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IF THE AQUEDUCTS are windows into water in the ancient world, the best place to contemplate water in the United States today may be from a sidewalk that runs along U.S. Highway 93 in eastern Nevada as it crosses over the Hoover Dam. To fathom how water could be disappearing in the verdant East, it's worth seeing where it went in the arid West. To figure out increasing conflicts over water in the East, it helps to look at who won the battles in the West. Ultimately, it doesn't matter whether you're talking about ancient Rome, the American West, or modern Florida. Those who control the water control the destiny of a place and its people.

Along that Nevada sidewalk, from a half bowl at the top of Hoover Dam, an arc of concrete narrows 726.4 feet to a dull point at the bottom, inspiring vertigo as much as awe. Built in the 1930s, during the Great Depression, the dam was known for its engineering superlatives: highest dam ever, costliest water project ever, largest power plant ever.¹

Atop the structure, art deco motifs, including two enormous statues of winged men, are redolent of the Great Society. In a U-shaped building at the bottom of the dam, seventeen mammoth hydraulic turbines spin in cavernous rooms furnished with Industrial Age gauges and

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switches. No computers can be seen. Visitors feel the thrum of the turbines and smell the lubricating oil. In the information age, the place feels like a relic. But it still provides flood control for California's Imperial Valley, irrigates more than a million acres of agricultural land, supplies drinking water to more than 18 million people, and generates about 4 billion kilowatt-hours of energy—enough for 500,000 homes—every year.

By harnessing the Colorado and virtually every other river in the region, the western United States supports 40 million acres of agricultural crops, the most productive in the country. Taming the rivers also brought life to some of the most vibrant and populous cities in America. These crops and cities sprout where they arguably should not exist—in a region as dry as North Africa.²

In all, Americans have built some 76,000 dams, among them more than 2,000 hydroelectric power dams like the Hoover and the Glen Canyon dams on the upper Colorado in Arizona.³ Without the Hoover, without the Glen Canyon Dam and its 27 million acre-feet Lake Powell, without the tallest—at 770 feet—Oroville Dam on the Feather River in northern California, there would be no West as we know it. No Los Angeles. No San Francisco. No Phoenix. No Las Vegas. The Hoover also inspired a global binge of dam building that continues today. In 1900, no dam in the world reached higher than 15 meters. By 1950 there were 5,270 of them; two in China. Thirty years later there were 36,562 of them; 18,820 in China.⁴

In 1893, the historian Frederick Jackson Turner presented his mythic frontier theory of the United States. Americans' continual battle with the primitive conditions of the western frontier, like aridity, he argued, gave the nation a one-of-a-kind culture of individualism, self-reliance, and diffused power. "This perennial rebirth, this fluidity of American life, this expansion westward with its new opportunities, its continuous touch with the simplicity of primitive society, furnishes the forces dominating American character," Jackson said in his celebrated essay "The Significance of the Frontier in American History." "The true point of view in the history of this nation is not the Atlantic coast, it is the Great West."⁵

A century later, Donald Worster, an eminent environmental historian of the West, turned Jackson's frontier theory on its head. Worster pronounced the West a hydraulic empire, one that led not to diffused power but to ultimate power concentrated in the hands of the few who

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control the region's vast waterworks.⁶ Men like U.S. Representative Wayne Aspinall of Colorado spent an entire congressional career—his lasted from 1949 to 1973—making sure they brought water projects home to their districts.

Few would dispute the business-development and social benefits of dams, from hydropower to flood control. In January 1997, the city of Reno was saved from “extreme disaster,” according to scientists, because managed release of water from upstream reservoirs, made possible by dams, prevented a one-thousand-year flood. Still the conventional wisdom on dams in this country has slowly changed since 1978, when President Jimmy Carter vetoed the entire U.S. appropriations bill to protest what had become increasingly wasteful, pork-barrel dam projects that cost millions and benefit few. (Congress overrode the veto.) Of the projects on Carter's hit list, one would return 5 cents in economic benefits for every taxpayer dollar invested. One offered irrigation farmers subsidies worth more than \$1 million each. Another, a huge California dam, would cost more than the Hoover, Shasta, Glen Canyon, Bonneville, and Grand Coulee projects combined.⁷

