CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

REPORTS

Debunking the "Job Killer" Myth

How Pollution Limits Encourage Jobs in the Chesapeake Bay Region

ABOUT THE COVER:

Chesapeake Bay pollution limits are creating construction jobs to reduce pollution across the region. Pictured on cover is a DC Water and Sewer Authority project. Photo courtesy of Dennis Samson/DC Water.

How Pollution Limits Encourage Jobs in the Chesapeake Bay Region

EXECUTIVE SUMMARY

The Chesapeake Bay is a national treasure, home to a dazzling spectrum of species and an engine for the region's economy estimated to be worth more than $1 trillion dollars.[1] But pollution continues to cause serious damage to the nation's largest estuary, as shown by beach closures, fish consumption advisories, harmful algal blooms, and other afflictions.[2]

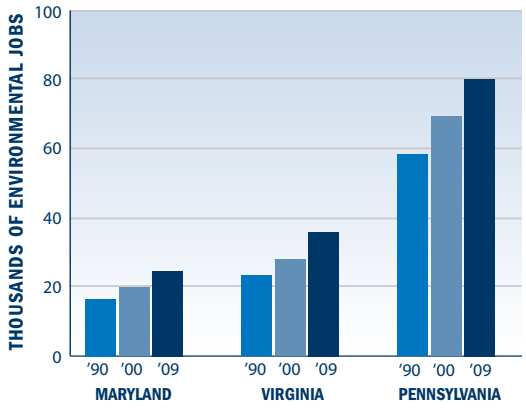
In December 2010, the U.S. Environmental Protection Agency (EPA) released new pollution limits for the Chesapeake Bay to accelerate its cleanup and the recovery of jobs which rely on clean water. The Chesapeake Bay "Total Maximum Daily Load," or TMDL, requires watershed states to reduce pollution flowing into the estuary by 25 percent by 2025 [3,4] and pushes the states to follow through with clean-up promises they made in 2010, based on previous plans called Tributary Strategies, which were released in 2004 and 2005. Almost as soon as these pollution limits were announced, however, they were attacked as "job killers" by national agricultural and homebuilder lobbyists and their political allies.[5] This rhetoric was part of a broad assault on environmental regulations, in general, spearheaded by some members of the U.S. House of Representatives.[6]

43 PERCENT:
The increase in the number of environmental industry jobs in Pennsylvania, Maryland, and Virginia over the last two decades.
Source: Environmental Business International

Sweeping assertions about economic ruin caused by environmental regulations are nothing new, and many economists[7] have concluded that there is no substance to them.[8] Claims that a good quality of life demands a tradeoff between jobs and the environment have repeatedly been proven false[9] over the last four decades. In 1976, for example, Henry Ford II warned that clean air and fuel-efficiency standards would "shut down" the Ford Motor Company.[10] Thirty-five years later, Ford not only remains in business, it ranks number 10 on the Fortune 500 list, with profits of $6.5 billion in 2010.[11] The company is now marketing zero-emission electric cars with a sales pitch that they will "reduce your carbon footprint."[12]

Critics of 1990 federal Clean Air Act Amendments asserted that tighter air-pollution limits would mean "a quiet death for businesses across the country."[13] But these gloomy forecasts did not come true, and in the end, the amendments produced a benefit-to-investment ratio of more than 40 to 1, including over $70 billion in human health benefits annually and a significant reduction in acid-rain pollution.[14]

ENVIRONMENTAL INDUSTRY JOB GROWTH



Jobs in environmental industries such as sewage plant construction, pollution cleanup, site testing, etc.

Source: Environmental Business International, Inc.

The cries about Bay pollution limits are a variation on this old song.

This report presents several examples of job creation that have already grown and will likely expand in the Chesapeake region because of water-pollution limits:

- Overall, the number of environmental clean-up and monitoring jobs in Pennsylvania, Maryland, and Virginia has surged 43 percent over the last two decades, from 98,000 jobs in 1990 to 140,000 jobs in 2009, with a significant portion of this growth coming from required sewage and water system improvement projects.[15]

- Construction is underway in Montgomery County, Maryland, on $305 million in stormwater pollution control projects that will create 3,300 construction and engineering jobs.[16] Similar stormwater projects could provide work for 178,000 full-time-equivalent jobs across the region over the next five years, including 36,000 jobs in Maryland, 10,000 in the District of Columbia, 80,000 in Pennsylvania, and 52,000 in Virginia, according to a projection by the Economic Policy Institute.[17]

- Among several sewage plant upgrade projects across the region, 118 construction workers, engineers, and others are employed in a $63 million project to reduce pollution from the Noman Cole Pollution Control Plant in Fairfax County, Virginia.[18] Virginia and Maryland officials plan to invest a combined total of $3 billion[19] improving sewage plants over more than a decade, with each billion invested resulting in 20,000 construction-related jobs.[20]

- Most of the farms in Pennsylvania's part of the Chesapeake Bay watershed (40,000 farms[21]) could also create jobs by implementing a variety of runoff- and pollution-control practices like this.[22] For example, 25 contractors, excavators, and others worked to build manure management pits and a state-of-the-art barn for a dairy farm in Thomasville, Pennsylvania.[23] The new facilities will reduce runoff of manure into a nearby stream as they help the farmer meet state requirements to maintain a manure management plan.

- About 11,751 temporary jobs are expected to be created over five years if Virginia and the federal governments invest $804 million in farm runoff-control projects such as planting trees and building fences along streams to meet Bay-pollution goals, according to a University of Virginia report.[24]

It is difficult to predict exactly how many job opportunities will spring up be-

cause of projects driven by the Chesapeake Bay pollution limits.[25] Innovation will likely inspire the birth of a wide variety of new firms that will hire employees for everything from pollution-credit trading,[26] to building high-tech barns, low-runoff housing developments, green roofs, and stormwater-control systems that look like gardens beside the road.

Tom Pelton/CBF Staff

Construction workers in Montgomery County, Maryland, build stormwater control devices that look like roadside gardens.

Harvard Business School Economist Dr. Michael Porter argued in a ground-breaking article in *Scientific American* more than 20 years ago that well-designed environmental regulations could actually enhance the competitiveness of businesses by encouraging innovation and by improving the efficiency with which businesses use natural resources. "Strict environmental regulations do not inevitably hinder competitive advantage against rivals; indeed, they often enhance it," Porter wrote in 1991.[27]

Cleaner water also will mean more fish, crabs, and oysters, which will translate to more work and income for fishermen, processors, packers, restaurateurs, and people in tourism-related industries. If history is any guide, environmental regulations will once again nourish job creation, not bury it.

