Number 11, Par 3
Photo by Daniel Zelazek
The northeast wind was whipping whitecaps up into a cappuccino frenzy in Barnes Sound as I took U.S. 1 to Key Largo. I was hoping for chamber-of-commerce weather and picture-postcard views of emerald grass flats and gin-clear water as I made a rare visit to the Florida Keys. A slowly moving low-pressure area put an end to that hope; nevertheless, I was headed to the exotic Ocean Reef Club to discover the secret of how Lee VanValkenburg and his staff maintained a high-profile golf course on a lump of rock on the edge of the ocean. I have had just enough geology and grass-growing experience to know this can’t be the easiest assignment in the world even if the fishing is great!

The Ocean Reef Club was born in 1945 when Minnesota real estate broker Morris Baker bought sight-unseen a 40-acre fish camp on Dispatch Creek on Upper Key Largo. The locals on the Card Sound side of the island called the area Ocean Reef and Baker thought that name would do just fine for his fishing camp.

Before he brought Ocean Reef to life, Key Largo had a long, rough-and-tumble history.

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Dolphin No.14, a 497-yard par 5. The lake was created by mining and removing the limestone bedrock in
10-foot stone pillars and selling them to a rock products company. Photo by Daniel Zelazek.

Dolphin No. 5, a 148-yard par 3. Since blasting out the lakes was prohibited, Ocean Reef had to purchase
the rip-rap boulders to line the lake banks. Photo by Daniel Zelazek.
on the North American continent, dating from the early 16th century. Spanish explorers found the string of keys lacking in mineral wealth (gold) and fresh water, but the mahogany trees on the island were prized by these explorers who dubbed the species “Madera” or wood. The mahogany groves were logged over the centuries with the last grove reportedly being harvested in the late 1940s.

The first settlers built along the ocean and ruins of old cisterns and evidence of date palms and tamarind groves mark the isolated settlements linked by the ruts of an old wagon road that runs well east of the present SR 905. These early inhabitants had mixed livelihoods as fishermen, slavers, and lime and pineapple growers. Their homes were built from lumber salvaged from the sea or as they called it, the “Ocean Lumber Company.”

Those of my generation can’t help thinking of Key Largo without thinking of the 1948 movie of the same name starring Humphrey Bogart and Lauren Bacall. Reportedly some bar scenes were filmed on location at the Caribbean Club near Mile Marker 104 on U.S. 1. However, not one of the actors ever set foot on the island for any scenes of the movie; the bulk was filmed on a Hollywood sound stage. Plenty of celebrities visit now including President George Bush, Sr., an avid golfer and fisherman, who also frequented Gasparilla Island on the Florida west coast.

Golf made its debut on Key Largo in 1955 when Baker opened a nine-hole course and added a second nine a few years later. In 1960 a regulation golf course designed by Bruce Devlin and Robert Von Hagge was built and Bob Toski was named director of golf. The game rose in prominence as one of the many amenities for residents and visitors alike.

During the 1970s, the annual Pro-Guest Golf Tournament was in its second decade attracting a fraternity of touring pros including Gene Sarazen, Julius Boros, Dave Marr, Dow Finsterwald, Bob Murphy, Jim Colbert, and Tommy Bolt along with Toski, Ocean Reef’s own Mister Golf.

The present-day Ocean Reef Club, with its Dolphin and Harbor courses, evolved from a succession of ownership groups and course configurations; the latter included the Snapper and Barracuda courses and the Card Sound Golf Club.

Ocean Reef’s director of golf maintenance, Lee Van Valkenburg, CGCS came to Key Largo in 1985, succeeding Dick Blake as the superintendent of the Card Sound Golf Club. He served as the director of golf maintenance for both Card Sound and Ocean Reef clubs from 1992 to 1995 and assumed his current role with Ocean Reef in 1995 during the final split of the courses into their present operations.

In 2000 and 2001, the Dolphin Course was redesigned by Chip Powell with the construction done by Reed Berlinsky. Because of the short grow-in time between seasons and limited fresh water, only nine holes were renovated.
Superintendent Lee Van Valkenburg had to outfox land crabs with geotextile fabric layers and ballast stone to keep them from undermining the rip-rap lining the lake on Harbor No. 6, a 162-yard par 3. Photo by Daniel Zelazek.

The Harbor Course may be shorter than the Dolphin, but the 412-yard 10th hole challenges all players to bring their "A" games. Photo by Daniel Zelazek.

Harbor No. 4, 254-yard par 4/3. The Harbor Course is carved through the native hardwood hammock and managing shade is a high priority. Photo by Daniel Zelazek.

