

State Technical Committee Meeting
June 27, 2019 at 10:00 a.m.
NRCS State Office Conference Room

A G E N D A

10:00 – 10:15	Welcome, Opening Remarks Highlights of the 2014 Farm Bill	Julie Hawkins, NRCS
10:15 – 11:00	Source Water Protection in Virginia	Raven Jarvis, Office of Drinking Water Virginia Department of Health Nikki Belleza, Fairfax Water
11:00 – 11:45	2017 Ag Census Data for Virginia	Herman Ellison, USDA, National Agricultural Statistics Service
11:45 – 12:15	Forest Action Plan of Virginia	Bryant Bays, Virginia Department of Forestry
12:15 – 12:30	2018 Farm Bill Questionnaire Highlights	Ron Wood, NRCS
12:30 – 12:40	Easement Valuation for FY20	Diane Dunaway, NRCS
12:40 – 1:00	Soil Health and Organic Farming	Mark Schonbeck, Virginia Association for Biological Farming Policy Liaison Organic Farming Research Foundation

Adjourn



Next Meeting – TBA

NRCS State Office, Richmond, Virginia

Thursday, June 27, 2019 @ 10:00 a.m.

Name (Please print.)

Bryant Bais
Mike Nardolillo
Mark Schonbeck
Nicki Bellezza
Raven Jarvis
Sylvia Malm
Marilyn Knight
David Byrd
Gray Anderson
Jon Roller
Jen Perkins
Lauren Fox
Zachary Sheldon
Todd Groh
GERALD STEWART
Deen Cumbia
SETH GEFMAN
DIANE DUNAWAY
DAVID BRYAN
Matt Kowalski
Jill Auburn
Stacey Bradshaw
Chad Wentz
Emily Henry
Herman Ellison
David Kriz
Patrick Vincent
Julie Hawkins
Ren Wood

Agency

Va Dept of Forestry bryd
ICPRB MNA
VA Assoc Biological Fm /
Organic Farming Assoc Fdn

Email

Va Dept of Forestry bryant.bays@dof.virginia.gov
 ICPRB MYNARDOLILLI@ICPRB.ORG
 VA Assoc Biological Farm / Organic Farm Research Fdn Schonbeck mark@gmail.com
 Fairfax Water nbellezza@fairfaxwater.org
 VDH - CDW raven-jarni@vdh.virginia.gov
 GWPC smalm@supc.org
 National Source Water Collab sylvia.mdm205@gmail.com
 U.S. Fish & Wildlife Service marilyn-knight@fws.gov
 " david-byrd@fws.gov
 ABIF gray.anderson@digit.virginia.gov
 Ecosystem Services jon@ecosystemservices.us
 VDACs jennifer.perkins@vdacs.virginia.gov
 Pamunkey Indian Tribe lauren.tox@pamunkey.org
 The Nature Conservancy zachary.sheldon@tnc.org
 VDOF todd.groh@dof.virginia.gov
 EASTERN CHICKAHOMNY TRIBE JERRY.STEWART@CIED.ORG
 VA Dept of Forestry dean.cumbia@dof.virginia.gov
 Trout Unlimited scottfrana@tu.org
 NRCS DIANE.DUNAWAY@USDA.GOV
 DCR david.bryan@dcv.virginia.gov
 CBF mkowalski@cbf.org
 VABF jill.auburn@verizon.net
 NRCS stacey.bradshaw@usda.gov
 NRCS chad.wentz@usda.gov
 F&A emily.husley@usda.gov
 NASS herman.ellison@usda.gov
 NRCS david.kriz@usda.gov
 NRCS patrick.vincent@usda.gov
 NRCS julie.hankins@usda.gov
 NRCS ron.wood@usda.gov

State Technical Committee Meeting

NRCS State Office, Richmond, Virginia

Thursday, June 27, 2019 @ 10:00 a.m.

Name (Please print.)

Agency

Email

Kristin Hughes Evans	via phone	Sustainable Ches.	
Kristen Saacke Blunk	via phone	Headwaters LLC	
Beth Garcia	via phone	EPA	
Kathleen Anderson		NRCS	
Dr. Marcus Comer	via phone	BFLT	
Marc Puckett	via phone	DGIF	
* 3 unidentified callers via phone			

State Technical Committee Meeting
Thursday, June 27, 2019, at 10 a.m.
NRCS State Office, Richmond, Virginia
Large Conference Room

Those in attendance were:

Gray Anderson, Virginia Department of Game and Inland Fisheries (DGIF)
Jill Auburn, Virginia Association for Biological Farming (VABF)
Bryant Bays, Virginia Department of Forestry (VDOT)
Nikki Belleza, Fairfax Water
David Bryan, Department of Conservation and Recreation (DCR)
David Byrd, U.S. Fish and Wildlife Service (USFWS)
Seth Coffman, Trout Unlimited (TU)
Dr. Marcus Comer, Black Family Land Trust
Dean Cumbia, Virginia Department of Forestry (VDOT)
Herman Ellison, National Agriculture Statistics Service (NASS)
Lauren Fox, Pamunkey Indian Tribe
Beth Garcia, Environmental Protection Agency (EPA)
Todd Groh, Virginia Department of Forestry (VDOT)
Emily Horsley, Farm Service Agency (FSA)
Kristen Hughes-Evans, Sustainable Chesapeake
Raven Jarvis, Virginia Department of Health-Office of Drinking Water (VDH-ODW)
Marilyn Knight, U.S. Fish and Wildlife Service (USFWS)
Matt Kowalski, Chesapeake Bay Foundation (CBF)
Sylvia Malm, Groundwater Protection Council (GWPC)
Mike Nardolilli, Interstate Commission on the Potomac River Basin (ICPRB)
Jen Perkins, Virginia Department of Agricultural and Consumer Services (VDACS)
Marc Puckett, Virginia Department of Game and Inland Fisheries (DGIF)
Jon Roller, Ecosystem Services
Kristen Saacke Blunk, Headwaters LLC
Mark Schonbeck, Virginia Association for Biological Farming (VABF)
Zachary Sheldon, The Nature Conservancy (TNC)
Gerald Stewart, Eastern Chickahominy Tribe
Julie Hawkins, NRCS, Assistant State Conservationist-Programs
Stacey Bradshaw, NRCS, Soil Conservationist
Diane Dunaway, NRCS, Easement Specialist
David Kriz, NRCS, Assistant State Conservationist-Water Resource Operations
Patrick Vincent, NRCS, Farm Bill Program Specialist
Chad Wentz, NRCS, State Resource Conservationist
Ron Wood, NRCS, Farm Bill Program Specialist
Kathleen Anderson, NRCS (Recorder)
*3 unidentified callers on the conference line

Julie Hawkins, NRCS Assistant State Conservationist-Programs, welcomed everyone to the meeting. On behalf of Jack Bricker, our State Conservationist, we thank you for your time and attendance.

The new Farm Bill was signed December 20, 2018. We had hoped to provide additional information on the new bill but more guidance has yet to be released.

We have had much success with the 2014 Farm Bill and want to relish in that a bit. We are eleventh in the nation in EQIP (excluding the outliers of Texas and California), and are fourth east of the Mississippi River, behind Mississippi, Georgia, and Tennessee in obligations to farmers and private landowners. This represents a tremendous amount of work by both our staff and our participants. More than half of livestock applications and cropland / forestry applications were funded.

Many owners/operators held contracts under the 2014 Farm Bill. There were 2,424 individuals or entities, and of this amount, 1,544 (64%) were beginning, limited resource, socially disadvantaged, or veteran farmers.

Top practices were Fence, Access Control, Watering Facility, Nutrient Management, Livestock Pipeline, Heavy Use Area Protection, Prescribed Grazing, Forage and Biomass Planting, Cover Crop and Conservation Crop Rotation.

High tunnel was a new practice introduced in 2010, as an "Interim practice." An interim practice is given a three-year period of evaluation. It was deemed successful, and so was fully adopted in the field office technical guide during the 2014 Farm Bill. It was a national priority under the 2014 Farm Bill.

The new 2018 Farm Bill has designated 10% funding overall to source water protection across the country.

(See also the handout scanned with this report.)

Raven Jarvis, Virginia Department of Health-Office of Drinking Water (VDH-ODW) — Ms. Jarvis discussed source water programs in Virginia.

The mission of the Office of Drinking Water is to ensure that Virginians have access to an adequate supply of clean, safe drinking water that meets or exceeds the federal and state drinking water standards.

Source water protection basics: Protecting source water benefits public health and confidence, as well as the economy and the environment.

The Safe Drinking Water Act (SDWA) in 1996 required states to create a Source Water Assessment Plan (SWAP). By 1999, the Virginia Department of Health (VDH) developed its SWAP. The SWAP brought forth the Source Water Protection Plan (SWPP), and next was SWPP implementation. The SWPP program is voluntary. There are benefits for utilities to be involved with this, so that they may proactively protect their water supplies. Treatments for removing contaminants are expensive and energy intensive. Care must be taken when using water treatment disinfectants. Utilities must be vigilant in watching for emerging contaminants.

The price to correct a situation of contamination is often very high. The cost of remediation activities, replacing water supplies, and providing alternate water supplies, will vary according to the problem. Several examples were given of towns that had contaminants in their water.

- Perryton, Texas, spent \$250,000 to remedy the contaminant carbon tetrachloride found in its groundwater.
- Mililani, Hawaii, needed to build (\$2.5 million) and operate (\$154,000 annually) a new treatment plant because of pesticides and solvents in groundwater.
- Montgomery County, Maryland, had to install new water lines and provide free water to its customers due to solvents and freon in groundwater. This cost \$3 million, plus \$45,000 per year for 50 years.
- Milwaukee, Wisconsin, spent \$89 million because of cryptosporidium in river water. The upgrade to the system, along with related costs to the water utility, city, health department, and other costs from the disease outbreak, was \$89 million.

Office of Drinking Water Assistance: ODW has some helps for others in achieving and maintaining clean drinking water.

Source Water Assessment maps are updated and provided to waterworks. ODW has shared GIS files with NRCS.

Source Water Protection Plans help identify protection areas, assess potential sources of contamination, and discuss implementing a protection strategy for clean water.

Other ODW assistance and funding includes:

- SWP contractors
- Direct technical assistance
- Wellhead protection implementation grants

For more information, see the Office of Drinking Water website.

Other Partners:

- Rural Water Association
- EPA Region 3 Source Water Protection Program
- Shenandoah Watershed

Spread the word and collaborate to protect Virginia's drinking water.

(See also the handout scanned with this report.)

Nikki Belleza, Watershed Protection Specialist, Fairfax Water — Ms. Belleza discussed Fairfax Water and water protection in the Potomac River watershed.

Fairfax Water is the largest public water utility in Virginia, and one of the 25 largest in the country. It serves nearly 2 million people in Alexandria, Dulles, Fairfax City, Fairfax County, Falls Church, Fort Belvoir, Herndon, Loudoun, Prince William, and Vienna. Fairfax Water treats a daily average of 171 million gallons of water at its two treatment plants, and also purchases water from two plants in the Washington, DC, area.

Fairfax Water has two primary sources:

The Occoquan Reservoir (from the Occoquan River)

- The upper dam was constructed in 1957.
- Dam elevation was increased by two feet in 1982, to increase storage capacity.
- The reservoir covers 590 square miles, is 15 miles long, is an average depth of 13 feet, and is less than 0.2 miles wide.

The Potomac River (The Potomac River Watershed is part of the Chesapeake Bay Watershed)

- The Potomac River Watershed covers 11,000 square miles.
- The Potomac River Watershed encompasses land in Maryland, Pennsylvania, Virginia, and West Virginia, and Washington, D.C.
- The river is a source for many public drinking water utilities.

Amendments were made to the Safe Drinking Water Act (SDWA) to require states to have Source Water Assessment Programs (SWAP), to collect information on critical areas in a watershed. Fairfax Water developed a SWAP of its Potomac and Occoquan areas, including areas slightly outside of the required expanses.

In compiling a SWAP, it is important to complete an inventory and a map of a watershed to assess existing and potential contamination. This includes:

- Wastewater systems: sewers, septic systems (nutrients, bacteria, viruses, pharmaceuticals)
- Transportation: highways, rail lines, airports, streets (petroleum products, road salts)
- Commerce/Industrial: gas stations, dry cleaners, mining (petroleum products, chemicals, acid mine drainage)
- Agriculture: feeding operations, crop production, irrigation, chemical application (pesticides, nutrients, bacteria, viruses, petroleum products)
- Residential: septic systems, lawn care, storage tanks (pesticides, nutrients, bacteria, viruses, petroleum products)

After evaluating an area for existing and potential contaminants, a Source Water Protection Strategy should be developed with specific plans for that area. An example of this could be the recommendation that storage sheds are to be closed, to contain fuels or chemicals; trees can provide a natural buffer for water quality, but dead trees to be removed must not to be placed in the reservoir; and down-zoning, to reduce the ratio of number of residences to one per five acres.

Grants, education, monitoring, and shoreline stabilization projects are source protection strategies to encourage clean water.

The Potomac River Drinking Water Source Protections Partnership (DWSPP) is a “coalition of water utilities and state, interstate, and federal authorities working together to amplify regional source water protection efforts since 2005.” Collaborating on shared partnership goals to identify priorities, coordinate efforts, share information (ex.-quarterly meetings) go far towards the aim of protecting drinking water sources and providing clean water. The Potomac River DWSPP has been “amplifying regional source water protection efforts since 2005.”

Work groups looked at the source water assessments, to address priority concerns, such as agricultural issues, early warning and emergency response, emerging contaminants, urban and industrial issues, and water quality data. Emerging contaminants and pathogens are especially high priority (fecal contamination, accidental spill locations, and petroleum contamination).

Agricultural issues workgroup strives to build alliances with academic institutions and agricultural agencies. An important goal is to reduce difficult-to-treat contaminants, such as the parasite *cryptosporidium* (Crypto), which is resistant to chlorine, and causes gastrointestinal illness.

The Crypto Source Tracking Project in Potomac Water Shed in 2008 looked at the DNA in the water. Fourteen different species or genotypes were detected. The information was evaluated according to genotyping. Some Crypto species affect only cattle, and some only humans. Certain Crypto species are present only at specific times of the year. Pursuing best management practices (BMP) was an important component in addressing this.

Working together, we can protect our drinking water.

The “2018 Farm Bill encourages the protection of drinking water sources has designated 10% of funding is towards source water protection.”

(See also the handout scanned with this report.)

Herman Ellison, State Statistician, National Agriculture Statistics Service (NASS) — Mr. Ellison discussed the highlights of the 2017 Census of Agriculture.

The Census of Agriculture takes place every five years. The last one was in 2012. The census looks at farms and ranches, economics, and demographics.

The presentation conveyed the information visually through maps, charts and tables. In Virginia, 75.2% responded to the census, and across the nation, 71.8% responded. The survey was answered by respondents in one of four ways: by mail, internet, phone, or field. In comparing data between the 2012 and 2017 questionnaires, response by using the internet response had increased.

Farms and ranches: In Virginia, the number of farms and the acreage in farms each lost 6% from the previous census. In 2017, there were 43,225 farms and 7.8 million acres of land in farms. However, the average farm size remained the same as ten years earlier at 180 acres each. Almost 31% of land in the state is considered farmland. The ten Virginia counties with the highest number of farms were Rockingham, Augusta, Washington, Bedford, Loudon, Pittsylvania, Fauquier, Scott, Franklin, and Shenandoah, ranging from 2,026 to 965 in number for these top ten.