ENVIRONMENTAL REGULATIONS AND THE ECONOMY

Less than two-tenths of one percent of all layoffs in the U.S. are caused by government regulations, according to 2010 data from the U.S. Bureau of Labor Statistics.[28] Looking at the more narrow category of environmental regulations, these kinds of rules have been responsible for about one-tenth of one percent of all layoffs in the U.S., with job losses caused much more often by mechanization, globalization, or other factors, according to economist Dr. Eban Goodstein, who analyzed federal statistics from the 1970s through the 1990s.[29] An average of between 1,000 and 3,000 layoffs a year have been caused by environmental regulations, compared to more than two million layoffs total.[30] But the positions are often shifted to jobs in other areas of work rather than being destroyed[31]—and when losses do occur, many are balanced out by jobs created by the manufacture of pollution-control equipment and other environmental projects.[32]

$312 BILLION:
How much the environmental industry in the United States is worth yearly.
Source: Environmental Business International

Since the passage of federal clean water and air laws in the 1970s, a burgeoning new sector has sprouted that profits from industrial pollution-reduction projects like improving sewage and power plants.[33] This emerging environmental industry is now worth $312 billion[34] a year nationally and employs 1.7 million people,[35] with 75 percent of job growth in this field driven by government regulation.[36] The federal Clean Water Act alone spurs construction projects that are worth at least $11 billion per year to the national economy, according to an EPA estimate in 2000.[37]

HISTORY OF A TOXIC DEBATE

The history of public debate over environmental laws and regulations over the last 40 years is littered with warnings of job loss that subsequently turn out to be wildly exaggerated[38] or simply untrue.[39,40] For example, during a debate in the 1970s over regulations to reduce worker exposure to vinyl chloride, a carcinogen[41] used in the manufacture of plastic piping, a plastics industry-funded report warned that the new rule would "cause severe economic dislocation," eliminating 1.7 million to 2.2 million jobs, and killing the U.S. auto industry, which "would, in fact, have to shut down."[42] That never happened. Instead, just 10 months after the final regulations were issued, the B.F. Goodrich Company announced that it had developed an innovative technique to not only eliminate worker exposure to vinyl chloride in the fabrication of plastic (PVC) pipes but also improve the efficiency of the manufacturing process.[43] Sales of PVC pipes jumped, providing an additional source of income to the industry—and at the same time, workers were protected.[44]

Legislation to tighten air-pollution controls in the federal Clean Air Act Amendments of 1990 also sparked verbal fireworks. A lobbying organization representing 2,000 businesses and trade associations called the Clean Air Working Group warned that passage of the amendments would produce a "quiet death for businesses across the country."[45] In fact, the real costs to industry turned out to be one-third to one-fifth of what opponents claimed.[46] None of the predicted closings actually happened to the auto industry, gasoline refineries, hospitals, supermarkets, or hotels,[47] although some coal-mining jobs did shift from high-sulfur coal regions of the east to lower-sulfur mines in the west.[48] And in fact, in 2003, President George W. Bush's Office of Management and Budget concluded that the Clean Air Act amendments of 1990 not only significantly reduced acid rain pollution, but also produced over $70 billion in human health benefits annually, with a benefit-to-investment ratio of more than 40 to 1.[49] "How we respond to this assault on our environmental and public health protections will mean the difference between sickness and health—in some cases, life and death—for hundreds of thousands of citizens," EPA Administrator Lisa Jackson wrote in October 2011.[50] "This is not hyperbole. The link between health issues and pollution is irrefutable."

Similar examples of crying wolf in the Chesapeake Bay region happened during debates over a 1985 ban on phosphates in laundry detergent and a 2006 Maryland law to reduce air pollution from coal-fired power plants. Phosphates in detergent are a source of pollution in the Bay and contribute to low-oxygen dead zones. But opponents of a 1985 bill in the Maryland General Assembly that would prohibit phosphates in laundry detergent claimed that the ban would force 1,000 layoffs at Baltimore area soap factories, damage washing machines, and harm human health by leaving clothes dirty.[51] The many lobbyists fighting the bill included representatives of Procter & Gamble, which manufactures detergent, and the city of Baltimore, then home to one of the company's factories.[52] After the bill passed, phosphate pollution into the Bay declined dramatically—and no layoffs, illnesses, or damage were reported to have been caused by the legislation.[53]

More than 20 years later, power company executives and their allies predicted grim consequences from a proposed air pollution control law called the Maryland Healthy Air Act. Critics claimed that the 2006 bill, which mandated reductions of major air pollutants by more than 75 percent,[54] would force the closure of power plants, cause layoffs, and cripple the reliability of the region's electric system.[55] Former Governor Robert Ehrlich warned state lawmakers: "This bill will dramatically increase the costs of electricity to customers, force at least one power plant to close, and potentially cause rolling blackouts across Maryland."[56]

EPA

Lisa Jackson
EPA Administrator

"How we respond to this assault on our environmental and public health protections will mean the difference between sickness and health—in some cases, life and death—for hundreds of thousands of citizens. This is not hyperbole. The link between health issues and pollution is irrefutable."

THE REALITY

After the Maryland Healthy Air Act passed on March 31, 2006, none of the dire predictions of plant, job, and energy loss proved true. In fact, electricity prices today are lower in most of Maryland than before the law, in part because technological innovation made it cheaper to extract natural gas, whose cost plays a major role in setting the price of electricity in the regional power grid, according to the Maryland Public Service Commission.[57]

Tom Pelton/CBF Staff

In response to a 2006 Maryland air pollution control law, Constellation Energy built this scrubber at its Brandon Shores coal-fired power plant and hired 32 workers in part to run and monitor the scrubber. Among those hired was chemical technician Melissa Sampson (above).

