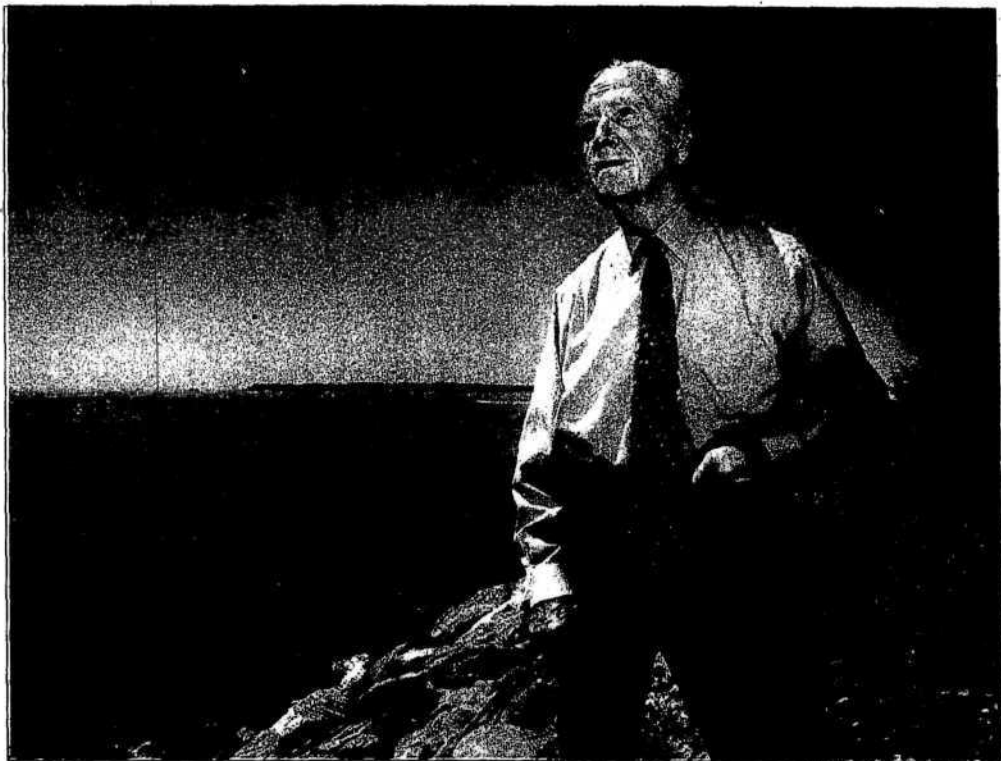


METRO

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BY MICHAEL WILLIAMS—THE WASHINGTON POST

Retired senator Charles McC. Mathias launched an effort 30 years ago to save the bay. Parts of his bay journey are being re-created in his honor.

Bay's Visionary

Ex-Senator's Dream of Restoration 30 Years Ago Still Unrealized

By ANITA HUSLIN
Washington Post Staff Writer

When he stepped ashore at the Annapolis City Dock on a hot summer day 30 years ago, Charles McC. "Mac" Mathias looked and sounded more like a khaki-clad naturalist than a U.S. senator from Maryland.

Just returning from a five-day expedition around the Chesapeake Bay, Mathias had seen for himself the fading plenitude of the world's richest estuary. He had a vision, however, to restore its muddy, polluted waters and return the bay's fish, crabs and oysters to abundances not seen in more than 300 years.

As he stood on the dock with a map of the Chesapeake as a prop, Mathias explained to a small gathering of reporters his ambitious plan: a three-year, \$15 million examination of the bay.

He could not have imagined that it would grow into the most studied and complex environmental restoration project in history, with a vaunted voluntary effort by the neighboring states and with a price tag that

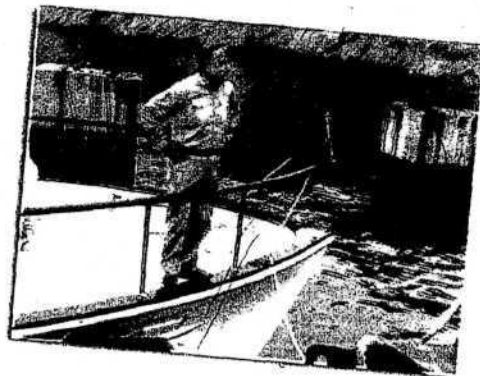


PHOTO COURTESY JAMES HOPKINS UNIVERSITY

Then-Sen. Mathias heads ashore at Calvert Cliffs during his five-day boat tour in 1973 to study the conditions of the Chesapeake Bay.

eventually would exceed the \$15 billion cost of the Florida Everglades project.