In 2017 in the United States, the number of farms was 2,042,221, encompassing 7.8 million acres, and 39.8% of all land was listed as farmland. The type of use includes mostly permanent pasture, cropland, and woodland. There was a slight increase in cropland, and a slight decrease in the other two, since 2012. The number of small farms (1-9 acres) had increased, medium sized farms (10-49 acres) and larger farms (50-179 and 180-499 acres) decreased, and very large farms (500-2,000 acres) remained the over the past five years.

Economics: The United States generated \$389 billion in total market value (TMV) in 2017. In Virginia, agriculture generated \$4 billion in TMV. The top ten counties for this type of reckoning were Rockingham, Augusta, Accomack, Page, Shenandoah, Orange, Northampton, Amelia, Southampton, and Pittsylvania, bringing in from \$796 (Rockingham) to \$73 million (Pittsylvania).

The value of products, crops and livestock has increased over the past 20 years. The 2017 numbers show that livestock sales still lead the way, making up 66% of the state's \$4 billion TMV. About 85% of our farms have sales less than \$50,000. Smaller operations contribute a lot to farming.

In 2017, the ten highest to lowest crops ranked by sales were: poultry and eggs, cattle and calves, grains and oilseeds, milk, nursery (including greenhouse, floriculture and sod), other crops and hay, vegetables, tobacco, hogs and pigs, and aquaculture.

Farm expenses were also observed. Feed, fertilizer and fuel outlays decreased. Labor (highest expense), supplies and repairs, chemicals, interest, livestock purchases, and seed (lowest expenses) increased. The per farm average net income rose 71% over the past five years.

Demographics: Many things have changed with the farm producers themselves. The average age of farmers in Virginia has increased to 58.5 years of age, increasing by 2.8 years since the last agricultural census. Young producers (age 35 years or less) make up 8.5% of the state's total farmers. New and beginning farmers (have been farming ten years or less) are 27% of all producers in Virginia. This is the same percentage for the U.S. for this category. Producers with military service is 13% of Virginia farmers, and 11% for the nation.

The number of female producers increased by 18% in the past five years, whereas male producers decreased by nearly 5%. The average age of each is 57.4 years and 59.1 years, respectively. Virginia's female farmers number 25,509 (36% of total farmers). Males number 45,085. The percentage of female producers across the United States is 27% of its total farmers.

Also addressed in the census is ethnicity/race. Hispanic, Asian, and Native Hawaiian producers have gone up, but black and American Indian farmers have decreased statewide. The highest number of minority farmers are in the following counties:

- Black—Halifax, Mecklenburg, Pittsylvania, Fauquier, and Southampton
- Hispanic—Loudoun, Augusta, Fauquier, Rockingham, and Culpeper
- American Indians—Franklin, Halifax, Stafford, Gloucester, and Rappahannock
- Asian—Loudon, Fauquier, Amelia, Accomack, and Fairfax

The 2017 Census of Agriculture has given an interesting picture of this important segment of Virginia. *(See also the handout scanned with this report.)*

Bryant Bays, Regional Forester, Eastern Region, VDOF—Mr. Bays discussed the VDOF "Forest Action Plan of Virginia."

The "Forest Action Plan of Virginia" coordinates with outside agencies, addressing the prioritization of resources for all forest lands, both public and private. Stakeholders in this important endeavor include the Virginia Department of Game and Inland Fisheries (VDGIF), the State Forest Stewardship

Coordinating Committee, the State Technical Committee, applicable federal land management agencies, and military installations. Input is by review/comments, surveys, and meetings. There are two required plans that need to be incorporated into the Forest Action Plan, the Community Wildfire Protection Plan and the State Wildlife Action Plan.

The first FA plan was completed in 2010. A new one is compiled every ten years, with updates every five years. The current 10-year plan will go through June of 2020. The goals are to conserve/manage, protect from threats, and enhance public benefit.

The Statewide assessment of forests looks at the condition, trends and threats to the forest lands. Priority areas are identified in the in the state and in regions between the states. Certain maps are especially helpful to look at risks (of wildfire, insects, diseases), uses, and inventories of forest lands.

Maps are also used to help assess specific issues with diminished resources. For example, the longleaf pine has decreased due to over-harvesting. By evaluating the tree's historic and current ranges, a long-term strategy can be formulated to address this decline.

There are demographic changes that impact Virginia's forests.

- Population is growing in metropolitan areas and near interstate highways, notably the urban sprawl in northern Virginia, Richmond, and Virginia Beach. By 2040, it is expected that areas that are currently rural, such as Hanover and Charles City, will also experience population growth.
- With population growth, there is an increased demand for forest materials, both for traditional wood and non-traditional wood products.
- The aging of the state's population will also affect forest land. The average age of the forest landowner will increase. This raises concerns regarding the land being passed on to the next generation.
- Younger generations may have different views on forestry. Many young people no longer have a direct connection with "being in the woods." Others are interested in more forest-related recreation experiences.
- Demographic changes may result in clashing belief systems regarding different viewpoints of the proper use of forests.

The total number of forest land acreage in Virginia has fluctuated. Looking at the years from 2001 to 2017, forest land decreased during the economic downturn around 2008. Then the acreage went back up due to increased housing construction from 2008-2018.

Another trend is the net growth of tree removal. Statewide, one unit is removed for every 3.01 hardwoods. In other words, for every single unit of hardwood that is removed, 3.01 units have grown to replace that one unit.

The types of trees in the forest (forest composition) also vary. In 1940, hardwoods only covered 8.1 million acres. Right now, stands of oak-hickory and oak-pine cover 12 million acres. This is about 78% of forest lands. In looking at composition, upland oaks (such as white oak, chestnut oak) have declined, and need to increase. Other diminished species are that need to be restored are longleaf pine, shortleaf pine and the American chestnut. We do, however, have a lot of lowland oaks (such as willow oak).

Virginia forestland ownership has changed. In 1992, the forestland acreage owned by the forest industry for was 11%. By 2010, that ownership decreased to 1%. Other owners include national, public, and private forests.

A multi-prong plan of action is essential in conserving the forestland base. Some include reaching out to owners (as forest lands are passed down generation-to-generation); promoting large, connected forested areas (good for wildlife and timber) and ensuring sustainable usage.

Of course, forests must be protected from harm. The danger often comes to mind first is wildfire. In Virginia, more homes are now located in forested areas, bringing some unique challenges. It is difficult to fight a fire in a populated area. VDOF responds to about 800 fires a year, which average 10,000 acres per fire. Burning debris is a common cause. Other threats to wooded areas are insects and disease.

The public benefit is enhanced by addressing various aspects of forest health. Improved water quality and quantity, a growing forest economy, and expanding and improving urban and community forests result in a win-win situation.

Since woodlands often are not constrained by state boundary lines, the needs of Virginia forests are also the needs of surrounding states. Multi-state needs are the Chesapeake Bay restoration, diminished species restoration (including upland oak initiatives), insect infestation and damage (especially the emerald ash borer and the southern pine beetle), wildfire prevention and wildlife urban interface mitigation, urban wood utilization, and general land conservation.

The Forest Action Plan is for other states, too, not just Virginia. Other states are creating their own forest action plans. Though the southern region is on this timeline, other states have their own plans on a different timeline. The result will be a comprehensive assessment for the nation.

(See also the handout scanned with this report.)

Julie Hawkins — Virginia was one of the first states in the nation to dedicate EQIP funding for forest land when that was first authorized in the former 2002 Farm Bill.

Ron Wood, NRCS Farm Program Specialist — the 2018 Farm Bill Virginia NRCS questionnaire was sent out this spring to Local Working Groups, State Technical Committee members and our staff.

The questionnaire was divided into sections: resource concerns and sub-resource concerns, and the programs themselves. The presentation focused on EQIP and CSP portions of the questionnaire.

SWAPA+H+E are our resource concerns. Ron discussed the priorities by votes. Again for EQIP, the priorities are water quality first followed by soil erosion and soil quality. Each of these 3 priority resource concerns also have priority sub resource concerns (or causes) and Ron reviewed those.

Since 2016, we have used screening tools to make use of time in ranking to decide who gets a higher priority, who gets funding and who gets lower priority. The overwhelming response was to keep using screening tools.

Ron reviewed the Fund pools for EQIP and how funds are distributed between earmarked and general funds and the statutory requirements that we must follow for EQIP General. There is not much wiggle room and a lot of the pie is already spoken for.

Many responses to the questionnaire include requests for us to consider adding practices to our offerings in EQIP in future signup. Additionally, the new Farm Bill allows NRCS State Conservationists to provide for a 90% cost-share/payment percentage for up to ten priority practices. Ron reviewed the votes for practices in the top 20.

CSP resource concerns were also ranked and scored. For CSP, the priorities ranked by responses are soil erosion, soil quality and water quality. As a reminder, EQIP is more basic. CSP is for the advance user/conservationist.

The agency is releasing the new CART Tool which stands for Conservation Assessment and Ranking Tool. CART training in the fall for all states. This will be a big change, probably the biggest since we adopted ProTracts in 2004. CART will help with how farmer and landowner applications are ranked.

Q: STC have subcommittees in other states, does Virginia? Yes, we do have subcommittees of the State Technical Committee. For example, our wildlife subcommittee is led by our state biologist in conjunction with the private lands biologist we share with DGIF. They determine the wildlife priorities for what will be done with the 10% statutory requirement of funding wildlife in EQIP. We do not have one for source water and will need to seek people out who want to address this topic and serve in a subcommittee capacity.

Julie Hawkins addressed one of the comments specific to CSP in the questionnaire. There is some misunderstanding about CSP since the 2017 reinvention of both our staff and farmers. We developed myth busters and example scenarios to our field to help address this. Patrick Vincent is our expert and program manager for CSP.

(See also the handout scanned with this report.)

Diane Dunaway, NRCS Easement Specialist — Diane discussed the easement valuation process. This is referred to as the Geographical Area Rate Cap (GARC) Rate and is the process Virginia NRCS uses to determine land values to pay landowners for WRE easements. We pay 95% of the fair market appraised value since we are purchasing most, but not all of the land rights. This land value determine process was developed by David Faulkner, our Virginia NRCS Natural Resource Economist with the easement program staff. There were no questions from the members. Diane asked for comments and questions to be sent to her

(See also the handout scanned with this report.)

Mark Schonbeck, Virginia Association for Biological Farming (VABF) — Dr. Schonbeck discussed managing risks in organic production through effective soil health practices.

As NRCS has often stated, there are four principles to soil health:

- Keep soil covered

- Diversify the cropping system
- Maintain living roots
- Minimize disturbance

Organic farming focuses on increasing the health of the soil, rather than depending on the use of synthetic substances such as herbicides, fertilizers, etc., to produce a crop. There are many good reference materials available on this topic. Dr. Schonbeck passed around several guides for the meeting attendees to examine. One booklet is a publication that he had produced himself, “Reducing Risk through Best Soil Health Management Practices in Organic Crop Production.” Also, the Organic Farming Research Foundation (OFRF) from Santa Cruz, California, produced a report in 2016 that emphasized the importance of soil health. Importantly, the OFRF tells how good soil health reduces farm risk.

There are production risks in organic farming. Nitrogen limitation, phosphorus excesses, and weeds, are just a few of the concerns that the organic farmer faces as he employs less-conventional techniques in production. There are higher costs of using nutrient sources in accordance to National Organic Program rules. Organic production is a knowledge intensive system; soil health has been important for organic farming since it began.

But, the risk-mitigating factors in organic farming are long lasting. A few of the many benefits are improved water quality, decreased exposure to chemicals, and better drainage.

There are risk factors when transitioning from conventional agriculture to organic agriculture. The soil maybe depleted and compacted, and low on organic matter. Weeds may be a problem when the use of herbicides is stopped. There may also be lower crop yields during this time while the soil recuperates from the previous practices, taking several years to re-build the soil. This in turn can cause economic losses as well as discouragement for the producer.

Healthy soil reduces risk in organic production.

Physical properties—soil organisms and organic matter (SOM)

- Timely planting
- Better crop emergence
- Improved tilth (structure)
- Sustained fertility
- Less erosion

Water relations—absorbs, holds and delivers moisture

- Crop are more resistant to drought
- Less irrigation is needed
- Reduced run-off and erosion
- Proper drainage
- Fewer delays in planting

A notable study has been taking place on the Rodale Institute in eastern Pennsylvania. A 30-year, long-term systems trial has been comparing, side-by-side, corn grown by conventional

methods with organic methods. The conventionally-grown corn yielded 31% lower in severe drought, compared the acreage using the organic soil-building, restorative method.

Crop nutrients—from the decomposition of plant residue, manure, and other materials

- Lower fertilizer costs
- Improved water quality
- Appropriate levels of nutrients available

Diversifying the farming systems

Incorporating diversity, such as cover crops, cash crops, forage crops, and crop-livestock integration, into an agricultural system can be a win-win situation.

The USDA Sustainable Agriculture Research & Education (SARE) cover crop survey from 2012 to 2016 illustrated the benefits of healthier soil in growing corn and soybeans. There were higher: yields, water retention, soil organic matter; and lower compaction and number of weeds. Rye, crimson clover, and radish were the cover crops mainly used in this study.

In another example, winter rye increased SOM, water content, and yields in growing cotton.

An organic farm in central Kentucky practices this diversity—rotations of vegetables, cover crops, mob grazing, and pasture. The University of Kentucky works with this farm to monitor its soil health.

Adjusting nutrient inputs

The amount of nutrients in the soil are needed in a correct balance. More nutrients are not always better. Sometimes ascertaining the soil's nutrient needs are a little more involved for organic farming, when needing to “translate” the results of a soil test (which often recommends conventional fertilizer) to apply natural soil amendments. Thoughtful strategies must be employed in determining how best to adjust the soil's nutrients.

Properly maintaining soil using organic techniques, produces “living soil.”

(See also the handout scanned with this report.)



United States Department of Agriculture



Natural Resources Conservation Service

Julie Hawkins

Assistant State Conservationist, Financial
Assistance and Easement Programs

State Technical Committee meeting
June 27, 2019



Natural
Resources
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nrcs.usda.gov/



2018 Farm Bill

- The 2018 Farm Bill was signed into law on December 20, 2018



We are excited that the 2018 Farm Bill was passed but we'd like to take a moment to relish is just a couple of our successes in the 2014 Farm Bill!

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EQIP



EQIP Financial Assistance Obligations, by Fiscal Year

In thousands of dollars

Division	2014	2015	2016	2017	2018	2014 Farm Bill
Total	\$936,030.70	\$906,914.00	\$1,083,249.90	\$1,253,638.30	\$1,395,448.70	\$5,575,281.60
Texas	\$84,029.90	\$75,976.40	\$86,003.70	\$132,729.60	\$144,945.50	\$523,685.10
California	\$98,863.00	\$105,546.90	\$93,080.60	\$88,012.80	\$100,620.00	\$486,123.30
Arkansas	\$47,128.60	\$45,170.10	\$44,493.70	\$47,348.00	\$49,390.10	\$233,530.50
Mississippi	\$29,885.10	\$35,987.00	\$39,941.60	\$43,663.40	\$61,249.60	\$210,726.70
Colorado	\$27,774.90	\$29,975.10	\$33,303.00	\$35,493.60	\$42,069.10	\$168,615.70
Georgia	\$22,921.40	\$22,819.00	\$27,599.60	\$36,417.70	\$49,116.50	\$158,874.20
Missouri	\$22,212.20	\$27,801.10	\$28,715.10	\$30,444.90	\$44,678.70	\$153,852.00
Kansas	\$18,425.90	\$21,228.40	\$24,291.80	\$37,248.40	\$41,076.60	\$142,271.10
New Mexico	\$20,892.00	\$22,785.90	\$28,694.90	\$23,892.00	\$42,783.50	\$139,048.30
Tennessee	\$19,916.30	\$20,746.50	\$28,437.20	\$35,014.50	\$30,164.40	\$134,278.90
Nebraska	\$26,496.50	\$22,875.10	\$23,417.40	\$28,631.90	\$30,687.70	\$132,108.60
Iowa	\$23,246.90	\$17,786.20	\$18,423.10	\$25,975.50	\$35,467.90	\$120,899.60
Virginia	\$19,226.80	\$14,482.90	\$22,657.10	\$30,297.10	\$28,696.20	\$115,360.10

Resources
Conservation
Service

nrcs.usda.gov/



#4 East of the Mississippi...



