

# At a crossroads

The quest to save the Salton Sea from its increasing salinity has moved from imperfect — if not outrageous — proposals to a plan with real potential

## AMBITIOUS PLAN

**Palm Desert-based U.S. Filter aims to desalinate 10 percent of the lake and let much of the rest dry up.**

BY JONATHAN SHIKES  
THE PRESS-ENTERPRISE

Just 25 miles from the Palm Desert headquarters of U.S. Filter, the nation's largest water and wastewater treatment firm, lies California's foulest reservoir.

Since it was born 98 years ago by a broken dike that flooded the desert with water from the nearby Colorado River, the Salton Sea has been slowly choking to death on a constant inflow of salt.

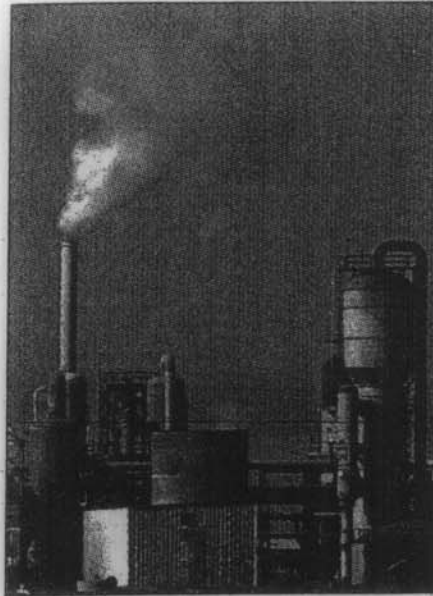
Congress has mandated that the federal government find a way to preserve the sea for the birds and fish that rely on it and for the people who live nearby. But doing so will cost billions of dollars.

For U.S. Filter, it's a money-making opportunity too intriguing to ignore.

In December, the firm revealed a \$1.8 billion proposal that would essentially turn the roughly 360-square-mile Salton Sea into a giant water treatment plant, destroying 90 percent of the sea in its current form, in order to save the other 10 percent.

The ambitious plan involves the construction of a massive dike inside the perimeter of the lake to catch the murky water that drains into the sea from the Imperial Valley, where it is used to irrigate 450,000 acres of farm-

PLEASE SEE U.S. FILTER, A5



A plan aims to use steam from a geothermal power plant to power turbines that would remove salt from the water.

**See U.S. Filter's plan and other proposals for Salton Sea on Page A4**



## PAST PROPOSALS

**The agency that hopes to save the sea has looked at everything from pipes to pipe dreams.**

BY GEORGE WATSON  
THE PRESS-ENTERPRISE

The Salton Sea's salvation keeps spilling out of a fax machine, displaying eccentric designs that ultimately make little scientific sense. On other occasions, people deliver outlandish plans scrawled on cocktail napkins to the headquarters charged with reviving the sea.

Tom Kirk, the executive director of that agency, the Salton Sea Authority, says the submissions have been coming for the better part of a decade. Most offer ways to rescue the lower desert's only substantial body of water, a salt-soaked lake that is dying.

And he hopes the ideas never stop, no matter the scheme.

"We encourage it," Kirk said. "Having people submit something crazy is better than none. The sea suffers from apathy, not crazy ideas."

Some designs appear logical but prove to be too costly, such as the oft-submitted plan to construct a pipeline from the sea to the Pacific Ocean. Other suggestions strain the boundaries of science: An Israeli scientist proposed spending billions to construct a monstrous tower that evaporates water using untested technology. Another offered making elastic bands to divide

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# U.S. FILTER

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land.

This wall would create a doughnut-shaped "river" of low-salt water outside the dike that could support birds and fish, while the interior would be planted with salt-tolerant vegetation. The interior would recede over a period of years and become a super-saline pond.

U.S. Filter could then build and operate a desalination plant at the northern end of the new river capable of desalting 500,000 acre-feet of water per year. That water would be transferred to urban water users via the Coachella Canal and the Colorado River Aqueduct.