The heavily subsidized projects also have devastating ecological consequences. Dams drown wildlife habitat under reservoirs and block annual migrations of salmon and other fish. In California alone, 80 percent of the salmon and steelhead populations have been wiped out since the 1950s. And if you care about nature's majesty, dams submerge it. “You once had to backpack or paddle a raft to see the slickrock, sandstone arches and 1,000-foot cliffs of Glen Canyon,” *Denver Post* environmental reporter Mike Obmascik says of man-made Lake Powell. “Now you can see it drunk and chain-smoking on a lounge chair from the stern of a Boston Whaler.”⁸

In the twenty-first century, America's love affair with dams seems to be coming to an end. In 2005, 56 dams in eleven states were scheduled for demolition in the name of river restoration. But the story of the Animas–La Plata dam now under construction in southwestern Colorado shows that when it comes to waterworks, politics can overpower science, economics, and even common sense. It is a tale worth recounting as eastern states muscle in for bigger and bigger federal water-supply projects.

Animas–La Plata is a legacy of Aspinall, who ruled the House Interior Committee for more than a dozen years. In 1978, Carter's vetoes included the (now) \$710 million Animas–La Plata, which had been

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authorized a decade before. The dam and irrigation project would require huge taxpayer subsidies, with almost three-quarters of its cost going to provide irrigation water to farmers who would repay only 3 percent of the construction expense. The Department of Interior's inspector general called it economically unfeasible. Other government auditors said it would deliver less than 40 cents in benefits for every dollar spent.⁹

The *Washington Post* dug up an ad from the *Durango Herald* of Colorado that captured in just five sentences the problem with all federal taxpayers footing the bill for pet water-supply projects. "WHY WE SHOULD SUPPORT THE ANIMAS-LA PLATA PROJECT," the ad began. "BECAUSE SOMEONE ELSE IS PAYING MOST OF THE TAB! We get the water. We get the reservoir. They pay the bill."¹⁰

After a half century of debate, in August 2005, the U.S. Bureau of Reclamation broke ground on Animas-La Plata. The same government that has torn down more than four hundred dams nationwide in recent years because of environmental, safety, and other concerns is building a brand-new one that makes no economic sense. Animas-La Plata is supposed to be finished in 2008; its 120,000-acre-foot reservoir filled by 2011.¹¹

It ultimately came down to politics. Marc Reisner, a gifted environmental writer who died of cancer in 2000 at the age of fifty-one, famously put it this way: "Congress without water projects would be like an engine without oil. It would simply seize up."¹²

In *Cadillac Desert*, his classic water history of the West published in 1986, Reisner chronicled legendary battles between the U.S. Bureau of Reclamation and the U.S. Army Corps of Engineers over which federal agency would build and control western dams. The bureau ultimately won the war, and the spoils. The bureau was created in 1902 under President Theodore Roosevelt as part of the Newlands Act. Named for its chief sponsor, U.S. Representative Francis G. Newlands of Nevada, the act created a fund from the sale of public lands in sixteen western states to develop irrigation projects. Settlers benefiting from the projects were supposed to repay their costs, creating a permanent revolving fund. The pay-back part never worked as it should. But the Newlands Act ensured that the federal government would control the large-scale irrigation projects of the West. By 2005, the Bureau of Reclamation had built so many dams, reservoirs, and irrigation ditches that it had become the largest wholesale water supplier in the United States.¹³

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While the bureau made itself essential supplying water for people, the Army Corps carved a niche in keeping people safe from water. Corps history dates back to the Revolutionary War. Congress authorized the Continental army's first chief engineer to build fortifications around Boston at Bunker Hill. The agency's most famous project is perhaps the Tennessee Valley Authority (TVA), a hallmark of President Franklin Roosevelt's public works agenda that tamed the wild Tennessee River and its tributaries. The TVA's forty-seven dams, most built after a bruising battle over what Roosevelt's foes called his "socialism," generate power for a once-underdeveloped region, help stem flooding, and fill reservoirs for water sports. They ease navigation along the river, sparking commerce and manufacturing.¹⁴