Nor could he have foreseen how far the effort would be falling short 30 years later.

For all the millions raised and spent—and no one can say exactly how much it adds up to— for all the studies published and

knowledge gained about the bay, its water is no clearer. Harmful algae blooms more often and over greater areas than ever before.

And the world that lives beneath the surface of the vast and shallow bay remains dark, oxygen-starved and degraded—too poor an environment for many

species to live in. Crab stocks are reaching historic lows. Oysters are approaching extinction from disease, and millions of fish are malnourished and afflicted with new diseases.

The few successes—the return of rockfish after a moratorium on fishing for them and preservation of rural land—have been tempered by sharp declines in other fisheries and loss of far more acres to suburban development.

Many officials say it is a sign of progress that the bay is not significantly worse than it was, given the exponential population growth in its watershed.

That misses the point, said William C. Baker, president of the Chesapeake Bay Foundation, who has called the bay "a national disgrace."

"Holding the line is mediocrity. That's not success," he said in an interview. "For the richest nation in the world, the most advanced technologically, to allow a national treasure like the bay [to decline further] in the past five years . . . that is unacceptable."

See BAY, C11, Col. 1

Senator's Vision of Bay Restoration Still Unrealized

BAY, From C1

Tomorrow, the foundation and the U.S. Army Corps of Engineers will honor Mathias, now 81, and re-create parts of his voyage. There will be calls to redouble Mathias's efforts. And there will be reflection on the 30-year effort that Baker said last fall has "run aground on the reefs of bureaucracy."

The culture of cooperation and consensus that has been the hallmark of the bay cleanup, Baker said, has made it difficult for participants to acknowledge that truth.

Federal participants in the bay cleanup have produced voluminous studies identifying the bay's problems and a computer model to monitor them, but the federal government has not offered up enough cash to effect real change.

The voluntary approach agreed to by Virginia, Maryland, Pennsylvania and the District has produced neither the dollars nor the political will to address the chief causes of pollution in the bay: sewage treatment plants, agricultural waste and suburban sprawl.

The problem for the Chesapeake is that while there are indicators of problems, it's not a toxic dump, it's not the Cuyahoga River on fire," said Carol Browner, former administrator of the U.S. Environmental Protection Agency. "And in fact, in the case of the bay, in the public's mind things are tending to get better: You have rockfish coming back, there aren't moratoriums in crabbing. So one of the real challenges of this is getting leadership with a firm, steady vigilance. And that's the hardest thing for politicians to appreciate."

As officeholders from Ronald Reagan to Al Gore to Marion Barry to Robert L. Ehrlich Jr. have come to the bay's shores to proclaim their devotion to the environment, the bay that Mathias sought to save has turned into what one Capitol Hill staff member called "a cheap date: a pretty photo opportunity and easy way to score points with environmentalists."

"If I was a politician and I could get credit for being a bay advocate without having to make the difficult choices that will alienate parts of my constituents, then I'd do it," said Edward Ernst, a U.S. Naval Academy political science professor whose new book, "Chesapeake Bay Blues," criticizes the rescue effort as overly focused on consensus rather than results. "That's the way the current system works."

The Rescue Effort's Origins

Mathias left Annapolis that day determined to enlist the broad resources of the federal government in the bay rescue. His first step was to use his oversight of the 's budget to pay for a study to help determine the bay's problems.

In many ways, the timing was ripe. Waterfront real estate, long considered less desirable because rivers and the bay were used for city sewage, was starting to sell. Gas shortages had the nation focused on energy and conservation, and the passage of the Clean Water Act in 1972 created fertile ground for an environmental initiative. Already, watermen were bemoaning their dwindling crab and oyster harvests.

