Nuisance water may be godsend
University of Nevada researchers are studying ways to use untreated runoff water

User-friendly
EPA official urges environmentally safe golf course projects

'Toxo-terrorists'
Exposing fancy and unveiling fact are musts of the future for superintendents

Pesticide law
California superintendents come under restrictions of old agriculture regulations

2nd quarter 1991 course update

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Source: NGF

COURSE MAINTENANCE
Audubon, courses team up to save wildlife
Wildlife at refuge at John's Island West
Greg Graham always tournament-ready

COURSE DEVELOPMENT
Japanese stay active in U.S. marketplace
Las Vegas thrives in face of recession
Monthly update: Planned, approved courses

COURSE MANAGEMENT
Management companies do it all
Owners association gains members
Kemper signs pact

SUPPLIER BUSINESS
Bermudagrass test results released
Marketing conference speakers announced
Turfsed field days draw crowds

Major changes expected in revisions of wetlands laws

By Mark Leslie
Wetlands preservation regulations that have handcuffed golf course developers and created long, expensive waits for approvals are being rewritten — and loosened extensively — on two fronts.

A revision of the much-maligned federal wetlands delineation manual — used by the Army Corps of Engineers, Environmental Protection Agency, U.S. Fish and Wildlife Service, and Soil Conservation Service since 1989 — is under review and is said to more narrowly define what constitutes a wetland.

Further up Pennsylvania Avenue, congressmen have answered the call of waters and drafted legislation to correct deficiencies they see in the wetlands protection system.

Conservationists are angry. Linda Winter, director of wetlands programs for the Izaak Walton League, said a scientifically sound definition is "being thrown out and ignored for political reasons.

One EPA ecologist, resigned and another asked that his name be dropped from the credits of the revision.

But others are looking forward to changes.

First facilities open for handicapped

By Mark Leslie
Two golf facilities built especially for the physically challenged will open within the next month, marking milestones in the long slow process.

The first course is at the Los Angeles Athletic Club. The other is at Edwin Shaw Hospital. Both will open within the next month.

End of drought won't solve Calif. woes

By Peter Blais
RIVERSIDE, Calif. — Water will continue to be in short supply for many years in California because of the six-year drought, increased demand from a growing population and environmental concerns, according to a Southern California water expert.

"We are going to see changes in our landscapes and maybe in our lifestyles if the shortages are severe enough and long enough."
New solutions, sources sought for California water users

Continued from page 1

"We're looking at a crisis and it's not going to go away, even if it starts to rain."

THE SITUATION

The major source of water in California is ground water, Harbison said. The amount of ground water varies tremendously from area to area, so the drought situation differs markedly around the state. Some areas have no ground water, some limited and some plentiful subsurface water. Certain coastal areas have pumped so much from the ground, salt water is infiltrating wells.

Most of California's water is in the north, but most of the state's population is in the south. That has resulted in two types of water transportation in the state. Short systems are located east of San Francisco along the western slope of the Sierra Nevada Mountains, characterized by small water districts, small reservoirs and cross-valley pipelines.

The southern part of the state relies on special, long transport systems. The City of Los Angeles aqueduct from the Owens River Valley, Metropolitan Water District aqueduct from the Colorado River and the state water project were all built at different times during this century with the goal of forever filling the water needs of Southern California. But none have solved the problem and all have even found it difficult to meet their designed capacities. Environmental concerns have spawned heated debate in recent years. California voters will decide the winner, Harbison said.

One new source of water is being developed. A sample came on line when a small, seawater desalination plant opened in June on Catalina Island near Los Angeles. But the cost of removing salt from ocean water is $2,000 per acre-foot, making it affordable for household use, but impractical for irrigation.

Population growth is driving the state's seemingly insatiable thirst for water. Immigration has helped push California past 30 million people, a figure planners 30 years ago didn't predict until the year 2010. Population is growing at 700,000 people a year, requiring 100,000 more acre-feet of water annually.

"What we have is increasing demand with a stagnant or shrinking water supply," Harbison said. "It's crucial for the green industry to be proactive to survive."

Ground water will help the industry in the short run. California will overdraw 2 million acre-feet of ground water in 1991. "But ground water is like a bank account. If you don't put water in, eventually you can't get water out," Harbison said.

Many parts of the state, particularly the central valley, are heavily overdrafting their aquifers. The Mojave Desert is showing surface cracking. A space shuttle landing had to be diverted away from an Edwards Air Force Base landing strip because of cracking due to overdrafting.

"With or without drought, we're going to continue to have a shortage of water around the state. We're all going to have to learn to live with less water, personally and in landscaping," Harbison said.

Water is also going to get more expensive. Desalination and tougher Environmental Protection Agency drinking water standards regarding lead and radon will push prices higher. Filtering out radon and lead will cost the state's water district's $600 million, Harbison estimated.

Reclaimed water could be the savior of the green industry, he said. Traditionally ignored and dumped back into the ocean, effluent has just recently been looked at for irrigation in California.

The problem is most sewer collection systems are gravity-fed, meaning the water must be treated, stored and then pumped back uphill to where it is needed.

"And that's not cheap either," Harbison said. "We'll probably end up paying the same cost as domestic water in many cases because of treating, storing and pumping costs."

Developing more in-state water is unlikely because environmentalists have virtually stopped dam construction over the past 20 years, Harbison said. Half serious/half joking discussions about importing water from the Columbia River and Alaska are long-range options, but would also be costly, he added.

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California

permanent reduction in water use over the next few years, Harbison predicted. Attaining that goal will require incentives, although some water districts are already willing to shut off water to landscapers completely or on a percentage basis. Percentage-based reductions are a very unfair way of rationing because the people who have conscientiously conserved over the years are penalized more severely than those who have always wasted water and will now be allotted a more reasonable amount, Harbison said. Hopefully, most water districts will begin allocating water on a per-capita basis, Harbison said. Water allotments should be determined on an area's evapotranspiration rate and the area a landscaper is covering, he added. Harbison favors an allotment method giving a landscaper a certain amount of water that he can use as he sees fit.

Before such a system gains statewide acceptance, the landscape industry will likely see peak-season pricing, with higher prices in summer than winter; graduated rates and the area a landscaper is covering, he added. Water allotments should be determined on an area's evapotranspiration rate and the area a landscaper is covering, he added. Harbison favors an allotment method giving a landscaper a certain amount of water that he can use as he sees fit.

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