The TVA also is \$30 billion in debt, has advocated ruinous activities such as coal strip-mining in the Appalachia region, and is the nation's worst violator of the Clean Air Act. And it is so politically powerful that when it wanted to build a dam called Tellico that a cabinet-level committee unanimously opposed on economic grounds and the U.S. Supreme Court stopped under the Endangered Species Act, Congress voted to exempt the dam from the act and other laws. The dam got built.¹⁵

THE ARMY CORPS AND THE EVERGLADES

During the deadly Florida hurricane of 1928, twelve feet of water had topped Lake Okeechobee's dikes and killed more than 2,000 people. Congress called down the Army Corps to build the Herbert Hoover Dike, a 140-mile earthen dam that surrounds Lake Okeechobee. In the 1930s, drought caused a different sort of disaster. South Florida's numerous canals were having their intended effect of drying up the Everglades muck, composed of peat soils that took thousands of years to form. During the drought, dried-up areas of peat would catch fire and burn for months, creating a dense pall of smoke over surrounding towns. On the east coast, the lowered water levels were causing a new crisis. Residents' wells began to draw salty water, a problem they fixed by moving the wells farther and farther inland.¹⁶ That trend continues to this day, although now it takes place up and down the entire peninsula, from the tip of South Florida all the way to the once-desolate, now fast-developing panhandle.

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In 1947 and 1948, disastrous floods returned, making it increasingly clear that draining the entire Everglades would lead to disaster for those who ultimately settled there. Americans were finally convinced of the folly of draining the great marsh. The Hoover Dam, TVA, and other grand waterworks of the hydraulic empire showed them it would be easy enough to simply tame it.

Congress's Central and South Florida Project ordered the Corps to replumb the entire bottom half of the state to provide flood protection and freshwater for urban and agricultural lands. The engineers chopped up the southward-flowing Everglades with 1,000 miles of canals and 720 miles of levees, controlling the flow with sixteen pump stations and two hundred gates and other concrete-and-steel structures. They built towering gates at Lake Okeechobee so the state's water managers, then the Central and South Florida Flood Control District, could force water into the sea when floods threatened. They erected barriers between the sea and canals to block intruding saltwater. Finally, they turned a meandering, 90-mile-long river called the Kissimmee into a 52-mile canal. The ramrod-straight Canal 38, called C-38 for short, drained the floodplain marshes of the river and its headwater lakes to the north near Orlando.¹⁷

At the time, most Americans marveled at such triumph of man over nature. But fifty years later, half the Everglades were gone, and people realized what else they lost. Whether you care a whit for the panthers or the plume birds, the Everglades' most critical job was storing freshwater for a land surrounded by the sea.

Now that the nation's environmental ethic has shifted, it is easy to blame the Corps for the damage done in Florida and other places where its engineers dynamited and dredged. It is also easy to forget that the Corps' waterworks in the Everglades continue to save lives. Every hurricane season, Hoover Dike protects southeast Floridians from disastrous, and deadly, flooding. And it will, as long as it continues to hold. In May 2006, a panel of civil-engineering experts warned the dike is prone to collapse, presenting "a grave and imminent danger to the people and the environment of South Florida." A breach could imperil tens of thousands of people, inflict tens of billions of dollars in damages, and contaminate the region's drinking water. Without immediate intervention, the report said, the dike had a 1-in-6 chance of failing in any given year.¹⁸

Army Corps officials bristled at the state-commissioned report, and said it underscored their engineers' work to restore the Everglades while

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Florida

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providing flood control to the people of South Florida. Indeed, today's Corps is an agency at cross-purposes, trying to preserve its proud engineering past while forging a new role in environmental restoration. The results can be schizophrenic. Corps dams control flooding, but the agency's wetlands-drainage programs cause it. From Florida to New York, the Corps replaces beach sand washed away because of development it approved. The agency's attempts to control flooding have made flooding worse by inducing people to build in high-risk areas.¹⁹

In the Chesapeake Bay, the Corps is restoring islands, wetlands, and oyster bars at the same time its dredging activities are harming them.²⁰ In the Great Lakes, one arm of the agency wants to deepen and widen the

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St. Lawrence River channel for larger and more ocean-going ships, while others in the same agency battle the exotic species that enter the Great Lakes on such ships.²¹

From the Everglades to New Orleans, the Corps is spending billions of taxpayer dollars to fix its own failures. The agency is directing a \$4 billion plan to restore the Missouri River that it dammed and channeled to ease navigation, generate hydropower, and reduce flooding. It is spending \$5.7 billion to restore fish and wildlife habitat along the upper Mississippi River destroyed by its dams, levees, and other engineering marvels that hold back water.