"In terms of dollars, this wouldn't be the biggest project we've ever undertaken, but in terms of environmental impact, it certainly would be," said Stephen Stanczak, executive vice president of U.S. Filter.

Since December, several elected officials, including GOP Rep. Mary Bono of Palm Springs, and Democratic Sen. Dianne Feinstein, have lined up behind the proposal, or at least behind its potential.

"Everybody is excited about it," Bono said. "U.S. Filter's plan is the first one that addresses all of the concerns about the preserving the sea."

Tom Kirk, executive director of the Salton Sea Authority, agrees that the idea is worth a look.

"U.S. Filter's plan is not perfect," Kirk said. "It would reduce the lake into a wide river, and we don't know what kind of habitat it would create."

"But U.S. Filter is the only Fortune 500 kind of company to put a proposal forward, and that does make a difference. Maybe it shouldn't, but it does."

## The sea

The Salton Sea, California's largest lake, straddles the Riverside County-Imperial County line. It is fed by 1.3 million acre-feet per year of salty agricultural runoff. (An acre-foot is the amount of water needed to cover an acre of land with a foot of water, or about what two households use in year.)

Water can only leave the sea by evaporation, which means the salt is left behind. There are now 500 million tons of salt in the sea, making it 25 percent saltier than the Pacific Ocean. Five million tons are added each year.

This poses a problem for the fish, as well as the 400 bird species that use the lake as a breeding ground or migratory stop-over. In the next few decades, Kirk said, the water will become too salty for them to use.

The sea's future is in even greater jeopardy now that it is enmeshed in a complex political drama involving a proposal to transfer billions of gallons of water from the Imperial Valley to the San Diego County Water Authority.

## FAST FACTS

■ The Salton Sea formed in 1905 when the Colorado River breached a temporary barrier and flowed into the basin of the prehistoric Lake Cahuilla.

■ It's approximately 35 miles long and 15 miles wide. It has a maximum depth of 51 feet. It covers about 360 square miles.

■ The sea is 25 percent saltier than the Pacific Ocean. Five million tons of salt are flushed into the sea from farm runoff each year. As water evaporates, it leaves behind salt and other nutrients that have been carried into the sea,

which is often described as a bathtub with a clogged drain.

■ The high salinity levels threaten the future of the 2 million migratory birds that annually spend time at the sea. Increasing levels of salt also endanger the abundant fish populations, such as corvina and tilapia.

■ Over the years, nutrients have enabled algae to grow in great quantities. When algae dies, it sucks up the water's oxygen, killing thousands of fish and creating an awful stench.

Last year, the federal government ordered California to come up with a way to reduce its take of the Colorado River, which it has been overusing for years, or face mandatory a mandatory cutoff.

The water transfer, which was a key part of that plan, would have required some Imperial Valley farmers to begin conserving water while others fallow their fields. But less water flowing to the farms means less water draining into the Salton Sea — and a quicker death.

Negotiations around the transfer broke down in December, in part because Imperial Valley officials didn't want to be held liable for damage to the Salton Sea. The dispute is now tied up in meeting rooms and courthouses.

Countless suggestions for saving the sea have been put forth over the years, but only a few have been seen as viable options.

In 1998, Congress passed the Salton Sea Reclamation Act, which was supposed to force the Interior Department to analyze the suggestions and come up with a recommendation for saving the sea by January 2000.

But the agency largely ignored the law until December 2002, when 22 California elected officials, led by Bono, signed a letter asking the Interior Department to file its overdue report.

Later that month, the agency produced a list of possible solutions but didn't make a recommendation. Bennett Raley, assistant secretary of the Interior, attached a letter to the report questioning "whether an investment of \$1 billion would be prudent in light of other national priorities."

But a few days later, after intense pressure from Bono and other lawmakers, Raley agreed to put together a plan to re-examine some of the Salton Sea solutions, including the U.S. Filter plan.