There won't be much rest for the weary as Ocean Reef has begun master planning for the upgrade of the Harbor Course.
‘...if we want to trim limbs that overhang the cart paths we have to go through the course and remove any Florida tree snails and put them in a moist pail. After the trimming is finished, we tack paper cups containing the snails back onto the trees so they can crawl out and return to their habitat.’

“The most positive thing to come out of all of this is the creation of a formal master plan for the club,” said VanValkenburg. “This document gives succeeding committees the guidance for what has been done and what needs to be done to achieve the stated goals of the club. Previously, we had a laundry list each year of projects to do this or that, but now we have it all mapped out and we can really plan ahead, which is what I like to do.

“The Harbor Course is going to be an interesting and challenging project. We don’t have the access points as we did on the Dolphin Course so we will have to work our way out from the far points back to the road. We have some serious shade considerations; and we have been documenting the sunlight patterns by taking photos of the greens at set intervals from June 23, the summer solstice, and during the year as the sun moves south casting more shadows on the turf.

“If we have to trim or remove any trees, we will have to get permits from the county since they have very strict codes along those lines. Even now, if we want to trim limbs that overhang the cart paths we have to go through the course and remove any Florida tree snails and put them in a moist pail. After the trimming is finished, we tack paper cups containing the snails back onto the trees so they can crawl out and return to their habitat.

“Another big consideration for the Harbor Course renovation will be upgrading the irrigation system. It’s a long run to the course, and the pipe sizing isn’t consistent, so we have serious friction loss which needs to be corrected. We are evaluating possible pump sites and ways to create additional storage for our irrigation water.”

Fresh water, much less irrigation water, is a critical issue for island dwellers in the Florida Keys. Potable water costs $6 per thousand gallons and so reverse osmosis technology has been employed since the 1970s to provide cheaper water for irrigation. The irrigation wells are more than 1,000 feet deep and tap into the southern extremities of the Floridan Aquifer as it empties somewhere into the Atlantic Ocean.

At this point in the strata, the aquifer water tests about 15,000 parts total dissolved salts and is made usable by passing the water under pressure through osmotic membranes. The water is then stored in a 2.7-million-gallon, shallow reservoir for pumping onto the grounds. While the golf course is the primary user right now, there are plans to expand the use in the future to include more home and condo sites, and resort grounds areas.

Like most people, I think of the tropical islands as getting lots of rainfall, but VanValkenburg says Upper Key Largo averages around 38 inches per year compared to the 50-60 inch average for mainland Florida.

VanValkenburg says, “We also have the plight of being the stall point for a lot of weather fronts. We get pounded with days of high winds and salt spray followed by high humidity and heavy rains as the tropical air meets the frontal zone. We can go into disease mode pretty quickly if we’re not careful. We often time preventive fungicide applications when the fronts approach because we know the conditions will be ripe for disease.”

Another challenge for growing turf in the Keys is the lack of soil. With only a couple of inches of material covering the limestone bedrock, renovating the golf course was interesting to say the least.

“We wanted to clean up our fairways
DOLPHIN COURSE

Location: Key Largo
Total acreage: 105 acres. No overseeding.
Greens: 5,250 sq. ft. TifEagle. HOC: .120 in. summer; .110 in. winter. Green speeds: 8-8.5 summer, 9-10 winter.
Tees: 4 acres Tifway 419, HOC: .350 in.
Fairways: 22 acres Tifway 419. HOC: .500 in. summer; .450 in. winter.
Roughs: 65 acres each of mixed 419, Ormond and common bermudagrass. HOC: 1.25 in.
Bunkers: 72 bunkers FS100 sand and 10 acres of naturalized links areas (coral screenings). Greens bunkers hand raked. Fairway bunkers machine raked with Toro Sand Pros with spring-rake attachments.
Waterways/Lakes: 13 acres, 3 lakes.

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and plant certified Tifway 419, so we leased a sod harvester and cut out the existing sod on the fairways," VanValkenburg said. The contractor scraped and hauled off the loose sod. Then we encouraged the remaining sprigs and stolons to regenerate and when they produced new growth we treated with a combination of RoundUp and Fusilade.

"After that died off we encouraged it to grow again and sprayed it again.

"Then we added 2-3 inches of sand, some starter fertilizer and ran a heavy-duty tiller generally used to tear up roads (Rototarian) over the surface to mix the sand and organic layers together. All that was graded out and then we grassed the fairways with rolled sod."

The bedrock also presented VanValkenburg with the experience of watching new lakes being built by harvesting the bedrock in 3x4x10-foot stone columns. 