...behind
MS
GA
TN



EQIP Demand



Year	Applications Received	Financial Assistance requested in applications	Number of Contracts	Percent of applicants funded	Financial Assistance Obligated
2014	1,556	\$ 25,500,000	799	51%	\$ 19,226,800
2015	2,196	\$ 58,800,000	418	19%	\$ 14,482,900
2016	2,177	\$ 71,700,000	499	23%	\$ 22,657,100
2017	1,562	\$ 52,300,000	635	41%	\$ 30,297,100
2018	1,208	\$ 38,500,000	640	53%	\$ 28,696,200
TOTAL	8,699	\$ 246,800,000	2,991	34%	\$ 115,360,100

AVERAGE: 1,740 applications per year
600 contracts per year
50M in FA requested
23M in obligations



Livestock applications

Livestock Type	2014 Farm Bill Applications Received (CSP, EQIP, RCPP)	2014 Farm Bill Contracts Obligated (CSP, EQIP, RCPP)	Percent Funded
Alpacas	6	2	33%
Aquaculture	91	55	60%
Beef	2722	1354	50%
Bees	28	17	61%
Dairy	271	149	55%
Fish	3	1	33%
Goats	86	43	50%
Horses	97	46	47%
Llamas	4	2	50%
Other Livestock	23	11	48%
Poultry	263	131	50%
Sheep	106	41	39%
Swine	23	11	48%
Turkeys	16	5	31%
Total Livestock	3739	1868	50%
No Livestock	3751	2141	57%
Grand Total	7490	4009	54%

Natural
Resources
Conservation
Service

nrcs.usda.gov/



Cropland/Forestry applications

Predominate Crop Type	2014 Farm Bill Applications Received (CSP, EQIP, RCPP)	2014 Farm Bill Contracts Obligated (CSP, EQIP, RCPP)	Percent Funded
Barley	6	2	33%
Berries	26	19	73%
Corn	1040	646	62%
Cotton	107	67	63%
Grapes	1	0	0%
Grass seed	4	3	75%
Hay	2439	1179	48%
No Crops	602	280	47%
Ornamental Plants	16	11	69%
Other	62	30	48%
Peanuts	12	8	67%
Potatoes	4	2	50%
Sod	2	0	0%
Sorghum	7	3	43%
Soybeans	438	252	58%
Tobacco	167	84	50%
Tree Fruits	15	11	73%
Trees	1796	928	52%
Vegetable	716	467	65%
Wheat	30	20	67%
Grand Total	7490	4009	54%

Natural
Resources
Conservation
Service

nrcs.usda.gov/



2014 Farm Bill Participant Data



2,424 unique individuals or entities held contracts

1,544 (64%) of those are LRF, BF, SDA or Veterans

Number	Applicant Type
1,039	Beginning Farmers
272	Socially Disadvantaged Farmers
195	Veteran Farmers
38	Limited Resource Farmers



Top Practices



Top 10 by Number of times planned and applied	
Conservation Practice	Count of Item
Fence	2,896
Access Control	1,678
Watering Facility	1,648
Nutrient Management	1,409
Livestock Pipeline	1,390
Heavy Use Area Protection	1,303
Prescribed Grazing	1,262
Forage and Biomass Planting	1,201
Cover Crop	1,101
Conservation Crop Rotation	716



Top Practices



Top 10 by Amount planned and applied		
Conservation Practice	Sum of Amount	Unit
Fence	5,197,660	feet
Livestock Pipeline	2,069,995	feet
Heavy Use Area Protection	1,669,598	square feet
High Tunnel System	1,014,395	square feet
Watering Facility	5,645	number
Stream Crossing	4,007	number
Waste Storage Facility	346	number
Nutrient Management	345,094	acres
Cover Crop	139,522	acres
Residue and Tillage Management, Reduced Till	117,268	acres
Prescribed Grazing	99,197	acres



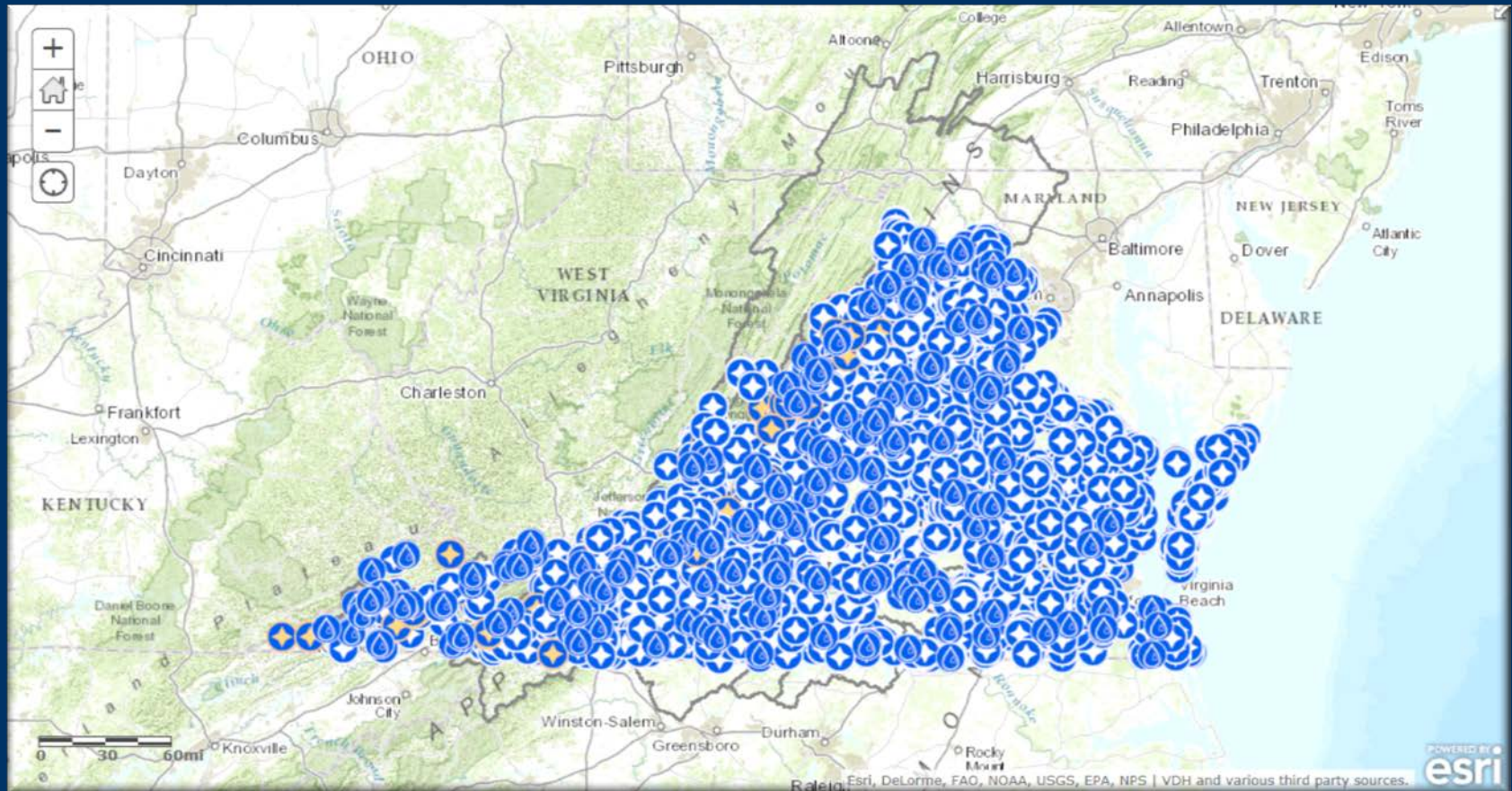
New Practice – High Tunnel System

- **Interim Practice in 2010 under the 2008 Farm Bill**
 - 3 year evaluation period
- **Permanent Standard in the eFOTG the year after the 2014 Farm Bill was signed into law**
 - Mandatory Offering – National Priority
 - FY19 – 245 applications (~100 anticipated)
 - FY18 – 144 applications (99 contracts)
 - FY17 – 118 applications (110 contracts)
- **Recent outreach events have indicated this is the number 1 practice asked about**

Total High Tunnel System Contracts	834
Certified (completed)	639



Source Water Programs in Virginia



NRCS State Technical Committee Meeting

Richmond, VA
June 26, 2019

VDH VIRGINIA
DEPARTMENT
OF HEALTH
Protecting You and Your Environment

Today's Topics

- Source Water Protection Basics
- ODW Assistance
- Other Partners

Our Mission

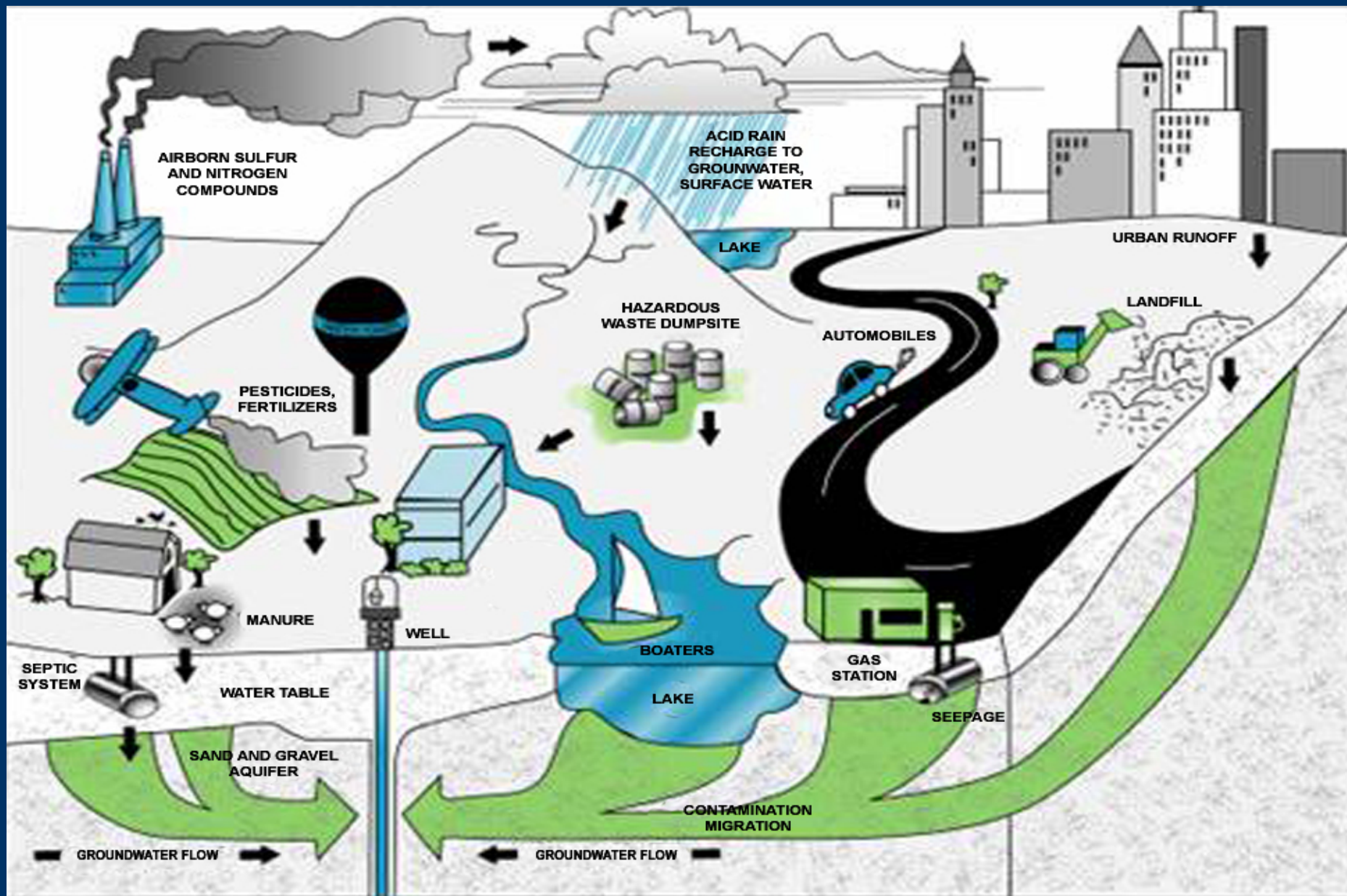
ODW is committed to protecting public health by ensuring Virginians have access to an adequate supply of clean, safe drinking water that meets or exceeds the federal and state drinking water standards.

Definitions

SWAP = Source Water Assessment Plan

SWPP = Source Water Protection Plan

SWPP Implementation = Putting Protection Plans
Into *Action*



Source Water Protection

Why protect source water?

- Public Health Protection
 - Economic Benefits
- Environmental Benefits
 - Public Confidence

History, Success and Challenges of a Voluntary Program

Refocused program to target
implementation



What's in it for utilities?

