

The Chesapeake

Angus breeders are leaders in the effort to improve water quality of the Chesapeake Bay.

by Bob & Cindy Folck

As the largest inland bay in the United States, the Chesapeake Bay is considered a national treasure. The watershed, or drainage basin, for the bay covers 64,000 square miles and portions of three states.

With such a large area, it would seem any problems in the watershed would be corrected by the time the water

reached the bay. However, the Chesapeake Bay water quality was declining because of the increasing nutrients and toxins.

One source of the increasing pollution has been the human population, which has tripled since 1950. Today, 15 million people live in this region. To counteract the problem, an agreement was made by states involved in the watershed to

develop programs to reduce nitrogen and phosphorus entering the Chesapeake Bay by 40 percent in the year 2000.

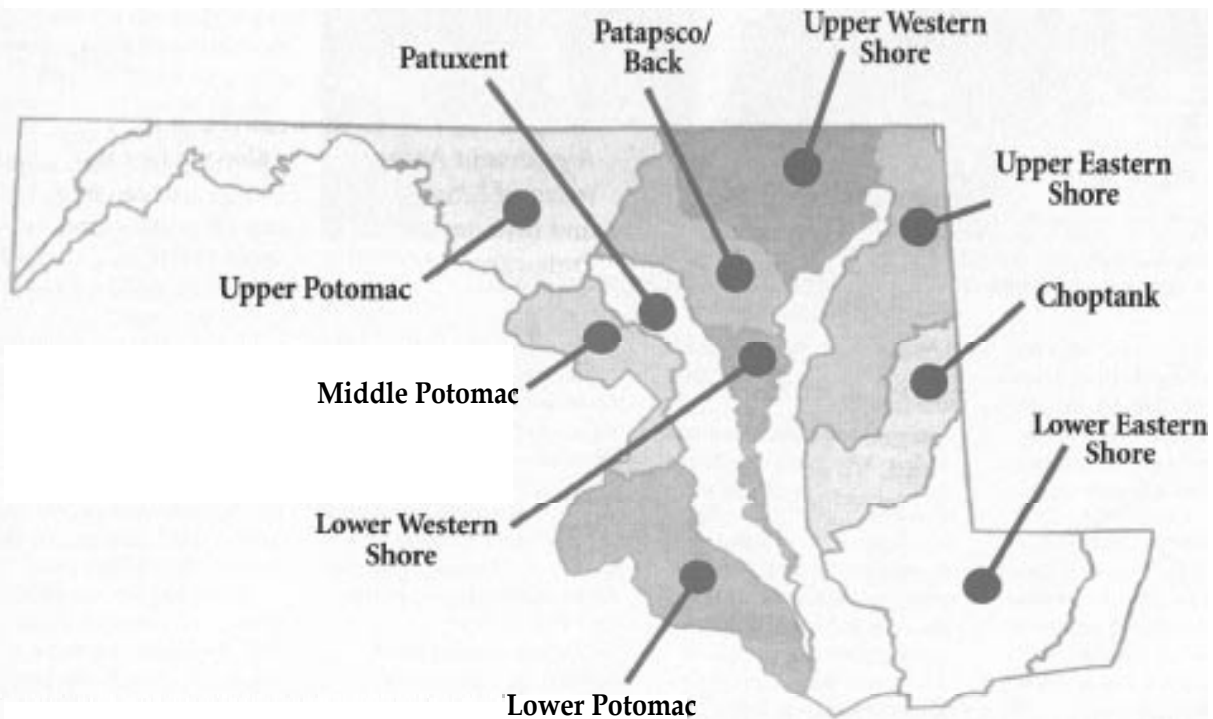
In Maryland, people involved with each of the 10 major tributaries supplying the Chesapeake Bay have begun grassroot programs designed to increase water quality. These voluntary programs have targeted municipal waste water

treatment, residential development areas, agriculture and other industries in the watershed.

Several Angus breeders have become involved with water quality efforts that not only benefit their farm, but improve water quality downstream.

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Maryland's Ten Bay Tributary Basins



To develop the most efficient and effective strategies to meet nutrient reduction goals, Maryland has been divided into 10 tributary basins.

Sources: Maryland Department of the Environment (MDE), in cooperation with the Maryland Department of Agriculture, the Department of Natural Resources, the Office of State Planning and the Governor's Office.