Blasting is not allowed. The columns were plucked out of the lake one at a time after a huge trenching machine crosshatched the lake site with 10-foot-deep trenches creating a checkerboard effect. A large track-hoe then broke off the stone pillars at the base and scooped them out. The cost of the lake excavations was offset by selling the stone to a company called Keystone Products which milled the columns into benches, tables and other rock products.

Altering the landscape and creating a new look and challenges for the Ocean Reef members is done with the environmental consequences in mind at all times. Ocean Reef has participated in a USGA-funded and University of Florida IFAS-managed project to reestablish the Schaus Swallowtail Butterfly nearly wiped out by Hurricane Andrew. With the tree snails and butterflies as wards of his stewardship, VanValkenburg and staff take care to scout and time their pesticide applications to avoid harming the endangered species under their care. In fact, VanValkenberg notes that when the county or state wants to monitor the endangered species officials come to the golf course to take their counts because that's where they find them taking refuge.

Managing 36 holes of golf in this unique environment takes a lot of care and attention far beyond one person's ability to cover all the bases and VanValkenburg considers himself to be extremely lucky to have a dedicated staff to help run the operation.

"I remember when I got a chance to prove myself under Jim Ellison at Bay Hill and Adam Yurigan at Johns Island. I try to provide that same experience for our managers. I look for that spark of initiative and the willingness to work hard and improve oneself. I try to judge the depth of talent and commitment of the individual by what he shows me every day. Then it's up to me to provide him with the resources to get the job done right and to turn him loose to make mistakes; to learn to make decisions on his own; and to back him up when they goof. I guess I must be doing something right because we have a great team in place right now."

The bedrock also presented VanValkenburg with the experience of watching new lakes being built by harvesting the bedrock in 3x4x10-foot stone columns.

The course looked flawless in our ride-through and VanValkenburg showed me specimens of the native hardwood hammock environment including some surviving mahogany trees, gumbo limbo, lignum vitae, Jamaica dogwood, green buttonwood, ironwood, torchwood and under story plants common to the Keys.

I didn't unlock any real deep, dark golf maintenance secrets on this island trip, but it sure made me appreciate the differences in turf-management techniques that come into play depending on the location - from an old citrus grove in Lake County to a tropical paradise down in Key Largo.

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COVER STORY

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Location: Key Largo
Ownership: Member owned
Playing policy: Private
36 Holes: Dolphin Course - 6,467 yards, par: 71. Harbor Course - 6,090 yards, par 71/70.
Management: Paul Astbury, club president; Jim Johnson, green chairman; Hank Henrich, golf chairman and director; Tom Hilliard, director of golf; Jim DeMallie, golf professional; Lee Van Valkenburg, director of golf course maintenance.
Communications: Bi-weekly department meetings; weekly staff meetings; monthly meetings with green committee, golf committee and department managers.
Cultural/Fertility/IPM programs: We scout pest activity and life cycles for proper timing of pesticide applications. By hitting the correct window, we have had great success using Merit for mole cricket and grub control.
Environmental management: Schaus Swallowtail butterfly. Florida tree snail, both sensitive to the timing of mosquito control and oxygen diffusers. No display fountains used due to salt spray effects.
Leadership: Tod Evans, superintendent; Michael Davies, first assistant; Robert Loria and Brian Flowers, second assistants; Miguel Diaz, head mechanic; David McFarling, first assistant mechanic; Santos Cua, second assistant mechanic; Reynaldo Ramirez and Confessor Torres, pest control technicians; Abelino Garcia, irrigation technician; Elizabeth Palma, administrative assistant. Walter Thompson, landscape supervisor.
Total staff: 43 full time. Avg. weekly hours 40 ST with 4 OT. Total acreage: 105 acres. No overseeding.
Greens: 5,250 sq. ft. TifEagle. HOC: .120 in. summer; .110 in. winter. Green speeds: 8-8.5 summer, 9-10 winter.
Tees: 4 acres Tifway 419, HOC: .350 in.
Fairways: 22 acres Tifway 419. HOC: .500 in. summer; .450 in. winter.
Roughs: 65 acres each of mixed 419, Ormond and common bermudagrass. HOC: 1.25 in.
Waterways/Lakes: 13 acres, 3 lakes.
Greens: 4,800 sq. ft. Tifdwarf. HOC: .175 in. summer; .150 in. winter. Off-type mutations in greens need higher cut. Green speed goals: 7.0 summer, 8.0-plus winter.
Tees: 2.5 acres Tifway 419 & Tifgreen 328 HOC: .450 in.
Fairways: 25 acres 60% Ormond and 40% common bermudagrass. HOC: .625 in.
Roughs: 65 acres each of mixed 419, Ormond and common bermudagrass. HOC: 1.25 in.
Bunkers: 72 bunkers FS100 sand and 10 acres of naturalized links areas (coral screenings).
Green bunkers hand raked. Fairway bunkers machine raked with Toro Sand Pros with spring-rake attachments.
Waterways/Lakes: 8 acres, 3 lakes.
Greens: 4,800 sq. ft. Tifdwarf. HOC: .175 in. summer; .150 in. winter. Off-type mutations in greens need higher cut. Green speed goals: 7.0 summer, 8.0-plus winter.
Tees: 2.5 acres Tifway 419 & Tifgreen 328 HOC: .450 in.
Fairways: 25 acres 60% Ormond and 40% common bermudagrass. HOC: .625 in.
Roughs: 65 acres each of mixed 419, Ormond and common bermudagrass. HOC: 1.25 in.
Bunkers: 51 bunkers FS100 sand and 2 acres of naturalized links areas (coral screenings).
Waterways/Lakes: 20 acres, 8 lakes.