- Some contaminants are expensive and energy intensive to treat
 - Small systems challenged to afford effective treatment
- Treatment disinfectants can react with naturally occurring materials in water and form disinfection byproducts (DBPs) which may pose health risks
- ‘Emerging Contaminants’

Costs of Remediation

Location	Contaminant	Cost (Estimated)
Perryton, TX	Carbon Tetrachloride	\$250,000
Mililani, HI	Pesticides and Solvents	Plant Cost -\$2.5 million Annual Operation Costs - \$154,000
Montgomery County, MD	Solvents and Freon	\$3 million, plus \$45,000 per year for 50 years
Milwaukee, WI	Cryptosporidium	\$89 million

ODW Assistance

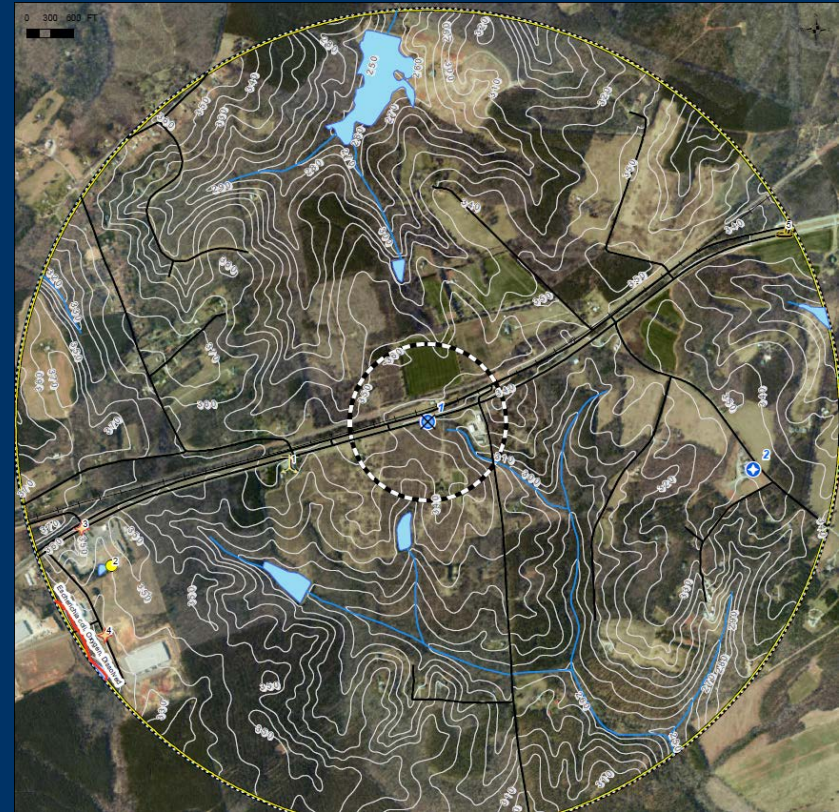
Source Water Assessments

Updated and provided by ODW to waterworks

Includes:

- Susceptibility determination
- Assessment area delineation
- Potential Sources of Contamination
 - » Map
 - » Inventory
 - » Summary
- Land Use map

Have provided GIS files to NRCS, willing to work with partners to share these areas



Source Water Protection Plans

1. Identifying protection areas
2. Assessing potential sources of contamination within those areas and evaluating their risk of entering the public water intake
3. Implementing a protection strategy to manage these risks and prevent drinking water contamination. *(Partners like NRCS may help accomplish these goals!)*

ODW Source Water Protection Assistance

ODW Assistance and Funding:

- SWP Contractors
- Direct Technical Assistance
- Wellhead Protection Implementation Grants



For more information, see:

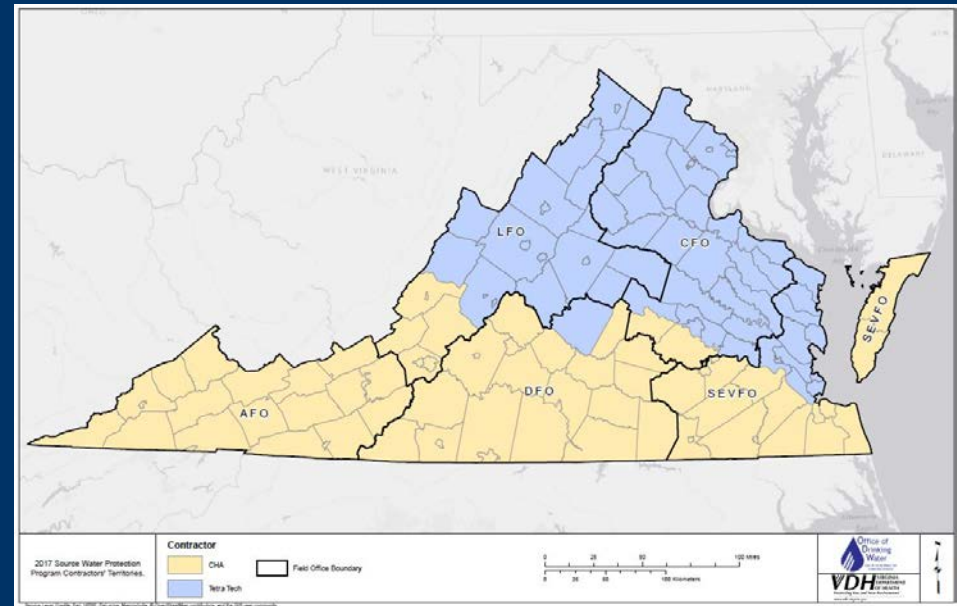
[http://www.vdh.virginia.gov/drinking-water/source-water-programs/
source-water-protection-assistance-funding-opportunities/](http://www.vdh.virginia.gov/drinking-water/source-water-programs/source-water-protection-assistance-funding-opportunities/)

ODW SWP Contractors

Free to community waterworks serving less than 50,000 customers

Assist waterworks in:

- Forming Source Water Protection Committees
- Developing SWPPs
- Implementing Protection Plans
 - Grant Application Writing
 - Developing Public Education



Tetra Tech: Aileen.Molloy@tetrattech.com
CHA: Swarner@chacompanies.com

Direct Technical Assistance

ODW can provide:

- General guidance
- Updated Source Water Assessments
- Source Water Protection Plan Forms
- Public education materials
- Funding information

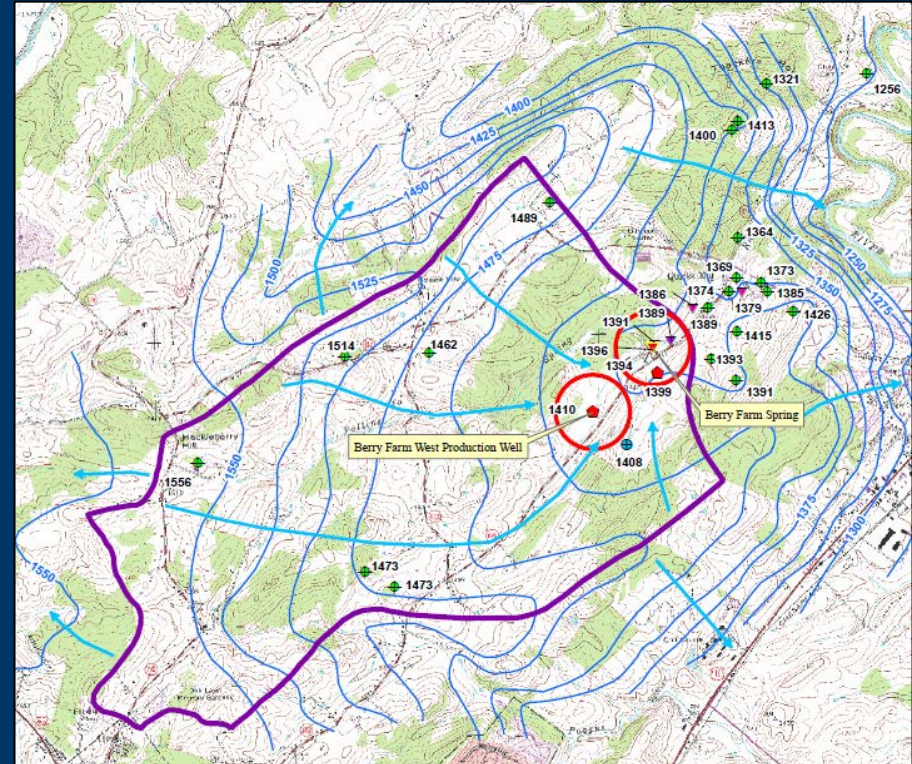
The image shows the cover page of a 'Source Water Protection Plan' form. At the top, the title 'Source Water Protection Plan' is underlined. To the right of the title is a bracketed placeholder for a date: '[Date]'. Below the title, there is a section for 'For' followed by three bracketed placeholders: '[Waterworks Name]', '[PWSID #]', and '[Location]'. Further down, there is a section for 'Prepared by:' followed by a bracketed placeholder: '[Contractor Logo, if appropriate]'. In the lower right area, there is a logo for the Virginia Department of Health (VDH) with the text 'Funded by: VIRGINIA DEPARTMENT OF HEALTH' and 'Protecting You and Your Environment'. Below this is the website 'www.vdh.virginia.gov' and the 'Office of Drinking Water' logo, which includes a stylized water drop and the tagline 'Safe Drinking Water for a healthy Virginia'. At the very bottom right, it says 'Page 1 of 23'.

For more information: <http://www.vdh.virginia.gov/drinking-water/source-water-programs/source-water-protection-program/>

Wellhead Protection Implementation Projects Grants

Funds implementation activities of **community** waterworks with:

1. Groundwater Sources,
2. Protection Plans, and
3. Active Source Water Protection Committees



Our Partners

Rural Water Association

Scott R McNally

Source Water Technician

Virginia Rural Water Association

2138 Sycamore Avenue

Buena Vista, VA 24416

(908)-642-1579

smcnally@vrwa.org



EPA Region 3 Source Water Protection Program

2018 - 2019 Priorities

- Supporting Regional Collaboratives and Partnerships
- Supporting State Source Water Assessment & Protection Programs
- Leveraging Partners and Resources to Further SWP Efforts
- Improving Sustainability and Resiliency through SWP
- Communicating Best Practices in SWP



Future Work

- Shenandoah Watershed
 - Many utilities qualify for SWP assistance
 - Agricultural land use
 - Opportunities for collaboration
- Spreading the word
 - Find other organizations interested in this work – ***NRCS may have overlapping priorities!***

Questions?

Raven Jarvis
SourceWater@vdh.virginia.gov



Source Water Protection

Nicki Bellezza

Watershed Protection Specialist

June 27, 2019



Customer Service Do Business With

Water Supply & Source Water Protection



Virginia's Largest Water Utility

One of 25 Largest Water Utilities in the Country

Nearly 2 Million Retail and Wholesale Customers

Serving Fairfax County, Loudoun, Fairfax City, Falls Church, Alexandria, Prince William, Herndon and Vienna