In South Florida, the Corps and the South Florida Water Management District are spending \$10.5 billion to fix their own drainage and diversion projects that have destroyed the Everglades. At the same time, both agencies are permitting massive new developments that encroach on the ecosystem from all sides.²² In 2005, for example, Corps regulators suspended a permit they had granted to a company called Atlantic Civil to fill 1,000 acres of sensitive wetlands in a rural area southwest of Miami, near crucial elements of the Everglades restoration plan. Atlantic Civil had applied to fill the wetlands for “agricultural purposes.” But the plans it submitted to state agencies revealed these sorts of crops: 6,000 housing units, 300,000 square feet of retail space, 90,000 square feet of office space, three schools, one 1,800-seat theater, and so on. The regulators stopped the permit and explained that they feared its impact on Everglades restoration, that it needed “more detailed examination,” and that it required public notice. Twenty days later, they inexplicably reinstated it.²³

Diverted in the West. Drained in the East. In each region of the United States, Americans have altered the natural flow of their water, often with unintended results. Dredging and levees along the Mississippi River, the largest waterway in North America, have hastened the crumbling of more than 1,000 square miles of Louisiana into the Gulf of Mexico. Agricultural and industrial pollution flowing down the river’s 2,350 miles have led to a growing, annual “dead zone” in the Gulf; an area of 7,000 square miles bereft of oxygen, and therefore life. New York City’s water system, once one of the highest quality in the nation, is on the decline because of agricultural and urban-growth pressures in the Croton and Catskill/Delaware watersheds. From there, water barrels down two huge

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tunnels that supply 9 million New Yorkers with 1.5 billion gallons every day.

The richest source of water in the United States, the Great Lakes, is dogged by pollution, the spread of nonnative species that raid the five lakes' food chain, and fast-disappearing wetlands and habitat on most of their shorelines. More than two-thirds of the lakes' natural wetlands have been filled in or drained for development.

The Great Lakes hold a fifth of all the fresh surface water on the planet. Together with the St. Lawrence River, they form a navigational system as big as the Atlantic Ocean is wide. Millions of people depend on them for drinking water, manufacturing, shipping, recreation, fishing, tourism, and irrigation. While cleaned up considerably since the Industrial Age, the lakes in recent decades have become vulnerable to a new threat. Outsiders keep popping up with schemes to pipe, ship, or pump water out of the basin. So far, plans to divert Great Lakes water to keep Mississippi barge traffic afloat, to irrigate the Great Plains, and to ease water shortages in Asia have all been stymied. But midwestern leaders think it is inevitable that someday they will be targeted by water-needy states—such as California, Texas, or Florida—that have more political clout.²⁴

A population boom in America's Sunbelt states has turned the country's power base upside-down. In 1940, northeastern and midwestern states had 251 seats in the House, compared with 184 for states in the South and West. Today, southern and western states have a 252–183 edge, one that in all likelihood will continue to widen. Southern and western states are growing so much faster than the rest of the nation that several will grab House seats from the Northeast and Midwest when Congress is reapportioned in 2010. Demographers project that Florida and Texas could each gain as many as three House seats. Ohio and New York could each lose as many as two.²⁵

Many observers dismiss the idea that Great Lakes water will someday be piped south, or shipped to other points on the globe, to ease water shortages elsewhere. The late Senator Simon of Illinois, who knew water issues better than almost anyone else in Washington, was not one of them. "Inevitably, if we don't find answers, we are going to have to be piping water from the Great Lakes to the southwest portion of the United States," Simon said in 2000. "And when people of Illinois say that they would never tolerate that, well, senators from Illinois who want to