In 1975, after Mathias pushed the funds through Congress, the commissioned a seven-year, \$27 million study that launched the modern restoration effort.

For much of the next decade, the federal government poured millions into research.

Under one initiative, the Army Corps of Engineers broke ground on a hydraulic model covered by a 14-acre corrugated metal roof on Kent Island, in the middle of the bay.

Dubbed "Monster of Matapeake," it was the world's largest working model of an estuary. Its purpose was to help scientists understand the rise and fall of tides, the ebb and flow of salt water and the movement and effects of pollution.

From the beginning, it created more problems than answers. The roof leaked, and concrete-floor buckled. Contoured to mimic the hydrologic and geologic features of the bay, the giant model had only a 40-year shelf life because the Earth's movement was expected to disrupt its precise calibration.

The machine was to be used for six tests from 1979 to 1981, though in the end only one of those studies was completed. The research, as well as that by the National Oceanic and Atmospheric Administration and the bay in decline.

The collected weight of the research spurred the governors of Maryland, Virginia and Pennsylvania to pledge a cooperative effort. Money was never mentioned.

"We're beyond the study phase,"

Chesapeake Bay Blight

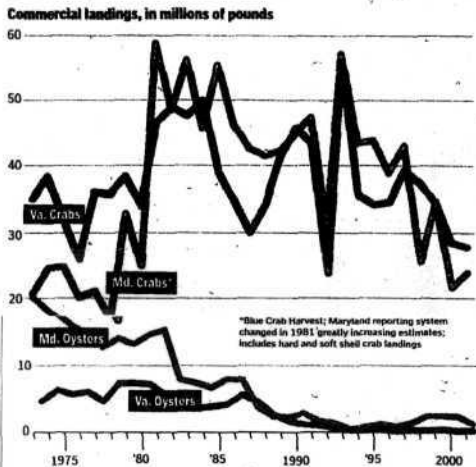
Wastewater treatment plants along the Chesapeake have removed bacteria and other organic contaminants from the large amounts of sewage deposited in the bay. But most have done nothing to remove nutrients such as nitrogen and phosphorus from the waste stream. Small quantities of nutrients can be enriching, but in large amounts and at the right temperatures, they cloud the water with fast-growing algae. That chokes off underwater grass beds where fish, crabs, oysters and zooplankton feed and hide from predators. And it can deplete water of oxygen, causing fish kills and even prompting blue crabs to scramble ashore for air, a phenomenon known as "crab jubilees."

THE BAY'S HEALTH

WORSE BETTER

Algae	Oysters	Crabs	Underwater grasses*	Dissolved oxygen	Rockfish
Worse than in 1985.	Currently at 2 percent of historic populations. Scientists have made no headway in cultivating strains that can resist two diseases that ultimately kill the vast majority.	In the last three years, Maryland and Virginia have recorded some of the lowest harvests in decades.	Currently about 85,000 acres. Historic acreage of underwater grasses was up to 600,000. The states' goal is to increase acreage to 186,000 by 2010.	No change in monitoring in the last 20 years. Total nitrogen loads No significant change in the last 20 years.	Made a rebound after East Coast moratorium declared in 1986, lifted in 1991.

SOURCES: NMFS Fisheries statistics of the United States (commercial landings); U.S. Environmental Protection Agency Chesapeake Bay Program, U.S. Geologic Survey, Maryland Department of Natural Resources, Virginia Marine Resources Commission (Bay health)

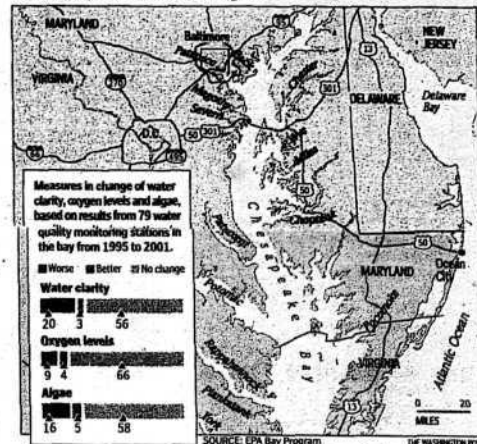


*Blue Crab Harvest; Maryland reporting system changed in 1981 (greatly increasing estimates; includes hard and soft shell crab landings)