Two Treatment Plants

2

primary water
sources

171M

gallons processed
daily on average

20%

of all Virginians on
public water are
customers

\$783M

in planned
improvements
through 2027

Occoquan Reservoir

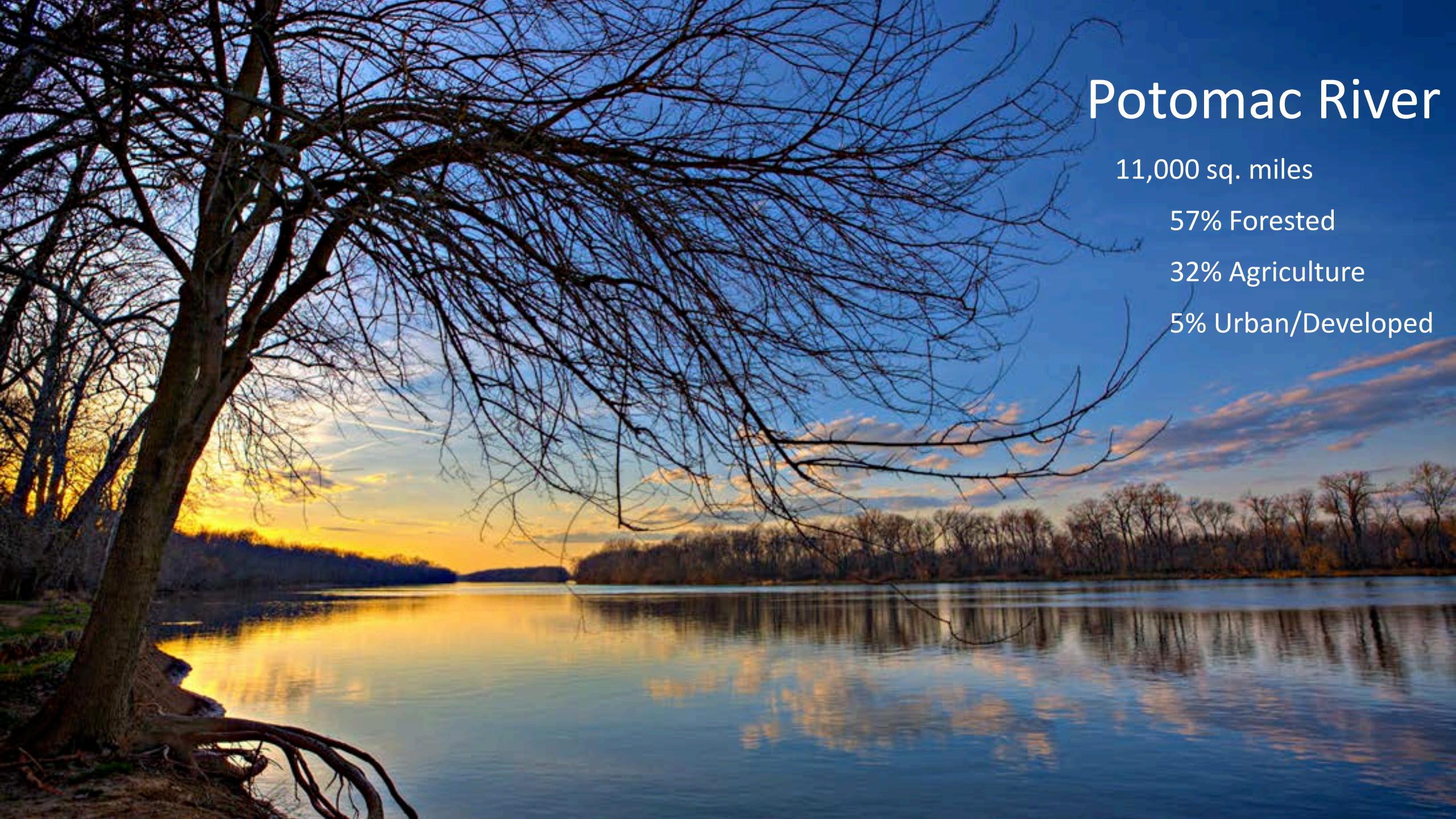
590 sq. miles

51% Forest

22% Agricultural

27% Urban/Developed





Potomac River

11,000 sq. miles

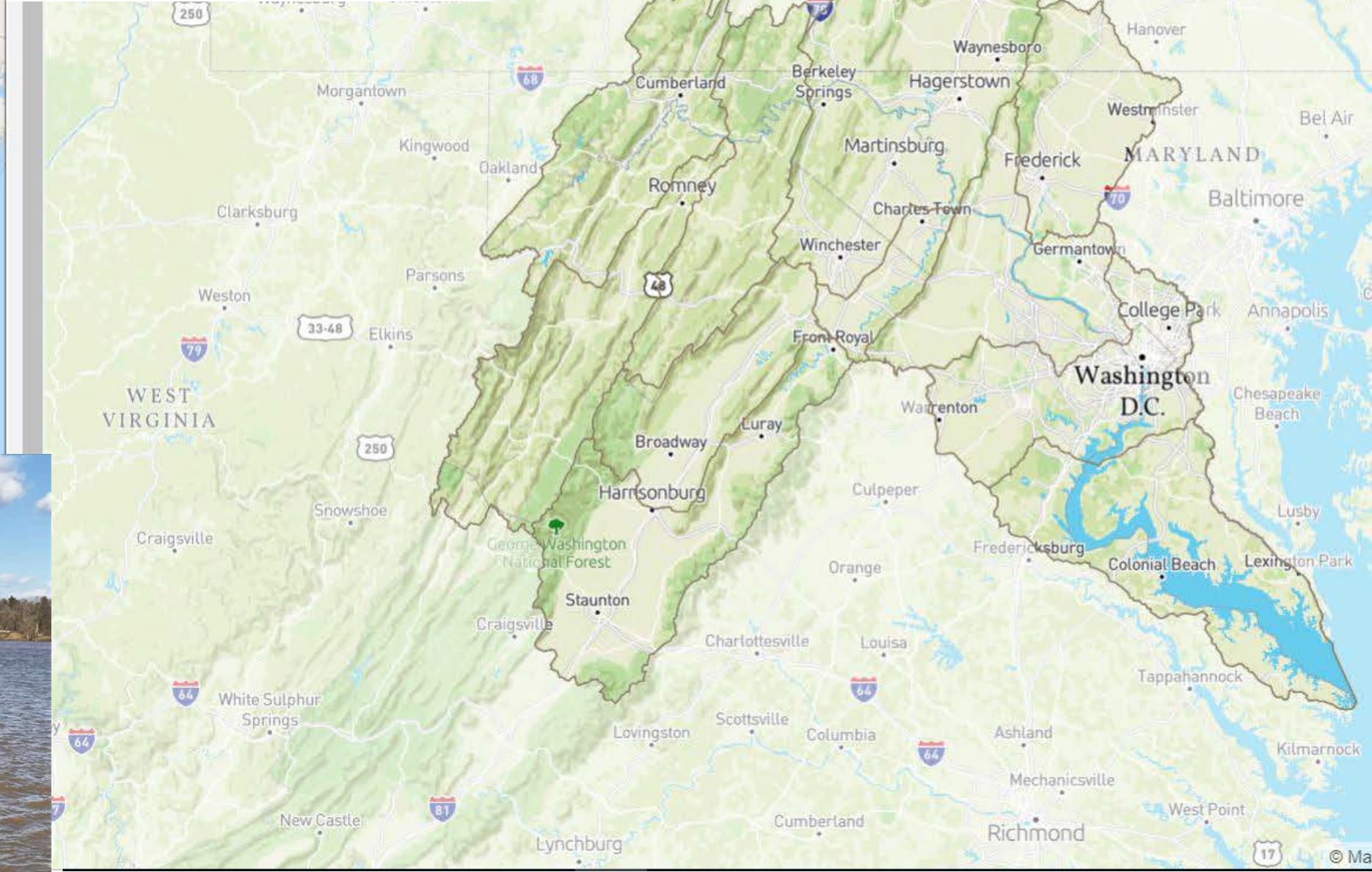
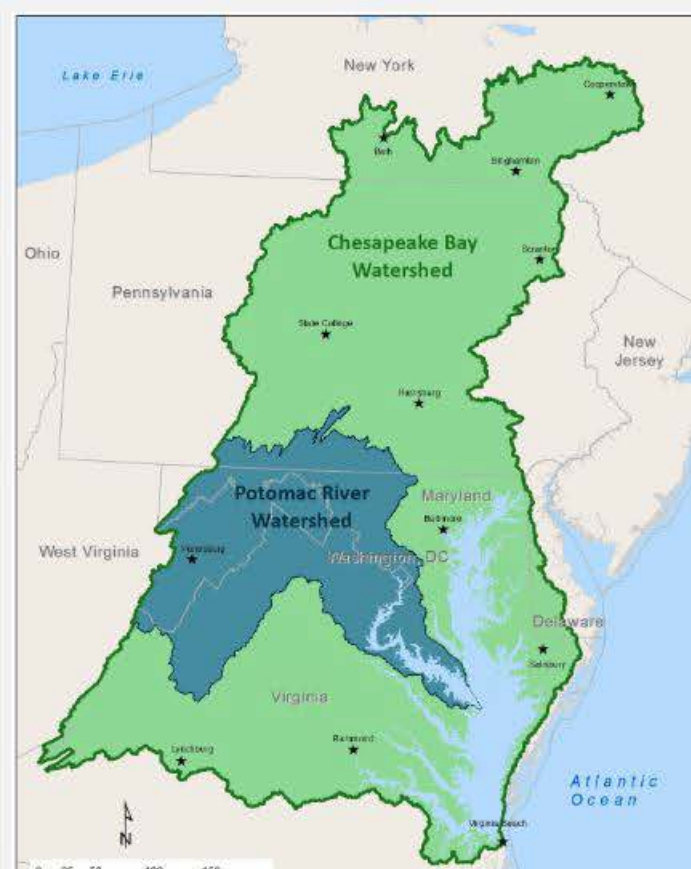
57% Forested

32% Agriculture

5% Urban/Developed

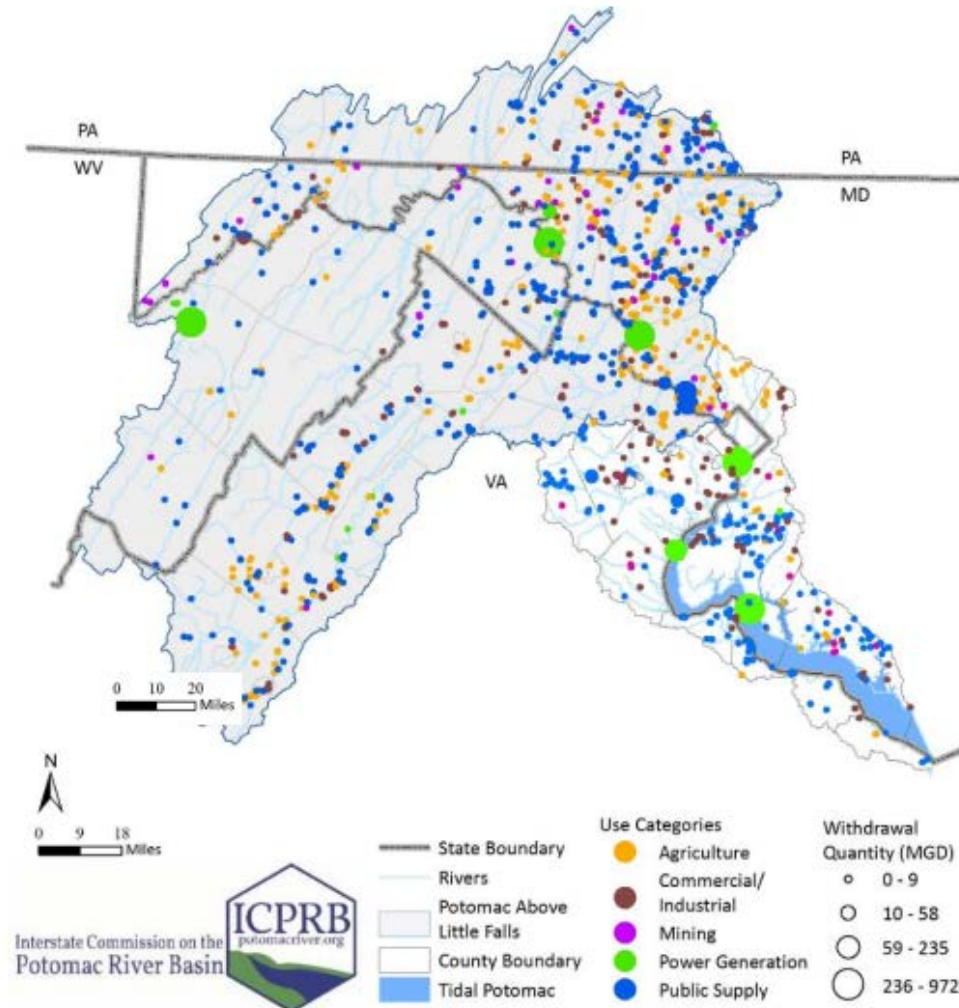
Potomac River Watershed

www.potomacriver.org

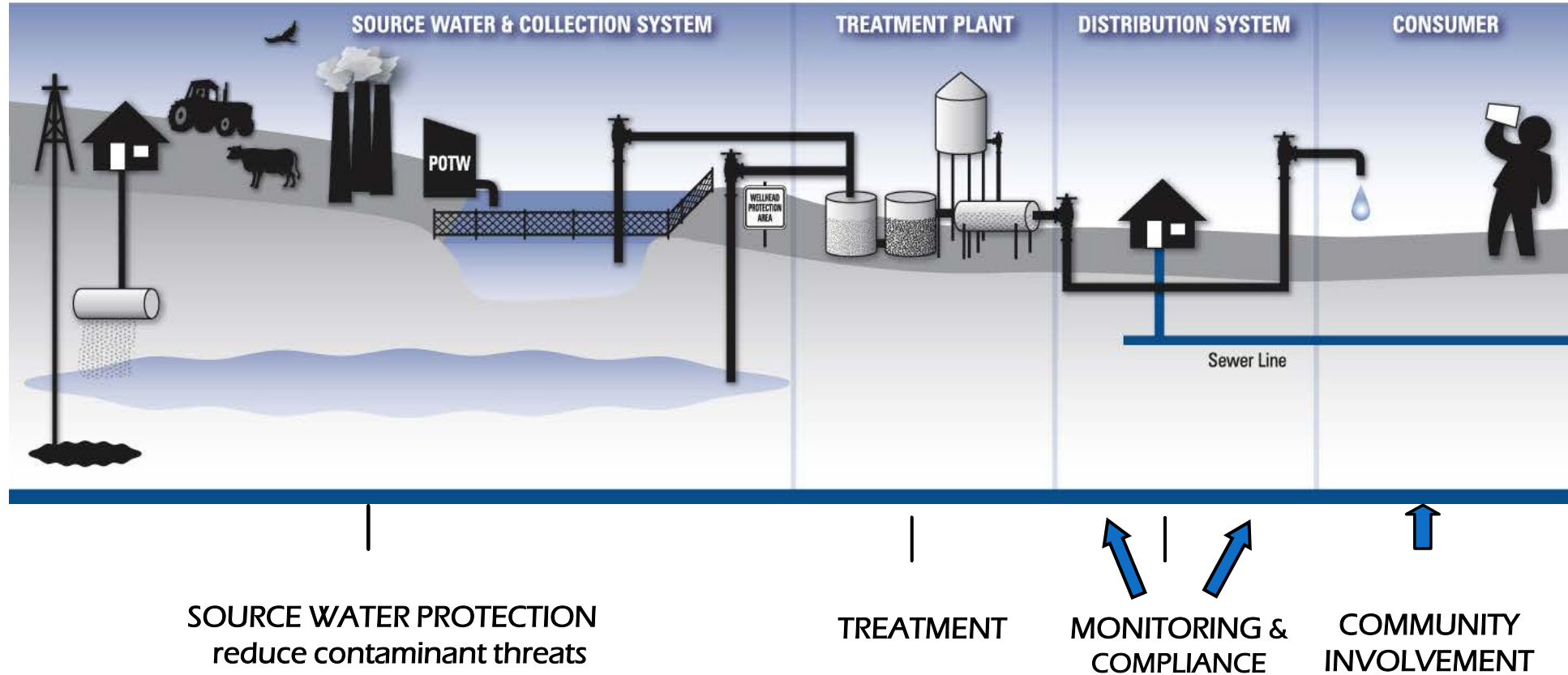


- Potomac River is a source for many public drinking water utilities (blue dots)

Figure 13. State-reported withdrawals. Reported withdrawals include both consumptive and non-consumptive uses. Color indicates water use type and size indicates the magnitude of the withdrawal. The largest withdrawals in the Potomac basin are for power generation. Data sources: ICPRB CO-OP consumptive use database above Little Falls and the MPRWA 2005 withdrawal database below Little Falls.



Safe Drinking Water Act Multiple-Barrier Approach



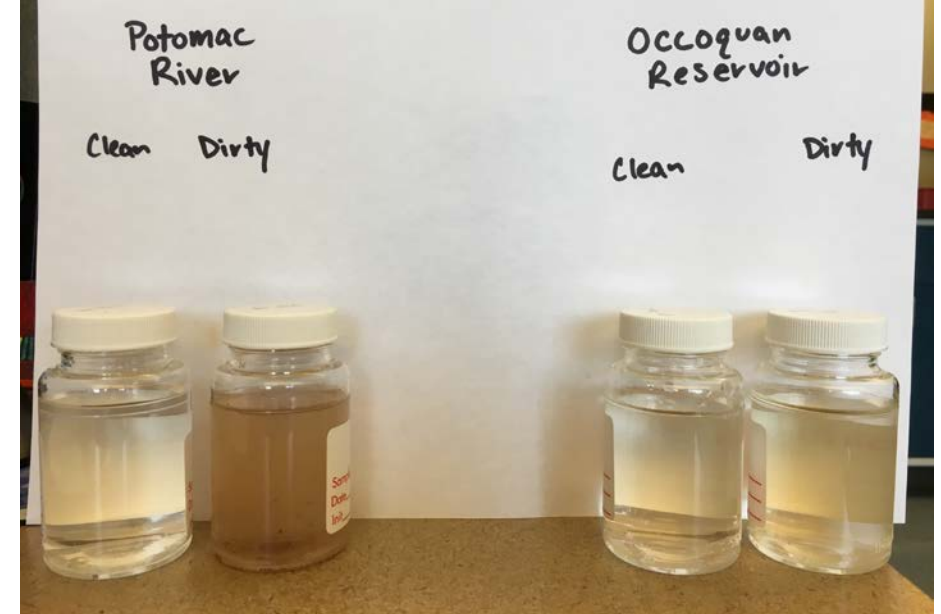
"Preference shall be given to the best available sources of supply which present minimal risks of contamination from wastewaters and which contain a minimum of impurities that may be hazardous to health....." Virginia Waterworks Regulations (12VAC5-590-820)

Source Water Protection

Goal:

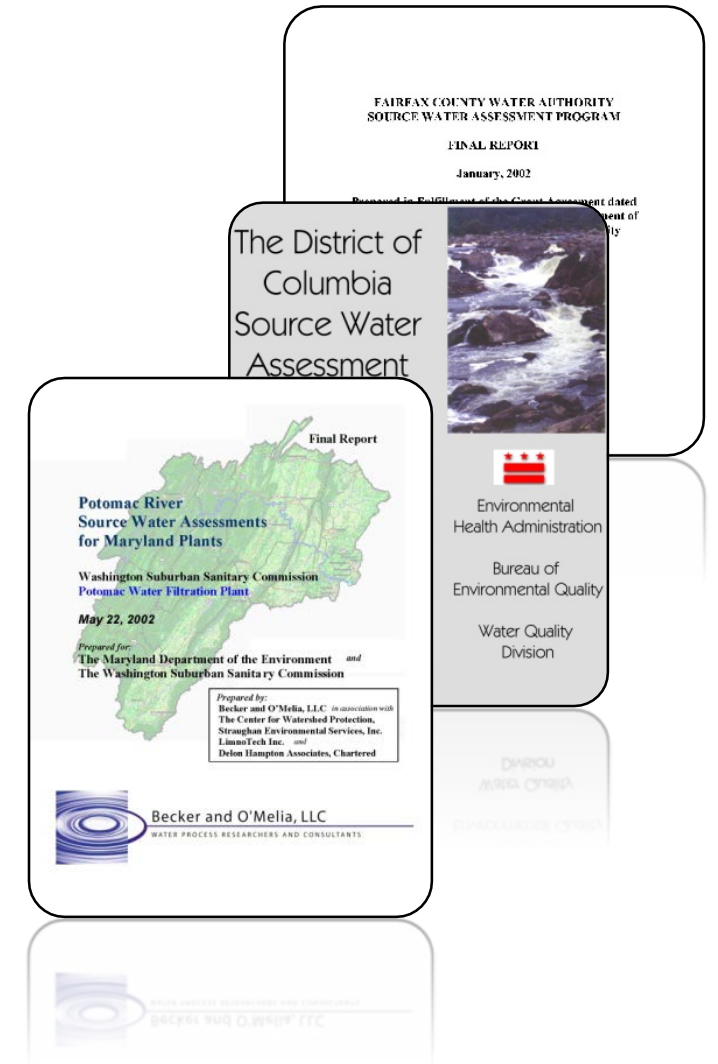
- ***Protect drinking water sources*** by preventing existing and potential contaminants from reaching the source waters
- ***Provide clean, safe water*** that minimizes treatment expenses, protects public health, and sustains communities.