Because of the Act, Constellation Energy invested a billion dollars on air pollution-control equipment from 2007 to 2009.[58] The power company built a 400-foot-tall pollution-control tower called a scrubber and 16-acre complex of supporting buildings at its Brandon Shores power plant in Anne Arundel County.[59] Thirteen hundred construction workers and engineers worked to build the massive system, which sprays ground limestone and water into the plant's emissions to remove sulfur dioxide pollution.[60] Instead of decreasing its workforce, the company actually increased employment at the plant by 25 percent, with 32 permanent employees hired in part to run the new network of pollution-control units, Constellation officials said. Heather Lentz, General Supervisor of Operations at the Brandon Shores Power Plant, said no layoffs were caused by the Healthy Air Act, which instead "has been a net positive for jobs….We have more work to do, because we have more equipment to maintain."[61] The other major power company with a string of coal-fired plants in Maryland, Mirant Mid-Atlantic (now called GenOn), invested $1.6 billion building four scrubbers and other air-pollution controls at three other coal plants, and these projects employed 1,500 contract workers.[62] After construction was complete, Mirant reported that the projects "created a total of approximately 60 full-time jobs" on a continuing basis to manage the pollution-control equipment and materials.[63]

The creation of jobs like these is common at power plants that modernize by adding clean-air technology.[64] Nationally, proposed federal regulations that would require the construction of scrubbers at all coal-fired power plants could create 1.4 million temporary construction jobs over five years and a net of 4,254 continuing positions to run the pollution-control equipment, according to an estimate by the University of Massachusetts Political Economy Research Institute.[65]

THE OTHER SIDE OF THE ARGUMENT

Skeptics of environmental regulation dispute job projections like the one by the University of Massachusetts[66] and the whole notion that government actions create employment, arguing that only the free market and unfettered private industry can stimulate the economy.

Some advocates of limited government[67] argue that regulations are "job killers" because they force companies to shift money from one area to another in an inefficient way that prevents job growth so that mandated projects can be funded.

THE TRADE-OFF MYTH

A September 2010 report released by the U.S. Small Business Administration found that environmental regulations impose $281 billion[68] a year in costs to American business. The Congressional Research Service later criticized this report, however, for using high estimates and failing to consider any of the financial benefits of regulations, although such numbers exist and tend to show that benefits exceed costs.[69]

Dr. Eban Goodstein, Director of the Center for Environmental Policy at Bard College, found no real support for these "job-killer" claims when he studied the existing economic literature on jobs and regulations.[70] He wrote: "Virtually all economists who have studied this jobs-environment issue agree….There has simply been no trade-offs between jobs and the environment."[71] According to Dr. Goodstein, especially during economic downturns, like the one the U.S. is experiencing now, government-mandated investing in clean water and air projects helps to boost employment.[72] Jobs created to clean up waste sites or perform other pollution-control work tends to be more labor-intensive, so shifting funds into these types of projects from other sectors of the economy results in more people receiving paychecks (especially in traditional blue-collar fields, like construction).[73] Dr. Goodstein said there is no evidence that environmental regulations create a net loss of jobs.[74] Instead, environmental standards level the playing field for businesses by making them all play by the same rules designed to improve public health.[75]

Courtesy photo

Dr. Eban Goodstein
Director,
Center for Environmental Policy,
Bard College

"Virtually all economists who have studied this jobs-environment issue agree.... There has simply been no trade-offs between jobs and the environment."

Several other researchers have reached similar conclusions about the generally benign but limited role of environmental regulations in the economy. Harvard Business School Economist Dr. Michael Porter argued in a ground-breaking article in *Scientific American* more than 20 years ago that well-designed environmental regulations could actually enhance the competitiveness of businesses by

encouraging innovation and by improving the efficiency with which businesses use natural resources. "Strict environmental regulations do not inevitably hinder competitive advantage against rivals; indeed, they often enhance it," Porter wrote in 1991.[76] Dr. Adam B. Jaffe, Economics Professor and Dean at Brandeis University, and colleagues published a 1995 study that found there is "little evidence to support the hypothesis" that environmental regulations hurt the competitiveness of U.S. manufacturing.[77] Dr. Roger Bezdek and partners examined the relationship of environmental protections to the economy and concluded in 2007: "While environmental protection both creates and displaces jobs, we have found the net jobs effect to be strongly positive."[78] Dr. John Irons and Isaac Shapiro of the Washington-based Economic Policy Institute surveyed the economics literature and concluded in 2011: "Most studies…suggest that regulations either had either a close to neutral or small positive effect on employment levels."[79]

> "While environmental protection both creates and displaces jobs, we have found the net jobs effect to be strongly positive." [78]
>
> Source: *Regulation, Employment and the Economy: Fears of Job Loss are Overblown*, Economic Policy Institute

Concrete examples of the ways clean-water regulations help boost local employment can be found in Pennsylvania, Maryland, and Virginia, and they suggest an added benefit of new water-pollution limits for the Chesapeake Bay.

The following projects not only improved water quality, but put cash in the wallets of real people struggling in a rough economy.

LOCAL EXAMPLES

Sewage Plant Improvements

Bulldozers rumble and jackhammers drum at a sewage treatment plant in Lorton, Virginia, one of 21 plants being renovated across the state to meet water-quality limits for the Chesapeake Bay.

Contractors who employ 118 workers—from concrete layers to engineers and plumbers—are performing a $63 million upgrade to the Noman Cole Pollution Control Plant and its sprawling complex of tanks and squat brick buildings.

One of the workers is a formerly unemployed homebuilder named Brandon Stevens who lives near Fredericksburg, Virginia. The wiry 27-year-old is hunched in a dank concrete tunnel beneath the sewage treatment plant, wielding a gun-like device to inject sealant into cracks to prevent leaks from a waste tank.

118:
Number of contractors who are working on a $63 million upgrade to the Noman Cole Pollution Control Plant in Lorton, Virginia.
Source: Fairfax County, Virginia

He pauses, flipping back the plastic shield on his helmet to talk with a visitor.

Stevens explains that he's grateful to have his $19-per-hour job with American Contracting and Environmental Services, Inc., although the work does not look glamorous. "I'm happier than ever, and I'm glad to be making a difference with the environment," Stevens says.

He recalls that, three and a half years ago, he was working in home construction and waiting for the birth of his first child when the recession hit and he was laid off.

Tom Pelton/CBF Staff

Brandon Stevens
worker with American Contracting and Environmental Services, Inc., which is helping to reduce pollution from a sewage treatment plant in Lorton, Virginia.

"I'm happier than ever, and I'm glad to be making a difference with the environment."

