

A graphic design featuring a diagonal split. The upper-left portion is black with a splatter effect, containing the word "OIL" in yellow and "&" in grey. The lower-right portion is blue with a splatter effect, containing the word "WATER" in blue. The background is a grayscale image of water ripples and droplets.

# OIL & WATER

BY **NICOLE WISNIEWSKI** EDITOR-IN-CHIEF

**W**HILE HAVING A discussion about water, Andy Smith is, ironically, pumping gas.

The external affairs director of the Irrigation Association is driving 250 miles to a meeting. And while, traditionally, oil and water don't mix, these two diminishing resources — or, rather, their better management — are merged in Smith's mind.

One is observed daily, and then compared, analyzed and complained about due to its cost. It is diminishing, yet alternatives are cropping up so fast it's head-spinning. Pages of documents dissect and determine its pricing.

tion Agency (EPA). Compare this to the \$707 that family pays for soft drinks. Or the \$2,000 they spend per vehicle on fuel, Gometric's study says.

Ask the average landscaper what he spends on fuel, and one can get a pretty accurate picture of not only dollars and cents, but how he's trying to trim those costs. But ask him how much water his average client's landscape needs, and you may not get such a straight answer. "The industry as a whole has a very low threshold for understanding water use in the landscape," says Larry Cammarata, green management consultant for Brickman, a \$687 million national landscape company with headquarters in Gaithersburg, MD.

Based a large part on cost, "there is an overwhelming economic burden placed on gasoline."

## The era of easy oil and plentiful water is ending. Better managing these two resources could be your next great business opportunity.

The other is talked about less frequently and then in sweeping generalities. It's assumed. Its pricing and proper use are inconsistent. A hodgepodge of policy surrounds it. It's taken advantage of, misused and abused. Yet many argue it is *more* important to the industry's future than the former.

Oil and water.

And the big contrast happening between the two resources is currently making Smith chuckle.

"If I forget to shut off my Chevy Tahoe and let my car idle, draining my 30-gallon gas tank, I lose \$85," he says. "It hits my wallet immediately. But, at home, I pump water out of the ground — so what's the penalty if I waste water?"

Essentially, nothing happens. "We don't even think about it when we get the water bill because water is still relatively inexpensive," he says. "The framework doesn't exist for someone to be rewarded to be an efficient water user." The Congressional Budget Office says combined water and sewer bills average half of 1% of U.S. household income, and this is expected to remain less than 1% through 2019. That's \$523 annually per household, says the U.S. Environmental Protec-

Smith says. He isn't joking. The past eight U.S. presidents have touted their ideas for a more energy independent future.

"We fret about the running out of oil, but water lubricates the economy just as oil does," agrees Robert Glennon, author of 2009's *Unquenchable: America's Water Crisis and What To Do About It*.

And, to complicate the issue, both resources are interconnected. Energy is used to treat, distribute and use water and many alternative fuel sources require water for their development.

When asked to prioritize water and fuel use for the average landscaper, Jennifer Smith, owner of Oakland, CA's The Greensmith, says "water is definitely the bigger issue, but not as many people are as focused on it as they should be. We perceive we can control it whereas our dependency on oil is so guttural — we load up on tools, get in our truck and go. The deeper problem is water, but it's not talked about consistently every day."

"Maybe if when you pulled up to a customer's site like when you pull up to a gas pump, the water meter would start running to show the gallons you were using," adds Jim McCutcheon,

*continued on page 13*

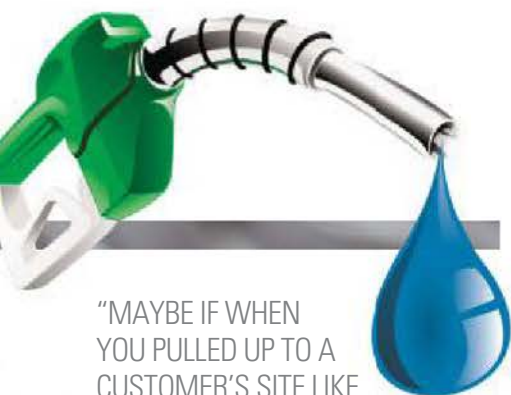
*continued from page 11*

president of Austell, Ga.-based, \$10.1 million HighGrove Partners. "But this doesn't happen. Water use is invisible."

Both issues are heavily affecting the future of green as today's landscapers know it. As water restrictions increase and outdoor power equipment is cursed by activists as carbon-emitting monsters, turf becomes the victim — a supposed water and energy hog that requires mass care and inputs. The EPA estimates landscape irrigation accounts for one-third of all residential water use, totaling more than 7 billion gallons per day. And 50% of that water is wasted due to evaporation, wind or runoff caused by overwatering.