- Inventory watershed
- Protection strategies



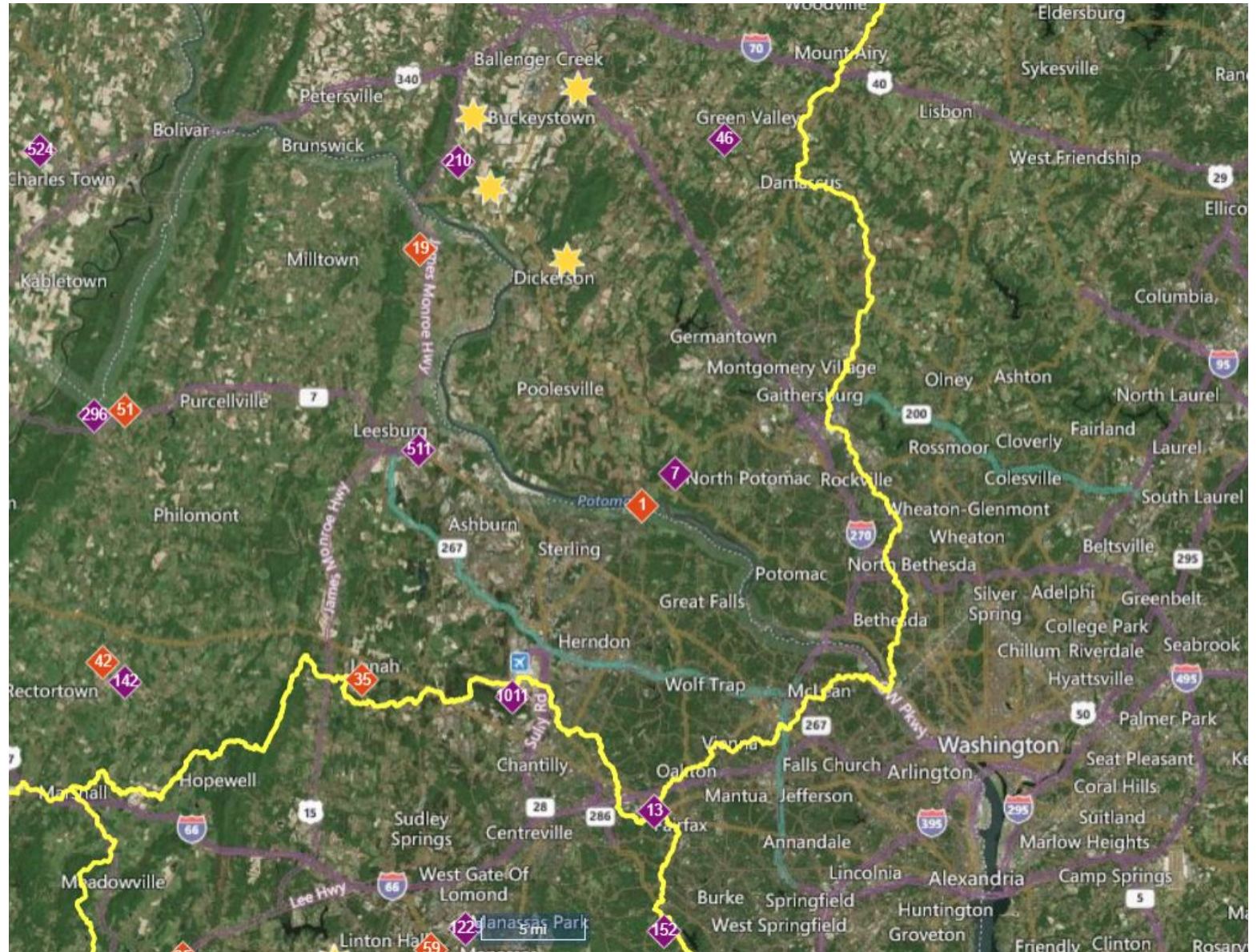
Source Water Assessments (2002)

- **Fairfax Water (Potomac and Occoquan)**
 - Potomac Intake - Broad and Sugarland Runs
 - Zone 1 = 21 sq. miles, Zone 2 = 86 sq. miles
 - Occoquan Intake - area draining directly to reservoir
 - Zone 1 - 25 sq. miles, Zone 2 = 39 sq. miles
- **WSSC and DC SWA (Potomac)**
 - Entire freshwater Potomac Watershed



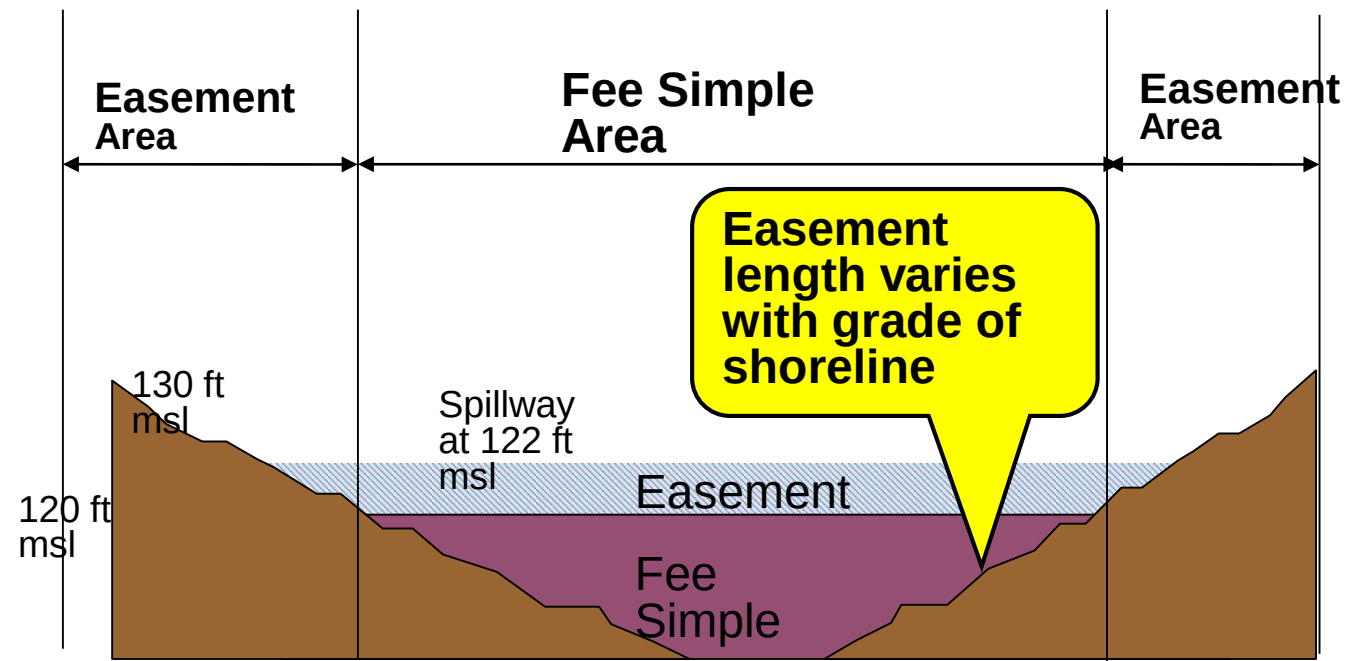
Inventory watershed to assess existing and potential contamination

Superfund, RCRA and Hazardous Waste Sites
NPDES Discharges and
Permitted No-discharge Facilities
Open solid waste disposal facilities
Tire piles
Golf courses
Hospitals
Highways
Rail line
Confined animal feeding operations
Agriculture and pastureland
Military bases
Commercial and General Aviation airports
Marinas and Boat Ramps
Major Sewers
Petroleum Pipelines and Storage Facilities
Industry sites



Example Source Protection Strategies: Occoquan Watershed

- Occoquan Policy (1971)– advanced wastewater treatment/indirect potable reuse
- Fairfax County Down-Zoning – no more than 1 residence per 5 acres
- Water Supply Overlay District – requires stormwater BMPs & 50% P reduction
- Occoquan Shoreline Easement Policy

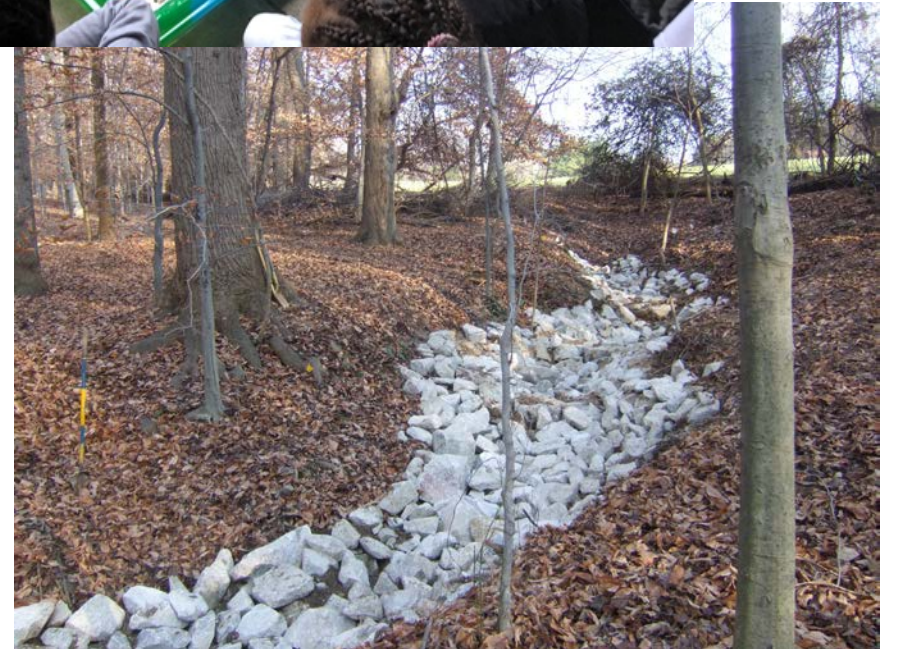


Source Protection Strategies:

Water Supply Outreach Grant

Support community efforts to protect our source water and supply

- Education Efforts
- Source-Water Protection Projects
- Water Quality Monitoring Projects
- Occoquan Reservoir Shoreline Stabilization Projects



Source Protection Strategies:

- Potomac River Drinking Water Source Protection Partnership (DWSPP or Partnership)
 - Regional organization
 - Water Utilities
 - State and Federal Agencies
 - Focus on protecting Drinking Water



DRINKING WATER SOURCE PROTECTION PARTNERSHIP

A COALITION OF WATER
UTILITIES AND STATE,
INTERSTATE, AND FEDERAL
AUTHORITIES WORKING
TOGETHER TO AMPLIFY
REGIONAL SOURCE WATER
PROTECTION EFFORTS
SINCE 2005.



Water Suppliers

Berkeley County Public Service Water District, West Virginia
City of Frederick, Maryland
City of Hagerstown, Maryland
DC Water
City of Rockville, Maryland
Fairfax Water
Frederick County, Maryland
Loudoun Water
Town of Leesburg, Virginia
Town of Shepherdstown, West Virginia
Washington Aqueduct Division of the U.S. Army Corps of Engineers
Washington County, Maryland
Washington Suburban Sanitary Commission (WSSC)

Government Agencies

District of Columbia Department of Energy & Environment (DOEE)
Interstate Commission on the Potomac River Basin (ICPRB)
Maryland Department of the Environment (MDE)
Pennsylvania Department of Environmental Protection (PA DEP)
United States Environmental Protection Agency, Region 3 (EPA Region 3)
United States Geological Survey (USGS)
Virginia Department of Environmental Quality (VADEQ)
Virginia Department of Health (VDH)
West Virginia Department of Health and Human Resources (WV DHHR)
West Virginia Department of Environmental Protection (WV DEP)

Partnership Goals

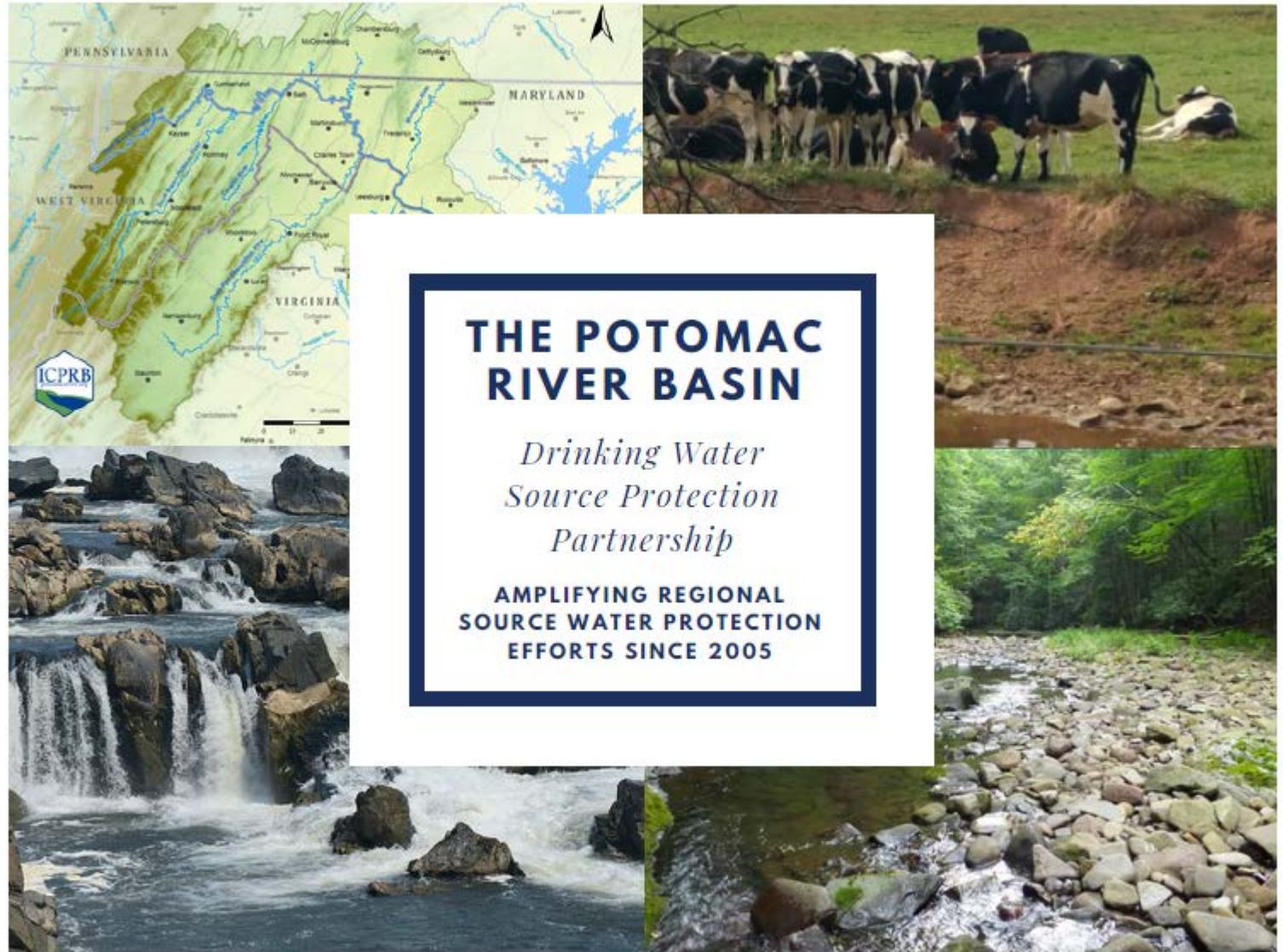
- Identify regional priorities for source water protection
- Coordinate efforts to benefit multiple water systems
- Establish coordinated dialogue between water suppliers and government agencies
- Promote information sharing
- Coordinated approaches to water supply protection measures in the Potomac basin
- Develop new initiatives within the drinking water community