Ocean Reef looks good thanks to the support by key staff. From left, front row: landscapers Augustine Agiatas, Tu Gaspar and Oswaldo Perez. Back Row: Walter Thompson, landscape supervisor; assistant mechanics David McFarling and Santos Cua and head mechanic Miguel Diaz. Photo by Joel Jackson.
Lee Van Valkenburg, CGCS

Originally from: Attica, New York
Family: Single. Mother Ardyth Van Valkenburg, brother Peter and sister Beth Mullen
Education: AS Business Administration, Genesee Community College; 1988 GCSAA Certified Golf Course Superintendent
Professional affiliation and awards: CGCS; Class A member of the GCSAA, FGCSA, and South Florida GCSC; Member of the FTGA and USGA. Certified pesticide applicator with State of Florida.
Getting into the Business: I grew up next door to the Attica Golf Club. My grandfather, father and uncle all worked there and so did I. My mother would send Lady, our collie, over to the course to find me for dinner.
Mentors: My father Irving Van Valkenburg - his love and dedication to the game instilled in me a desire to become involved in the golf industry. Robert Simmons, my first boss. Working with Bob with his down to earth approach made me love the profession. Adam Yurigan - Adam is the man who taught me the profession. He gave me the chance to learn by making me make decisions and some mistakes and being man enough to face the heat. How many guys are willing to do that? J.J. Curran and Lou Wozak - they were both good friends and mentors here at Ocean Reef.
Philosophy/Accomplishments: Refuse to lose. You can always find a way to get it done. My greatest accomplishment or satisfaction is seeing guys who have worked for me go out and be successful - Bryan Singleton, Mike Osley and Chuck Calhoun and most recently Tod Evans moving up to La Gorce CC in Miami.
Advice to new superintendents: Identify the talent on your team, explain exactly what is expected of them and give them the means to accomplish what’s expected. Coach and guide them so they can begin making decisions on their own. This only works if you’re a good judge of talent.
Memorable moments: After Hurricane Andrew, we housed and fed many of our associates, who had basically lost everything. We were cut off from the mainland and most communications for a week. People got on edge. One day two guys almost came to blows over what day it was. I defused the situation by tossing a newspaper on the table and said, “You might be wrong today, but you’ll be right tomorrow!”
Hobbies and interests: Fishing. Still dating. Reading. That’s all I have time for.

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It's plain to see why his fishing tackle is Van Valkenburg's most prized possession.

Here are some things you might not know about our cover story superintendent:

2. The last good movie I saw: As Good As It Gets.
3. I stay home to watch: Sports and nature shows.
4. The book I've been reading: "First, Break All the Rules."
5. Favorite meal: Mom's homemade spaghetti.
7. Prized possession: All my fishing tackle.
8. Personal heroes: Joe Torre, Colin Powell.
9. Nobody knows that I: Wanted to become a paleontologist. Working in this fossilized coral bedrock, I guess I am one.
10. I'm better than anyone else when it comes to: Anticipation, thinking and planning ahead.
11. If I could do it over: Maybe I would have married a woman instead of a golf course.
12. I'd give anything to meet: Our President.
14. The one thing I can't stand: Lack of planning ahead.
15. If I could change one thing about myself: I'd try to be more relaxed.
17. My most humbling experience: Early in my career, driving a tractor into a tree in front of everyone at the clubhouse and getting exiled back to the push-type rotary mower detail for the season.
18. The words that best describe me: Humorous but intense.