But industry experts, including Andy Smith, say these rash decisions are being made without the help of science or basic horticultural fundamentals. "It's not the *use* of water that is the problem — it's the *misuse*," he explains. "But we're being told we have to change the water target — turf — to decrease water use instead of attacking the waste."

The era of easy oil and plentiful water is ending. And better managing these resources could be a landscaper's next great business opportunity. As Kris Kiser, executive vice president, Outdoor



"MAYBE IF WHEN YOU PULLED UP TO A CUSTOMER'S SITE LIKE WHEN YOU PULL UP TO A GAS PUMP, **THE WATER METER WOULD START RUNNING TO SHOW THE GALLONS YOU WERE USING.** BUT THIS DOESN'T HAPPEN. **WATER USE IS INVISIBLE.**" — JIM McCUTCHEON, HIGHGROVE PARTNERS

Power Equipment Institute, says: "If we don't step up and do something, someone else will do it for us — and they won't help us limit things like water; they will limit the things that use it, starting with the lawn."

### Stalled & flooded

The issue of gas prices can be volatile. First, it starts with a look of stunned disbelief as the numbers climb on the pump while a landscaper fills his tank. Price fluctuations happen regularly because oil prices are easily influenced by things like the weather. Secondary effects come later — maybe a landscaper decides not to take a job too far out of his normal service area because the costs outweigh the profit or he buys fewer trucks because his equipment budget is tapped or he buys less equipment because product prices have increased due to rising shipping costs. As long as trucks and equipment run on gasoline, and its price affects other buying decisions, fuel costs will continue to influence every part of the U.S. economy, Gomestic says.

What happens when oil runs out? Experts in the field say it won't, but it will become too costly to obtain, forcing people to rely on other energy sources.

Enter the flood of alternative fuel equipment and vehicles into the market. Though some alternative fuels are entering the scene partnered with products that can handle them, others aren't.

By August, for instance, Kiser says the EPA will most likely approve E15 — gasoline with 15% ethanol. But the testing of mid-level ethanol blends on outdoor power equipment engines has shown performance irregularities and failure, including fuel tank corrosion and leaks and unintentional clutch engagement — huge safety hazards. Manufacturers would like to build new machines capable of handling higher ethanol blends, but this does not address what to do with legacy products or further increasing ethanol blends. EPA's solution is fuel pump labeling to ensure people use the proper gasoline. But since fuel purchasing is driven by price, Kiser expects landscape crews will unin-

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## COVER STORY

tentionally end up filling their equipment with E15.

OPEI isn't the only group to be wary of what's viewed as the EPA's swift decision-making. The California Air Resources Board is another. They say the EPA should first complete the adequate testing that will take years and cost millions.

On the other hand, water is out of sight, out of mind, Andy Smith says. Georgia has a good example. The state suffered a level IV drought, and in September 2007 implemented severe water restrictions. Some landscapers' businesses suffered considerably as a result of the historic drought combined with high fuel prices and the recession. In 2009, after above average rainfall that continued into this year, the issue eased some. So some contractors became complacent.

But Bill Hildebolt, president of Nature's Select Premium Turf Services, Winston Salem, N.C., and current president of the Professional Landcare Network, says as early as this August, the picture could change dramatically. "We are at a tipping point," he says. "Sure, maybe the larger crisis has eased up, but the underlying problem is still there. All it will take is a jump in fuel prices and a few weeks with no rain and it could impede these companies considerably."

McCutcheon agrees. He saw the writing on the wall after the water restrictions went into place — one week from installing seasonal color on most of his clients' properties. He

## WATER WARS

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Welcome to the tri-state water wars — an all-out fist fight between Georgia, Florida and Alabama over water.



For almost two decades, Georgia, Alabama and Florida have been battling over the future allocation of water in two major river basins that cross their borders. Georgia wants to have enough water to allow metro Atlanta to continue growing, while Alabama and Florida — the downstream users — want enough water flowing for their own economic well-being. The dispute involves several federal agencies, courts and mediators, and its outcome is one of the most important environmental issues in the region today.

A big factor in the problem is population. For instance, Jim McCutcheon, president of Austell, GA-based High-Grove Partners, says he remembers passing a sign as he drove into the city of Atlanta when he moved there in 1978 or 1979 touting a population of less than 1 million. Today, that city boasts 5.5 million people.

According to the World Water Council, the 20th century saw a tripling of the world's population while freshwater use grew by a factor of six. World population is expected to increase as much as 50% over the next half century, and the U.S. alone will expand by 100 million over the next 40 years to 422 to 458 million people, according to the U.S. Census Bureau. As a result, analysts are worried increasing demand for water coupled with industrialization and urbanization, could have serious health and environmental consequences. And access to water also will likely cause conflicts between governments as well as within national borders.

When McCutcheon was knee deep in severe drought and water restrictions in 2008, his industry peers, joking around at the Green Industry Expo, handed him bottles of water saying, "Take that back with you to Georgia."

