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# Real-Life Solutions

SAN GERONIMO GC, SAN GERONIMO, CALIF.

## Save Me Some Salmon

It's no fish tale: The San Geronimo GC crew, with the help of local environmentalists, built a ladder in the middle of the course to help an endangered species spawn

BY KAREN R. OLSON

**W**ild coho salmon are literally jumping for their existence at San Geronimo GC, which is located in San Geronimo, Calif., near San Francisco. The 10-pound fish make their final journey from the Pacific Ocean through the watershed and into the San Geronimo Creek, which runs between the seventh and eighth greens of the course, where their spawning beds are located.

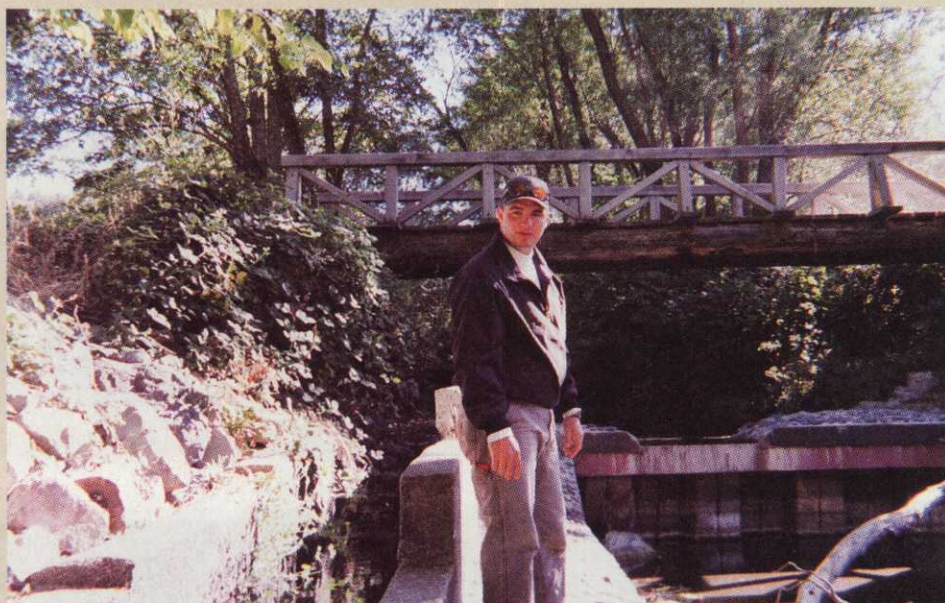
"When I first saw those huge orange fish swimming

### Problem

Wild coho salmon, an endangered species, found their migration blocked after a fish ladder collapsed under the pressure of heavy rains.

### Solution

Clear away the debris and build the salmon a new ladder, with the help of local environmental groups.



**Scott Carrier, San Geronimo's superintendent, says he's excited to be involved with the ongoing salmon-saving project.**

up the creek near our maintenance area, I was tempted to grab my fly rod," says Guy Auxer, vice president of agronomy for Evergreen Alliance Golf Ltd., the company that owns the course. "Then someone told me that the salmon are listed as a federally threatened species."

It's a wonder the salmon are still swimming. Increased land development, erosion, extended droughts, river damming and changes in ocean temperature have made it difficult for the salmon to complete the journey. As a result, the California Coho salmon population plunged from 500,000 in the 1940s to an estimated 500 in 1997.

In 1996, a crisis at San Geronimo added to the

salmon's plight. But the fish received some much-needed help from their friends at the course, whose work reopened the salmon's traditional spawning ground.

### The problem

A fish ladder had been built in 1954 to help the salmon complete their yearly migration over what was known as Roy's Dam, a 30-by-10-foot dam built in the river. In 1996, however, the ladder was destroyed by heavy rains and the rush of sediments that had built up over 70 years.

The fish, unable to find the original ladder, were suddenly beached — creating a potential public relations disaster for the course in this environmentally sensitive

part of the United States. "I had an unexpected challenge presented to me as the new course superintendent," says Scott Carrier, San Geronimo's superintendent.

It was Todd Steiner, a biologist and director of Salmon Protection And Watershed Network (SPAWN), who discovered the problem. Steiner was driving past the course one day and noticed a beached fish lying on top of the dam. At the time, the course was in the process of being sold, and Steiner wasn't sure who to contact about the problem. So he took the story directly to the media.