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get projects approved had better go along with high priorities for senators from the southwest states or they won't get projects approved for Illinois. It's not that complicated when it gets to the United States Senate."²⁶

For better or for worse, the congressional power shift means more big water projects throughout the southern half of the United States. The multibillion-dollar projects are what Reisner famously called "the grease gun that lubricates the nation's legislative machinery."²⁷

As the Hydraulic Age of the twentieth century gave way to the Restoration Age of the twenty-first, the largest water project in the nation (and in the world) aimed to "fix" the Florida Everglades. It was something Americans had been trying to do, in one way or another, for more than one hundred years.

"THE DESTRUCTION OF FLORIDA
IS A PRICE TOO HIGH"

The draining and paving over of Florida's wetlands in the first half of the twentieth century was carried out unwittingly, to the extent that most Americans believed the only good swamp was a drained swamp. The rampant draining and filling in the second half of the century was the crime (literally, in some cases) because Floridians, by then, knew what they were doing. They passed aggressive laws to stop the wholesale destruction of natural Florida. Despite their best intentions, and no matter which political party was in power, it continued almost unabated.

From 1950 to 1970, Florida's population more than doubled, from 2.8 million to 6.8 million.²⁸ During 1970 and 1971, Floridians suffered through the most severe drought the state had seen since the grim 1930s. Water shortages led to rationing. South Florida's cities, farms, and Everglades National Park were fighting fiercely over Lake Okeechobee's dwindling water supply. Five hundred thousand acres of the Everglades burned. Day after day, week after week, the southern third of the state was covered with smoke so heavy that "everyone was constantly aware of it."²⁹

It was clear that Florida's developers and farmers, along with the government's engineers, had gotten rid of too much water. As housing developments and farms rapidly took the place of wetlands that once stored water, the natural system no longer could hold enough to supply those houses and farms, especially during droughts. Population pressure exacerbated water problems, particularly saltwater intrusion and pollu-

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tion from sewage and industrial and agricultural wastes. Just as it had in the 1930s, drought led Floridians to rethink the pace and manner of development and the ruin of the wetlands and the other natural resources.

Perhaps to counter the boisterous Claude Roy Kirk Jr., Floridians in the fall of 1970 elected the church-pew-straight Reubin O'Donovan Askew (1971–79), a moderate Democrat state senator from Pensacola, as Florida's thirty-seventh governor. In his inaugural address on January 5, 1971, Askew made clear the importance the environment would take in his administration. The first topic he raised was corporate tax reform, getting rid of "special tax favors to the politically influential" to raise money to pay for the impacts of rapid growth. The Florida legislature that very year passed a corporate income tax. (Over time, state lawmakers created so many exemptions, deductions, and other loopholes that by 2003 98 percent of Florida's 1.5 million companies, including huge corporations such as Carnival and Verizon, were not paying a cent of the tax. The loopholes now cost Florida about a billion dollars in tax revenue each year.³⁰)

Second, Askew said he wanted to reverse the trend of ecological destruction in Florida. He tapped a new environmental argument, one that would grow increasingly effective in the state, as well as other parts of the country in the business of selling vacations. Florida's economic health, he said, was directly linked to the health of its environment. "We must ensure our continuing economic prosperity, but the price we pay for growth must be carefully evaluated," he said. "We must recognize that the destruction of Florida is a price too high. *Ecological destruction in Florida is nothing less than economic suicide.*"³¹

Askew was soon on the cover of *Time* magazine, along with Governors John West of South Carolina, A. Linwood Holton of Virginia, Dale Bumpers of Arkansas, and Jimmy Carter of Georgia, in a story on "the new breed of Southern governors." *Time* declared that the five had "departed from the old practices of racism and provincialism and favor economic development balanced with environmental sensitivity."³²

Indeed, Askew led Florida, in the 1970s, to pass some of the most aggressive land-use and water laws in the nation. The Environmental Land and Water Management Act gave the state authority to set development standards and guidelines for major projects like large housing developments and shopping centers. The Land Conservation Act autho-

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rized \$240 million worth of bonds to buy up environmentally endangered and recreation lands. The Water Resources Act created a comprehensive system to conserve and protect Florida's water while maximizing its use. It carved the state into "water-management districts" drawn along hydrologic basins. The districts would tax land, regulate drainage, and dole out water permits for large uses.