McCutcheon enjoyed the joke, but today he wonders if they know how serious the problem can become nationwide. "There are 44 situations around the country that are just like Georgia-Florida-Alabama where reservoirs were built to generate power, control flooding and for more navigatable water down waterways, and cities are using them for drinking water," he says. "Those cities don't have the legal rights to use the water just like Atlanta has no claim to the water in Lake Lanier. Unless Georgia, Florida and Alabama can come to a resolution, Congress will step in to figure it out. And all those other 44 situations will come to light and be dealt with. Congress could make sweeping regulations on water use for everyone. Think about it — the government is in the health care and financial businesses now — it could happen."

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met with this team and said, "We're going to get massive cancellations. It won't kill us but it will hurt. Let's figure out how to get through the rest of the year and then focus on how we can build a better future for ourselves."

The answer was KnowWater, a program focusing on maintaining and beautifying landscapes while keeping water savings in mind. As a result of this program, which was launched in February 2008 and expanded to include stormwater management this year, HighGrove tripled irrigation revenue in 2008 when others were asking local officials, "My business is dying — when are you going to lift water restrictions so I can get back to work?" McCutcheon says their answer to that was: "I don't see that happening anytime soon. If you are in the irrigation business, you're going to go through a lot of lean years or you should look for something else to do."

"Today, if I walk into a potential client's office and say I want to do a \$120,000 irrigation system renovation, he would probably tell me to get out." McCutcheon adds, saying HighGrove has enjoyed 15% annual growth. "But KnowWater is our differentiation factor. I show him how in less than one year he can recoup that investment in water savings, and then continue the savings each year, and it becomes a no-brainer. If we don't educate ourselves and our customers on better water use, the rules will be written for us without our input. I'm already seeing it."

### Fixer upper

Saving money on fuel isn't rocket science. Contractors have been using a combination of better routing, no idling policies and safer driving to save fuel for years. And, recently, more contractors are investing in fuel-saving vehicles to make more immediate savings impacts. The result has been not only a smart economic decision (as long as the new cars are combined with other fuel-saving tactics), but one that comes with a nice social and sustainability benefit

contractors can market to clients.

But decreasing overall water use on clients' landscapes is another story. "In order to reduce water use, there are arguments being made that we need to change the plant pallet and eliminate turf," Andy Smith explains. And the message is spreading. A recent Southern Nevada Water Authority ad shows sod as a worker in a cubicle, his hands behind his head, legs up on the desk. The copy reads: "Sod. It just doesn't work."

"But I don't believe if you eliminate

turf it solves the problem," Andy Smith says. "Not to mention that by this definition a low water use landscape is also a low producing landscape in terms of our economic survival."

Andy Smith is talking about the oxygen-producing, carbon sequestration benefits of turf and plants. Turf captures four times more carbon from the air than is produced by the engines of today's lawn mowers, with well-managed lawns (those with proper height, nutrition, water and root zones) bringing a net carbon intake five to seven times higher than their non-managed counterparts,



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## COVER STORY

according to Ranajit Sahu, an independent environmental and energy expert.

But despite these benefits, all industry experts agree turf doesn't belong everywhere. In Arizona and Nevada, for instance, turf is probably not the best choice. "Turf wasn't meant to be grown in a desert," Jennifer Smith says. "But as the population boomed and people

flocked from the Midwest to the Southwest, they wanted to bring their picture perfect green landscapes with them. And no one told them it wasn't OK."

One turf alternative, activists claim, is native plants. But industry professionals say the term "native" needs to be more clearly defined.

In fact, in all of the landscapes Cam-



# 700 billion

Number of gallons of water residents use on landscape irrigation per day.

— EPA

marata visits regularly, 90% of the plant material there today is "native, adaptive, hardy and sustainable."

And everything McCutcheon uses is drought-tolerant.

Problem solved? Not quite.

Walk into a nursery, Jennifer Smith explains, and most native plants are lumped together. But two native plants may thrive in very different growing conditions. "So you can install them in a client's landscape, but if they aren't put in the right place, they aren't saving water," she says. In fact, as much as 70% to 80% of all plant problems are related to incorrect watering, according to the Irrigation Association.

Further, a recent University of Florida study shows landscape shrubs need much less water to establish healthy roots than previously thought. The study's objective was to determine how best to irrigate shrubs during establishment. Some of the state's most popular shrubs were evaluated, including both native and non-native species.

"There are no differences between native and non-native species for amount of water required for establishment," says Ed Gilman, a UF environmental horticulture professor.

So the problem isn't replacement of landscape plants and turf — it's challenged soil conditions and wrong plant, wrong place. Plants that require sun are planted in shady spots or plants living under trees that have matured are now

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## 70 to 80

% of plant problems related to incorrect watering.

