashion with turf. A presenter from Pennsylvania discussed an extension-led career day program for elementary children which included a session on golf course management. They saw this area being important to the environment and as having excellent career potential. A fire control expert touted the benefits of an irrigated lawn as a buffer to save homes from wildfires. Other presentations were less complimentary.

A presentation from Minnesota dealt with sources of water pollution in the state's lakes. One of the two primary culprits identified was lawn and golf course fertilizer. This was determined by a survey of lakeshore residents on what they thought were the most important issues affecting lake quality. The keynote speaker for the conference was Dr. Charles

Goldman, professor of Limnology from the University of California-Davis (limnology is the study of lakes, ponds and streams). Dr. Goldman, who has studied Lake Tahoe for over 20 years, gave a historical perspective on development in the lake basin and an overview on pollution. He identified one major source of phosphorus pollution as eroding soil and even dust from bare soil entering the lake. The other culprit was (is) golf course fertilizers. This "fact" sat me straight up in my seat as the other people sitting at my table all looked at me. Dr. Goldman went on to discuss his partially successful attempts, and frustrations, at getting area golf courses to change their fertility practices. No data were presented or discussed to provide a basis for turf fertilizers as being the cause of the pollution. Instead, it was assumed fertilizer just runs off from turf areas. If this is truly the case, then why do we bother to fertilize turf? One of the projects our poster highlighted was Wayne Kussow's runoff research. This research indicated turf allows negligible amounts of runoff due to a high plant density, while a properly fertilized turf results in less runoff than a non-fertilized turf for the same reason.

The second day of the conference I spent visiting two of the area golf courses. I wanted to find out what their management practices were like and what they had to do to satisfy environmental concerns.

Restrictions on the California side allow little leeway

Lake Tahoe Golf Course, built in the 1960's, lies on the California side of the lake. Snow-capped mountains bound the course on the south side. The day before my visit the golf

The
Andersons

PENDELTON TURF SUPPLY

Ed Witkowski
Mike Kozlowski

CLEARY

Full Line of Turf Products
Chemicals

Aventis

Competitive Pricing
New Product Information
Satisfaction Guaranteed

Plant
Marvel

805 Ela Avenue
Waterford, WI 53185
262-534-3334 • Fax 262-534-2990

course had received nearly three inches of June, and mountain passes were closed to most vehicles. The superintendent, John Senulfsky, had jury duty that day so I met with his foreman, Ed Shattuck. Ed had been a superintendent for 21 years before taking his current position. Management practices were restricted by two entities. The La Hotten Water Quality Agency does not allow herbicide use on the golf course. The golf course is **required** to have water tests conducted regularly, with specific tests run for pesticides that are used (fungicides and insecticides). American Golf, which owns the course, restricts most of the fertilizer to ureaformaldehyde, a slow-release form of nitrogen. Other variables, not necessarily unique to California, combined to ensure a challenging position for the superintendent.

Lake Tahoe GC employs primarily what they termed "ski bums" and retirees. Like Wisconsin, finding good labor is a difficult chore. Rocks abound in the area, and the soil is a rocky silt. Like many golf courses, *Poa annua* was a dominant grass on the push-up greens and fairways. To top it off, the course gets 60,000-70,000 rounds of play each year, most of it tourists. The day I was there the parking lot was overflowing, and the temperature was in the low 40's. Ice damage is a constant concern during the winter, and winterkill of the *Poa annua* can be expected.

The Nevada side

Mr. Steve Seibel is the superintendent at Edgewood Tahoe Golf Course on the Nevada side of the lake. The course is privately owned and clearly an upper level public course. Like Lake Tahoe GC, the course is full from morning until evening, even though greens fees run \$175 to \$200 per round. Over 90% of the play is from tourists. Many of the 25 person summer crew are seasonal workers from Mexico.

The course opens in May, but is subject to frost until early July (the week before I arrived the temperature dropped to 16 F, injuring many of the woody ornamentals). Because the inconsistent spring weather can injure turf one day and the course might be open for play the next, sod is used for renovation and restoration projects. The sod has to be trucked in across the mountains

from Reno. Originally bentgrass, the greens and fairways contain a significant amount of *Poa annua*. Renovated fairways are being sodded with low-mow Kentucky bluegrass cultivars maintained at 7/16 inch. The tees, also originally bentgrass, are overseeded with ryegrass. Roughs are a combination of Kentucky bluegrass and ryegrass. Topdressing sand comes from the

EVEN WHEN IT'S EMPTY, IT'S LOADED.



