

Rappahannock News

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ELECTION GUIDE

PAGES 12-14

143rd Year • No. 44

THURSDAY, OCTOBER 29, 2020

\$1

Supervisors criticize BOS Chair after she questions Curry's job 'performance'

'Gary deserves a raise, not public chastisement ... his character is impeccable'

BY JOHN MCCASLIN
Rappahannock News staff

Three Rappahannock supervisors on Tuesday rushed to defend Rappahannock County Administrator Garrey W. Curry after Board of Supervisors' Chair Christine Smith proposed the BOS go into "closed session" at its next regular meeting purportedly to discuss Curry's performance in office.

"I cannot fathom why, especially during this challenging time, the board's chair would try to discredit someone who, by any objective measure, has worked hard to save taxpayers money and keep our county on track," reacted Supervisor Keir Whitson.

"The shortsightedness of the board's chair in tearing down Mr. Curry over something so insignificant and

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Protecting Paradise

A FOOTHILLS FORUM • RAPPAHANNOCK NEWS SPECIAL REPORT



THE ICONIC VIEW AT MASSIES CORNER • PHOTO BY DENNIS BRACK

For decades, Rappahannock has been able to preserve its natural beauty and stunning views. But more challenges are on the horizon.

BY RANDY RIELAND
For Foothills Forum

Soon, Rappahannock's Board of Supervisors is expected to approve an updated version of the county's Comprehensive Plan. It's a hefty document, almost 120 pages long, dappled with maps, graphs and stacks of data.

Then there's Chapter Six. That's where statistics and fact-filled sections give way to aspirations; specifically, how to hold on to what matters most to Rappahannock residents. They're refined into a list of concise goals. At the top: "Preserve the overall viewshed of the county in its unspoiled natural setting, which gives it special character and identity."

That's followed by three other priorities, all having to do with preservation. One calls for protecting the county's mountains and "scenic ridgetops;" another, its ground and surface waters; the third, its "rural, agricultural and open spaces."

For decades, that's been the heart of Rappahannock's de facto mission statement, and there's no indication it will change any time soon. But the challenge of protecting all of the above is intensifying due to an assortment of real and possible threats — from the prospective sale of the 7,000-acre Eldon Farms, to the struggle to keep family farms intact, to the potential for more towers to address inadequate broadband and cell service to the impact of climate change and invasive species.

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back one hour.

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Protecting Paradise

50 years of conservation in Rappahannock

Shenandoah National Park officially opened July 3, 1936. But it would be almost another 35 years before conservation efforts of Rappahannock residents really took root.



1970: The **Rappahannock League for Environmental Protection (RLEP)** is formed in response to a utility company's plans to erect towers and power lines through the county. After a 15-month battle, the plans are dropped.

1971: Virginia passes law allowing local governments to assess land at its "use value" rather than its market value, enabling farmers to hold on to land.

1972: The **Piedmont Environmental Council (PEC)**, a regional nonprofit based in Warrenton, is founded.

1973: The first conservation easement in Rappahannock County is granted to Caledonia Farm owner Phil Irwin.

1973: The Board of Supervisors approves county's first comprehensive plan, seven years before required by state law.

1975: County approves its first erosion and sedimentation control ordinance. It has since been revised several times.

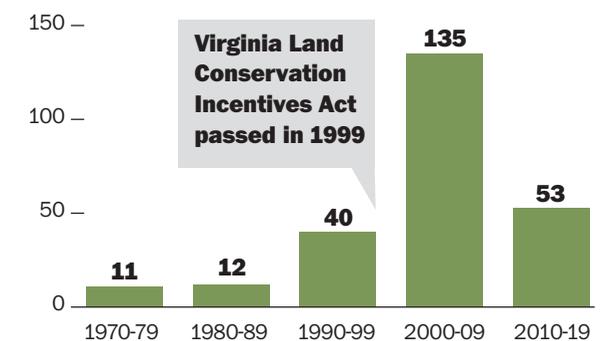


1986: Supervisors approve ordinance restricting density to one home per 25 acres on land outside the villages.



1999: General Assembly passes Virginia **Land Conservation Incentives Act**, giving tax credit to property owners who put land in easement.

New easements in Rappahannock County



1999: The nonprofit **Rappahannock County Conservation Alliance (RCCA)** is created to encourage and help residents put land in conservation easement.

1970: **0 acres under easement**

1980: **1,541 acres**

1990: **3,011 acres**

Source: Piedmont Environmental Council

PARADISE

From Page 1

"The question," said longtime local environmentalist Phil Irwin, founder of the Rappahannock League for Environmental Protection (RLEP), "is how do you maintain the conservation ethic?"

Hilltops on the horizon

The viewshed comprises many things. But for many, it starts with the hilltops on the horizon. Some old-timers, like cattle rancher Jim Manwaring, will tell you that few changes irk them as much as the houses he now sees there.

"Houses that are built in prominent places that are visible from all around. That just devastates me," he said. "You go from this beautiful pasture to a little suburb on the mountainside."

Time was when the county would send a brochure to anyone from outside Rappahannock who bought property here. While it welcomed newcomers to country living, the pamphlet also tried to discourage them from putting up homes on scenic hilltops. It

pointed out the not insignificant cost of building on ridges, warned that fire trucks and rescue vehicles might have trouble climbing steep hills, that heavy rains can erode driveways, and that can pollute streams.

The message, while cordial, wasn't subtle. "Remember, while building on a hill can give you a great view of nature, that vista can easily give way to a view of hillsides covered with houses instead of trees and fields," it read. In short, it advised, be considerate and "avoid destroying the very things that attracted you to Rappahannock County."

Scars on the land

New property owners no longer get the brochure. Apparently, it didn't survive the transition from longtime county administrator John McCarthy in 2016, although an online version still exists deep inside the county's website.

Some bristled at what they saw as government overreach, McCarthy recalls, but more often the sentiment resonated.

"There's this sense that people here don't like houses being built in the viewshed, and that has helped discourage people from building on ridgetops," said

Al Henry, the Hampton District representative on the county's Planning Commission. "Public opinion has made that kind of a taboo. And people coming out here don't like to violate environmental taboos."

Board of Supervisors Vice Chair Chris Parrish, whose Viewtown farm features a striking Blue Ridge panorama, agrees that appealing to the public's desire to keep the viewshed uncluttered is the best approach. He believes that from an enforcement standpoint, there's not much more the county can do.

"The only real way we're going to stop hilltop development is moral suasion," he said. "You can't take people's property rights away."

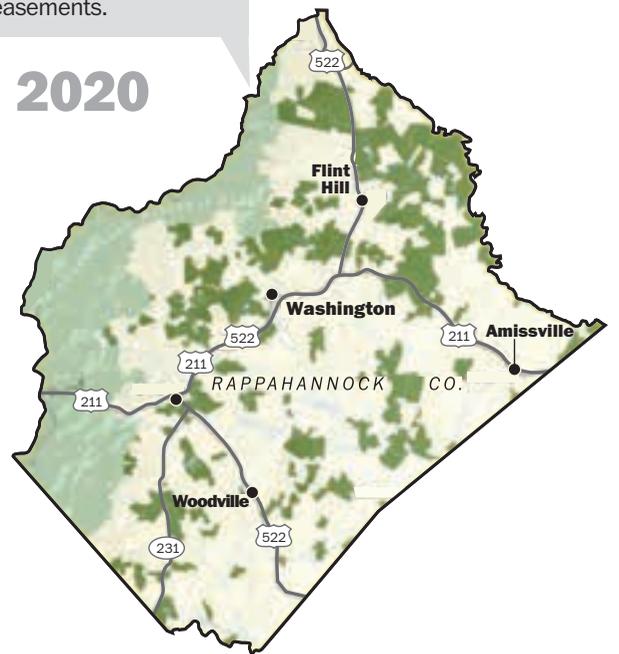
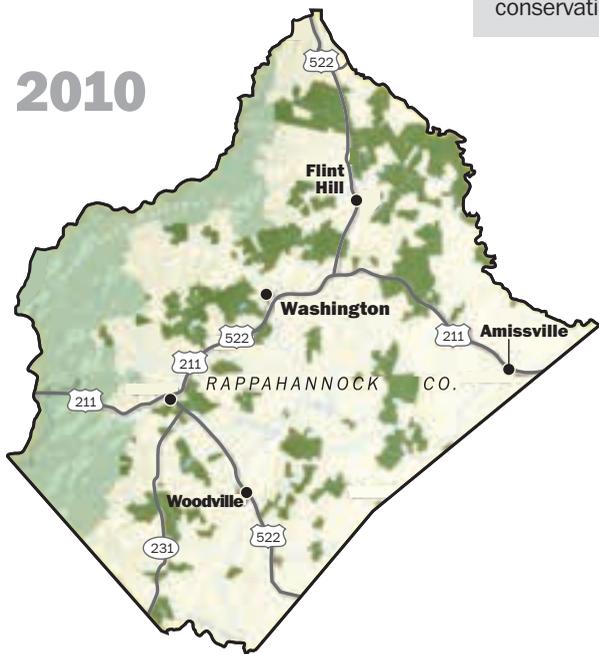
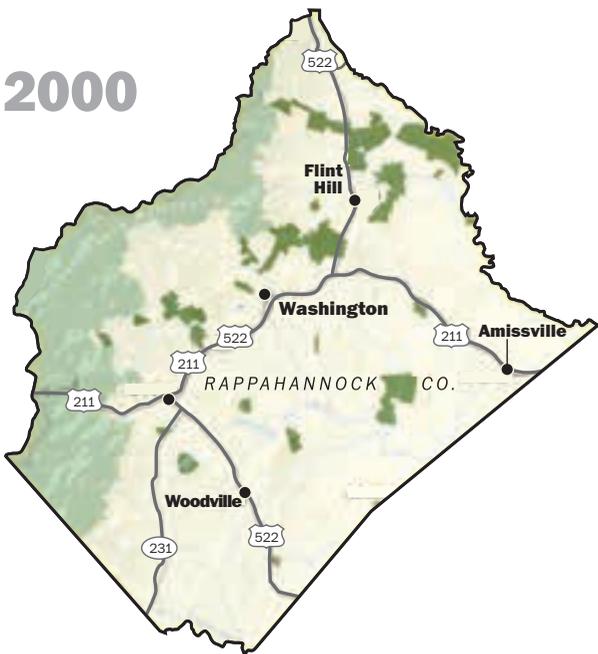
But the county's simple beauty can belie its environmental complexity, and the notion of becoming stewards of the land doesn't necessarily convey with a rural address.

"We've got to do a better job of protecting what we have," said Theresa Wood, president of Businesses of Rappahannock. She remembers picking up the brochure in a real estate office when she was looking for property. It was one of the things, she said, that sold her on Rappahannock.

She thinks there's a need for more focus on educating people about the impact they have on their surroundings. "When someone buys land, →

KEY to maps: Publicly owned land Conservation easements

Roughly **24%** of the land in the county outside Shenandoah National Park is now protected through conservation easements.



2000: After county residents strongly object to a plan to erect seven tall cell phone towers, Sprint agrees to instead put up three “stealth” silos, a fake tree and three monopoles.

2002: **RappFLOW**, a nonprofit dedicated to protecting and restoring the county’s watersheds, is formed.

2003: The **Krebsler Fund for Rappahannock County Conservation** is established to provide grants supporting land conservation and public outreach and educational programs in the county.

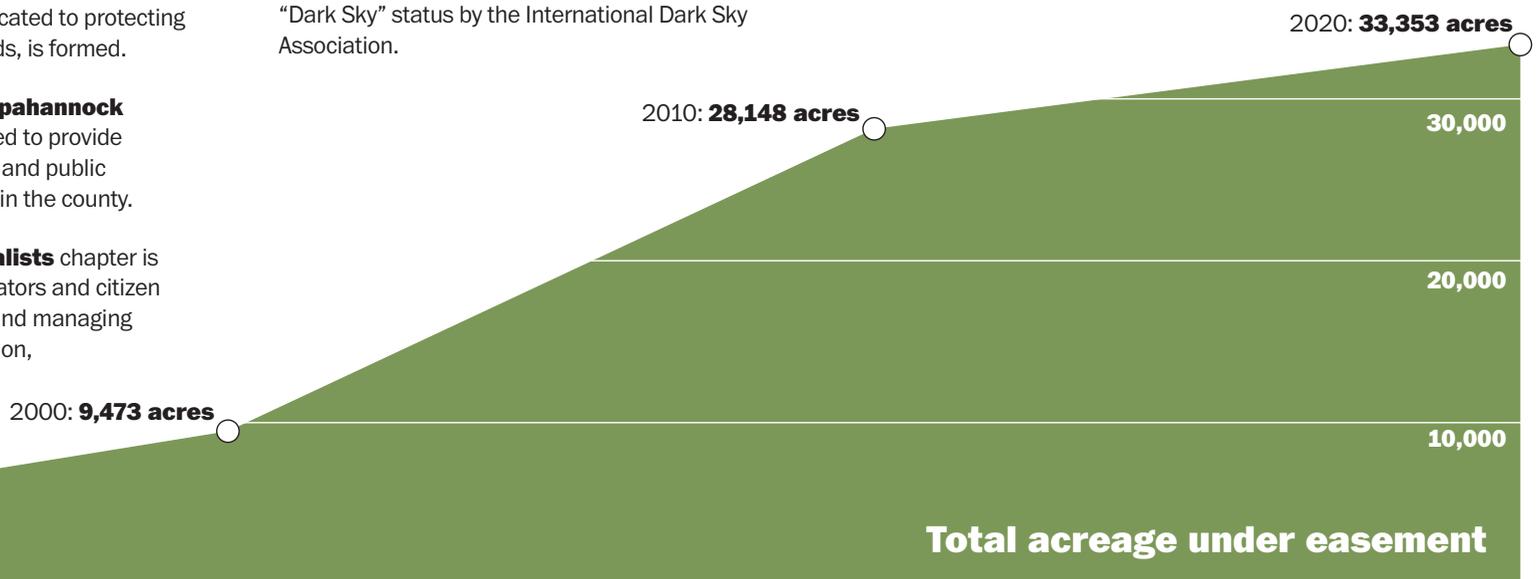
2007: The **Old Rag Master Naturalists** chapter is formed. It comprises volunteer educators and citizen scientists committed to conserving and managing natural resources in a six-county region, including Rappahannock.