The Water Resources Act declared Florida's water "a public resource benefiting the entire state" that should be "managed on a state and regional basis . . . so as to meet all reasonable-beneficial uses."³³ This made Florida's water law unique in the nation—protecting the public interest to a greater degree than most states. In western states, generally, water is governed by a doctrine called "prior appropriation": whoever was using the water first has first right to it. In the eastern states, water more often falls under riparian rights. That is, landowners have the right to the water their land touches. In Florida, the five water districts grant permits to users (at least in theory) based on evidence of three things: that the use will not harm other existing users, that it is "reasonable and beneficial," and that it is consistent with the public interest. The districts also can require compliance with additional environmental standards. Contrast that with the "Rule of Capture" in Texas, where people can take as much water as they want from under their own land, even if it impacts neighbors.

The suite of environmental laws was a sharp break with the past. Florida's new Comprehensive Planning Act, for example, "was a surprising change, because prior to that time, planning was like socialism right out of Moscow," remembered the House Speaker, Richard Pettigrew.³⁴ But the problem in Florida was not and is not the laws on the books. It's the way local elected officials make exceptions to them, the way savvy land-use lawyers and others get around them. Ultimately, newcomers were moving to Florida so fast that the progressive laws barely dented environmental devastation. Especially to the wetlands that clean and store Florida's water. From 1970 to 1980, the population jumped from 6.8 million to 9.7 million.³⁵ During that time, Florida had among the most extensive wetlands loss in the nation.³⁶ The U.S. Fish and Wildlife Service found that in the eight years between 1972 and 1980, South Florida drained 23,767 acres of wetlands for agriculture and 655 acres for urban development. During the same period, 24,539 farm acres in South Florida were converted to subdivisions.³⁷

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That pattern continues today. To see it, you can pay \$3.50 and take a lonely elevator ride up twenty-two stories of concrete and steel in the Florida Citrus Tower north of Orlando. Erected in 1956 to offer tourists a panoramic view of 17 million orange and grapefruit trees, the tower today is little more than a memorial to the lush groves that inspired it. The view from the observation platform includes but one small patch of oranges. It is overgrown, and blocked by a large “for sale” sign. Around it, in every direction, housing subdivisions with names like Orange Tree stretch to the horizon. Deadly freezes seem to chase Florida’s citrus growers, already squeezed by urbanization and globalization. Over the past twenty years, the industry has relocated farther and farther south onto drained land in the counties surrounding Lake Okeechobee, where acreage is cheaper and freezes less severe.³⁸

While farmers use far more water than the general public, growth and development drive the fate of Florida’s groundwater. Water use for farms has remained static over decades, while public use has grown exponentially and will eventually outpace agriculture. Water withdrawals for public supply in Florida increased 1,330 percent between 1950 and 2000. Over the same period, the population grew 475 percent, from 2.77 million to 16 million.³⁹ Some agricultural lands, such as cattle ranches, preserve wetlands and recharge areas; some are good candidates for future environmental restoration projects. But miles of paved surfaces like parking lots, highways, and driveways wreak havoc on the hydrological system by diverting the rain that recharges aquifers.⁴⁰ “Nature has an amazing resilience, an amazing capacity to rebound from the evils that man bestows upon it,” says former U.S. senator Bob Smith, a New Hampshire Republican who has retired to Florida and leads a nonprofit called the Everglades Foundation. “But there is a point of no return, and that’s development.”⁴¹

In Florida, like many parts of America, economic development trumps environmental protection. This is true whether the Democrats or the Republicans are in power. When it came time to put Florida’s new land and water laws to task, the state was suffering economically, along with the rest of the nation, in the recession of 1972–74. Despite considerable evidence to the contrary, the development community complained about “no growth” and “no jobs,” in the words of Pensacola Realtor Theo D. Baars Jr.⁴² Environmentalists charged the ambitious

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laws were dampened in the rule-writing and implementation process. Governor Askew admitted you “had to face the reality of job-creation.”⁴³