Roy Wilson, a Riverside County supervisor and chairman of the Salton Sea Authority, said the Interior Department has been dragging its feet for years.

"U.S. Filter is what broke the gridlock," he said.

## The company

U.S. Filter has been looking for a way to get involved with the potentially lucrative business of water transfers since 1996, when the company bought

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Tom Kirk, executive director of the Salton Sea Authority

45,000 acres of Imperial Valley farmland.

The company began a test project there to see if it could find a way to cost-effectively desalinate agricultural runoff for reuse on fields.

Recycling would have freed up Colorado River water that the Imperial Irrigation District, which controls the water rights in the valley, could have transferred to San Diego.

Since the district stood to make hundreds of millions of dollars from a deal like that, U.S. Filter would have profited by providing the technology.

It's not surprising, then, that U.S. Filter developed a keen interest in seeing a water agreement take place, said Deborah Coy, a research analyst for Schwab Capital Markets who specializes in water companies and utilities.

"As a California-based company, I think they see a lot of potential opportunity in terms of solutions to water shortages," she said.

Even if the Salton Sea idea never becomes reality, Coy said, "there will be other opportunities for desalination of agricultural-related water around the world."

## The next step

The scope of the plan is large. So is the price tag.

U.S. Filter has estimated that the dike, 80 miles long and 10 to 15 feet high, could cost nearly \$700 million. Building the desalination plant and a pipeline to the Colorado Aqueduct would cost another \$1.1 billion.

In its report, the Interior Department says U.S. Filter severely underestimated the expense, however. The agency says the dike would need to be about 95 miles long and would cost \$1.9 billion to \$2.6 billion.

"People are correct to be jaded or skeptical when any kind of

proposal like this is put forward," said Stanczak, the U.S. Filter executive. "You say to yourself, 'Why would the government pay that much to salvage the Salton Sea?'"

At this point, U.S. Filter has no intention of spending its own money on the project, but that could change, Stanczak said: "We might try to compensate for any increase in costs that are associated with one thing or another."

What sets U.S. Filter's plan apart, he said, is that whoever pays the cost could recoup the loss by selling the water to urban water districts. While U.S. Filter would be paid for its services, it wouldn't own the water rights.

There are other problems with the plan, including concerns about whether the lake might dry out too much and affect air quality in the region and about what impact less water would have on the endangered fish and birds that use the sea.

But Stanczak said U.S. Filter welcomes any and all suggestions for modifications.

"The plan is very flexible," he said.

That's good news for the Salton Sea, Chairman Wilson said, because time is running out, both environmentally and politically.

Although Wilson said he doesn't want "to rush to judgment" on the pluses or minuses of U.S. Filter's plan, he did call it "interesting."

"I'm hoping to have some input back in the next few months on it so that we can decide to fish or cut bait on this," he said.

Doing nothing is not an option, he added.

"We have to have a solution. We can't just sit back and say the Salton Sea will take care of itself."

Reach Jonathan Shikes (909) 368-9552 or jshikes@pe.com



# PROPOSALS: Agency has seen everything

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the sea in half.

Despite a glut of ideas, half-baked and otherwise, the sea's future remains far from certain. The latest version of the sea, formed in 1905 thanks to an engineering error, grows saltier every day. But while the increase in salinity is the sea's greatest illness, the Salton also is a repository for minerals and chemicals carried in by farm runoff.

The sea may face its stiffest enemy from the current federal order threatening to limit inflow from the Colorado River, the sea's most important water source. That could lead to the realization of two of the worst fears for Salton Sea supporters: that the sea will dry into a dusty wasteland or become so salty that it will kill the robust fish population and become unusable to the 2 million birds that live and play there each day.

Until that point, the search will continue to save California's largest lake. The authority has been managing five different projects and planning for two others.

None of the plans can save the sea by itself, but the authority hopes that by weaving together some or all of the undertakings, they will provide a solution.

In the meantime, the authority will keep listening to every proposal.