2014: RCCA merges with the Krebsler Fund.

2017: The **Dark Skies Initiative** is launched by RLEP.

2019: The Rappahannock County Park is awarded “Dark Sky” status by the International Dark Sky Association.

2020: After a 16-year period without a required review, an updated comprehensive plan is forwarded by a divided Planning Commission to the Board of Supervisors.



Total acreage under easement

GRAPHIC BY LAURA STANTON FOR FOOTHILLS FORUM

➔ we need to give them more information. If you want to keep dark skies, here’s who to contact. Or think about how your roof is going to reflect sunlight.

“We could be more proactive in that way because I think most people who move here don’t want to be a scar on the land.”

The preservation tool of choice

Claire Catlett is all about educating people. She’s the Piedmont Environmental Council’s (PEC) land conservation field representative in Rappahannock County, and in that capacity works with landowners in protecting streams and wildlife habitats on their property.

She also talks with them about conservation easements — voluntary, legal agreements that permanently limit how land can be used or developed. That sometimes involves clearing up confusion about what entering into a preservation partnership with a land trust means. Land trusts are organizations, such as the Virginia Outdoors Foundation (VOF), that take legal ownership or stewardship of a property through a formal arrangement with the landowner.

For instance, it doesn’t restrict you from farming

the land, or even erecting buildings on it, although there could be restraints on their size and location.

“If someone has children who might want to build their own house on the property, we make room in the easements for those types of decisions in the future,” Catlett said. “There are constraints, but the landowners are part of that process.”

The fact is Rappahannock is already a state leader in terms of both the number of (VOF) easements on private land — it ranks fourth in Virginia with 221 — and the acreage they cover — fifth, with 31,229 acres. That means roughly 24 percent of the private land in the county outside Shenandoah National Park is protected in perpetuity.

Phil Irwin set up the first easement in Rappahannock on his Caledonia Farm outside Flint Hill in 1973. Sixty-two more were added over the next 26 years. But the big spike came in the first decade of the 21st century, when 135 more were created.

There were several reasons, not the least of which was a generous 50 percent tax credit from the state. That was when then Gov. Tim Kaine, a big easement evangelist, set a goal of 400,000 protected acres in Virginia. So was then county administrator John McCarthy, now the senior advisor and director of strategic partnerships with PEC.

Back then, easements were seen as the preservation tool of choice. “A big group of us did it around the same time,” said local real estate agent Cheri Woodard, who with her husband, Martin, put an easement on their land in 2005. “The feeling was that if you really wanted to protect this county, this is what you should do.”

Another force driving the movement was the Rappahannock County Conservation Alliance (RCCA), a nonprofit that focused on educating landowners about easements and raising money to help farmers cover the costs of entering into a land trust partnership.

Altogether, it contributed a total of \$140,000 to the county in conjunction with the state’s Farmland Protection Program. That resulted in three working Amissville farms being placed in easement — the Muskrat Haven Farm, the Meadow Grove Farm and the Levi Atkins Farm.

But interest in that program waned, and the county ended up using money from RCCA for other general budget expenses. In 2014, the RCCA merged with the Krebsler Fund, a component of the PEC, which also funds conservation programs in Rappahannock.

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Protecting Paradise

PARADISE

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An easement slowdown

Since 2010, an additional 53 easements have been created in Rappahannock, a drop of more than 60 percent from the previous decade. It didn't help that the state's tax credit was lowered to 40 percent of the value of the land in easement, and also that last year the IRS changed its regulations so that landowners with easements will have to subtract their state tax credit from their federal charitable deductions.

Another factor is that the easements in partnership with VOF — which account for almost 90 percent of the agreements in Rappahannock — became more restrictive, to the point of even prohibiting certain paint colors in viewsheds. It has, in recent years, become more flexible, according to Jason McGarvey, VOF's communications and outreach manager, particularly in supporting people with working farms and forests. But the micromanaging reputation has lingered.

Finally, when it came to potential easements in Rappahannock, much of the low-hanging fruit had been picked. Most of those enamored of easements for financial and emotional reasons have already made the commitment.

Among those who have resisted putting their property in easement are some big landowners who are wary of the impact that could have on their children and future generations. That includes Bill Fletcher, whose family has farmed in Rappahannock for almost 300 years. He now owns about 1,000 acres. None of it is in easement.

Fletcher said that he likes the idea of easements and the role they can play in protecting the county's natural beauty. But he thinks it doesn't make sense for him because he believes it could eliminate or limit some future options for generating income from his land, particularly those that don't involve farming.

"Easements are forever so you're taking a helluva risk," he said. "You could end up losing a lot of value on the property. Having an easement is a short-term advantage and a long-term problem."

Leslie Grayson, a deputy director at VOF, acknowledged that people need to go into conservation easements with their eyes open, recognizing that while the legal document is fixed, the land itself can change.

"The biggest failing of all is easement remorse," she said. "If that happens, everybody's failed. Land conservation is a balancing act, and you need to be aware of that, and not just a blind believer. You want it to endure."

Eye of the hurricane

For those who want to be stewards of their land, but are skittish about a forever commitment, there are plenty of other options, some for which grants or



PHOTOS BY DENNIS BRACK

Part of Claire Catlett's job at the Piedmont Environmental Council is to help county landowners find ways to preserve their slice of Rappahannock.

cost-sharing arrangements are available. They range from creating wildlife habitats or pollinator meadows for bees and butterflies to planting trees along streams to reduce erosion to managing fields and forests in ways that improve soil quality and preserve wooded areas.

The Culpeper Soil and Water Conservation District offers a number of these programs. So do the Natural Resources Conservation Service, the Virginia Department of Conservation and the Virginia Department of Forestry.

Part of Claire Catlett's job at PEC is to connect local landowners to those resources and help them find ways to preserve their slice of Rappahannock. She said it can sometimes feel overwhelming to stay on top of all the factors that can enhance or destroy a natural asset.

"The good thing is that I'm always

learning," she said. "That includes learning what matters most to people about their land here."

Education is likewise a major focus of RLEP, with its Dark Skies initiative a prime example. Two years ago, it began encouraging local businesses, churches and homeowners to replace their outdoor lighting fixtures with ones that reflected light downward instead of into the night sky. Thanks to a grant from the PATH Foundation, it's been able to provide free the replacement fixtures, almost 200 in the county so far, according to RLEP board member Torney Van Acker.

Van Acker said that instead of going to the Board of Supervisors and demanding a change in the county's lighting ordinance, RLEP chose to

See **PARADISE**, Page 19



"Rappahannock County is pretty much the only place around which has a chance of having a sky that's reasonably dark," said RLEP board member Torney Van Acker. Above, a view of Sperryville from Skyline Drive.

COMING UP

Part 2 (Nov. 11): Preserving a rural landscape is closely linked to maintaining a robust rural economy. Land-use tax breaks, innovations in product lines, distribution and marketing all help, but farms are still getting smaller, and fewer.

Part 3 (Nov. 25): The views get most of the attention, but the county's water and soil quality are a critical part of its environmental health. What shape are they in?

Part 4 (Dec. 9): It may appear to be frozen in time, but Rappahannock is always in a state of flux. How it deals with such challenges as climate change and invasive species may be a key to its future.

This series is funded in part by a grant from the Rappahannock League for Environmental Protection (RLEP). In compliance with Foothills Forum's Gift Acceptance Guidelines, RLEP had no role in the selection, preparation or pre-publication review of these stories. Foothills Forum (foothillsforum.org) is an independent, nonpartisan civic news organization whose mission includes providing in-depth explanatory reporting on issues of importance to Rappahannock County.

WHERE TO LEARN ABOUT PRESERVING YOUR LAND

Blue Ridge PRISM: Regional nonprofit dedicated to educating the public about the impact of invasive species in the Blue Ridge, and to presenting programs on how to remove them and limit their spread. blueridgeprism.org

Culpeper Soil and Water Conservation District: Agency serving Rappahannock, Culpeper, Madison, Orange and Greene Counties which, through numerous, cost-sharing programs, provides technical assistance and education to landowners in protecting and improving soil and water quality. culpeperswcd.org

Friends of the Rappahannock: Regional organization based in Fredericksburg that defines itself as an “active force for a healthy and scenic Rappahannock River” through education and advocacy programs. Its mission is to monitor and preserve the quality of the river’s aquatic ecosystem, from its headwaters in Chester Gap to its confluence with Chesapeake Bay. riverfriends.org

Old Rag Master Naturalists: Regional organization that, through education and citizen science, trains volunteers in beneficial management of natural resources in their own communities. oldragmasternaturalists.org

Piedmont Environmental Council: Warrenton-based regional nonprofit that provides technical expertise and support to landowners, citizen groups and governmental offices on conservation, land use, water quality and other environmental issues. Its Krebsler Fund provides grants for conservation projects in Rappahannock and also to help landowners cover legal and other costs to create conservation easements. pecva.org

Rappahannock League for Environmental Protection: The oldest environmental nonprofit in Rappahannock, RLEP was born in 1970 during a successful battle to block power lines from running through the county. The Dark Skies program is one of its key initiatives, but it also promotes public education on streams and water quality, climate change and invasive species. rlep.org

RappFLOW: A nonprofit that focuses on preserving, protecting and restoring water resources in the Rappahannock watershed. Volunteer activities include planting trees and vegetation along local streams. rappflow.org

Virginia Cooperative Extension: Educational outreach program of Virginia Tech and Virginia State University which shares research and innovative technologies to enhance agricultural practices and protect natural resources. rappahannock.ext.vt.edu

Virginia Outdoors Foundation: Quasi state agency that promotes the preservation of open-space land. It’s the partner for the bulk of conservation easements in the state, now protecting more than 850,000 acres in Virginia. vof.org

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promote the environmental and economic benefits of down-shielding lights through Dark Skies programs at local schools and the county park, and through one-on-one conversations.

“People see the benefits because the lights are cheaper to operate, they last longer and the light is directed where they want,” he said. “And the neighbors stop complaining.”

There have been other Dark Sky victories. The Rappahannock Electric Cooperative has agreed to use down-shielding lights when it needs to replace fixtures. And last year, the International Dark Sky Association named Rappahannock County Park a “Silver Tier Dark Sky Park,” one of only three in Virginia.

“Rappahannock County is pretty much the only place around which has a chance of having a sky that’s reasonably dark,” Van Acker said. “The message we like to convey is that it’s like the eye of the hurricane.”

Lessons to be learned

That message extends beyond the night sky to all the other elements that make Rappahannock’s viewshed so unique. But local environmentalists see trends that are making them realize they will need to step up their efforts to educate landowners about the ways to preserve what’s here — whether it’s through creating conservation easements or simply protecting the wildlife that passes through their property.

The COVID-19 pandemic has made land in the country that much more appealing to city dwellers. Also, there’s a sense that in the coming years, more parcels of land will become available as more farmers put pieces of their properties on the market to stay afloat.

And that could bring a wave of newcomers to the county who love the views, but know little about how to maintain them.

For people like Van Acker, it’s just another aspect of keeping conservation front of mind in a place that has the most to lose.

“One of the challenges is sustaining environmental action in the county,” he said. “Lots of people want to do the right thing, but the pressures of everyday life occupy them.”

“And they end up taking a more convenient path.”

WHAT IS FOOTHILLS FORUM?



FOOTHILLS FORUM

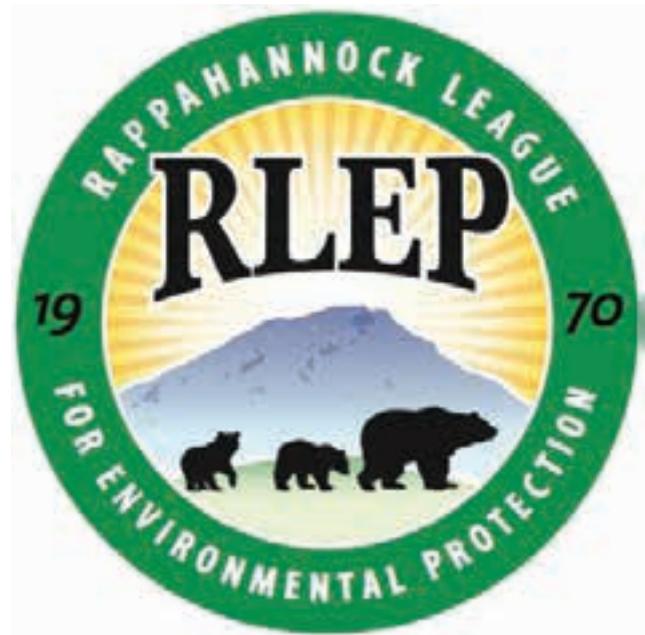
Foothills Forum is an independent, community-supported nonprofit tackling the need

for in-depth research and reporting on Rappahannock County issues. The group has an agreement with Rappahannock Media, owner of the Rappahannock News, to present this and other reporting projects.