Carryall Turf II

Our new Turf II is loaded with a great package of standard features. All of which makes a great vehicle an even greater value. Turf II is part of Carryall's complete line of versatile, dependable vehicles.

CARRYALL

Club Car®

CLUB CAR
INGERSOLL-RAND

Club Car, Inc.
Wisconsin Branch

4485 South Racine Avenue
New Berlin, Wisconsin 53146
Phone: 414-896-9570
Fax: 414-896-9578



A water clarifier is used to remove sediment and pollutants from wash pad water to prevent discharge into Lake Tahoe.

Sacramento area—the freight charges cost more than the top-dressing.

A proactive approach

Legislation isn't quite as tight on the Nevada side as it is on the California side. Still, Steve doesn't take chances and manages the course in an environmentally proactive manner. Edgewood GC is on the edge of Lake Tahoe. Construction and renovation projects have to be approved by the Tahoe Regional Planning Agency (TRPA). Approval must be sought for projects ranging from greens reconstruction to cart path installation. Earthmoving is restricted from May 1 to October 15 in an effort to reduce potential sedimentation and phosphorus loading into Lake Tahoe. Steve has spent a considerable amount of time building a relationship with TRPA. Part of this occurred when Steve offered to work with TRPA to develop a nutrient management plan. By taking the initiative, he had more control over the plan than he likely would have had if he had waited for a TRPA mandate. For example, greens can receive no more than 6 lb N/M annually, fairways no more than 4 lb N,



A view of Lake Tahoe.



The clubhouse at Edgewood GC is extensively landscaped. By mid-May, the deciduous trees still did not have leaves due to the cool climate.

and roughs no more than 2 lb. While these amounts are within the realm of most golf course practices, the fact he took the time to develop the plan with TRPA has paid off. Along the way, the TRPA members have become more educated about golf courses and the environment.

Water, fish, and weeds

Edgewood Creek, which runs through the golf course, drains directly into Lake Tahoe. When the course was built the creek was rerouted. Steve and his crew have recently rebuilt the creek, working with the Dept. of Fish and Game to add fish ladders to make it more fish friendly. They have installed catch-ponds along the creekside to trap sediment as it flows down from the mountains and keep it from entering

Lake Tahoe. They have added two acres of wetlands in the last five years, bringing the total wetland acreage on the course up to nearly 6 acres. One of the wetlands, on the 13th hole, recirculates the water to a new stream on the 4th hole. A water clarifier was installed for washing equipment at the maintenance shop. This device filters sediment/pollutants from the wash water before it enters the drain. To satisfy public concerns, 2,4-D is not used on the golf course; instead, Confront (triclopyr and clopyralid) is used as a spot spray.

The wonderful things

There are some benefits to being a superintendent in the mountainous west. Most precipitation is snow. A rain-free, hence flood-free,



A view from the maintenance shop at Lake Tahoe GC in California.



The driving range at Lake Tahoe GC faces the mountains.

summer is not uncommon. Typically the snow depth on the golf courses is 3 to 4 ft between mid-November and mid-March. A high temperature in the summer may be 78 F. Because humidity is low and temperatures are moderate, there are few turf diseases. Snow molds are the only disease routinely encountered and treated on a preventive basis. Typhula

problems are infrequent, with most of the disease caused by *Microdochium nivale* (pink snow mold). Job security may be better: both superintendents had been at their present course for quite a while; Steve started 24 yrs. ago. The mountains add a spectacular backdrop to any given day. As many things as were different, though, the challenge remains the

same as it is in Wisconsin: to provide a perfect golf course environment day in and day out. 🌿

AMETEK® ACCESS BOXES

Manufactured in
Sheboygan, Wisconsin
Specify **AMETEK** ACCESS BOXES —
A Wisconsin Product!



Bayer 

Agriculture Division

Gardens & Professional Care

John Turner

Field Sales Representative

Bayer Corporation

40 W 665 Campton Woods Drive
Elburn, IL 60119
Phone: 630-443-7807
Fax: 630-443-7839
Voicemail: 888-242-4200
Extension: 3101
john.turner.b@bayer.com

ENGINE POWER

YOUR COMPLETE POWER SOLUTION



**HONDA
ENGINES**

Kubota

LOMBARDINI

Contact our parts group for all your engine parts needs. We carry a full parts inventory.

1830 Executive Drive • Oconomowoc, WI 53066 • Phone (800)242-2289 • Fax (800)585-7514
Visit Engine Power on the web at: www.enginepower.com