Workgroups:

Address priority issues from
Source Water Assessments

- Agricultural Issues
- Early Warning & Emergency Response
- Emerging Contaminants
- Reaching Out
- Urban and Industrial Issues
- Water Quality Data



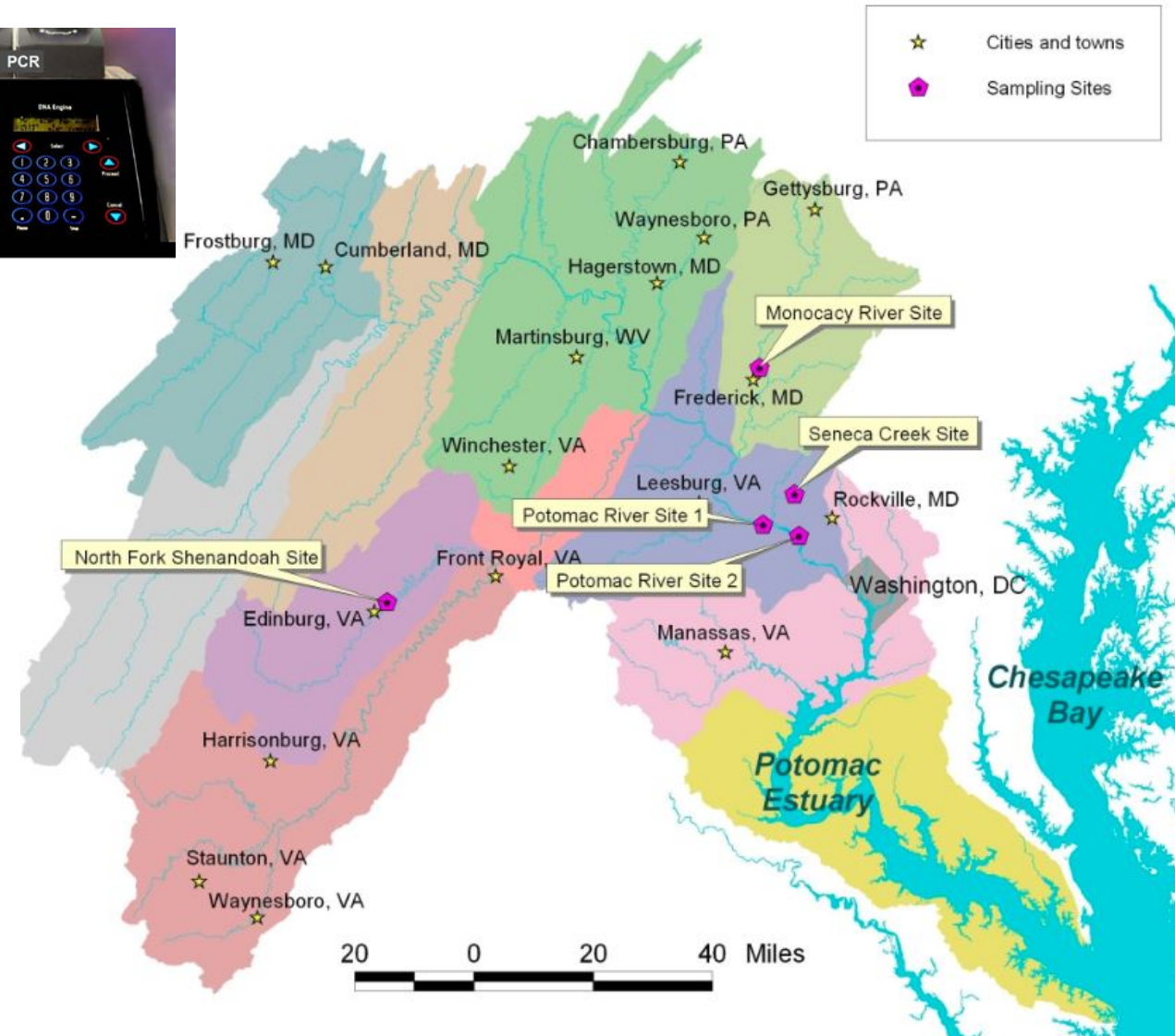
Agricultural Issues Workgroup

- Build alliances with agricultural community to minimize water pollution in the region's sources of drinking water.
 - Primarily work with state and local academic institutions, and
 - Agencies that can provide technical, extension, and veterinarian support.
- Aim to reduce or prevent other difficult-to-treat drinking water contaminants
 - Phosphorus, pesticides, bacteria, viruses, pharmaceuticals
 - *Cryptosporidium* (Crypto), a protozoan parasite of both domestic and wild animals, is commonly found in drinking water sources. Identified as priority pollutant of concern.
 - Crypto's high tolerance to chlorine enables the parasite to survive for long periods of time in chlorinated drinking and swimming pool water and can cause significant gastrointestinal illness

Cryptosporidium Source Tracking in the Potomac Watershed (2008)



- Polymerase chain reaction (PCR) methods are more sensitive for detecting the presence of *Crypto* than the conventional EPA method 1623.
- Most frequently detected species was *Cryptosporidium andersoni*
 - A species known to infect cattle and not to be harmful to humans.
- 14 other species or genotypes, almost all wildlife associated, were detected.
 - The two common human-pathogenic species, *Cryptosporidium hominis* and *Cryptosporidium parvum*, were **not** detected.



Cryptosporidium Source Tracking in the Potomac Watershed (2008)

- The genotyping results suggest that many of the *Crypto* oocysts in the water treatment plant source waters were from older calves and adult cattle and might not pose a significant risk to human health.
- Since human-infectious *Crypto* species are known to be prevalent among calves, it is possible that human-infectious species (e.g., *C. parvum*) may be present at certain times of the year (e.g., during calving season) that may not have been captured in this study.
- *Crypto* from cattle operations is still a concern, and pursuing BMPs focused on cattle operations with calves may offer opportunities to reduce human health risks from *Crypto*.



The results of this project are published in [Cryptosporidium Source Tracking in the Potomac Watershed](#), by W. Yang et al., Applied and Environmental Microbiology, Vol. 74, No. 21, November 2008.



2018 Farm Bill encourages the protection of drinking water sources through conservation programs and 10% of funding is to be used for source water protection

Collaboration

Explore opportunities to partner for source water protection

Interested in getting your input



Nicki Bellezza
703-289-6303
nbellezza@fairfaxwater.org

Renee Bourassa
Interstate Commission on the Potomac River Basin
info@icprb.org | potomacdwspp.org





2017 Census of Agriculture USDA NRCS State Technical Committee Meeting

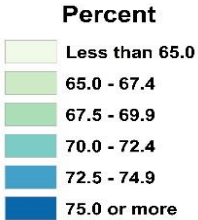
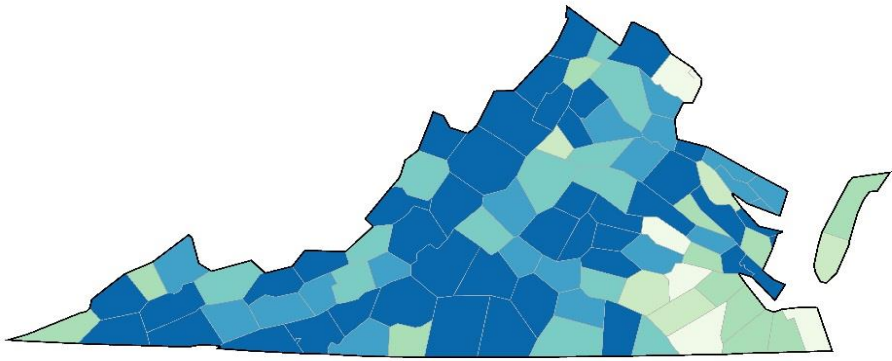
June 27, 2019

Agenda

- Farms and Ranches
- Economics
- Demographics

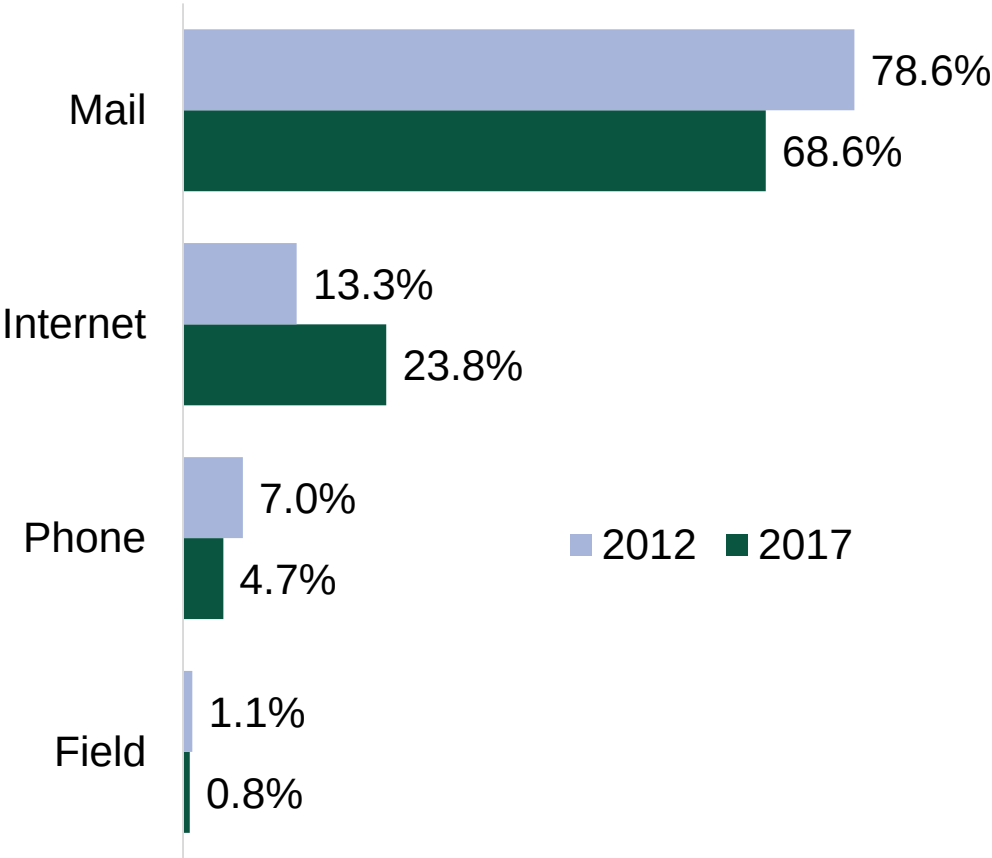
Census Data Collection

Response Rate by County, 2017

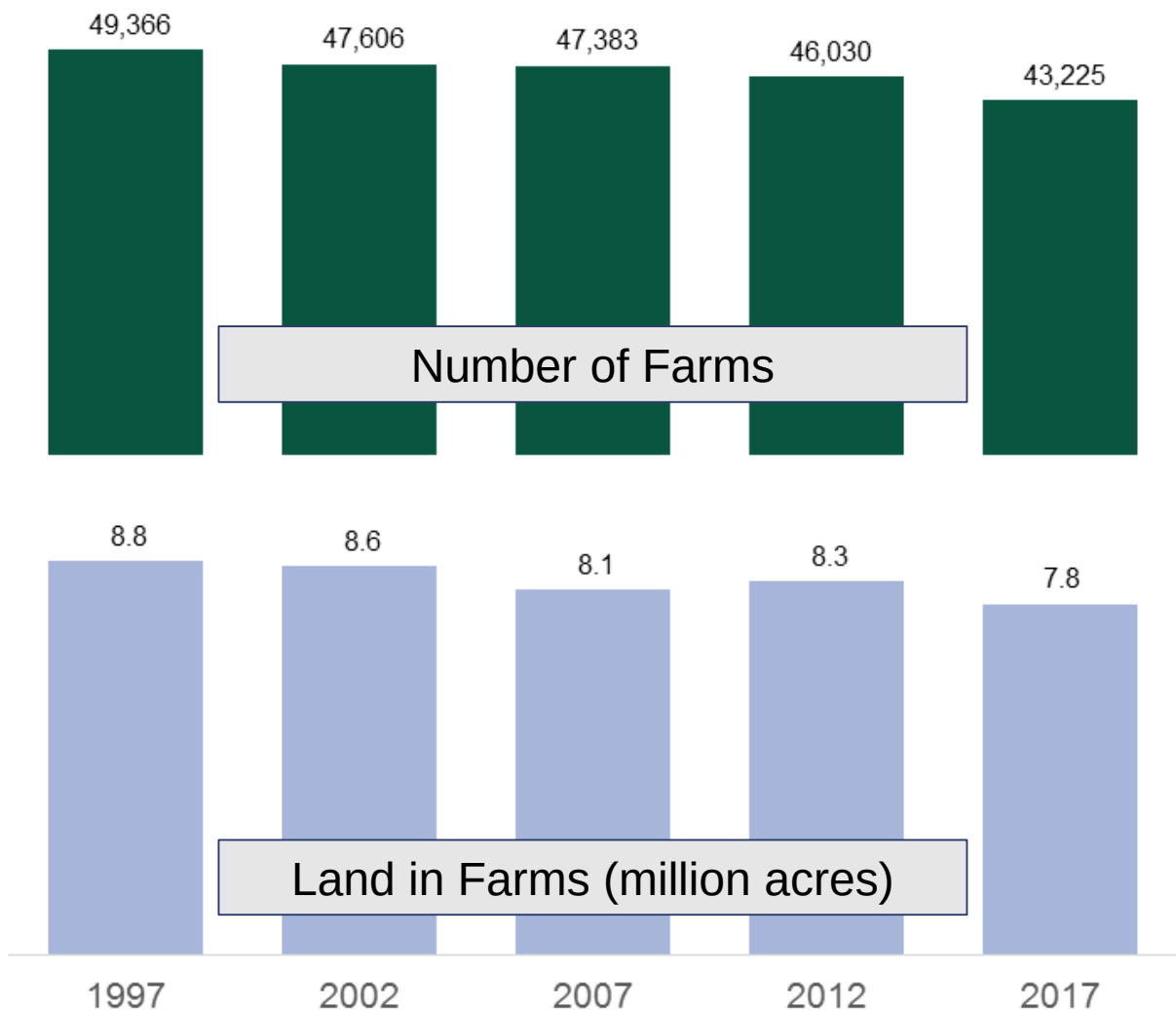


U.S. = 71.8%
Virginia = 75.2%

U.S. Return Rate by Mode, 2012 and 2017 (percent of returns)