→ More at foothillsforum.org

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THURSDAY, NOVEMBER 12, 2020

\$1

TAKE A BOW, RAPPAHANNOCK

County voters exercise civic duty in impressive numbers

Staggering 4,986 ballots — 2,143 absentee — cast in 2020 election

BY JOHN McCASLIN
Rappahannock News staff

An eye-opening 84 percent of registered voters in Rappahannock County let their voices be heard in a most unique 2020 General Election, dropping at the same time an unprecedented number of absentee ballots onto Courthouse Row.

“Four-thousand, nine-hundred, eighty-six votes were counted and we currently have 5,960 registered voters,” Kim McKiernan, Rappahannock County Registrar, informs the Rappahannock News. “That is combined Election Day turnout, early-in-person voting and absentee-by-mail ballots.”

A record turnout of voters for Rappahannock County?

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The ‘R’ in Fifth District

How the Republican party replaced a moderate incumbent: A look at Bob Good’s win. 6



A FOOTHILLS FORUM · RAPPAHANNOCK NEWS SPECIAL REPORT

Protecting Paradise



Mount Vernon Farm has been in Cliff Miller’s family for eight generations.

BY LUKE CHRISTOPHER FOR FOOTHILLS FORUM

BY TIM CARRINGTON For Foothills Forum

Land and landscape: A backdrop and a business

The grain mills have rusted away, the clothing assembly lines are silent, and the apple business has mostly rolled off to North Carolina, Winchester, the Pacific Northwest and China. Rappahannock County’s surviving treasure is land — land tucked inside sunsets, punctuated by fences and streams, home to calf-and-cow operations, vineyards, fine eateries, art galleries and footpaths. The cows, cooks, artists, tourists and retirees all are here because of the land, whether they gaze at it or graze on it. The county treasury needs it just as badly: real estate taxes this year will bring in \$10,668,017, or 70 percent of local revenue, to support the schools and help fund a panoply of services. But ringed by towns and exurbs subject to crowding and commerciality, Rappahannock’s timeless hills command ever

See **PARADISE**, Page 12



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School sports on track to return in December → PAGE 18

Rapp farm owner on short list to be Biden’s Treasury Secretary → PAGE 10



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Protecting Paradise



PHOTOS BY LUKE CHRISTOPHER FOR Foothills Forum

Addy Hausler of Castleton digs into an apple crate at Thornton River Orchard outside Sperryville. Overall, orchards occupied 1,378 acres in 1992, but by 2017 covered just 211 acres in the county.

PARADISE

From Page 1

higher prices. The average price per acre has soared from just under \$1,000 in 1974 to about \$7,000 in 2017. In 2020, despite COVID-19 (or maybe because of it), real estate offices and construction firms have never been busier, with building permits rising above pre-pandemic levels. By driving up prices, land buyers threaten the landscapes that enthralled them in the first place, because for farmers, costlier land makes it harder to get started or show a profit after taxes. Should a developer approach, it's more tempting to cash out.

For the artist, tourist or weekender, the land needs to be a beautiful and evocative backdrop. Not so for most farmers and owners of substantial parcels. For them, the landscape is also an economic asset. It doesn't only have to be protected; it also needs to generate income.

The threat of landscape loss extends far beyond Rappahannock County. The American Farmland Trust found that between 2001 and 2016, 11 million acres of U.S. farmland was paved over, chopped up and built on, effectively taking those thousands of pastures out of agriculture forever. Some of the lost farmland still looks something like a farm, though it has effectively become a piece of exurbia. In Virginia, in the same time period, 340,000 acres of farmland, twice the size of Rappahannock County, was developed or threatened with development.

Using one measure of

development — population density — Rappahannock County is succeeding in maintaining its open spaces, notwithstanding its 75-mile proximity to a major metropolitan area. In 1930, there were 28.9 “persons” per square mile in the county, and following a decades-long tapering off in population, the latest calculation shows 27.7 per square mile — still below the level 90 years ago.

The number of farms has been rising, with fluctuations; in 1987, there were 288, and in 2017, there were 439. But the farms are getting smaller, shrinking from an average of 268 acres in 1987 to 160 acres in 2017.

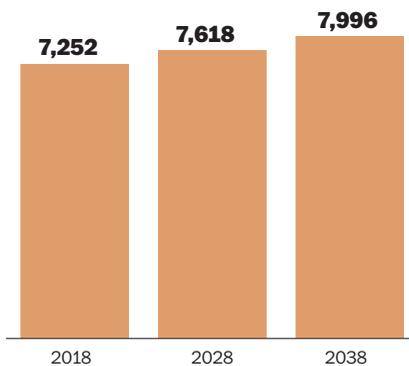
Taxes: A tool for conservation

Tax policy has always been a tool for encouraging some activities and discouraging others, and in Rappahannock they're calibrated to encourage farming, forestry and generally, letting land be. Conservation easements lower tax rates while placing permanent limits on development. But some farmers want a tax break without taking options away from future generations. So in 1982, the county adopted land-use tax deferrals to keep the farmers farming, including weekenders who grow hay that a farmer cuts, bales and takes away. Deferrals also are available for land used for forestry and horticulture (the latter being a tiny proportion of the acreage subject to land use). In some cases, the benefit shrinks the tax bill to about half of what it would be if taxed at fair market value.

To qualify, residents must have at least five acres dedicated to agriculture

Modest population growth projected

The median number of people in the county is projected to increase by about 700 people in the next two decades.



Source: American Community Survey

or horticulture, or 20 acres in forestry, to gain that land-use deferral. The arrangement — particularly when applied to those whose only crop is hay — can be an irritant to long-time residents whose taxes are based on fair-market value because their holdings are too small to meet the land-use threshold. But by giving the weekend hay farmers an incentive to enter land-use, the tax structure helps cattle farmers avoid buying hay. Easing the financial strains, it keeps farmers farming, and protects the landscape.

By any measure, land-use is widely used — and popular. Together with conservation easements and public land holdings, it whacks deeply into the revenue that the county might earn from its main asset. Here's the breakdown: Starting with 170,496

acres, the Commissioner of Revenue Mary Graham must immediately subtract the untaxable Shenandoah National Park as well as various tax-exempt properties, plus highways, roads and rights of ways, leaving 136,581 acres of taxable land. Of that, 33,634.9 acres are under conservation easement and 83,363.8 acres are in land-use. That leaves just 19,582 acres, 14 percent of all taxable land, that is taxed at fair-market value.

Farmers say that without today's land-use tax breaks, for-sale signs would proliferate and Rappahannock's beloved landscape would begin to mutate. According to Mike Kane, the Piedmont Environmental Council's land conservation director, studies show that land-use tax deferrals, by easing the burden on farmers, help preserve the landscapes that visitors and homeowners prize, generating more economic gains for the county than they cost in lower tax receipts. He adds, “You can't find a study that doesn't support the notion that agricultural and open spaces generate more revenue than they demand in services.”

Given its commitment to protect farms and farmers, the county counts on construction of new houses to generate new tax revenue. There are 171 homes that the assessors designate to be “mansions,” old and new. Amassing to a total assessed value of \$202 million, the mansions account for 12.7 percent of the taxable value for the county. Says Al Henry, a member of the county's Planning Commission: “That's where the increases in our taxes is going to come from — people building houses.”

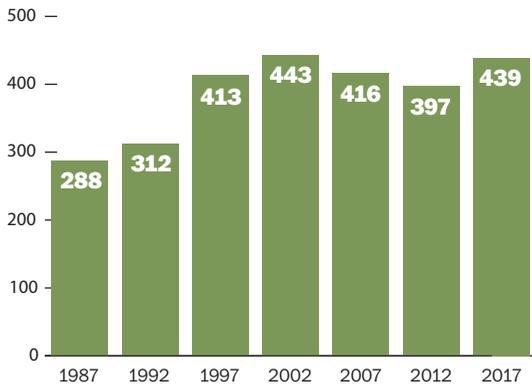
Of course, there can be too much of any good thing: Build



A changing landscape

There are more farms in Rappahannock...

Number of farms in Rappahannock County



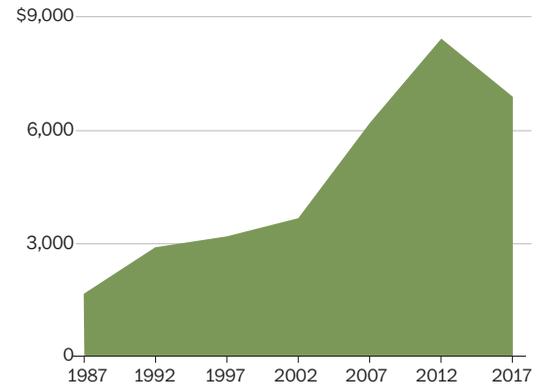
...but the size of farms has shrunk...

Average farm size (in acres)



...and the value of farms has increased

Average value per acre



While the land values have increased, county revenue is limited

Land-use tax deferrals, conservation easements and public land holdings cut deeply into the revenue that the county might earn from its main asset.



Source: Rappahannock County Commissioner of Revenue, US Census of Agriculture

GRAPHIC BY LAURA STANTON FOR FOOTHILLS FORUM

→ too many over-large, showy houses in visible locations, and the county loses its rural ambiance. So far this year, there are 20 building permits for new homes, up from 17 a year earlier. The 20 new structures covered by this year's building permits will provide a boost in the county's tax revenues, but, depending on location and design, some may encroach on a cherished landscape.

For the time being, there is no groundswell to raise taxes on land that's farmed, forested or protected under easements. In fact, the one idea that gets some attention is an additional land-use category for "open space." The State of Virginia allows this tax break, and a number of neighboring counties, such as Madison and Fauquier, have adopted it. The open-space tax break was initially understood as a way to encourage golf courses and other private recreation spaces. But experts point out that the participating county can attach a variety of conditions to qualify, such as cultivating native plants, providing habitat or encouraging pollination. And to avoid competing with the farming tax deferral, the county could set the tax reduction for open space below that for agriculture.

Here's a hypothetical situation where an open-space tax break could help preserve the landscape. A large farm cuts back, opting for a family farm, or smaller, more specialized commercial operation. The land taken out of active farming would lose its agricultural land-use advantage, immediately bouncing into a higher-tax category. The owner might decide to carve the old farm into parcels to sell to home-builders. An open-space land-use deferral would allow the farmer to

WHAT IS FOOTHILLS FORUM?



Foothills Forum is an independent, community-supported nonprofit tackling the need for

in-depth research and reporting on Rappahannock County issues. The group has an agreement with Rappahannock Media, owner of the Rappahannock News, to present this and other reporting projects.

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retain the agricultural land-use deferral for the new, smaller farm, applying the open-space tax advantage for the rest. The formerly farmed land would be tended according to healthy land-use practices, encouraging native plants and pollinators, which would benefit neighboring orchards and vineyards. As a result of careful environmental management, if the land were to transition back to active farming, it would be in healthier condition. It's not known how many Rappahannock land-owners would claim the open-space tax deferral if it were available, but PEC analysts say it has worked well in Fauquier and Madison counties, without resulting in a significant loss of tax revenue.

Land as business

Farmers and conservationists see landscape preservation as a three-

legged stool: conservation easements to remove land permanently from development; land-use tax deferrals to lighten the tax burden on land under management; and third, business strategies for generating enough income from land to reduce the temptation to sell.

The strategies don't follow a single rule other than a willingness on the part of landowners to rethink and reinvent. A look at two defining agricultural mainstays for Rappahannock — cows and apples — underscores how much, and how quickly, rural economies can shift. The cattle population, which stood at 17,548 in 2002, dropped to 12,997 in 2017. The prospective sale of the 7,000-acre Eldon Farms would bring the numbers down further. Apples, once an economic engine, show an even starker decline; orchards occupied 1,378 acres in 1992, but by 2017 covered just 211 acres in the county.

U.S. agriculture is increasingly concentrated, dominated by a handful of processors and distributors, with prices set by sweeping market forces well outside the control of the producers. "The large commodity-type markets aren't friendly to agriculture on the scale that is practiced in Rappahannock County," says one land-use expert in the region. But because cows need large swaths of land for grazing, the calf-and-cow businesses are uniquely valuable in keeping Rappahannock's landscape looking as it does now.

For comparison, a major vineyard adds beauty, diversity and income to the county, but it requires no more than about 25 acres. A comparably positioned cattle farm needs ownership of, or access to, hundreds

of acres. Once the land is in place, these businesses can generate profits, though not at the level that alternative sectors might offer in today's economy. The proposition shifts when farmers have to acquire the land. But if the land is already in the family, or can be economically leased, many believe that beef cattle can become a solid business.

Farm by farm, landscape by landscape

While tax policies for easements and land-use are stable, those businesses strategies, the third leg of the stool, are constantly in flux, and likely to remain so. And other than repeatedly, and calmly, asking, "What now?," there's no single template for success.

The following trio of snapshots offer three currently successful approaches. They are wildly divergent, suggesting that Rappahannock's future will be more of a quilt than a monochrome blanket. But for all their differences, the three management approaches have these elements in common:

- All three take advantage of Rappahannock's proximity to the large customer base in the Washington metropolitan area.
- All three engage the fresh thinking and continuity brought by younger generations.
- All three focus on the future more than the past, listening closely to today's customers.

→ **Three farms, three stories:**
See the following page

Protecting Paradise

Mount Vernon Farm: Renting beauty

With 840 acres, eight generations of family owners and 193 years of farming, Mount Vernon Farm rises from the eastern edge of Sperryville, an icon of Rappahannock County history and beauty. At one time, 115 cows were milked twice a day in the 235-foot barn that stretches along the lowland section of the farm, down the hill from the graceful brick farmhouse John Miller Sr. bought in 1827 from Francis Thornton and later expanded. At other times, grass-fed beef cattle, pigs, lambs and chickens were rotated through the pastures, with llamas parading to scare away coyotes and other visiting predators.