Then and now, the only surefire way to protect land and water is to buy them outright. Askew’s land-conservation law was the saving grace of the 1970s. The state had begun acquiring land in the mid-1920s and had a formal program since the 1960s, funded by a 5 percent tax on recreational items dubbed “the bathing suit tax.” Askew’s \$240 million bond issue, overwhelmingly approved by voters, further built a land-acquisition program that would become the largest in the world with \$4 billion to spend—now called Florida Forever. Led by Askew and a young U.S. senator named Lawton Chiles, Florida and the federal government used the program to leverage a crucial wetlands buy: what is now the 729,000-acre Big Cypress National Preserve. A magical cypress stand to the west called the Fakahatchee had been picked up cheap by the Rosen brothers and subdivided into lots. Thanks to land preservation it is home, not to thousands of ranchettes and their residents, but to huge cypress trees, to tiny, rare orchids, and to endangered creatures like the wood stork and the panther.

The rest of South Florida was “going down the tube.” At least that is what the *Sports Illustrated* swimsuit issue (cover: Christie Brinkley) declared in 1981, in a story that said, “In no state is the environment being wrecked faster and on a larger scale.” The article reported how South Florida’s mullet catch had plummeted 90 percent in five years, how the old flood-control district canals were swarming with coliform bacteria, how the Chain of Lakes above Okeechobee was collapsing.⁴⁴

Other parts of the state were not faring much better. Decades of pollution and dredging for waterfront development around Tampa Bay, for example, had wiped out the sea-grass meadows and the natural shoreline. The bay’s once-bountiful fishery was all but gone. Even the stately homes lining Bayshore Boulevard were not immune from environmental blight—especially on hot summer days. Residents claimed the stench from rotting algae fueled by the barely treated sewage that poured unchecked into Tampa Bay was tarnishing the silver.⁴⁵

In 1982, the Congressional Office of Technology Assessment asked a University of Florida researcher named Richard Hamann to report on the consequences of a dried-up South Florida. His was a prescient warning—especially reading it twenty-five years later, when Florida’s developers were pressuring politicians to find them more water. Much of the

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drainage and diversion carried out in the name of economic development in the twentieth century was foiling economic development in the twenty-first. Disappearing water supply and pollution were of equal concern. Water pumped from Lake Okeechobee was fouling estuaries in the coastal counties to the east and west; business leaders were as distraught as environmentalists: “We now recognize that our very existence is being threatened,” Steve Greenstein of the Sanibel Chamber of Commerce complained in the fall of 2005 of the lake’s releases into the Caloosahatchee River.⁴⁶

Nearly a quarter century before, Hamann tried to sound the alarm, detailing eight of the most worrisome consequences of draining South Florida. He threw in a disturbing ninth that was still just a theory. The first was loss of water storage. Drainage for development, along with the replumbing of the Everglades, meant there was no place for the region’s rain to go—except through canals and out to sea. “The loss of water storage capacity is of particular concern in view of the rising demand for consumptive use of water,” Hamann wrote. He estimated South Florida could be home to as many as 7 million people by 2010, and that water demand there could reach as high as 2 billion gallons a day. The region was home to 7 million people by 2005; its daily water demand more than 5 billion gallons.

The second consequence was loss of organic soils, which also store water, just like a sponge. One inch of rainfall can raise the water table half a foot in the peat. Hamann also warned of severe saltwater intrusion, an increase in both the incidence and intensity of wildfires, loss of flood control, declining water quality, loss of fish and wildlife habitat, and reduced production in the estuaries. All would become headlines in the decades that followed.

And number nine? On this, Hamann was less certain. But scientists were beginning to suspect that wiping out so many wetlands could impact local *climate*. Large water bodies, they knew, helped prevent damaging frost. Could draining the Everglades make freezes more severe? What about rainfall? Could wiping out wetlands reduce summer thunderstorms by cutting the evapotranspiration that triggers the release of moisture from clouds as they move inland from the sea?⁴⁷

Those theories, it turns out, were right as rain. By draining their state, Floridians were not just altering the supply and quality of their water. They were changing the weather.