Deb Gwynne raises Angus cattle near Taneytown, Md., in the Monocacy River watershed, which becomes part of the Upper Potomac watershed. When she purchased the farm most of the land had been used for crop production, mainly corn, wheat and string beans.

"Someone told me it would be wise to have a conservation plan for the farm, so I visited the local Soil & Water Conservation District," she says. To her surprise, Gwynne

cattle do the work."

To supply the cows with water in the pastures, Gwynne looked for alternatives other than allowing the cows full access to the stream.

"I didn't want to use the stream because I don't know where the water has been before. Any chemicals and pesticides in the water could affect the health of the cattle and their ability to breed," she says. In addition, Gwynne says fencing streams prevent cows

the process of establishing a cattle crossing. She says multi-floral rose control in the stream area is difficult when the cattle are fenced away.

"You can't spray because of the stream. During July and August, when the water is low, I turn the cattle in the stream area for a few days to clean out the multi-floral rose," she says. "I'm looking to plant more native trees and bushes along the stream to help shade out the multi-floral rose."

composting with cow manure. She puts a layer of compost on PCV pipe with small holes drilled the length of the pipe. Four feet of manure is placed on top and then covered with a thin layer of compost or plastic. The waste is from the barn and hay feeding areas in the pastures and contains manure, hay and straw. After about six months, the pile has evolved into dry compost.

"The compost is easier to spread on hay fields," she says. "After composting, the manure pile is one-third of original volume." She adds that the composting area should be positioned so the water run-off doesn't directly go into a stream or other surface water.

Composting manure is a conservation practice also used by Lawrason Sayre who raises Angus cattle near Churchville, Md., in the Upper Western Shore watershed which forms the headwaters of the Chesapeake Bay. Sayre was looking for a way to reduce mud and runoff in his pastures during the winter when the cows are fed hay.

"We used to feed large, round bales in hay racks along the edge of the woods which is only 100 to 200 feet from the stream bed," he says. "The mud and manure would eventually go into the stream."

He moved the hay feeding to the top of the hill, added stones under the feeding area and eventually created a concrete pad to reduce the mud problems. After becoming involved with the local SWCD, Sayre added a manure pit to the end of his hay feeding area.

The feeding area resembles a roller-brush paint tray. The cows and calves eat the hay in the higher, flat concrete area. The round bales are placed in the center and concrete curbs prevent the cows from walking in the hay area. There is enough room where the hay is kept and in the concrete area where the



Deb Gwynne, Taneytown, Md., provides shade for the cow herd during hot, summer days. The cattle are fenced away from streams, which Gwynne says keeps the cattle drier and eliminates health problems.

discovered the entire farm was considered highly erodible land. Using a no-till seeder, she began transforming the farm to hay and grass to control the erosion.

The farm now supports a herd of about 60 cows, with grass pastures and hayfields. Gwynne says the cows are never fed grain but rely on rotational grazing and are fed hay during periods of low pasture.

"I've planted a 10-acre test plot of switchgrass and bluestem, which is supposed to grow well during July and August when it's hot and dry," she says. "I want to get away from making hay and let the

from calving in the stream and improves the stream bank area.

Gwynne has fenced wetlands in the pasture areas away from the cattle. She has established several spring-fed ponds that supply gravity-flow water troughs for the cattle. This has improved the water quality for the cattle and saved labor in keeping water troughs full. In one pasture where there is no spring or stream to feed a gravity-flow trough, Gwynne is building a solar-powered watering trough to draw water.

She has fenced the cattle away from the streams and is in

Conservation efforts in Carroll County are important to Gwynne and she is an associate member of the Carroll Soil & Water Conservation District (SWCD) board of supervisors. As part of the conservation plan she uses on the farm, Gwynne has a nutrient management plan for the manure created by the cow herd.

The plan is coordinated between the University of Maryland Extension and Carroll SWCD. The plans include soil tests of the fields, nutrient analysis of the manure and utilization of the manure.

Gwynne practices passive

cows eat to clean with a tractor and front-loader bucket. All the manure and excess hay is simply pushed into the manure pit. The pit is fenced off from the cattle and the combination of hay and manure allows composting to happen.

"We've kept the manure out of streams and now we are able to utilize the manure in a form that can be spread on hayfields so we could cut back on our fertilizer program," Sayre says. "The cows and udders stay cleaner. This year we only had one calf with scours."