Today, the animals are gone. The barn, emptied of cows, caters to brides and grooms, celebrating their vows with family and friends, flanked by tables heaped with offerings from the county's best cooks. The Miller family no longer sleeps in the farmhouse, which, newly renovated, is The Inn at Mount Vernon Farm, with rooms starting at \$250 a night. The grazing pastures are filled with wildflowers, native grasses, and in the summer and early fall, hundreds of butterflies darting across miles of grassy trails where guests walk and enjoy breathtaking views.

It's a new business, and the product is beauty. Young couples, stressed city-dwellers, environmentalists and fishing enthusiasts flock to the place. Cliff Miller III notes that his immediate ancestors would be reeling if they saw the changes, but he applauds the vision brought by his son, Cliff Miller IV, who arrived in 2010 after trading NASDAQ stocks on the West Coast. His idea was to turn the farm into an eco-refuge and hospitality business. The reengineering includes a nine-hole golf course along Route 211, tied to the Headmaster's Pub, which anchors the old Schoolhouse structure, which the Miller family also owns. Since the pandemic hit, Headmaster's put its menu online, and business picked up smartly. Golf activity — benefitting nationally as an apparently safe pastime — has doubled in recent months. Active farming is part of the picture only through the successful adjacent vegetable and flower mainstay, Waterpenny Farm, which leases acreage from Mount Vernon Farm.

"We've got the perspective of 200 years," Cliff Miller III says. "We've seen a lot of things that worked well at one time, but stopped working well." For Miller, the environment evolved from a parallel preoccupation to the central focus. In the late 1990s, he worked to eliminate toxic fertilizers and pesticides, cleaned up the stretch of the Thornton River that traverses the property and used federal subsidies to help cover the necessary green investments. He stopped cutting hay, concluding that it took nutrients away from the land. Six hundred and four acres went into conservation easement.

Mount Vernon has migrated from



PHOTOS BY LUKE CHRISTOPHER FOR FOOTHILLS FORUM

"We've got the perspective of 200 years," Cliff Miller III says. "We've seen a lot of things that worked well at one time, but stopped working well."

being a farm inside a landscape to being a landscape that remembers farming. Visitors share the Millers' passionate appreciation of the local environment, and the hospitality business so far is working out.

Reflecting on past and present, Cliff Miller III prefers the current incarnation of their Mount Vernon. "I'm not here because my family owned the land," he says. "I'm here because of the beauty of the place."



"If trends continue for local and grass-fed, you could see some real benefits for the county," says Mike Sands.

Bean Hollow Grassfed: A carnivore's dream

In contrast to Mount Vernon, animals are the center of life at Bean Hollow Grassfed near Flint Hill. Soon after Bill and Linda Dietel bought the 200-acre Over Jordan Farm in 1980, sheep arrived. Linda Dietel set up a meat and wool business she managed for 20 years. After her retirement, a neighboring cattle farmer leased part of the land for grazing and haying. In 2012, the Dietels' daughter Betsy and her

husband Mike Sands moved in, and after giving the land a few years to rejuvenate, launched Bean Hollow Grassfed on 105 acres of the original farm. Sands, a long-time consultant on community-based agriculture and animal science, preferred sheep to cows, because they're less expensive, mature faster and are smaller ("If all else fails, I could push a sheep where I want it," he explains.) →

THE SERIES

Part 1 (Oct. 29): For decades, Rappahannock has been able to preserve its natural beauty and stunning views. But more challenges are on the horizon.

Part 2 (Today): Preserving a rural landscape is closely linked to maintaining a robust rural economy. Land-use tax breaks, innovations in product lines, distribution and marketing all help, but farms are still getting smaller, and fewer.

Part 3 (Nov. 25): The views get most of the attention, but the county's water and soil quality are a critical part of its environmental health. What shape are they in?

Part 4 (Dec. 9): It may appear to be frozen in time, but Rappahannock is always in a state of flux. How it deals with such challenges as climate change and invasive species may be a key to its future.

On RappNews.com:
Read Part 1 of this project at rappnews.com/paradise

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➔ Pigs came next, but in modest numbers initially. They're now the second-highest contributor to farm revenue, with about 25 on the farm. Today, in addition to the pigs, there are 21 beef cattle, 98 ewes, five mature rams and 65 lambs.

Initially, Sands recalls, "it was a very simple market." The farm sold animals to three buyers, who then handled slaughterhouse bookings, processing and marketing. But one of the main buyers moved, and Bean Hollow ventured into retail sales. The sticking point was the cost of staffing the farm store. A Midwestern farmer persuaded Sands to operate the farm store on a

self-service basis. "People thought I was nuts," he says, but it's worked. The only irregularities result from customers paying too much, either by accident or as a gesture of good will.

The COVID-19 crisis brought a surge in demand, and a challenge to meet it. People associated large grocery stores with empty shelves and infection risks. Nightmare stories of COVID surges at huge meat processing plants added to the aversion. The result: Bean Hollow's customer base quintupled, and the challenge to keep up was intense, particularly when local processing facilities began to get overburdened.

Once the pandemic subsidies,

Sands hopes to retain half the new customers, selling them meat at the farm store and the farmers' market in Sperryville. Staffing includes his son and daughter-in-law, plus a younger-generation hire, Amanda Frye, who has managed pasture quality, the health and growth of the animals, and more recently, integration and marketing. When her responsibilities expanded, Bean Hollow extended her salary with in-kind payments in livestock. She's now off on a paid maternity leave.

Sands says the team, and the customers, are happy with the focus on animals. The farm provides recipes and tips on grilling the meat. Customers want to reserve their favorite cuts

and return. He says financial strains would ease if the county showed more flexibility by allowing farms like Bean Hollow to supplement their revenue through occasional events like weddings and weekends for agro-tourists. "What you're really looking for is to grow the revenue base without further burdens on the land base," he says.

Sands says he's optimistic. "If trends continue for local and grass-fed, you could see some real benefits for the county," he says, "not in the sense of a boom, but you'd see a healthier landscape, higher returns through higher management of the pastures and more opportunities for young farmers."

Thornton River Orchard: Back to a Rappahannock mainstay, with a twist

When he was a year old, Allan Clark moved from Fairfax to the base of Old Rag Mountain, and he has been fastened to the Rappahannock landscape ever since. After school, he mixed carpentry work and small-time farming, turning in 2015 to the county's one-time economic mainstay — apples. Leasing land from the Jenkins family, he planted apple and pear trees, including lesser-known varieties like Evercrisps, Pink Ladies and Arkansas Blacks. Tall deer fencing went up to protect the newly planted trees.

Strategically located between Sperryville and the national park entrance, the 30-acre orchard is positioned to intercept hikers and foliage watchers as they come off the mountain. But more customers were waiting in the city, so Thornton River sets up at two Washington area farmers markets every week.

As Clark sees it, the orchards of old were ensnared in a complex business of juicing, processing and distributing fruit through a chain of intermediate businesses. Contracts were complicated and regulations could be heavy. Direct sales to customers are simpler, cleaner and more profitable. The younger-generation component comes through the Clarks' 27-year-old daughter, Megan, who studied business and agriculture in college. Four workers help from August through December.

"You've got to diversify," Clark says, "and sell directly to the customer." Alongside the fruit and vegetables, the Clarks churn out a stream of value-added products: Bloody Mary mix with horseradish, Vidalia onion peach sauce, hard cider, and in the latest innovation, apple cider slushies.

Like other Rappahannock farms, Thornton River found that the pandemic expanded business. The two farmers markets led to direct customer deliveries. In the late spring, Thornton brought in as many as 50 boxes of fruit and other products for individual customers to pick up. For one Chevy Chase, Md., customer who was wary of crowded markets, Clark delivered the produce box to her door. "We show people



"You've got to diversify and sell directly to the customer," says Thornton River Orchard owner Allan Clark, below. Luis Barrios, above, picks some of the orchard's last Pink Lady apples of the season.

we're loyal to them and they show us they're loyal back," he says.

A natural optimist, Clark expects problems, but also solutions. Stinkbugs damage the apple trees, but Samurai wasps are beginning to punish the notorious pest. Berries involve a lot of work, but Thornton might draw people to the farm with a pick-your-own arrangement. Apples were left spotted by the surprising Mothers' Day freeze in May, but they recovered their flavor.

Although he leases the land his orchard occupies, land-use tax policy is important because it helps the owner keep the leasing costs down. "Land-use to Rappahannock County and to rural land is the only way you're going to keep people doing this," says Clark. "We don't want to be the next Prince William or Fairfax County."





Shop Small, Shop Local

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143rd Year • No. 48

THURSDAY, NOVEMBER 26, 2020

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A FOOTHILLS FORUM • RAPPAHANNOCK NEWS SPECIAL REPORT



FISHING THE HUGHES RIVER IN FT. VALLEY • BY DENNIS BRACK

Protecting Paradise

Rivers, streams and soil: Signs of progress, but work remains

BY SARA SCHONHARDT For Foothills Forum

It was a report card few residents were anticipating. Ahead of its release last October, a crowd of roughly 70 buzzed around Pen Druid Brewery drinking beer and mingling, united by their interest in the state of Rappahannock County's streams and rivers.

Then Adam Lynch from Friends of the Rappahannock (FOR), the environmental nonprofit based in Fredericksburg that had done the grading, stood and presented the report's findings.

Among the highlights: The Jordan River received an A for having large amounts of land along the watershed in conservation, and the Thornton received top marks for its annual river clean-up.

The bad news: A portion of the Rush River that runs through the Rappahannock County Park had earned a failing grade for recreational use for having unsafe levels of E. coli bacteria, which can lead to illness and infection in humans.

See **PARADISE**, Page 16

Is Sperryville 'subdivision' inevitable?

Planners consider rezoning to 2-acre minimum; public hearings, BOS vote would also be required

BY PATTY HARDEE
Special to the Rappahannock News

Does a rezoning inevitably mean development? That was the question swirling around last Wednesday night's meeting of the Rappahannock County Planning Commission.

Sperryville resident Tom Taylor and his wife Cheryl, doing business under the name Mt. Airy Field LLC, have applied to rezone their 35-acre tract along Woodward Road from Rural Residential 5 (RR-5 restricts lot size to a five-acre minimum) to R-2, which downsizes lots to two acres minimum.

The possibility of his request for rezoning came up earlier in the year during Planning Commission discussions about the revised — but yet to be approved — comprehensive plan that introduced boundary maps of Rappahannock's major villages. Taylor's property adjacent to Sperryville has access to the Rappahannock County Water and Sewer Authority sewer lines.

See **SPERRYVILLE**, Page 14



THE PREMIER BROKERAGE FIRM

REPRESENTING THE CAPITAL REGION AND THE VIRGINIA COUNTRYSIDE

Massies Corner hay bales change with the times → PAGE 9

Guilty plea to unlawful wounding, courtroom outburst → PAGE 6

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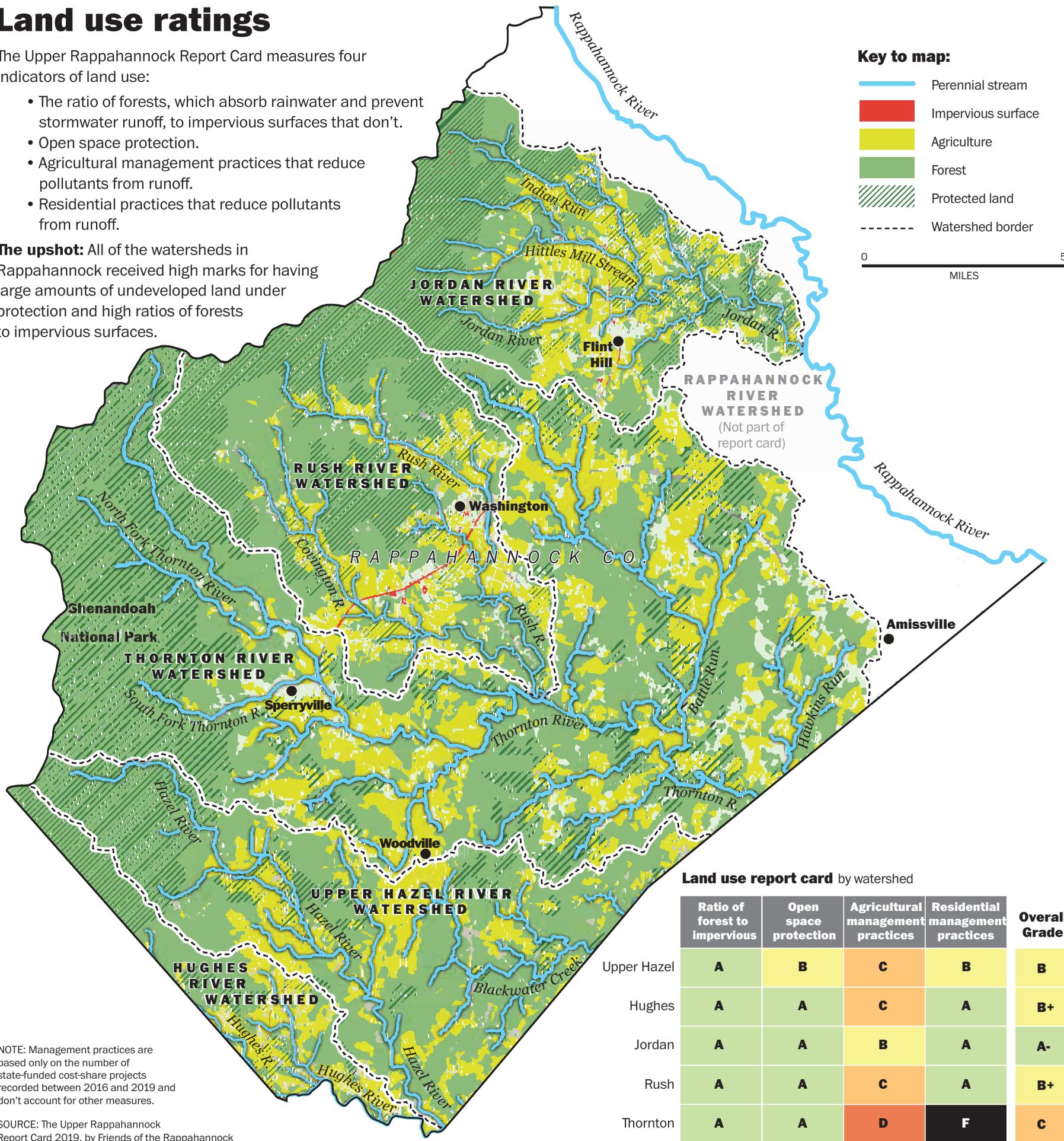
Protecting Paradise

Land use ratings

The Upper Rappahannock Report Card measures four indicators of land use:

- The ratio of forests, which absorb rainwater and prevent stormwater runoff, to impervious surfaces that don't.
- Open space protection.
- Agricultural management practices that reduce pollutants from runoff.
- Residential practices that reduce pollutants from runoff.