Tom Pelton/CBF Staff

Construction crews are working to improve sewage treatment plants across the Chesapeake Bay region.

Stevens says he was unemployed for about six months, during which he desperately scrambled to support his family and newborn daughter, Dixie Lynn.

"It was hard—really nerve wracking," Stevens says, thinking back on those dark days. "I had no paycheck, no money. And so I was applying for jobs at grocery stores, calling friends, doing anything and everything to try to find work."

Finally, about two years ago, his grandfather heard about a job opening as an apprentice at Maryland-based American Contracting and Environmental Services. Stevens applied and was hired.

He says that whatever government regulation drove the need for the sewage plant project was more lifesaver than job-killer for him.

"Before I got with this company, I wasn't making anywhere near to what I'm making now," Stevens says, adding that his new employer is also paying for him to go back to school.

His boss, Brandon Lumm, says Chesapeake Bay pollution clean-up efforts are providing a lift to their company and other similar contracting firms during a difficult time.

The Chesapeake Bay pollution limits "definitely create the need for more work in clean water in general, including more technical and mechanical installations at wastewater treatment plants," Lumm said.

20,000:
Number of construction jobs created by each $1 billion invested on water and wastewater construction projects.
Source: Clean Water Council

The Cole sewage treatment plant, built in 1970, serves 340,000 people in Northern Virginia. The construction project will modernize the plant and create improved "biological reactors," which are tanks of pollution-eating bacteria that reduce the amount of nitrogen flowing into Pohick Creek, a tributary to the Potomac River and Chesapeake Bay, according to Fairfax County officials.

Across Virginia, 59 sewage treatment plants have been upgraded over the last 13 years, and another 21 plants are under construction now with an eventual total investment of $1.6 billion, according to the Virginia Department of Environmental Quality.

In Maryland, 23 sewage treatment plants have been upgraded over the last seven years to meet pollution-reduction goals, and another 44 plants are scheduled for improvements, with a total investment that may eventually hit $1.4 billion, according to the Maryland Department of the Environment.

Both Maryland and Virginia's goals for sewage-plant upgrades, however, are running short of funding. In Virginia, a diverse coalition of local government, industry, and conservation groups has urged Governor Robert McDonnell and the Virginia General Assembly to support additional bond authority to improve sewage treatment plants. In Maryland, clean-water advocates are pushing for an increase in the state's Bay Restoration Fund, or "flush fee," to not only upgrade wastewater treatment facilities but also create jobs.

Each $1 billion invested on water and wastewater construction projects can result in more than 20,000 construction jobs, according to a 2009 report by the Clean Water Council, an association of trade organizations that build infrastructure projects.[80]

Jeff Bustamante, Project Superintendent for Ulliman Schutte Construction LLC, another firm working on the sewage project in Lorton, Virginia, said there are several formerly unemployed home builders now supporting their families by working to improve wastewater plants and to clean up the Bay. In that sense, Brandon Stevens is not alone.

"I have people applying every day for jobs here at the (sewage plant) site, and a lot of them used to be in the housing industry," Bustamante said. "They are changing careers because they see the opportunities here."

Courtesy photo

Jeff Bustamante
Project Superintendent,
Ulliman Schutte Construction LLC

"I have people applying every day for jobs here at the (sewage plant) site, and a lot of them used to be in the housing industry. They are changing careers because they see the opportunities here."

Tom Pelton/CBF Staff

The Noman Cole sewage treatment plant in Lorton, Virginia, is one of the 21 being improved across the Commonwealth, requiring the hiring of thousands of workers. Fairfax County Senior Engineer Matthew Doyle is helping to supervise the project in Lorton.

Stormwater System Construction

As traffic rushes past on a road in Montgomery County, Maryland, three men work in a ditch, one swinging a sledge hammer and the other two holding a white plastic pipe that the first man pounds into the ground.

Tom Pelton/CBF Staff

Workers build a stormwater pollution control device called a "bumpout" in Montgomery County, Maryland.

The workers are building a stormwater pollution-control device called a "bump out." It's a new technique—a grassy area built by the side of the road, with openings at either end to catch and filter rainwater as it flows down the gutter.

Montgomery County already has a few of these roadside gardens, but it plans to build hundreds more as it invests $305 million for a variety of stormwater-control systems designed to meet Chesapeake Bay pollution limits, according to Steve Shofar, Chief of the Watershed Management Division for Montgomery County.

Tom Pelton/CBF Staff

Steve Shofar
Chief of the Watershed Management Division, Montgomery County

"Especially in urban areas like Montgomery County, there are a lot of impervious surfaces (blacktop and roofs) that generate a lot of stormwater. And that stormwater picks up dirt, sediment, grease, lawn fertilizer, and other things—so you need to treat and filter the water to keep the pollution out of streams that lead to the Chesapeake Bay."

"Especially in urban areas like Montgomery County, there are a lot of impervious surfaces (blacktop and roofs) that generate a lot of stormwater," Shofar said. "And that stormwater picks up dirt, sediment, grease, lawn fertilizer, and other things—so you need to treat and filter the water to keep the pollution out of streams that lead to the Chesapeake Bay."

The county expects to employ 3,300 workers over the next three and a half years building its new network of stormwater controls, Shofar said. The projects will include stream restoration projects, green roofs, and stormwater-containment ponds.

One of the laborers building the "bump out" on Stewart Lane is Marcus Irving, a resident of Springfield, Maryland, who works for Highway and Safety Services, Inc. He held a board over the top of the plastic pipe as a co-worker hammered it into the ground.

During a break, Irving explained that he was glad to have the job, which pays $11.50 per hour.

Tom Pelton/CBF Staff

Marcus Irving
Worker for Highway and Safety Services, Inc.

"It was extremely tough, living day to day, basically. But then this job opportunity became available, and it was a blessing. It's a beautiful thing for me to be working again, feeling like an adult again, and putting food on the table for my family."

"Before I got this job two months ago, I was out of work for eight months," said Irving, a 34-year-old father of two.

He said he had been laid off from a job laying cable for a television cable company. "It was extremely tough, living day to day, basically," Irving recalled. "But then this job opportunity became available, and it was a blessing. It's a beautiful thing for me to be working again, feeling like an adult again, and putting food on the table for my family."