*Citizen efforts to grow and plant underwater grasses have amounted to several acres throughout the bay; scientists say the restoration effort is driven by climate

Measuring Nitrogen Pollution

Although scientists say nitrogen pollution flowing into the bay has declined, it has not been enough to meet the goal set by the EPA, Maryland, Pennsylvania, Virginia and the District of Columbia. Reducing nitrogen is supposed to improve three of the most important conditions of a healthy bay: better water clarity, higher oxygen levels and less algae.



purpose. But they argue that states and local governments will also have to turn to residents to pay for the cleanup with increased water rates or sewage fees.

Ernst, the Annapolis author, blames the fact that there still is no bottom-line decision-maker in the maze of federal and state agencies for the lack of action.

"In a democratic system as confounded as this, who do you hold accountable?" Ernst asked.

Murky Water Knee-High

Every spring for the past 16 years, former state senator Bernie Fowler has slipped on his size 10½ white canvas Adidas tennis sneakers, grabbed a bunch of friends and splashed into the Patuxent River.

The farther he can wade into the water and still see his sneakers, the cleaner the water is. The murkier it is, the worse the bay is doing. Murky water means that less light reaches the bottom where underwater grasses grow, serving as nursery and sanctuary for virtually all aquatic life.

Fewer grasses mean less oxygen in the water for fish, crabs and oysters. And greater likelihood that harmful algae will bloom, clouding the water even further and fueling a dead zone in the deepest part of the bay that has increased in the hottest days of summer over the past 30 years.

This year, Fowler, Ehrlich and friends did not even get knee-deep before their feet disappeared into the water.

It's a tradition that has spread to other rivers and waterfronts on the bay. And like the annual Hard Crab Derby and Fair in Crisfield, Md., billed as the largest crab festival in the world, it's become an irresistible photo opportunity for politicians.

Occasionally, funding accompanies the rhetoric. In 1984, President Reagan joked about the rejuvenating properties of oysters during a visit to the Chesapeake Bay and then approved several million dollars for the cleanup.

William Eichbaum, environmental chief of the Maryland health department, proclaimed in 1983, "That's what's important about this."

But they weren't. Beyond a few obvious steps—both states banned phosphorus detergent in the 1980s—policymakers could not reach consensus on what to do to improve water quality. So they turned to a multimillion-dollar federal computer model that showed how pollution from farms and wastewater treatment plants were the biggest contributors to the bay's problems.

Impressed by the results, the governors of the states and the District's mayor held another summit in 1987, pledging more specific actions that included goals and timetables for the bay's restoration. It committed the states to voluntarily improving sewage treatment plants, reducing pollution and curbing development.

Officials at the time said it could cost billions and result in higher taxes, higher sewer fees and other expenses for business and consumers.

Sixteen years later, only 65 of more than 288 water treatment plants in the bay's watershed do anything at all to remove nutrients from the waste. Those that do use relatively old technology.

The federal government offers a revolving loan to help finance sewage plant upgrades, but those funds have remained flat for at least a decade. The states have done little

to force—or pay for—such improvements. And cities and counties have been reluctant to raise fees to pay for the upgrades themselves.

Agricultural pollution has proven even more difficult to control. Pennsylvania's governor in the mid-1980s, Robert Casey, was the first to step in and propose laws to control agriculture manure from running into bay tributaries. Maryland's governor at the time, Harry Hughes, proposed a voluntary program. Virginia in the late 1990s did as well.

But in all cases, the rules or programs have been watered down or never fully implemented.

Consider the situation in Maryland, which adopted a landmark program to force poultry farmers and national processors to take responsibility for curbing pollution from chicken waste.

Then-Gov Parris N. Glendening (D) developed the program after tens of thousands of fish suddenly started to die in 1997 in the Nanticoke River on the Eastern Shore. The governor pushed through legislation requiring farmers to pre a plan for disposing of chicken waste. And he linked the permits for national poultry processors, which contract with local growers, to the proper disposal of such waste.