The upshot: All of the watersheds in Rappahannock received high marks for having large amounts of undeveloped land under protection and high ratios of forests to impervious surfaces.



NOTE: Management practices are based only on the number of state-funded cost-share projects recorded between 2016 and 2019 and don't account for other measures.

SOURCE: The Upper Rappahannock Report Card 2019, by Friends of the Rappahannock

PARADISE

From Page 1

Moreover, the Virginia Department of Environmental Quality (DEQ), which collects and tests water samples for bacteria and other pollutants, had listed that portion of the Rush River as “impaired” since 2002.

“We were totally shocked because a lot of us had never heard anything about this,” said Ruth Welch, a board member of the county’s Recreation Facilities Authority, which manages the Rappahannock County Park. If the river had earned a failing grade for recreation, she thought, people shouldn’t be playing and wading in it.

Environmental agencies, experts,

nonprofits and volunteers have been largely successful in keeping Rappahannock’s streams and soils clean and healthy, which preserves the county’s rural and agricultural character. But sustained efforts will be needed to ensure its treasured natural resources continue to benefit the local community as well as the millions of people who live downriver.

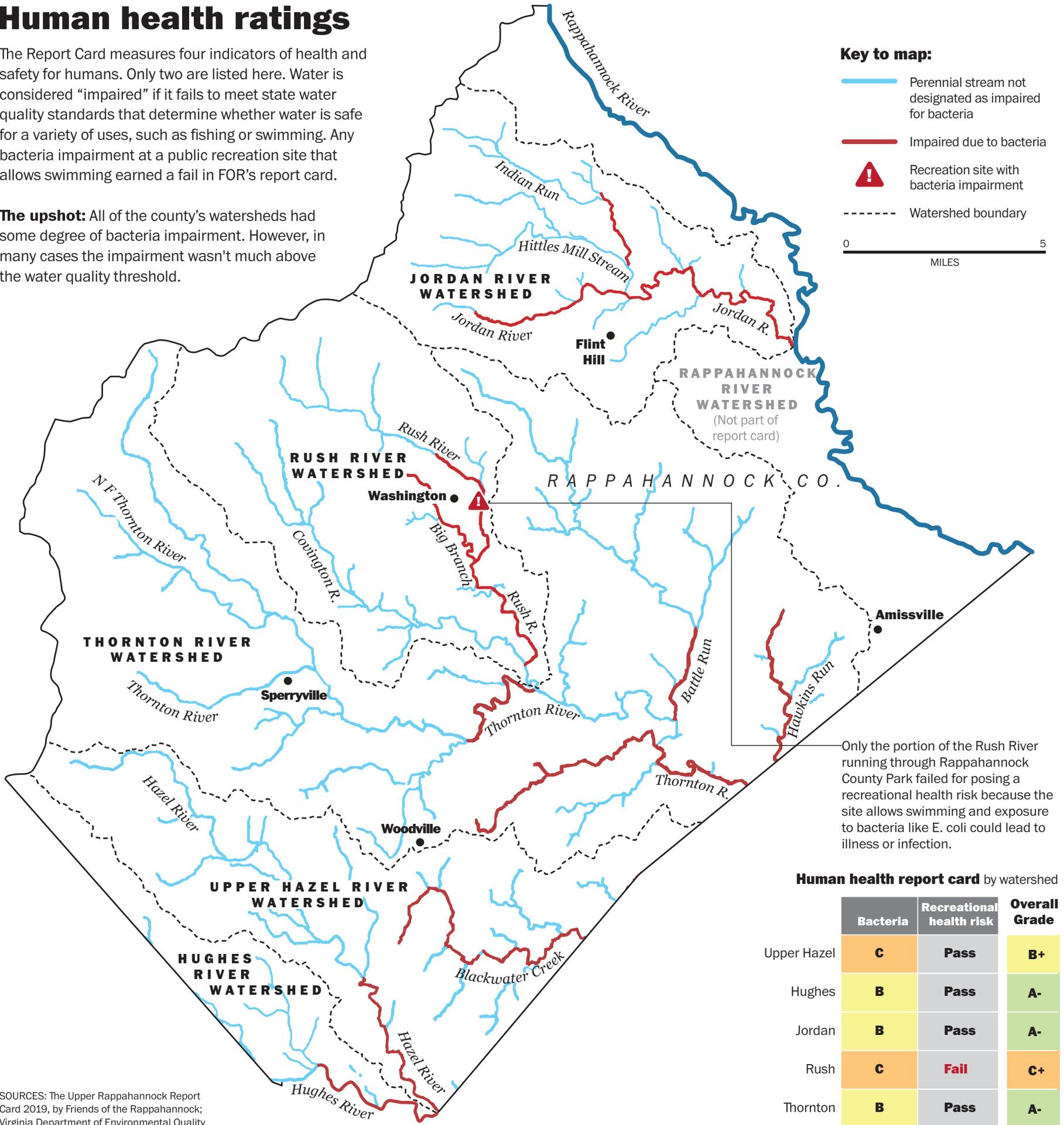
FOR’s report card, which draws on data from the DEQ and other agencies, was designed to draw attention to information that might not normally make it into public consciousness, said Lynch.

Stream impairment data, for example, is reported in DEQ’s biannual water quality assessment, but it can be hard to decipher, he noted. →

Human health ratings

The Report Card measures four indicators of health and safety for humans. Only two are listed here. Water is considered “impaired” if it fails to meet state water quality standards that determine whether water is safe for a variety of uses, such as fishing or swimming. Any bacteria impairment at a public recreation site that allows swimming earned a fail in FOR’s report card.

The upshot: All of the county’s watersheds had some degree of bacteria impairment. However, in many cases the impairment wasn’t much above the water quality threshold.



SOURCES: The Upper Rappahannock Report Card 2019, by Friends of the Rappahannock; Virginia Department of Environmental Quality

SERIES GRAPHICS BY LAURA STANTON FOR FOOTHILLS FORUM

➔ The report card is a way of explaining what’s happening in the watersheds, recommending action and inspiring stewardship.

Yet the fact that the report card essentially mirrors publicly available data is one reason Welch and others shouldn’t have been surprised, said Greg Wichelns, district manager at the Culpeper Soil and Water Conservation District (CSWCD),

a semi-governmental agency that includes Rappahannock in its five-county service area and works to encourage conservation management best practices.

The other reason: His group had been working in concert with various environmental organizations, county officials and the Virginia Department of Health to address the bacteria impairment for years through its Upper

Hazel River project.

And they’ve made some progress. The DEQ’s 2018 assessment report noted that a section of the Rush River had been delisted. That’s a success story nobody talks about, Wichelns said. “There have also been positive trends in the Thornton at lowering the bacteria levels.”

So really, he said, the devil is in the details.

What the bacteria data show is that some samples from parts of the Rush River taken in past years exceeded the Virginia state standard for what’s safe for recreation — though not by much. And FOR determined that any DEQ-listed impairment at a public recreation site where swimming or wading is allowed earned a fail.

See **PARADISE**, Page 18

Protecting Paradise

PARADISE

From Page 17

According to Lynch and other monitors, however, the overall picture is rosier.

“Rappahannock County streams did the best out of any streams in the report card,” Lynch noted. And the two healthiest rivers in the report card program so far were the Jordan and the Rush rivers.

Headwaters to the bay

More than 750 miles of streams and tributaries course through Rappahannock, eventually flowing into the river from which the county takes its name. The Rappahannock and Jordan carve through the north; the Thornton, Rush, Covington, and Piney rivers bisect Rappahannock’s center, and the Hazel and Hughes rivers cut through the south.

All of them feed the Rappahannock as it expands from its headwaters in Shenandoah National Park toward the Chesapeake Bay.

Which means the health of those waterways matters not just for those who use and appreciate them in the county, but also the economies and quality of life of millions who live downstream, said Claire Catlett, Rappahannock field representative at the nonprofit Piedmont Environmental Council.

“Protecting Rappahannock County water resources is the place to start if you want to make a difference in everybody’s water — in the Chesapeake Bay and even next door in Culpeper County,” Catlett said.

Watershed protection is also a pillar of the county’s comprehensive plan, which defines Rappahannock as a scenic county and lays out land-use plans, principles and policies around that recognition.

According to the plan, amendments to which are currently under review, focusing commercial and residential development around the villages helps protect the county’s watersheds. And several of the policies listed under principle number three, which centers on preserving Rappahannock’s natural resources, acknowledge the county’s rivers as among its most significant environmental assets.

In 2009, Virginia’s DEQ published a 10-year clean-up plan for the Upper Hazel River watershed that offered a slate of prescriptions to mitigate the bacterial impairment in the Hazel River and its tributaries, including excluding livestock from streams, improving pasture management, planting trees and other vegetative buffers on cropland, identifying and correcting failing septic systems and maintaining functioning ones.

Those efforts, plus the installation of a sewer system in the Town of Washington in 2010, helped accomplish many of those water quality goals, in part by expanding on the work from the Culpeper conservation district and others to restore the Upper Hazel River. But those successes were not enough to remove all the tributaries from their bacteria-impaired status.

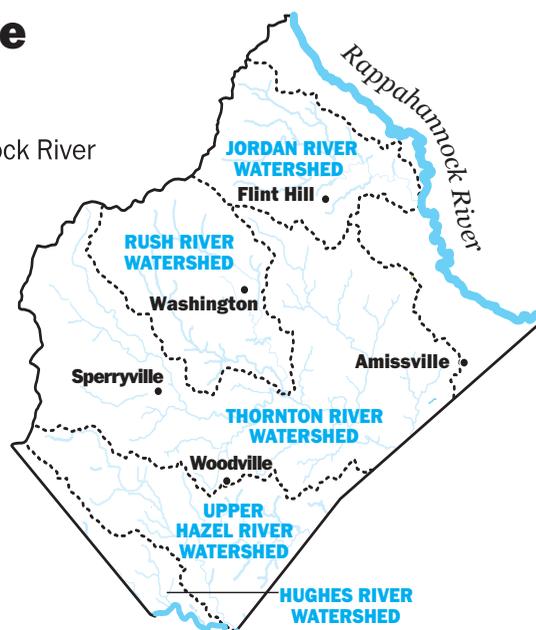


BY PIEDMONT ENVIRONMENTAL COUNCIL

RappFLOW’s Forrest Marquisee takes a water sample from the Rush River in Rappahannock County Park as Mike Wenger, left, watches the demonstration.

How healthy are our rivers?

The 2019 Upper Rappahannock River Report Card evaluates water quality conditions and surrounding land uses of 12 of the watershed’s tributaries. In this project we focus on the five that run through Rappahannock County.



Overall report card by watershed

	Human Health	Land Use	Stream Ecology	Community Engagement	Overall Grade
Upper Hazel	B+	B	C+	B+	B
Hughes	A-	B+	C	C	B-
Jordan	A-	A-	B	B+	B+
Rush	C+	B+	C	A	B-
Thornton	A-	C	C	A-	B-

METHODOLOGY: The Upper Rappahannock report card assessed 12 rivers in Fauquier, Culpeper and Rappahannock, the three counties that comprise the Upper Rappahannock River watershed. It graded them on four subjects – human health, stream ecology, land use and community engagement – by looking at how they performed on 16 indicators, such as bacteria, forest cover, aquatic life and public access points. In many cases, Friends of the Rappahannock drew on government data from Virginia’s Department of Environmental Quality, the Environmental Protection Agency, soil and water conservation districts and GIS data.

SOURCE: The Upper Rappahannock Report Card 2019, by Friends of the Rappahannock

Rush River’s progress

When the FOR report card came out, it sparked an initiative to monitor the Rush River among PEC and Rappahannock Friends and Lovers of our Waterways, or RappFLOW.

Members of both organizations and

Welch from the parks authority joined in a training in January on water quality testing.

PEC started doing water quality sampling and monitoring of the Rush River on a small scale just before coronavirus restrictions came into



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GLOSSARY

► **Riparian buffers:** Trees and other vegetation that absorb pollutants, such as nutrients from soil, bacteria, and sediment and keep them from entering waterways. They also help restore stream banks and prevent erosion. And they prevent excessive runoff, so that rain water can replenish groundwater rather than running into streams.

► **Macroinvertebrates:** Small, spineless, cold-blooded animals large enough to see without a microscope. Some macroinvertebrates are highly tolerant of pollution, while others are not, so measuring for them is a good way to determine the water quality of freshwater streams.