Within the next few days, CNN, along with several local television stations, positioned their cameras at the golf course, catching the stranded fish on film and

*Continued on page 65*

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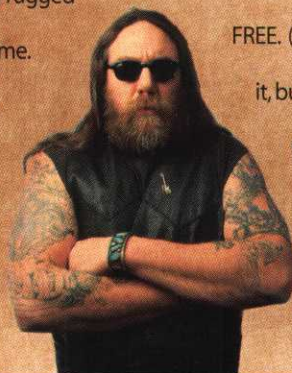


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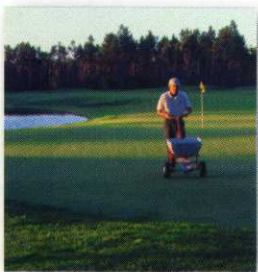
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## Real-Life Solutions

*Continued from page 62*  
bringing national attention to the demise of the species.

The media attention helped proactive citizens obtain an emergency removal permit from the National Marine Fisheries Service. Safely netted and then released to the unobstructed side of the dam, the fish continued their migration. But the solution was temporary and the problem apparent.

### The solution

Scientific reports suggested that the watershed and San Geronimo Creek contained 10 percent of the remaining Coho fish population.

The solution was simple: The old ladder needed to be

demolished and removed to make way for a new one.

The golf course was suddenly in charge of designing and constructing a new ladder. Fortunately, local environmental groups threw their support behind the project and offered their expert advice. For the next year, private individuals, wildlife organizations and governmental agencies joined in a series of meetings with golf course management.

Recognition of the project also found its way to the Department of the Interior in Washington D.C. In 1998, Secretary of the Interior Bruce Babbitt was invited by Trout Unlimited to take part in the dam demoli-



ELENA BELSKY

**The 1954 fish ladder collapsed under the pressure of torrential rains, combined with river built-up sediments**

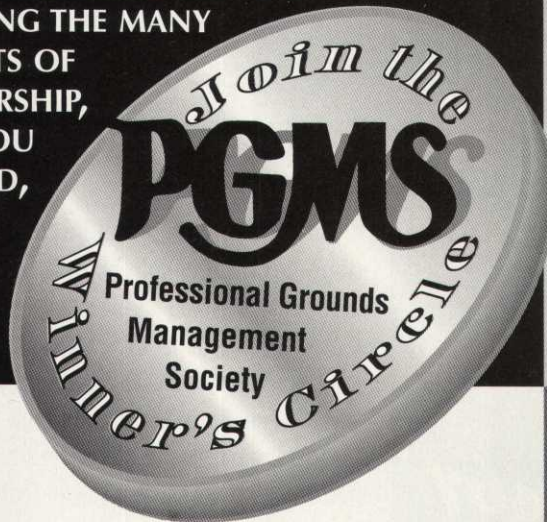
tion ceremonies at San Geronimo. Jackhammer in hand, Babbitt declared that attention be brought to the numerous dams linked across the Pacific coastline that act as “tombstones that rivers no longer need.”

“It was a team effort and it made sense that Evergreen be both active and supportive — in not only in recog-

nizing the problem — but in helping to create a solution,” says Tim McBride, Evergreen’s Western region managing director. “It was a public and private partnership with local activists and residents joining Evergreen in the donation of time, services and materials. Environmental groups and govern-

*Continued on page 66*

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## Real-Life Solutions

*Continued from page 65*  
mental agencies also contributed funds.”

The fish ladder was reconstructed in 1999. The cost of the project was more than \$150,000, and the ladder is entering its second migratory season. The future of the project and the ladder itself are being determined.

“I recognize that the integrity of this ladder is largely my responsibility,” Carrier says. “We conduct daily inspections of the pools to keep the area clear of debris and have implemented a low-impact management program that minimizes the chemical applications and helps protect the surface water quality of the creek.”

McBride says Evergreen is passionate about being environmentally responsible and proactive and will continue to demonstrate its commitment at San Geronimo. “Presently, we are working on the possibility of contributing the ladder to local organizations for the purpose of preservation and continuing education, McBride says.”