Stormwater control projects like the one in Montgomery County could create 36,000 temporary construction jobs across Maryland over the next five years, as well as 10,000 jobs in the District of Columbia, 80,000 jobs in Pennsylvania, and 35,000 jobs in Virginia, according to an October estimate by the Economic Policy Institute and an advocacy group called Green for All.[81]

The hiring is already roaring along in Montgomery County. Mike Peny, Construction Division Manager for a firm called Angler Environmental, said his company boosted its employment by 12 percent this year, hiring 10 workers just to keep up with Montgomery County's efforts to meet the Chesapeake Bay pollution limits.

3,300:
Number of workers Montgomery County, Maryland expects to employ over the next 3.5 years building its new network of stormwater controls.
Source: Montgomery County, Maryland

Peny said the Bay "Total Maximum Daily Load" has been nothing but a help for his company. "This really creates jobs for us," Peny said, as he stood beside a once-eroded stream called Booze Creek in Montgomery County that his company rebuilt. "These types of projects are what drive our ability to hire and stay in business."

The stormwater-control projects in Montgomery County are being funded through an annual $70.50 stormwater fee on the property tax bills of local residents, Shofar said.

Only a few local governments in the Bay watershed—including Takoma Park, Rockville, Annapolis, and Richmond—have such fees or aggressive policies for managing stormwater. Stormwater is the only form of pollution in the Bay that has been growing worse over the last quarter century.

Tom Pelton/CBF Staff

Steve Shofar, Chief of the Watershed Management Division for Montgomery County, Maryland, stands inside a "bump out"—a grassy area built along the side of the road to filter rainwater—of which Montgomery County plans to build hundreds of to meet the Chesapeake Bay pollution limits.

Farm Runoff-Control Projects

The challenge for the dairy farm was storage space for manure.

Leroy Walker, owner of Walk-Le Holsteins in Thomasville, Pennsylvania, had only one manure storage pit for his 170 cows, and it wasn't big enough to store their waste all winter long so he could spread it on the fields in the spring to fertilize his crops.

So Walker said he was forced to spread the manure on his 102 acres of cropland during the winter, sometimes when the ground was frozen—causing manure to be flushed by rain or melting snow toward a nearby stream.

"We had a lot of runoff in the past. I wasn't proud of it," said Walker, 55, a snowy-haired lifelong farmer, as he looked over his scenic property while inspecting his cows on a recent morning. "But financially, we couldn't afford (to stop) it….Whereas now, we have things all cleaned up."

Tom Pelton/CBF Staff

Dairy farmer Leroy Walker built these two manure pits and this new barn to reduce runoff pollution into a nearby stream, which flows toward the Chesapeake Bay.

The way Walker solved his farm's problem was through a $900,000 clean-water project, almost two-thirds paid for by federal funds and the rest paid for by a loan. A variety of federal and state programs help farmers pay for runoff-control projects, although they are not all adequately funded.

Walker's construction project included a pair of plastic-lined manure storage pits, a shed to keep rain off his feedlot, and an expanded, state-of-the-art barn with good ventilation and drainage.

Tom Pelton/CBF Staff

Leroy Walker
Owner,
Walk-Le Holsteins dairy farm

"We had a lot of runoff in the past. I wasn't proud of it. But financially, we couldn't afford (to stop) it....Whereas now, we have things all cleaned up... I know we have to take care of the environment, if we want to be here and prosperous in 50 or 100 years."

Courtesy photo

Dean Weaver
Vice President,
Farmer Boy Ag Systems, Inc.

"We were very thankful for the work (on Walker's farm) because things were slow. Because of this project, we were able to keep people working, rather than cutting hours and doing layoffs."

"I built this new facility for my children and grandchildren," Walker said. "I know we have to take care of the environment, if we want to be here and prosperous in 50 or 100 years."

The renovations and larger barn rejuvenated his family's business by providing facilities large enough to expand his herd by 80 cows, to 250. The construction reduced runoff pollution and gave a small boost to the local economy, which benefitted through the hiring of 25 workers—including excavators, building contractors, concrete layers, designers, plumbers, and electricians.

"We were very thankful for the work (on Walker's farm) because things were slow," said Dean Weaver, Vice President of Farmer Boy Ag Systems, Inc., an agricultural construction firm. "Because of this project, we were able to keep people working, rather than cutting hours and doing layoffs."

The new facilities allowed Walker to continue to meet the terms of a Pennsylvania manure management plan. These pollution-control plans, which are required by law, give farmers guidelines for strategies they can use to improve their farms and keep runoff out of streams. Walker had a pollution-control plan before the recent projects, and is now updating his plan to do even more to eliminate runoff.

Forty thousand farms[82] in Pennsylvania's part of the Chesapeake Bay watershed (which is most of the farms) could also create jobs by implementing a variety of runoff pollution-control practices like the one on Walker's farm, according to EPA and Pennsylvania's plan to meet the new EPA pollution limits.

40,000:
Number of farms in Pennsylvania's part of the watershed which could create jobs by implementing runoff pollution-control practices.
Source: Pennsylvania Chesapeake Watershed Implementation Plan

No studies have been conducted into the potential job creation value of runoff-control projects like Walker's on farms across the Chesapeake Bay watershed. But Dr. Terance J. Rephann of the Weldon Cooper Center for Public Service at the University of Virginia estimated in a February 2010 study[83] that if state and federal governments invested $804 million in farm pollution control projects to meet Bay water-quality goals in Virginia, the equivalent of 11,751 temporary jobs lasting one year each would be created.

Jeff Ainslie, Vice President of Red Barn Consulting Inc., an agricultural project-planning company that worked on Walker's project, said the Bay pollution limits (or TMDL) are helping businesses like his by encouraging more farmers to get manure management plans.

The Bay pollution limits "have definitely increased demand for our services, and we are thankful for it," Ainslie said. "Farms like the Walkers' need to grow and meet a growing demand for food. And to help them get there, we are going to have to get new barns built and runoff controlled."

CONCLUSION

Despite rhetoric to the contrary, environmental regulations have a documented history of causing no harm to the economy, with job losses often more than balanced by jobs created by environmental cleanup.[84] During recessions, regulations can help encourage construction projects that put people to work in ways that improve public health.

Economic experts have concluded that evidence fails to support the environmental "job-killer" myth. And four decades of false alarms about the alleged dangers posed by environmental regulations should be a reality check to everyone now trying to predict the future impact of the Chesapeake Bay pollution limits (the TMDL).