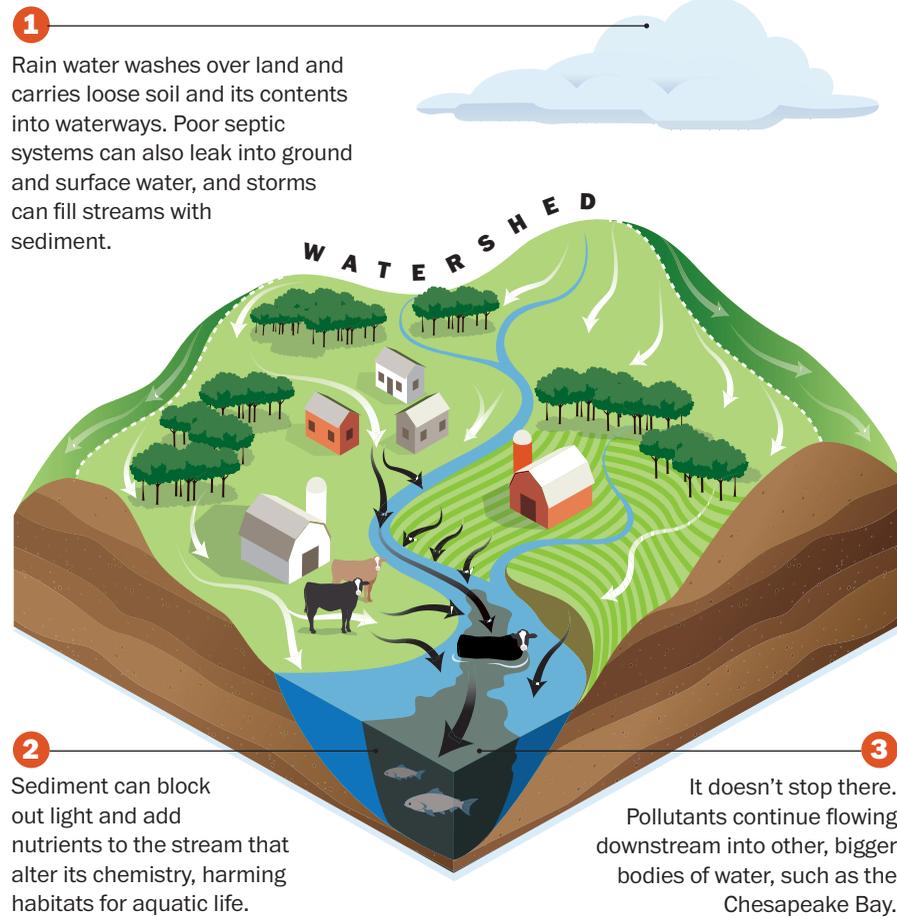
► **Stormwater runoff:** Rain water that does not get absorbed by land cover or soil or ponds and lakes and leaves the land primarily by overland flow into waterways. As it leaves the land it can carry things with it, such as sediment. It can also get filtered, and some land management practices are designed to do that.

► **Scenic rivers:** In 1970 Virginia approved the Virginia Scenic Rivers Act, which works with residents and local organizations to protect rivers in the state. More than 900 miles of rivers are currently protected under the Virginia Scenic Rivers Program. Virginia's Department of Conservation and Recreation has provided this designation to three rivers in Rappahannock — the Rappahannock, the Jordan and the Hughes.

— Sara Schonhardt

How our streams can get polluted

There are many different causes — agriculture, septic systems and wildlife among them. Some pollutants occur naturally and others, like fertilizers, are synthetic.



1 Rain water washes over land and carries loose soil and its contents into waterways. Poor septic systems can also leak into ground and surface water, and storms can fill streams with sediment.

2 Sediment can block out light and add nutrients to the stream that alter its chemistry, harming habitats for aquatic life.

3 It doesn't stop there. Pollutants continue flowing downstream into other, bigger bodies of water, such as the Chesapeake Bay.

→ force. Catlett continued biweekly testing at three monitoring sites and provided her data to the DEQ, which can draw on certain data from outside the agency to list and delist impaired waters, track progress toward restoring those with cleanup plans and target waters for future DEQ monitoring. (The data is submitted through the Chesapeake Monitoring Cooperative, which is also the program that trained PEC and RappFLOW to do the water quality sampling.)

RappFLOW secretary Forrest Marquisee, a former Foothills Forum adviser, took over the E. coli monitoring on the Rush from Catlett in August. In an email to RappFLOW members ahead of their October meeting, he said testing trends show that the park is not currently threatened by unsafe levels of E. coli.

Catlett found the same results over the summer at both the park and the monitoring point near Sunnyside Orchard Road, a DEQ testing site that allows them to compare their findings with earlier data. A testing site further upstream off Harris Hollow Road has continued to show high levels of E. coli, which Catlett suspects could be related to stormwater runoff.

No one is currently investigating the cause of that impairment, but RappFLOW plans to work with Catlett and PEC to create a more comprehensive testing network and wants to add more testing sites.

Dave Evans, who covers Rappahannock for the DEQ, said the department conducted weekly tests at

three sites in the county this summer, not including the park, and while some of the samples indicated there is more bacteria going in the water than the water quality standard says is appropriate, "it's not super high."

The power of people

Having good data on stream health that could identify sources of bacteria will help groups know when events and land-use practices are having a negative impact, said RappFLOW board member Rachel Bynum. It could also spur support for mitigation measures — though COVID-19 protocols have temporarily limited RappFLOW's meetings and affected momentum for activities, Bynum noted.

In addition to the monitoring done by RappFLOW and PEC, Old Rag Master Naturalists, a volunteer group helping manage natural resources in the region, conducts regular sampling of small cold-blooded animals, known as macroinvertebrates, in several designated spots around Rappahannock County in partnership with the Culpeper conservation district.

Mike Wenger, who coordinates the master naturalists' citizen monitoring efforts and is a board member of the Rappahannock League for Environmental Protection, which partly funded this reporting, said that during a survey volunteers count the macroinvertebrates by species and check other stream health indicators, such as water temperature, relative sedimentation and type of vegetation

cover.

"If the stream is healthy for macroinvertebrates, it's also healthy for fish and amphibians who eat the bugs. And then also for the mammals and birds who eat the fish and amphibians," Wenger said, noting that many bugs aren't affected by the bacteria that harm humans, so a stream can be healthy for macroinvertebrates but still have E. coli.

What matters most about all of this testing, he noted, is that it helps fill in gaps that government agencies don't have the people, time or resources to gather; serves as an early warning system to detect emerging problems; gathers and maintains additional data to fill in the picture; and creates awareness and education about stream health.

"I think we're really seeing the benefits of a lot of good collaboration and communication among the parties," Evans said. "And so I think it bodes well for continued improvements."

As is the case for RappFLOW, however, COVID-19 has mostly put an end to the master naturalists' macroinvertebrate monitoring since it requires sitting closely around a small table sorting and counting for an hour or more, said Wenger.

Challenges ahead

In Rappahannock, agriculture, septic overflow and wildlife all contribute to watershed impairment. The most common sources of pollution are bacteria, sediment and nutrients that can come from fertilizers and animal manure.

The Culpeper conservation district is working to address the impact of septic effluent in groundwater because it flows into streams that lead to the bay.

Sediment — which can come from agriculture, land development and even recreation — is another problem since too much of it over too long a time starts to restrict the water movement in streams, which leads to more erosion along their banks, said Wichelns.

According to Catlett, too much sediment blocks oxygen from reaching deeper waters and will suffocate fish and invertebrates that live in the bottom of streams. Too much phosphorus and nitrogen — chemicals that are produced in agriculture — can cause harmful overgrowths of algae. These blooms block light, raise pH levels and reduce the availability of oxygen, threatening habitat conditions for fish.

Waterborne bacteria, on the other hand, isn't life threatening, but can cause illness or infection in humans.

More extreme rainfall and heat is exacerbating the problem, with rising temperatures putting stress on aquatic life and increased flooding raising the potential for erosion and runoff.

A water supply plan prepared for the county in 2011 and reviewed in 2018 found that drought and extreme heat combined by increased storms have raised concerns about whether the water supply will continue to meet the county's needs.

That's why environmentalists say natural buffers such as trees and

WHAT IS FOOTHILLS FORUM?



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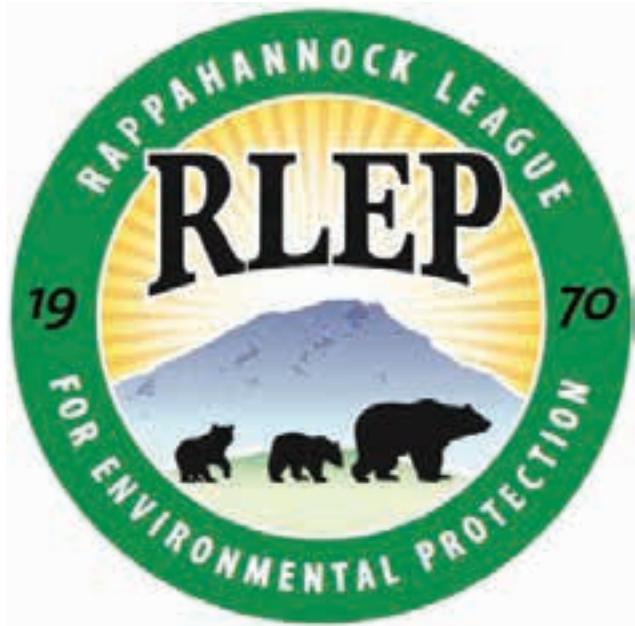
nonprofit tackling the need for in-depth research and reporting on Rappahannock County issues. The group has an agreement with Rappahannock Media, owner of the Rappahannock News, to present this and other reporting projects.

→ More at foothillsforum.org

What do you think?

Let us know what you think of this project. Send feedback to editor@rappnews.com.

See **PARADISE**, Page 20



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PARADISE

From Page 19

vegetation are important because they absorb pollutants, provide habitats for wildlife and protect streams from heat and erosion.

Clean streams can also provide economic benefits.

“Ecotourism is an important part of our rural economy, and having safe, healthy water in our village is a key element of the charm of towns like Sperryville,” said Bynum, who advocates for encouraging youth to consider careers in renewable energy, conservation and sustainable agriculture.

Turning to trees

One advantage to Rappahannock’s rural nature is that many streams already have some buffers.

Both the Jordan and Rush rivers have large amounts of forest in their watersheds, and a lot of land along their banks is either protected by government ownership or under private easement. And while they do still suffer from bacteria impairments on some sections, these natural buffers act like straws that suck up pollution, and that means those streams overall tend to have better water quality.

“All those trees help capture stormwater runoff during rain events, which helps reduce the amount of pollutants in the streams,” said Lynch.

To improve that ratio, PEC and FOR have run the Headwater Stream Initiative since 2017, which gets funding from the Krebsler Fund for Rappahannock Conservation to help with costs for trees, stakes and tree tubes, as well as work crews for planting and maintenance.

In Rappahannock County, the program has planted 47 acres, 15,366 trees and over 9,000 feet of stream in just three years.

In Sperryville, the riverbank trail has provided public access to the water and allowed for easier river cleanups.

Collective efforts upstream, said Catlett, have helped improve the bay.

“But at the same time there are still threats to water quality from overgrazing and livestock in streams, from erosion along these streambeds,” she said.

‘It’s not the cow, it’s the how’

David Massie, a conservation specialist with the Culpeper conservation district and the sixth generation of a land-owning family here, said it takes time to break the older generation of farmers of traditional practices. But the agricultural community is waking up.

“I think farmers are doing a better job of keeping the soil on the land, and trying to do more organic and more natural soil regeneration methods. And all that has a direct water quality benefit,” said Massie, a former Foothills director.

“If you look at older pictures of the county, you had all these orchards. Much of that land is back in forests now. And, from the standpoint of soil quality, that was a good thing,”

he added. “When orchards went out of business and there were more livestock farms, it shifted the concern to protecting those streams the best we can from livestock, and certainly to reduce the nutrient and bacteria load that’s going into [them].”

As an incentive for landowners to maintain the health of their streams and rivers, the conservation district offers a cost-share program funded by the state that works to improve water quality on agricultural lands. Projects can include fencing that prevents livestock from accessing streams, winter cover for cropland and restoring gullies caused by erosion.

The district also offers to help pay residents to pump out and repair septic systems, which Wichelns said people tend to overlook, and helps farmers develop riparian buffers along stream corridors to keep their banks from eroding and protect them from pollutants carried in runoff.

In the 2020-21 fiscal year, the district has \$2.5 million available for cost-share programs across its five-county area.

“People are pretty happy to get these services,” said Massie. “People want to protect their investment.”

In addition, Virginia offers tax breaks of 25 percent to agricultural producers with an approved conservation plan for expenses related to water-quality management. The credit applies to the amount they spend out of pocket on a project with the Virginia Agricultural Cost-Share program. In 2019, Rappahannock received nearly \$250,000 for conservation management installations, according to the Culpeper conservation district’s annual report, and landowners received more than \$10,000 in tax credits.

Mike Sands, who raises grass-fed beef, pigs and sheep on his Bean Hollow farm, acknowledges that agriculture can increase stream pollution. But with the right production systems, it can also help purify water and enhance soil health.

“There’s a saying that goes, ‘it’s not the cow, it’s the how,’” said Sands, who manages his cattle through a series of pastures that don’t have access to standing water and rotates them regularly so the pastures aren’t overgrazed and susceptible to erosion.

“If you treat your soils well and hold everything on your farm instead of letting it run off into the stream next door, it’s adding value,” he said. “Everything I let run off is a resource I’ve lost.”

For Welch, who has a background in public health and got involved with the water monitoring at the park to ensure the Rush River was safe for recreation, the quality of the county’s public lands are a reflection of the community. Her goal is to gather more data and have a clearer picture of what’s happening before raising any red flags.