By storing the hay under cover and using the feeding pad, he is utilizing 25 to 30 percent more hay from his round bales.

Sayre is just one of many producers Pat Murphy worked with as a conservation planner for the Hartford County SWCD. She has continued this partnership after moving to the Howard County SWCD. She consults with producers on managing their manure and protecting water quality while improving the efficiency and profitability of the farm.

Murphy works with the Patapsco and Patuxent river watersheds. Her main focus is managing agricultural waste. Working in conjunction with the University of Maryland Extension, she helps producers develop a manure and nutrient management plan. This includes storing and handling manure in the barn areas and helping the producer utilize the manure to replace some commercial fertilizer. This saves the producer money and recycles the manure.

"We involve the landowner every step of the way because manure nutrient management is their decision," she says. "After analyzing the manure, many farmers are amazed how much money they can save by reducing commercial fertilizer purchases."

Murphy is also involved with designing farming systems



Pat Murphy, Howard Soil & Water Conservation District, checks the drain in a gravity-flow water trough. Murphy has helped several cattle producers install the watering system to help protect their water quality



Lawrason Sayre, Churchville, Md., has developed a hay feeding area with a manure pit on the far end. The round hay bales are fed in the center and a tractor cleans the pad into the pit. Sayre says the system allows him to utilize more hay and keeps the cows and calves cleaner.

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that help manage waste and reduce run-off. She says sometimes the farmer benefits by just having another pair of eyes look at their operation and suggest improvements.

"A few suggestions can make a dramatic difference for a landowner," she says.

These simple suggestions can often save a farmer time and labor. An example is improving the rain gutter system on a barn to prevent rain water from running through high traffic areas in the barn lots. This decreases wastewater run-off and eliminates some mud and

manure problems.

Murphy designed a pasture gravity-flow water trough for Teresa Stonesifer, who farms near West Friendship, Md. Stonesifer has about 35 cows, both Angus and crossbred. Originally, the cattle accessed a spring and stream for their water in the pasture. Stonesifer was concerned about the safety of the cattle because the ground is extremely steep around the spring and stream bed. The cattle are now fenced away from the spring and stream and utilize a gravity-flow water trough.

"There is fresher drinking water for the cattle and they don't stand in a wet area any longer," says Stonesifer. "We have better production, the calves are performing better and the cows are in great shape."

Stonesifer is also concerned about the encroaching urban population in her area.

"By fencing off the stream and adding a water trough, we are showing conservation on our farm. The stream is close to the road so the neighbors can see how we are improving the water by keeping the cattle out of the stream," she says.



(above) Eroding streambanks such as this one encouraged James Moxley, West Friendship, Md., to begin conservation practices to restore streams on his farm.

He is planning to install a gravity-flow water trough for the cattle to use as a water source and fence the cows away from the stream. This will restore the banks and prevent further erosion.

(right) A cattle crossing has already been installed at the Moxley Farm to give cattle easy access across streams and improve water quality



"Agriculture has a small number of people and the challenge is to project the proper image and encourage the rest of the population about what we are doing. We need to model and project a good image to the consumer?" says James Moxley, owner of Dawn Acres Angus near West Friendship, Md.

Moxley has always been interested in conservation and the environment. He farms in the Patuxent watershed, a tributary of the Savage River which eventually becomes part of the Chesapeake Bay.

He constructed a pond in a wet area of the pastures which serves as a water source in case of fire and is used by the family for recreation. He fences the cattle away from the pond and out of streams.

"We keep the cattle out of the stream to stop erosion of stream banks and reduce the amount of sediment that enters our pond," he says.

After his farm manager, Zeb O'Boyle attended a SWCD training workshop, Moxley installed a gravity flow water trough for his pastures.

"The overflow from the gravity flow trough goes back downstream. The cows stay cleaner and drier pastures mean less flies," he says. "The system provides more consistent and better water supply and requires only an initial investment."

Moxley has also added cattle crossings to keep the cattle away from wet areas around streams. He says the cows milling in a wet area creates the climate for foot rot.

Murphy says work to protect the Chesapeake Bay is focusing on the local population living in the tributary system which supplies the bay. Currently, local watershed officials are looking for public participation from residents to improve water quality. These Maryland Angus producers are leading the way and doing their part for a cleaner and more picturesque Chesapeake Bay for all to enjoy.