According to the participating agencies responsible for monitoring the fish, the question of whether construction of Roy’s Pools (so named to pay tribute to the original Roy’s Dam that had been destroyed) will have a long-term impact on the Coho population won’t be



ELENA BELSKY

**The golf course crew, with the help of local environmental groups, constructed the framework for the new fish ladder.**

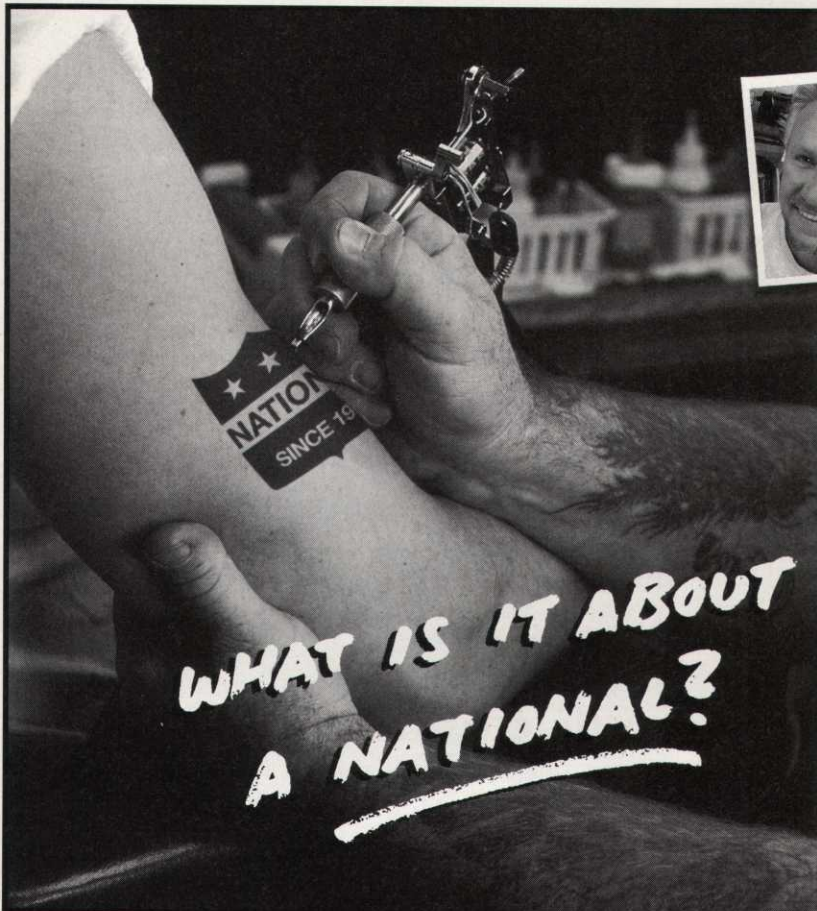
answered for years.

“I’m excited to be a part of this continuing project,” Carrier says. “It has been surprising to see how many people stop at the creek daily to look at the ladder — and the salmon aren’t even jumping. With the viewing location well out of reach of play, area residents and educational groups are assured that there

will be some form of observational area in the future.”

Auxer has one piece of advice for golfers who want to play San Geronimo — “Leave the fishing rod in your bag.” ■

*Karen Olson, an environmental geologist, owns Karen R. Olson Consulting in Virginia, Minn.*



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**I**t seems to me that the irrigation industry so focused on the latest technological advances and a marketing race has forgotten to make simple irrigation work for the average end users. I've watched superintendents embrace promised modern marvels, only to wonder how their hopes for so much had delivered so little.

Now I have a vision, born from the frustrations of turfgrass managers who have gone to the well and put their livelihoods on the line for something better, only to realize that the buckets they winched from the depths are empty. I have a wish list for an Irrigation Reformation, and I am not alone.

In the past, we have seen modernization of many aspects of turfgrass management. Irrigation companies, in particular, always seem to focus on what technology can deliver. But in the field, where the roller meets the turf, there is one segment of the industry that needs to go back to the drawing board: irrigation companies.

My wish list for reform is simple:

**I wish** for a sprinkler head that is efficient, adjustable, maintainable and durable. Today's irrigation head, no matter what the engineers are saying, is a design disaster containing planned obsolescence sure to create a maintenance wound bound to fester.

**I wish** for more sprinkler heads to be as creative as the terrain that they irrigate. No longer should we hear from designers, installers or manufacturers that smaller heads are "just too difficult."

**I wish** for irrigation design that actually works with golf course topography and is not simply superimposed over a plan-view routing. How many times do we have to watch the sprinkler on the high ground create a drainage problem in the low ground before we give ourselves permission to use water more effectively?

**I wish** for irrigation installers who truly know *and care* about what a difference it makes to superintendents (and the game) when they actually put heads in the right places and with the right spacing in their manic rush to complete their jobs. If you don't believe there's a problem, ask any superintendent who has measured off 80 feet in a 65-foot spacing pattern or added a head that should have been installed originally.