In the meantime, there’s a need for all residents to be good stewards of the county’s land and waterways, she said. “We should be responsible for making sure our rivers are as clean as they can be.”

— Randy Rieland contributed
to this report

Rappahannock News

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143rd Year • No. 50

THURSDAY, DECEMBER 10, 2020

\$1

BOS: Comp Plan updated; emergency maintained

➔ Two hours of painstaking line-by-line edits precede comp plan adoption

➔ Chair's motion to lift state of emergency fails as county COVID cases rise

FULL STORY, PAGE 6

Climate change and the new abnormal

'Close to 80 inches of rain fell on Rappahannock in 2018 ... almost double the annual average'

BY RANDY RIELAND
For Foothills Forum

It seems that almost anyone who makes their living off the land in Rappahannock has a 2018 story.

Jenna Brownell, co-manager of Whippoorwill Farm, remembers standing in the shelter of a shed and watching the garden wash away. Multiple times.

Stacey Carlberg, co-manager of The Farm at Sunnyside with her husband Casey Gustowarow, tells of trucks stuck in mud and of digging

ditches to divert rushing rainwater away from the crops. At Waterpenny Farm, "everything kept getting drowned," recalls co-owner Rachel Bynum.

John Genho, manager at Eldon Farms, says the cows there struggled to gain weight because the grass they grazed was saturated with water.

And Bill Gadino remembers the stress that came with seeing downpours soak the fields of his winery. "Grapes don't like their feet wet."

See **CLIMATE**, Page 10



PHOTO BY RAY BOC

Bringing the magic of Christmas

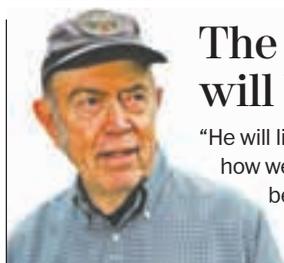
Ever since 1874, when Macy's began the Christmas season custom, enchanting department store window displays worldwide have captivated children and adults alike: giant lollipops and candy canes, colorful nutcrackers and jolly elves, miniature trains winding their way through snow-dusted villages and winter wonderlands. This year's "A Rappahannock Christmas" certainly carries on the tradition, despite the ongoing pandemic, with four beautifully decorated holiday exhibits in Washington, Flint Hill, Sperryville, and seen here Woodville, featuring a window display that would impress R. H. Macy himself. "What a village effort," describes Woodville resident Linnie Genho, "and by far the best part has been all the honks, smiles, and neighborly chats." ▶ More photos of A Rappahannock Christmas are found on Page 15.



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The voice of Phil Irwin will be greatly missed

"He will live in our memories as we drive and see how well our viewshed and environment has been protected because of his commitment and work," wrote a friend. **Page 8**

This week

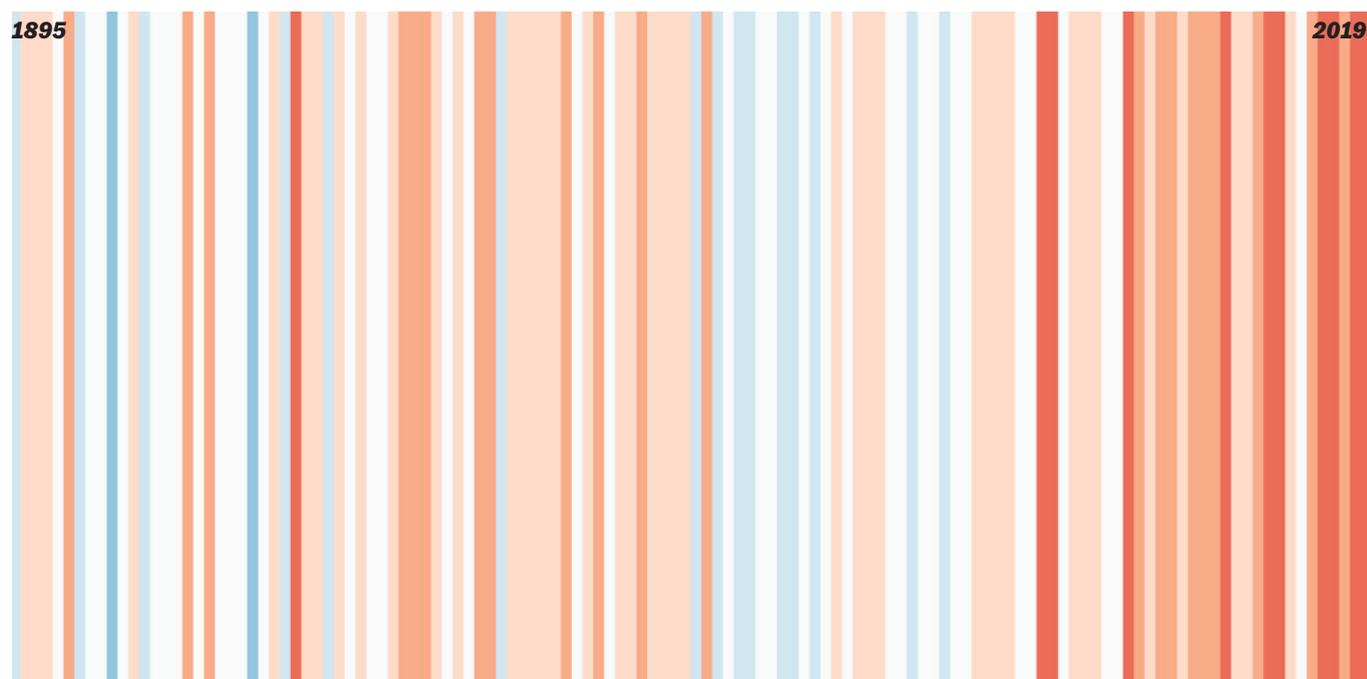
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Protecting Paradise

Virginia is warming

Colored stripes show how temperatures in Virginia have changed since 1895. Reds indicate **warmer temperatures**.



Source: Climate Central; NOAA/NCEI Climate at a Glance

CLIMATE

From Page 1

Lots more unpredictability

It was a relentlessly soggy year. Close to 80 inches of rain fell on Rappahannock in 2018, more in some places. That's almost double the annual average for the county.

And it often came in deluges. On at least 20 days in 2018, storms dropped more than an inch of rain here, more than twice as frequently as during a typical year.

Maybe 2018 was simply an outlier, the kind of stretch of unusually ruinous weather that farmers have been toughing out for generations. But what if it was something more portentous, a glimpse of times to come?

When scientists refer to climate change these days, they mean much more than rising temperatures. Now, they say, it's starting to play out in other ways, too—more torrential rains, longer spells of drought, enormously destructive wildfires.

And unpredictability. Lots more unpredictability.

Or, as John Delmare, owner of Rappahannock Cellars put it, "I don't know what normal is any more."

Climate disruption

Steven Nash, visiting senior research scholar at the University of Richmond, and author of the book "Virginia Climate Fever," goes so far as to suggest that "climate change" doesn't do justice to what is occurring. He prefers the term "climate disruption."

"Climate change can come across as a smooth, almost benign phenomenon," Nash said. "But it doesn't communicate the full hazard of what's happening to us."

Climate is not to be confused with weather. While the latter is the result of day-to-day changes in the atmosphere, the former is reflected through the averages of temperatures, precipitation, humidity, wind and other measures at a specific location over a prolonged period of time, usually at least 30 years. Long-term data shows Virginia is

getting warmer and wetter. According to Climate Central, a nonprofit comprised of scientists and science journalists, Virginia's average temperature has increased every decade since 1970. More specifically, the northern Piedmont region has experienced the fastest rate of temperature rise in the state, especially during the winter, when the average temperature has climbed about .65 degrees Fahrenheit each decade.

Climate Central also calculated that this part of Virginia now experiences 12 more winter days with above normal temperatures than it did in 1970. And it found that the first leaves of spring are appearing about a week earlier than in 1980, and the first frosts are coming, on average, about 15 days later than they did last century.

More heat often brings more precipitation — for every 1 degree Fahrenheit of temperature increase, the atmosphere can hold 4% more moisture. But drawing conclusions about rainfall trends is trickier since diverse geographic conditions can cause it to vary widely from location to location, even within a county.

That said, Climate Central reported that the number of days with more than an inch of precipitation has roughly doubled since 1950, based on measurements in Charlottesville.

Going to extremes

Climate trends are largely based on averages over an extended period, so they can't adequately reflect the more extreme weather events that can wreak havoc on agricultural production.

Local farmers and wine grape growers have to take a much shorter view, focusing on the seasonal rhythms that shape their planting and harvest schedules. And what they're noticing is that the weather has become more erratic.

"The one consistent thing is that the weather is more inconsistent," said Carlberg, who has farmed at both Sunnyside and Waterpenny for about 10 years. "What we thought were regular weather patterns, we

WHAT YOU CAN DO

Climate change is such a complex, abstract subject that a common reaction is "But what can I do about it?" So we asked six environmentalists to suggest one action to take. Their responses:

▶ **Julie Shortridge**, assistant professor and extension specialist at Virginia Tech: **Buy local foods. It reduces the emissions generated by shipping food around the world. And it's a great way to support growers who use environmentally sustainable farm practices.**

▶ **Steven Nash**, author of "Virginia Climate Fever": **Join the Chesapeake Climate Action Project. Plus write letters, give money and march.**

▶ **Aleta Gadino**, board member, Rappahannock League for Environmental Protection (RLEP): **Look for alternative non-plastic products and wrappings.**

▶ **Steven Rideout**, associate professor and extension specialist at Virginia Tech: **Be patient. Let the science catch up and see what the answers are.**

▶ **Claire Catlett**, Rappahannock field representative of the Piedmont Environmental Council: **Plant a native tree for every year you've lived.**

▶ **Mike Wenger**, board member, RLEP: **Vote.**

THE SERIES

Part 1 (Oct. 29): For decades, Rappahannock has been able to preserve its natural beauty and stunning views. But more challenges are on the horizon.

Part 2 (Nov. 12): Preserving a rural landscape is closely linked to maintaining a robust rural economy. Land-use tax breaks, innovations in product lines, distribution and marketing all help, but farms are still getting smaller, and fewer.

Part 3 (Nov. 26): The views get most of the attention, but the county's water and soil quality are a critical part of its environmental health. What shape are they in?

Part 4 (Today): It may appear to be frozen in time, but Rappahannock is always in a state of flux. How it deals with such challenges as climate change and invasive species may be a key to its future.

▶ **On RappNews.com**
Read previous parts of this project at rappnews.com/paradise

This series is funded in part by a grant from the Rappahannock League for Environmental Protection (RLEP). In compliance with Foothills Forum's Gift Acceptance Guidelines, RLEP had no role in the selection, preparation or pre-publication review of these stories. Foothills Forum (foothillsforum.org) is an independent, nonpartisan civic news organization whose mission includes providing in-depth explanatory reporting on issues of importance to Rappahannock County.

"I don't know what normal is any more."

— John Delmare, owner of Rappahannock Cellars



PHOTOS BY LUKE CHRISTOPHER FOR FOOHILLS FORUM

➔ can't rely on as much. "It's not like you just get a frost a few weeks early," she added. "Farmers know how to deal with that. But the extremes are harder to recover from."

A recent example was a late frost on Mother's Day weekend last spring. A number of local wineries took a big hit. Delmare, at Rappahannock Cellars, was able to limit his losses a bit because he had invested in propane heaters and large fans that push cold air away from the ground. He actually bought the equipment two years ago because of another trend he noticed. With warmer, shorter winters, the buds on his vines were turning green earlier in April, which meant they were exposed to a potential spring frost for a longer period of time.

"Those are the kind of things we're seeing that are different from 20 years ago," he said. Delmare also noted that his winery was hit by a hailstorm for the first time in 2019. The second time was this year.

Specific weather events can't be tied directly to climate change, but to Delmare, it reflects the weather's variability, which he described as "all over the place."

Some advantages

Because of shorter winters and longer growing seasons, grapes can be harvested earlier in the wineries, perennial herbs stay active longer, and it's no longer so strange to see tomato plants still producing fruit in November. Fall crops can do particularly well.

"We're having the biggest cabbages we've ever had," said Carlberg. "They're actually kinda frightening."

But the dark side of milder winters is that they make it much easier for pests and pathogens to survive and thrive.

"The change in winters is what we noticed first," said Aleta Gadino, of Gadino Cellars, and a board member of the Rappahannock League for Environmental Protection (RLEP). "Then we started seeing more insects coming here from farther south." Now, says Julie Shortridge, an

assistant professor and extension specialist at Virginia Tech, destructive insects that used to plague farmers only in South Carolina and Georgia are showing up in Virginia fields.

"That means more intense pest management," said Steven Rideout, another Virginia Tech professor and extension specialist. "That could mean more pesticides, which is more costly and has an impact on the environment. And it can make it a lot more difficult for organic farms."

Rideout said scientists are likewise seeing certain diseases in places where they usually don't, such as southern blight, a fungus that can infect tomatoes, peppers, cucumbers, squash and pumpkins.

"You didn't see that in the Shenandoah Valley 10 years ago," he said.

There's also growing concern about the spread of the spotted lanternfly, an insect native to Southeast Asia that first appeared in eastern Pennsylvania in 2014. Three years ago, some were found in Frederick County and Winchester, Va.

If it arrives in Rappahannock, the lanternfly potentially poses a big threat to local grapevines and fruit trees. Its favorite host, though, is the ailanthus tree. Also known as the "Tree of Heaven," it's an invasive species that already grows all over the county.

The threat of invasives

While there's no direct correlation between climate change and invasive species, there is a connection.