During the current economic downturn, state and local governments in the Chesapeake region should view the Bay pollution limits as an opportunity to invest in their local citizens as they clean local waterways.

Average people who benefit from clean-water projects—including sewage contractors, stormwater crews, and manure-pit excavators—know there is no clash between environmental improvements and economic vitality. Workers like Brandon Stevens in Virginia, Marcus Irving in Maryland, and Dean Weaver in Pennsylvania, have already seen the benefits of the Chesapeake Bay pollution limits in their bank accounts.

Moving ahead to implement the Bay pollution limits over the next 14 years will likely provide a lift to the financial well-being of thousands of working people like these, even as the improvements enhance the quality of life for everyone in the region.

Beyond just the creation of jobs for pollution-control projects, the Bay pollution limits will mean cleaner water and a healthier Chesapeake Bay. A restored estuary will be an economic engine brought back to life. More fish, crabs, and oysters will provide renewed work opportunities and hope for watermen, processors, packers, restaurant workers, people in tourism-dependent businesses, and many others.

From clean water will flow a cascading effect that will buoy the economy generations into the future.

END NOTES

[1] Chesapeake Bay Watershed Blue Ribbon Finance Panel report to Chesapeake Executive Council, *Saving a National Treasure: Financing the Cleanup of the Chesapeake Bay*, 2004, p. 9. http://www.chesapeakebay.net/content/publications/cbp_12881.pdf.

[2] Chesapeake Bay Foundation, *Bad Water 2009: The Impact on Human Health in the Chesapeake Bay Region*. http://www.cbf.org/document.doc?id=328.

[3] EPA website, "Chesapeake Bay TMDL." http://www.epa.gov/chesapeakebaytmdl/.

[4] The Chesapeake Bay TMDL process allowed ample opportunities for public input, and in fact EPA received more than 14,000 letters and e-mails from the public and regulated entities, including from special interest groups that later sued to try to derail the TMDL. For a listing of the public comments, and EPA's response to them, refer to EPA report of December 29, 2010, *Response to Public Comments Chesapeake Bay TMDL for Nitrogen, Phosphorus and Sediment*. http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/FinalBayTMDL/AppendixWRTCPart1final.pdf.

[5] An example of this unsubstantiated rhetoric includes Maryland U.S. Representative Andy Harris' June 24, 2011, testimony before a U.S. House subcommittee, in which he claimed without factual basis that the Bay TMDL was "destroying" thousands of poultry jobs on Maryland's Eastern Shore. Maryland State Senator E.J. Pipkin made a similar claim about widespread job loss from the Bay TMDL on WYPR 88.1 FM radio in Baltimore on November 21, 2011. Other examples include the American Farm Bureau Federation's article headlined "EPA's Crushing Regulatory Burdens Threaten Family Farms," published in agricultural trade publications and available on November 21, 2011, on the organization's website at http://www.fb.org/index.php?action=newsroom.news&year=2011&file=nr1117b.html.

[6] An example is House Majority Leader Eric Cantor's August 29, 2011, memo to House Republicans that asserted "REPEAL OF JOB-DESTROYING REGULATIONS (WILL) CREATE MIDDLE CLASS JOBS." Memo available on November 11, 2011, on Cantor's blog at http://majorityleader.gov/blog/2011/08/memo-on-upcoming-jobs-agenda.html.

[7] Isaac Shapiro and John Irons, *Regulation, Employment and the Economy: Fears of Job Loss are Overblown*, Economic Policy Institute, April 12, 2011, page 15. http://www.epi.org/publication/regulation_employment_and_the_economy_fears_of_job_loss_are_overblown/.

[8] Roger H. Bezdek, Robert M. Wendling and Paula DiPierna, "Environmental Protection, the Economy, and Jobs: National and Reginal Analyses," *Journal of Environmental Management*, January 17, 2007, page 1.

[9] Eban Goodstein, *The Trade Off-Myth: Fact and Fiction about Jobs and the Environment*, Island Press, Washington, D.C., 1999, pages 1-7.

[10] Henry Ford II, as quoted in the *Chicago Tribune* on September 14, 1976, in response to questions about the Energy Policy and Conservation Act's CAFE provisions and Clean Air Act smog regulations. Quote online at http://crywolfproject.org/quotes.

[11] *Money* magazine online listing of Fortune 500 for 2011. http://money.cnn.com/magazines/fortune/fortune500/2011/snapshots/160.html.

[12] Ford Focus Electric website, viewed on November 22, 2011, at http://www.ford.com/electric/focuselectric/2012/.

[13] U.S. House Committee on Energy and Commerce report, *Industry Claims About the Costs of the Clean Air Act*, June 16, 2009. http://democrats.energycommerce.house.gov/Press_111/20090616/

dc_industryjobs.pdf.

[14] EPA fact sheet, "Cap and Trade, Acid Rain Program:" http://www.epa.gov/capandtrade/documents/ctresults.pdf.

[15] Data e-mailed by Environmental Business International to the Chesapeake Bay Foundation on November 2, 2011.

[16] Interview on October 28, 2011, with Steven P. Shofar, Division Chief, Watershed Management Division, Montgomery County Department of Environmental Protection. These jobs are temporary construction jobs, calculated using the county's rough formula of $90,000 per full-time equivalent position. Note: Other reports cited in this report may use different definitions of what a job is. Please read the individual reports referenced to determine the precise definition of the term.

[17] Report by Green For All (a partnership of the Economic Policy Institute, American Rivers, and Pacific Institute, with funding from the Rockefeller Foundation), *Water Works: Rebuilding Infrastructure, Creating Jobs, Greening the Environment*, October 4, 2011. http://www.greenforall.org/resources/water-works. These are temporary construction and engineering jobs, calculated on a "full-time equivalent" basis of 40 hours of work per week over a year. The figure of an estimated 178,000 reflects the "national employment share-based scenario" for Maryland, the District of Columbia, Pennsylvania, and Virginia as explained in Appendix A on page 47.

[18] Interview on October 24, 2011, with Sarah Motsch, Senior Process Engineer, Wastewater Treatment Division, Fairfax County, Virginia.