On Friday, his successor, Robert L. Ehrlich Jr. (R) announced that he was dropping the provisions making national firms accountable. And he has sided with farmers who

view the disposal requirements as onerous.

Virginia proposed similar regulations in 1999, but then backed down under pressure from the poultry industry.

And despite efforts to preserve rural land, particularly in Maryland, development along the rivers and streams leading to the bay has grown exponentially.

Population has increased more than 25 percent in the watershed since the 1970s, and a study last year by the Chesapeake Bay Foundation predicted that by 2030, streets, subdivisions and houses would consume more farms, forests and wetlands, tripling the amount of developed land from the Shenandoah Mountains to the Chesapeake Bay. That means more toxins and urban pollution in the bay.

An analysis by the foundation and the advisory Chesapeake Bay Commission projected that restoring the bay would cost \$20 billion by the end of this decade to improve treatment plants, plant buffers along waterway and help farmers control runoff. Only \$5.9 billion, money from the state and federal governments, has been earmarked.

Amid budget shortfalls in Virginia and Maryland, bay advocates acknowledge that the goals will remain unrealized unless new sources of money are identified. Environmentalists are looking to the federal farm and transportation budgets for that



Maryland Gov. Robert L. Ehrlich Jr. participates in the Chesapeake Bay wade-in, started by former state senator C. "Bernie" Fowler, right. Participants wade into the Patuxent River to see how far they can go before they can no longer see their shoes.

Bay area congressmen and senators from Virginia and Maryland have helped maintain the \$20 million a year for the Chesapeake Bay Program's research while winning additional money here and there for oyster reefs, blue crab research and underwater grass projects.

But such research and public outreach programs don't begin to pay for what scientists say is needed if the bay is truly to recover, namely upgrades of wastewater treatment plants and vegetative buffers around farms and waterways.

In a labyrinth of state and federal agencies, the Chesapeake Bay Foundation has found its role as a voice for the movement, a conscience for the bay. The foundation gave the movement its slogan—Save the Bay. And in its latest annual report, the foundation railed that "lackluster leadership" had meant no systemwide improvement to the bay in five years.

Yet, at times, the nonprofit foundation has proved reluctant to rock the consensus that rules the bay cleanup, agreeing to commitments and goals, even when it had a chance to win ironclad limits.

Two years ago, for example, when a Howard County sewage treatment plant sought permission from Maryland regulators to expand its capacity without limiting its nutrient pollution, the foundation sued. Later, however, it settled for an agreement by the plant to make a goal of limiting the amount of nitrogen in its treated wastewater and adding better pollution-scrubbing technology. Under the settlement, the pollution cap will not be written into the plant's permit until 2006 at the earliest.

Baker called that a good deal for the bay. His staff will watch the plant closely, to see that it reaches the goals it has aimed for, he said.

But the greatest fear of many involved is that the cooperative agreements will at best allow the effort to simply keep pollution at current levels, not reduce it. Already, the states acknowledge they missed the goals set in the 1987 version of the bay agreement and those in a Chesapeake 2000 update.

"The bay program has been criticized for setting a lot of goals and having a lot of agreements and not always necessarily meeting those goals and agreements," said Peter Marx, of the 's bay program, which coordinates state and federal research. "We've actually made progress; whether we've made enough progress is arguable."

Though most scientists in the bay program prefer to focus on what work needs to be done, rather than what will happen if it isn't, the potential for failure looms.

Unchecked, the whole balance of the bay food chain could fall into a downward spiral in which fisheries collapse and the estuary becomes a dead sea.

At what point this could happen, no one can say. But scientists acknowledge that as long as population increases, and no new steps are taken, the threat of such a doomsday scenario increases.

Thirty years later, Mathias sees leadership as the key and questions whether a volunteer effort will be enough to save the bay. "I hope that we'll be able to retain the sense of direction and the sense of responsibility... to move it along," he said. "People have to understand there's a cost to be paid if they don't play their responsible role. You have to exert very strong leadership."