Warmer winters and longer growing seasons can create a more hospitable environment for plants and animals that aren't native to the region. Some research has even found that higher levels of carbon dioxide in the atmosphere can accelerate the growth of invasive vines, such as kudzu.

Once an invasive establishes itself in an area, it has a big advantage over native species: nothing eats it. Ultimately invasives can have both an aesthetic and ecological impact on a community.

See **CLIMATE**, Page 12

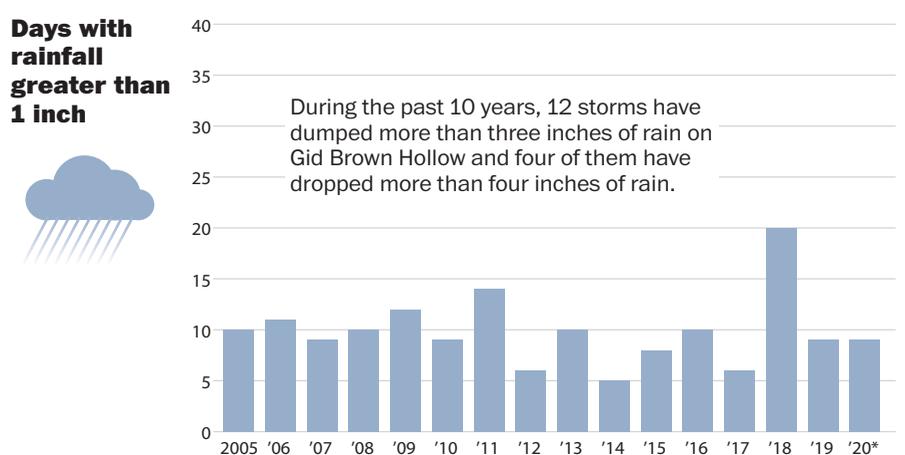
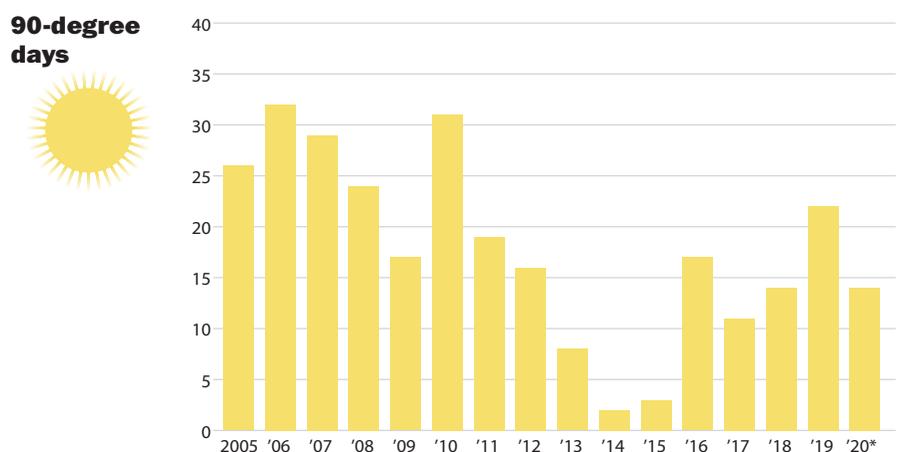
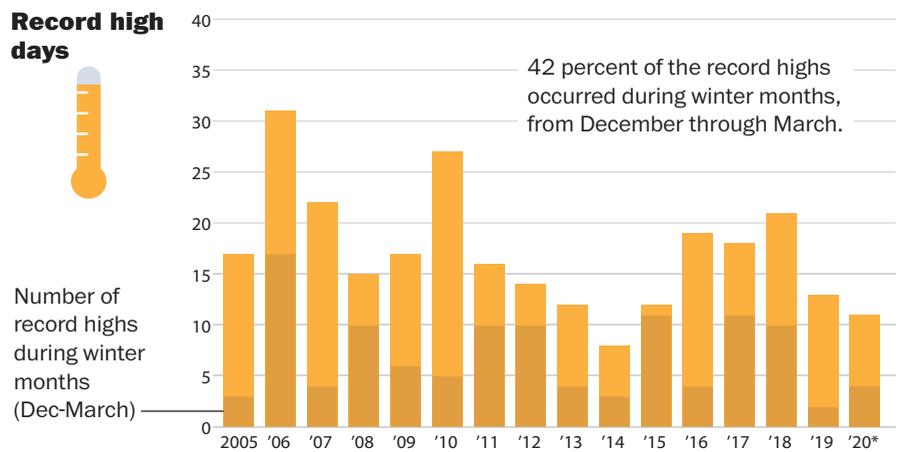
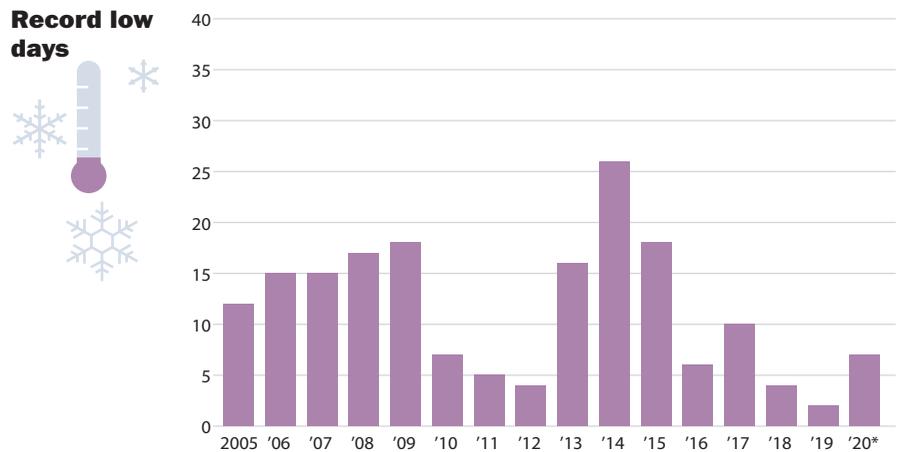
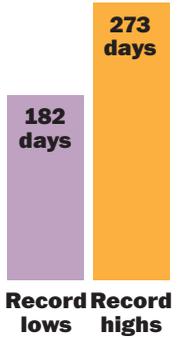


"They look at it and say, 'That looks like crap.' They don't realize that what they're seeing is invasive species."

— **Mike Wenger**, RLEP invasive species expert

15 years of Rappahannock weather

Every day, Dave Yowell, owner of the Sperryville tech support company Runamok Systems, records temperature and precipitation measurements from the weather station at his home in Gid Brown Hollow. Since weather can vary from one place to another in the county, the following data, compiled from his website, Rappahannock Weather, reflects the weather at only that location the past 15 years. Although climate trends are generally determined over periods of at least 30 years, one indication of rising temperatures is that since 2005, Yowell recorded 273 record high temperatures, compared to 182 record lows.



*January through November
Source: rappahannockweather.com

BY LAURA STANTON FOR FOOTHILLS FORUM

Protecting Paradise

10 invasive threats

To most people, invasive species are just part of the bountiful mix of plant and animal life in Rappahannock.

To Mike Wenger, they're disrupters of the county's natural habitats.

"If you see a tree where nothing has nibbled on the leaves, it's taking up water, it's taking up space, and it's not contributing anything," said Wenger, a board member of the Rappahannock League for Environmental Protection who teaches a course on invasive species at the Rappahannock Center for Education. "If something doesn't feed the insects, you don't feed the birds and small mammals. It can affect the whole ecosystem."

He acknowledges that it can be no small challenge to remove invasive species from a property. It can be expensive and take years to do so effectively. But the first step is to know the enemy. Here's his list of 10 invasive plants and animals among the many that pose current or future threats to Rappahannock's ecosystem.



1 Ailanthus: Native to Southeast Asia, the so-called "Tree of Heaven" is now common in this region. It's a triple threat in that it grows quickly and takes over the canopy, is a prolific seed and it produces a biochemical that could harm other organisms.



2 Oriental bittersweet: A vine that smothers plants and kills trees. It has become very widespread in Rappahannock.



3 Garlic mustard: Another prolific seed producer that can overwhelm and choke native ground cover, particularly in forests.



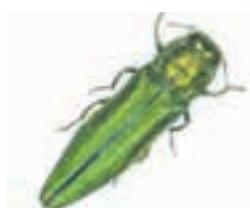
4 Japanese knotweed: A relentless and rapid-growing plant that has taken over many stream beds in Rappahannock. It not only contributes to soil erosion, but also is very difficult to eradicate.



5 Autumn olive: A tree that can grow 15 to 20 feet tall, it was once viewed as a way to control erosion. But it spreads quickly and displaces native trees in forests. It also can take over fields left fallow.



6 Perilla mint: A plant that can be harmful to livestock, even when baled into hay.



7 Emerald ash borer: An insect that attacks and destroys most species of ash trees. It has damaged forests in Rappahannock and Shenandoah National Park.



8 Spotted lanternfly: Although it has not yet been seen in the county, the lanternfly has been reported in Winchester and Frederick County. It's potentially a big threat to local grapevines, fruit crops and other tree species, including oaks, maples, pines and walnuts.



9 Feral hogs: Considered a nuisance species in the Virginia state code, they can be destructive to agriculture and carry diseases that can spread to livestock and humans. No sightings yet in Rappahannock, but they have been reported in Culpeper County.



10 House sparrows: They will kick native birds out of their nest boxes, and even kill other adult birds and nestlings. Since they are not protected as migratory birds, you can remove their nests from bird boxes. But be careful not to remove nests of native birds.

More information is available at invasive.org

CLIMATE

From Page 11

"People make a disconnect between the abstract notion of invasive species and driving by and seeing kudzu all over a mountain," said Mike Wenger, an invasive species expert with the RLEP. "They look at it and say, 'That looks like crap.' They don't realize that what they're seeing is invasive species."

Beyond how they degrade Rappahannock's pastoral views, invasives can have a lasting, harmful effect on a community's ecosystem, according to Celia Vuocolo, a wildlife habitat and stewardship specialist at the Piedmont Environmental Council.

"Invasive species are one of the top causes of biodiversity loss," she said. "They throw a wrench into how our natural systems work."

Nick Lapham, owner of The Farm at Sunnyside, knows firsthand the damage invasive species can do. He estimates that another notorious invasive, the emerald ash borer, has killed hundreds of trees on his property.

"There's a big patch of woodlands that's now totally dead," he said. "Every ash tree that's not treated is going to die or is dead. That insect has had a transformative impact on the forests of Rappahannock County. And it happened in the blink of an eye."

"If we're not careful, we're going to have a less and less diverse ecosystem in the county," Lapham added.

"When you look at the trends—warmer winters, warmer nighttime temperatures, unpredictable patterns of precipitation—a lot of the impact has to do with how these stresses combined. Together, climate change and invasive species put a lot of stress on the system."

Beyond resilient

It's true that farming has always involved a roll of the dice. But now it can feel that the numbers on the dice are constantly changing.

"There are always year-to-year changes in the weather. Farmers know how to manage that," Shortridge said. "But the window of what they expect to see is shifting in a lot of different ways. Subtle ways that people don't always grasp if they think it's just getting warmer."

"When you read that because of climate change, the average temperature will be a few degrees higher by the end of the century, it doesn't sound that critical," she added. "But when you look at what that actually means, and the day-to-day weather we experience, it can be quite severe."

So, for those whose lives and livelihoods revolve around the fickleness of nature, it's no longer enough to be old-fashioned farmer resilient. These times require even more resourcefulness and a sharper focus on expecting the unexpected.

It means shifting to plants that are better able to withstand stressful weather twists or planting summer annuals in grazing fields—such as sorghum-sudangrass and pearl millet—to get through hot, dry spells. And it means embracing diversity.

"With climate change, the more diverse your farm can be, the more adaptable you are," said Carlberg. "Back in 2018, that was a really tough year. We lost about 25% of our production. But because of our diversity, we still had a profitable year. The fact that we grow 60 different things really helped. When the cauliflower was drowning, the kale and cabbages were doing fine."

It also is important to seize opportunities that the shifting seasons provide. Bill Gadino points out that the milder winters have made it possible to grow merlot grapes here. At the same time, he says the website he visits most often on his iPad is the National Hurricane Center's. This year alone, 12 tropical storms made landfall in the U.S., and 10 dumped heavy rains on Virginia, according to the National Weather Service.

Long-term impact

With so much day-to-day unpredictability, it's that much harder to figure out what climate change ultimately will mean to a place like Rappahannock. Ben Watson, a climate extension specialist at the Virginia Institute for Rain Science, believes that rising temperatures will drive more plants and animals northward, particularly to higher altitudes.

"So, it raises the conservation value of land in the foothills and in Rappahannock County," he said. "To keep these areas intact will become a unique management challenge for the conservation community, but it's something we absolutely need to do."

Rachel Bynum wonders if a different kind of migration could affect the county. If coastal flooding creates "climate refugees," they likely will seek safer havens inland.

"We could have more stresses placed on our beautiful, sparse community," she said. "That could be one of the biggest effects our community will feel."

Stacey Carlberg's concerns have more to do with the ability of farmers around the country to adapt to the increasing randomness of extreme weather.

"If climate change continues unabated, frankly, it will be harder to produce food," she said. "I think you will start to notice that in the supply chain."

Her hope is that living with a pandemic for much of this year will get people to think more seriously about climate change.

"It's another big, very uncertain topic where people aren't sure how it's going to go, or how it's going to affect them individually," she said.

"But it will affect us."

WHAT IS FOOTHILLS FORUM?



Foothills Forum is an independent, community-supported nonprofit tackling the need for in-depth research and reporting on Rappahannock County issues. The group has an agreement with Rappahannock Media, owner of the Rappahannock News, to present this and other reporting projects.

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