[19] Sewage plant upgrade costs e-mailed to the Chesapeake Bay Foundation on October 19, 2011, by William Hayden, Director of Public Affairs for the Virginia Department of Environmental Quality; and on November 10, 2011, by Jay Apperson, Deputy Director, Office of Communications for the Maryland Department of the Environment.

[20] Report by the Clean Water Council, a coalition of 35 national organizations, including the American Society of Civil Engineers, dedicated to improving America's water and wastewater infrastructure, *Sudden Impact: An Assessment of Short-Term Economic Impacts of Water and Wastewater Construction Projects in the United States*, 2009, page 6. http://www.nuca.com/files/public/CWC_Sudden_Impact_Report_FINAL.pdf. Report says that each $1 billion in investments in sewage and water projects nationally can result in 20,003 to 26,669 jobs.

[21] Pennsylvania Chesapeake Watershed Implementation Plan, page 272. http://files.dep.state.pa.us/Water/Chesapeake%20Bay%20Program/ChesapeakePortalFiles/REVISED%20FINAL%20PA%20Chesapeake%20Bay%20WIP%201-11-11.pdf. The plan says that as many as 40,000 farms in Pennsylvania's section of the Chesapeake Bay watershed (which is most of the farms) may not have manure management plans, permits, or approvals as required by law, and increased compliance with these plan requirements would reduce water pollution.

[22] Interview on November 3, 2011, with Jeff Corbin, Senior Advisor to EPA Administrator on Chesapeake Bay Restoration.

[23] Interviews on November 2, 2011, with Leroy Walker, owner of Walk-Le Holsteins, in Thomasville, Pennsylvania, and on November 8, 2011, with Dean Weaver, Vice President of Farmer Boy Ag Systems, Inc. of Meyerstown, Pennsylvania, a contracting firm that led the work on Walker's farm. This number refers to the total number of people who helped with the project, not the number of full-time equivalent jobs.

[24] Report by Terance J. Rephann of the Weldon Cooper Center for Public Service at the University

of Virginia, *Economic Impacts of Implementing Agricultural Best Management Practices to Achieve Goals Outlined in Virginia's Tributary Strategy*, released February 23, 2010. Page 1. These are temporary jobs, the equivalent of one year of work each during the implementation period. http://www.coopercenter.org/sites/default/files/publications/BMP_paper_final.pdf.

[25] Corbin interview.

[26] Ibid.

[27] Michael E. Porter, "America's Green Strategy," *Scientific American*, 1991, 264(4), page 168.

[28] U.S. Bureau of Labor Statistics report, *Extended Mass Layoffs in 2010*, table 6 on page 9. http://www.bls.gov/mls/mlsreport1038.pdf. Figure refers to the primary reason for the extended mass layoffs. 2,971 layoffs (separations) out of 1,256,606 total were reported in 2010 as being caused primarily by "government regulations/intervention," according to the report.

[29] Goodstein, page 171. These figures are from federal statistics from the 1970s through the 1990s. The U.S. Bureau of Labor Statistics no longer reports environmental regulations as a category of cause of layoffs, instead now using the broader category of "environmental regulations/intervention."

[30] Goodstein, page 171.

[31] Ibid., page 4.

[32] Ibid., 169-177.

[33] Bezdek, page 1.

[34] Environmental Business International, *U.S. Environmental Industry Grows to $312 Billion in Revenues*, October 4, 2011. http://www.environmentalbusinessjournal.com/updates/812-us-environmental-industry-grows-to-312-billion-in-revenues.

[35] Data e-mailed by Environmental Business International to the Chesapeake Bay Foundation on October 28, 2011.

[36] Telephone interview on November 8, 2011, with Grant Ferrier, President, Environmental Business International.

[37] EPA Office of Water, *A Benefits Assessment of Water Pollution Control Programs Since 1972: Part 1, The Benefits of Point Source Controls for Conventional Pollutants in Rivers and Streams*, January 2000, page XVI. http://water.epa.gov/lawsregs/lawsguidance/cwa/316b/upload/2000_04_17_economics_assessment.pdf.

[38] Hart Hodges, *Falling Prices: Cost of Complying with Environmental Regulations Almost Always Less Than Advertised,* Economic Policy Institute, 1997. http://www.epi.org/page/-/old/briefingpapers/bp69.pdf.

[39] Negah Mousoon and Taylor Lincoln, *Regulation: The Unsung Hero in American Innovation*, Public Citizen, September 2011. http://www.citizen.org/regulation-innovation.

[40] Studying the economic impact of environmental regulations after the fact can also be difficult, in part because of challenges in obtaining valid data from regulated businesses, according to a 1999 report by the U.S. General Accounting Office, *Environmental Protection: Assessing the Impacts of EPA's regulations Through Retrospecive Studies*. http://www.gpo.gov/fdsys/pkg/GAOREPORTS-RCED-99-250/pdf/GAOREPORTS-RCED-99-250.pdf.

[41] EPA website on vinyl chloride states: "EPA has classified vinyl chloride as a Group A, human

carcinogen." http://www.epa.gov/ttn/atw/hlthef/vinylchl.html.

[42] David T. Cook, "Plastics Jobs vs. Worker Safety," *Christian Science Monitor*, July 15, 1974. Article was cited in report by Public Citizen, *Regulation: The Unsung Hero in American Innovation*, released in September 2011. http://www.citizen.org/regulation-innovation.

[43] Public Citizen report (see above), page 13.

[44] Ibid.

[45] U.S. House Committee on Energy and Commerce report, *Industry Claims About the Costs of the Clean Air Act*, June 16, 2009. http://democrats.energycommerce.house.gov/Press_111/20090616/dc_industryjobs.pdf.

[46] Ibid.

[47] Ibid.

[48] Goodstein, page 43.

[49] EPA fact sheet, "Cap and Trade, Acid Rain Program:" http://www.epa.gov/capandtrade/documents/ctresults.pdf.

[50] Lisa Jackson opinion article, *The Los Angeles Times*, October 21, 2011.

[51] Telephone interview on December 14, 2011, with former Maryland State Senator Gerald Winegrad, who sponsored the bill to ban phosphates in laundry detergent. Tom Horton, "Phosphate Issue is Not Loss of Jobs," *The Baltimore Sun*, March 10, 1985.

[52] Ibid.

[53] Ibid.

[54] Maryland Department of the Environment web page on the Maryland Healthy Air Act. http://www.mde.md.gov/programs/Air/ProgramsHome/Pages/air/md_haa.aspx.