— IRRIGATION ASSOCIATION

## 50

% of landscape irrigation water wasted due to evaporation, wind or runoff caused by overwatering.

— EPA

## E15

Gasoline with 15% ethanol — a product that hasn't been tested thoroughly enough to be safe for use in outdoor power equipment.

— OPEI



## 90

% of plant materials used on landscapes today that is native, adaptive, hardy and sustainable.

— LARRY CAMMARATA

landscape more sustainable. And most sustainable plant material doesn't need supplemental watering after establishment."

### Customer- or contractor-driven trends?

To drive plant-soil-water education to clients and Brickman branches, Cammarata conducts landscape sustainability audits (instead of irrigation-only audits), factoring plants, soil and water into each and every study.

He says a typical, well-designed, well-built and cared for irrigation system will have a distribution uniformity of between 65% and 85%. Of the 250 audits he's done in the Midwest over the past two years, he has not found one site where the distribution uniformity has been higher than 39%. In five recent sustainability audits he did in Minnesota, he found that 7.8 million gallons of water was being wasted. "These were 30-year-old systems that have never been updated — only patched up. That's \$30,000 or \$40,000 in water savings per year once I update the system."

not getting the water or sun they need to thrive. "I'm seeing the right plants being used, but not always in the right place or the right soil," Cammarata says.

Many agree the entire outdoor overwatering problem can be solved by looking at the plant-soil-water continuum as a combined picture vs. three separate entities. "It amazes, upsets and saddens me that the industry has lost touch with this," Cammarata says. "Of the three elements, sure, water is the worst offender. But by fixing the plant location and soil, you can reduce the supplemental water that plant needs considerably."

The overwatering of plants — the "just-add-water mentality," as Jennifer Smith calls it — has caused the soil to suffer. "When you overwater, you remove air from the soil and it can't breathe," Cammarata says. "So the nutrient holding capacity of the soil stays at the surface, which dries out in two days. So the plant becomes addicted to supplemental water. The industry needs to quit worrying about saving water for the sake of saving water and start worrying about it for the purpose of healthier soils and more vibrant plant material. I can regenerate the soil structure, increase the microbial activity and make the

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Smart irrigation technology has also made advancement leaps. But a smart product, Andy Smith says, is only as smart as the people installing and managing the irrigation system overall. “The technology has improved dramatically, but the quality of the personnel installing the product has decreased dramatically,” Cammarata says. In competing bids, there has been the contractor who comes in at \$10,000 less than the others. Today, Cammarata says his client education on the plant-soil-water continuum and a focus on water savings is helping him win the work over the lowest priced provider.

Customers are still driving water savings decisions, just as they have been known to drive plant decisions. But their love affair with lawns makes some people wonder if turf could ever really be challenged — the icon it is, the emblem of ownership pride.



**“IT UPSETS ME THAT THE INDUSTRY HAS LOST TOUCH WITH [THE PLANT-SOIL-WATER CONTINUUM].** OF THE THREE ELEMENTS, **SURE, WATER IS THE WORST OFFENDER.** BUT BY FIXING THE PLANT LOCATION AND SOIL, YOU CAN REDUCE THE SUPPLEMENTAL WATER THAT PLANT NEEDS CONSIDERABLY.” — LARRY CAMMARATA, BRICKMAN

Recently, a potential client called Jennifer Smith asking her to install subsurface irrigation to water a lawn. His area, however, was “like putting a lawn in the Arizona highlands,” she says. “I recommended a reduction of lawn to maximize water savings and still have a nice property. But, later that day, a friend in the business called me and said she got a call from a potential client. She started describing the job and I realized it was the same guy. So the

client wanted what he wanted regardless of right plant, right place, and he was looking for someone who would give it to him. So what do you do? Do the right thing or take the job?

“Other times, you are talking to the just-add-water type of garden steward and you show them how they can save water and they get it — it’s an a-ha moment,” she adds.

While clients are requesting water saving landscapes, contractors like Jennifer Smith, McCutcheon and Cammarata are also driving sales in this area.

Instead of short-term thinking, they are motivated by the long-term potential. “Water is the oil of the 21st century,” McCutcheon says. “It will continue to become incredibly precious and regulated. We’d better get used to using water wisely.”

But Jennifer Smith sees a bit of pessimism in the industry surrounding the education and cost necessary to implement changes in the long run that will transform a business to represent this model and mentality. “I don’t want to say it’s going to be a phoenix-from-the-fire type transformation,” she says, “but I think with any large movement if people can’t adapt, find niche markets and be profitable in what they do, they will disappear while others succeed.”

And instead of one area of the industry pitted against another to deflect regulation away from themselves, working in tandem is what will get the most accomplished. As Jennifer Smith says: “If one person is pushing the idea it lacks credibility, but if we do it together, we will have a consolidated front for change.” LM

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