There will be those that appear promising, such as U.S. Filter's newest offering to build an 80-mile dike inside the lake, and those that are surreal. It's good to keep every option open, Kirk explains.

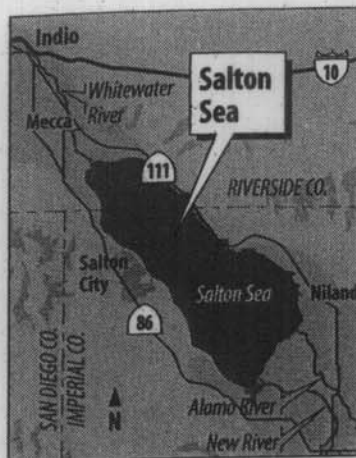
"I can weed out nine of 10 by asking one question," Kirk said. "What's the problem you are solving?"

"People have ideas of dropping in magic pellets or bugs to rid the sea of salt."

## The tower plan

Staff members still talk about a pitch to build a 3,300-foot-high tower, which would be sort of like stacking two Sears Towers atop each other, with still a few hundred feet more to go.

The proposal stated that the tower would extract the salt that plagues the Sea, a process that wasn't exactly explained but was related to something called a thermodynamic process. At the same time, the tower would



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somehow produce electricity via the use of windmills.

"That's a great one," Kirk said. "We love that one."

The project would have required extensive research to determine whether the theory could work. It also faced "obvious structural, environmental, safety, and aesthetic problems associated with the physical dimensions of the tower," according to a report that evaluated about 100 alternatives. The idea was rejected.

The plan was the baby of an Israeli professor who has been working on it for decades. A handful of other scientists have expressed hope that the tower could work, but apparently it's been difficult getting anyone to commit billions of dollars to something that might fail.

## Curtains and racetracks

Another suggestion called for stretching three giant plastic curtains, sort of like large rubber bands, across the middle of the sea to create a section for evaporating water and another section of fresh water. The authority concluded that the idea lacked proven technology and rejected it.

Then there was the plan to build a racetrack by Ken Mack, who claimed to represent the Southern California Timing Association. Mack suggested taking the salt removed from the sea and building a course for setting land speed records. This plan wasn't just for race cars, but for all types of motorized vehicles, "from the family sedan

to jet cars," the report stated.

The authority found the idea intriguing because other alternatives for disposing of the salt have been problematic. The alternatives ranged from piping it to Mexico (far too expensive), trucking it out (time-consuming and an aesthetic problem for neighbors) and evaporation (far too slow).

But it did not remove any saline from the 360-square-mile body of water, and so it too was rejected.

Even an official with the Southern California Timing Association found the proposition far-fetched. Mike Cook, a technical director from Jurupa, was one of several association officials who said that not only had he not heard of the plan, but he also had never heard of Ken Mack.

"It sounds neat," Cook said. "The only problem is you'd have to have a track that is a bare minimum of 12 miles long of salt ... and the width about a mile wide. That's an awful lot of salt."

## Pipeline dreams

Many have suggested building a pipeline. Some thought such a pipeline could bring in water from the Pacific Ocean. Others proposed using Laguna Salada in Mexico or the Gulf of California.

Importing ocean water would only increase the salt in the Salton Sea, said Dan Cain, project manager for the Salton Sea Authority.

Taking water from Mexico would be difficult, if not impossible. And the cost to build any pipeline across hundreds of miles is mind-boggling, he said.

"And that doesn't even include right of ways and acquiring the land," Cain said.

At one time, Kirk had hoped to turn the overly abundant tilapia fish into cat food. It would have helped reduce the odors during occasional die-offs of fish. A cat food company expressed interest, Kirk said, but a change in management caused the plan to die off.

Kirk says the best crazy idea came from himself. It's something he is sure will solve the sea's woes:

Make everyone who uses the sea bring in one pail of water or take out a pail of salt.

Reach George Watson at (909) 368-9457 or gwatson@pe.com