[55] Mirant Mid-Atlantic President Lisa Johnson on February 17, 2006, warned a Maryland Department of the Environment advisory council: "We see plant job loss, and a decrease in tax dollars to local jurisdictions, and a potential impact to electric reliability," according to an article in *The Baltimore Sun* on April 15, 2006. Constellation Generation Group Senior Vice President John Long warned that the company might have to close the C.P. Crane powerplant in Baltimore County, according to *The Baltimore Sun* on April 15, 2006. Michael Powell, a lobbyist for several industries, warned state lawmakers, "You will greatly increase the cost of power… (and) clients like mine will go to China and India," according to a February 2, 2006, article in *The Baltimore Sun*.

[56] March 10, 2006, press release from Governor Robert Ehrlich quoted in *The Baltimore Sun* on April 7, 2006.

[57] Interview November 10, 2011, with Maryland Public Service Commission Chairman Douglas Nazarian.

[58] Interview at Brandon Shores on October 26, 2011, with Heather Lentz, General Supervisor of Operations at Brandon Shores Power Plant, and Kevin C. Thornton, Manager of Communications for Constellation Power Group.

[59] Ibid.

[60] Ibid. 1,300 figure represents the high point of the number of contract construction workers

on site building the scrubber. An average daily figure was 573. The 32 workers hired were for ongoing work at the plant, not construction.

[61] Ibid.

[62] Figures e-mailed to the Chesapeake Bay Foundation from Misty Allen, spokewoman for Mirant. The 1,500 workers figure was a peak workforce on the scrubber project, with 789 workers per day over the 28 month construction period.

[63] Ibid.

[64] James Heintz, Heidi Garrett-Peltier, and Ben Zipperer of the University of Massachusetts Political Economy Research Institute, *New Jobs—Cleaner Air: Employment Effects Under Planned Changes to EPA's Air Pollution Rules*, February 2011, page 16. http://www.ceres.org/resources/reports/new-jobs-cleaner-air.

[65] Ibid.

[66] Telephone interview on November 21, 2011, with Scott H. Segal, lobbyist for energy companies and coal-fired utilities and partner in the law firm of Bracewell & Giuliani in Washington, D.C. Segal said: "It is almost axiomatic that new regulations do kill more jobs than they create. The government is not a good chooser of winners and losers from an economic perspective."

[67] Scott Segal interview. See above.

[68] Nicole V. Crain and W. Mark Crain, *The Impact of Regulatory Costs on Small Firms*, commissioned by the U.S. Small Business Administration and released in September 2010, page 48. http://archive.sba.gov/advo/research/rs371tot.pdf.

[69] Curtis W. Copeland, Congressional Research Service, *Analysis of an Estimate of the Total Costs of Federal Regulations*, April 6, 2011, page i. http://www.progressivereform.org/articles/CRS_Crain_and_Crain.pdf.

[70] Goodstein. And telephone interview with Goodstein on November 22, 2011.

[71] Goodstein, page 1.

[72] Goodstein, page 170.

[73] Goodstein, page 171.

[74] Goodstein interview.

[75] Goodstein interview.

[76] Porter, page 168.

[77] Adam B. Jaffe, Steven R. Peterson, Paul R. Portney, and Robert Stavins, "Environmenetal Regulation and the Competitiveness of U.S. Manufacturing: What Does the Evidence Tell Us?," *Journal of Economic Literature*, Volume XXXIII, March 1995, page 157.

[78] Bezdek, page 77.

[79] Shapiro and Irons, page 3.

[80] Report by the Clean Water Council, *Sudden Impact*, page 6. http://www.nuca.com/files/public/CWC_Sudden_Impact_Report_FINAL.pdf. Report says that each $1 billion in investments in sewage and water projects nationally can result in 20,003 to 26,669 jobs.

[81] Report by Green For All and the Economic Policy Institute. See above.

[82] Pennsylvania Chesapeake Watershed Implementation Plan, page 272. http://files.dep.state.pa.us/Water/Chesapeake%20Bay%20Program/ChesapeakePortalFiles/REVISED%20FINAL%20PA%20Chesapeake%20Bay%20WIP%201-11-11.pdf. The plan says that as many as 40,000 farms in Pennsylvania's section of the Chesapeake Bay watershed (which is most of the forms) do not have manure management plans, permits, or approvals as required by law, and increased compliance with these plan requirements would reduce water pollution. In an interview on November 3, 2011, Jeff Corbin, Senior Advisor to EPA Administrator on Chesapeake Bay Restoration, said that this increased compliance could also create jobs by encouraging the construction of farm "best management practices" to reduce pollution.

[83] Rephann, page 1. These are temporary jobs, the equivalent of one year of work each during the implementation period. http://www.coopercenter.org/sites/default/files/publications/BMP_paper_final.pdf.

[84] Goodstein, pages 170-177.

HOW THIS REPORT WAS COMPILED

Chesapeake Bay Foundation Senior Writer and Investigative Reporter Tom Pelton received data from state and federal environmental agencies; reviewed published studies and reports; and interviewed economics experts, as well as business owners and workers. Many thanks to Dr. Robin Cantor, an economist and Principal of Exponent, Inc., of Alexandria, Virginia, who reviewed the report and suggested additional source material.

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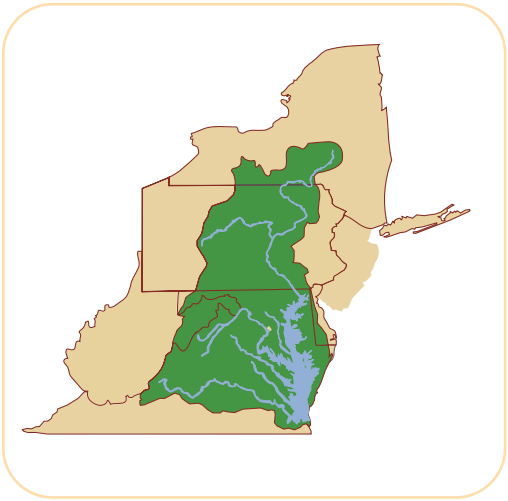
Chesapeake Bay Watershed



The Chesapeake Bay's 64,000-square-mile watershed covers parts of six states and is home to more than 17 million people.

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