**I wish** for irrigation controls that allow super-

## I Have a Dream: Irrigation Reform

BY DAVE WILBER



THIS IS A CALL TO  
THE IRRIGATION  
INDUSTRY TO GET  
ITSELF INTO THE  
FIELD WITH  
SUPERINTENDENTS  
AND POLISH ITS ACT

intendents water as they know they should, rather than requiring them to spend dozens of hours being trained to water as the system is designed to let them.

**I wish** that the same control can be updated, without having to scrap the old control system and that new updates are real advancements rather than beta-tests.

**I wish** for sensing devices, weather data collectors, measurement units and other peripherals that could stand on their own. Smarter data collection is wonderful. Making it do less than it should to suit the needs of a weak central-control database is absurd.

**I wish** designers would consider individual soil types and the laws of water-movement physics when they work up a system and size the pipe.

**I wish** evapotranspiration data would become an interesting benchmark and not a controlling factor, and that the research community would seek a deeper understanding of turfgrass water requirements.

This is a call — no, it's a plea — to the irrigation industry to get itself out into the field with some superintendents and polish its act. If you *really* listen to your customers, especially when they are frustrated or when things aren't working right, you might hear some of my wishes loud and clear.

Like that first great reformer, Martin Luther, superintendents should nail their complaints to the doors of irrigation suppliers, designers and installers. Along with that, they should take a serious look at their own irrigation management and hold themselves as accountable as they should be holding the industry.

It's a dream I share with many others.

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*Dave Wilber, a Sacramento, Calif.-based independent agronomist, can be reached at [dave@soil.com](mailto:dave@soil.com).*

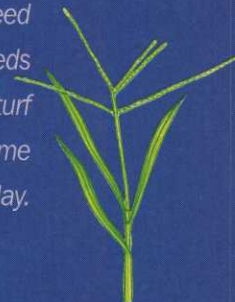




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# Tips

## → Planning and Building a Golf Course

**There are four ingredients needed to construct a great track**

BY GRANT WENCEL

**G**olfers' impressions of courses are as varied as the people you talk to. Apart from how well you played at a particular course or how successful the course is financially, we all seem to rate our favorites with a variety of criteria. *Golf Digest's* annual challenge to determine the best new courses uses rating categories like shot value, playability, design balance, memorability and aesthetics. Other publications also have their best course lists, which they're constantly revising as new courses open.

Along with these discussions and ratings, let's consider what separates the "great" golf courses from the many "good" ones. Say you're a future developer wondering where to start and how to get from a dream to a great course. You must mix four essential ingredients for a great golf facility. Any three usually result in a good course, but all four must be attained to create something special.

### A good site

Today, it's not as important to find the perfect site in terms of natural characteristics. With modern earth-moving equipment, we can build golf courses on almost any type of terrain. The only barriers are large wetlands or flooding areas, mountainsides, continuous rock, inadequate soil or regions lacking water for irrigation. Important factors in site selection are availability, location, demographics and access, as well as the area's natural terrain, vegetation and aesthetics.

Some incredible sites have been



An area's natural terrain and vegetation is vital to proper selection.

blanketed with golf holes with breathtaking results, like Spyglass Hill GC on the rocky Pacific coast or The Broadmoor GC in the mountains and pines of Colorado. It's rare to have an exceptional site to work with, and it's not a prerequisite to a great golf course. You do need a good site, however, rather than an average or poor one.

A good site must be of adequate size and shape with none of the barriers mentioned above. If the development includes housing (as many do today), the size obviously needs to account for this.

Beyond this a good site has:

- ⊙ Interesting terrain that creates opportunities for holes and views to be placed throughout the landscape.
- ⊙ Spots of existing vegetation and trees that anchor some holes and experiences.
- ⊙ Possible existing waterways (creeks and ponds) to add natural elements to manmade features.
- ⊙ An overall pleasant sense of place when you're on the property.

### A good design

When you've found a good site, the task of defining the course begins. Here's where an architect's experience pays dividends through a step-by-step



PHOTOS COURTESY OF GRANT WENCEL

### A good design involves exploring different layout plans and hole routings.

design process. I don't believe good design happens by accident, and it rarely occurs for someone new to the challenge.

However, some of the courses in your area (especially the older ones) were probably laid out and designed simply and mechanically by an owner, golfer, engineer or planner with little professional experience in design.

Good design requires an intimate knowledge of the site, thorough fore-