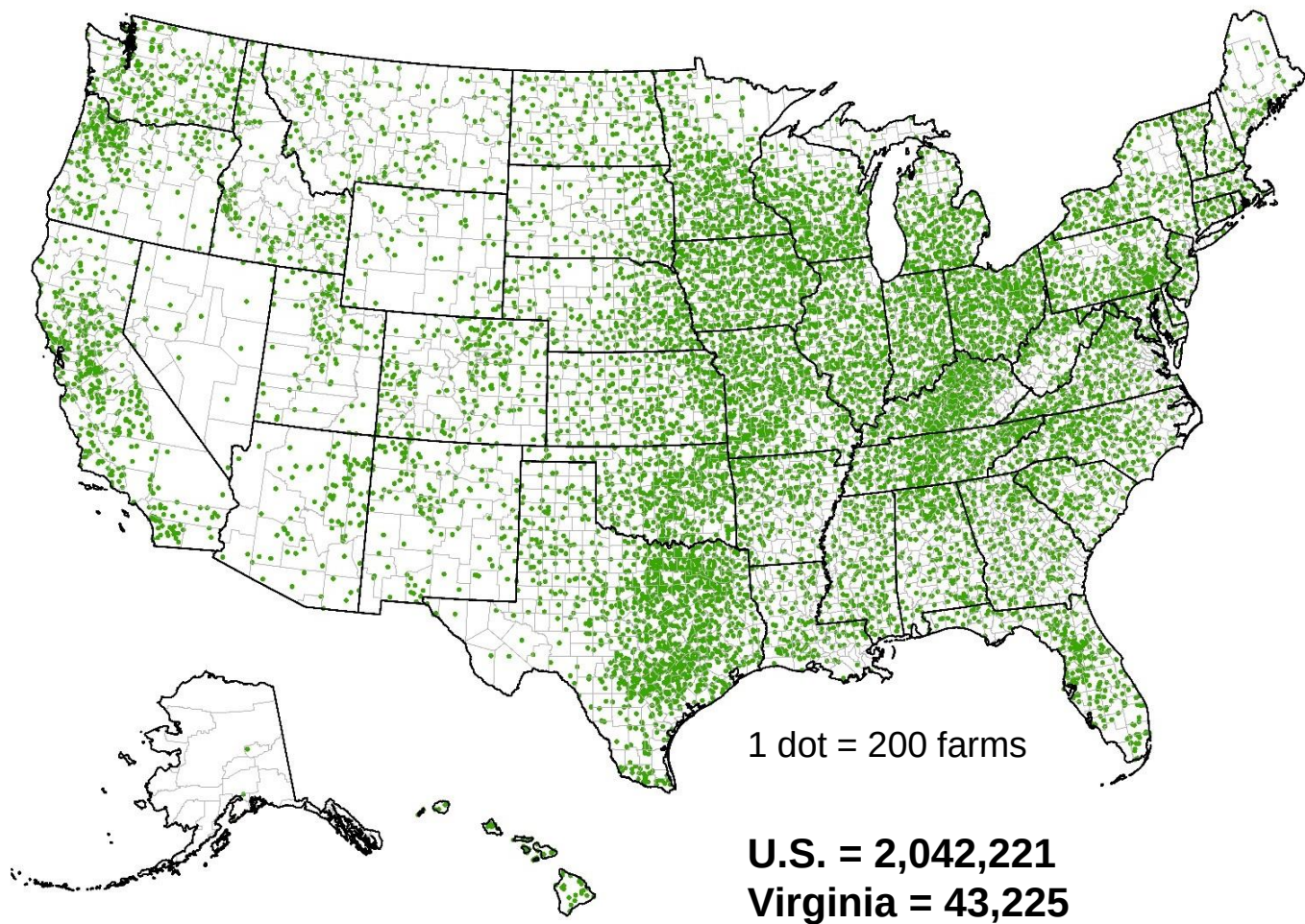
Number of Farms and Land in Farms, 1997-2017



2012	2017	% change
Number of Farms		
46,030	43,225	-6.1
Land in farms (million acres)		
8.3	7.8	-6.1
Average farm size (acres)		
180	180	+0.0

Number of Farms, 2017

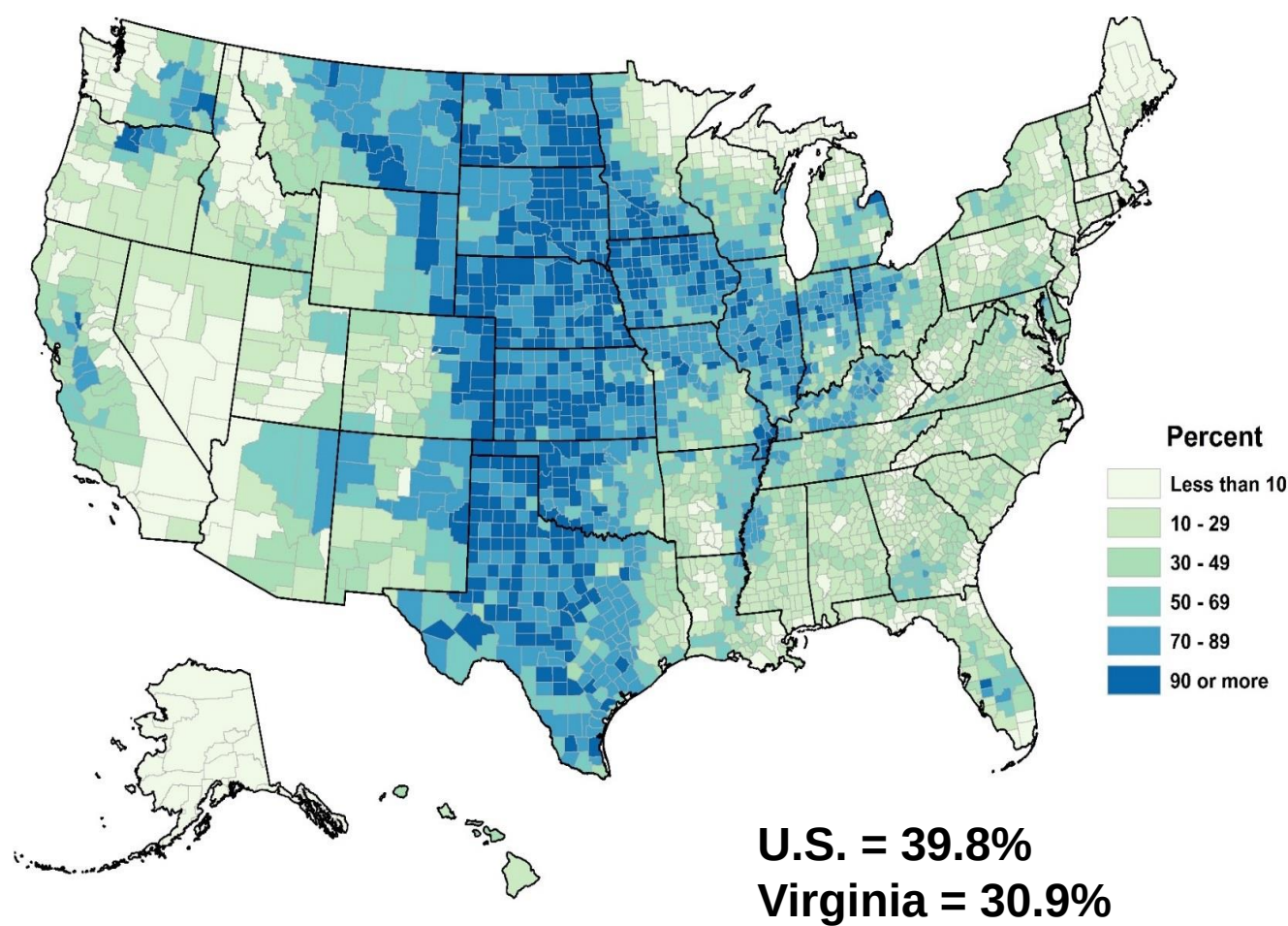
By County



Top 10 Counties	2017
Rockingham	2,026
Augusta	1,665
Washington	1,506
Bedford	1,418
Loudoun	1,259
Pittsylvania	1,157
Fauquier	1,154
Scott	1,138
Franklin	1,019
Shenandoah	965

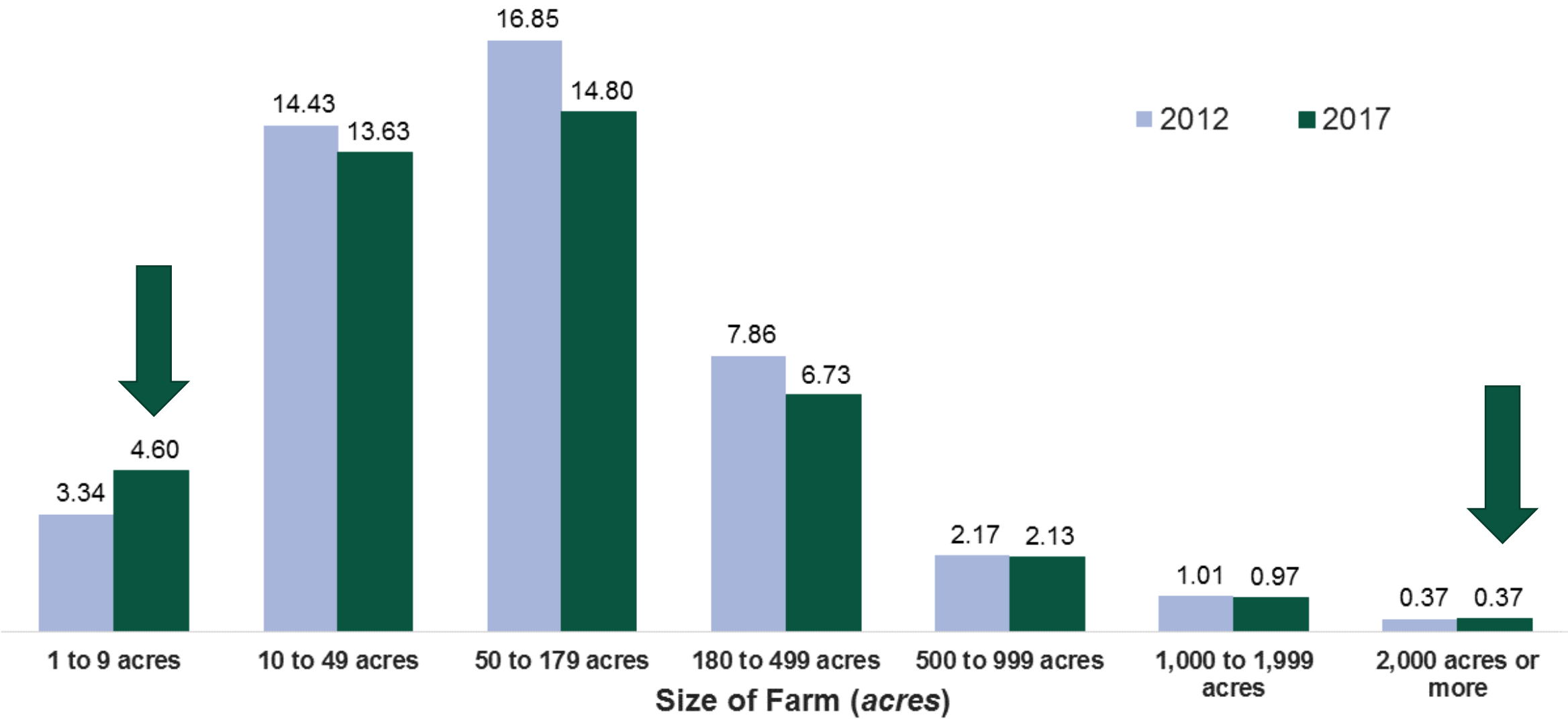
Land in Farms, 2017

As a Percent of Total, by County



Type of Use	Acres (millions) 2012	Acres (millions) 2017
Total	8.3	7.8
Permanent Pasture	2.4	2.1
Cropland	3.0	3.1
<i>Harvested Cropland</i>	2.6	2.6
Woodland	2.5	2.2
Other	0.4	0.4

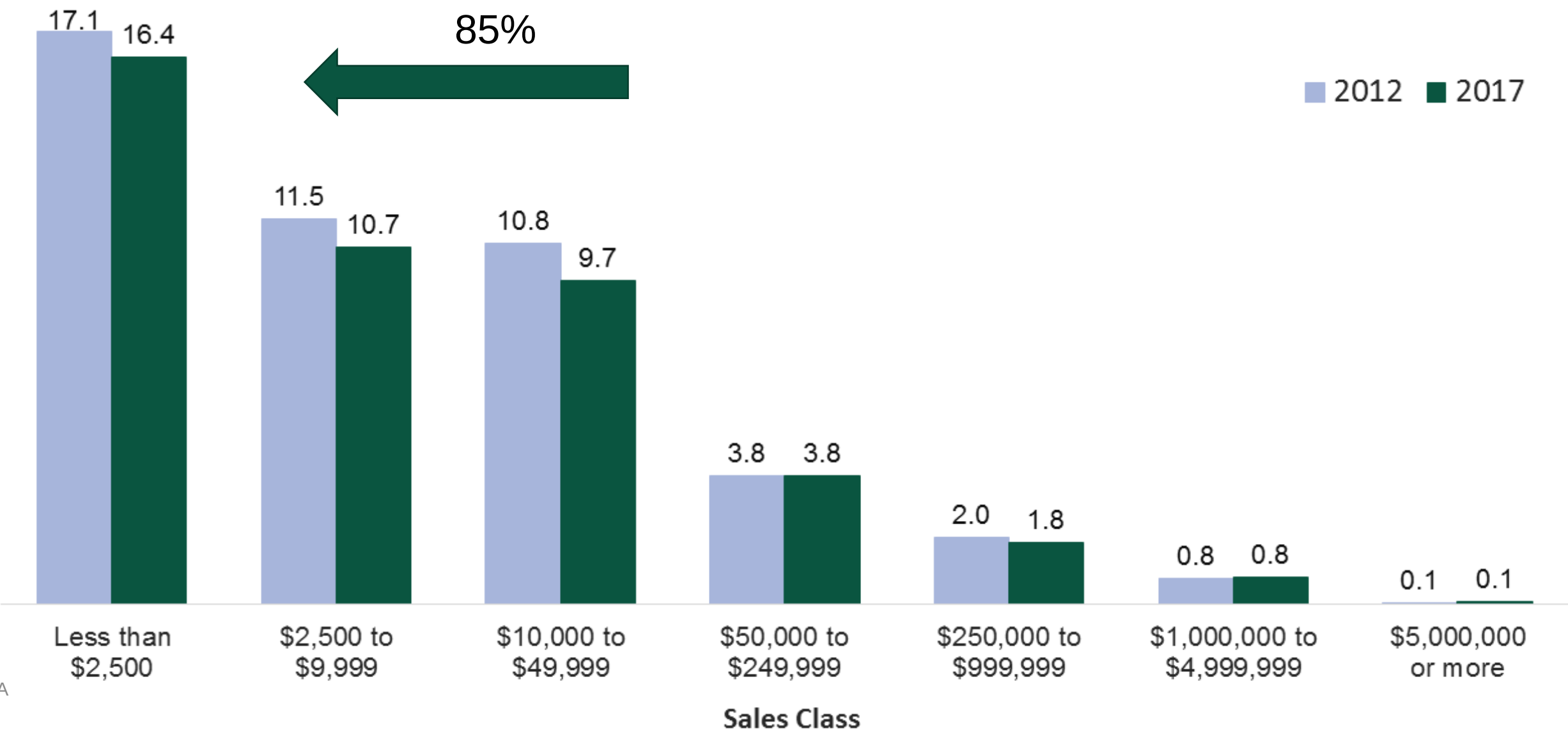
Number of Farms, by Size Category, 2012 and 2017 (thousands)



Economics

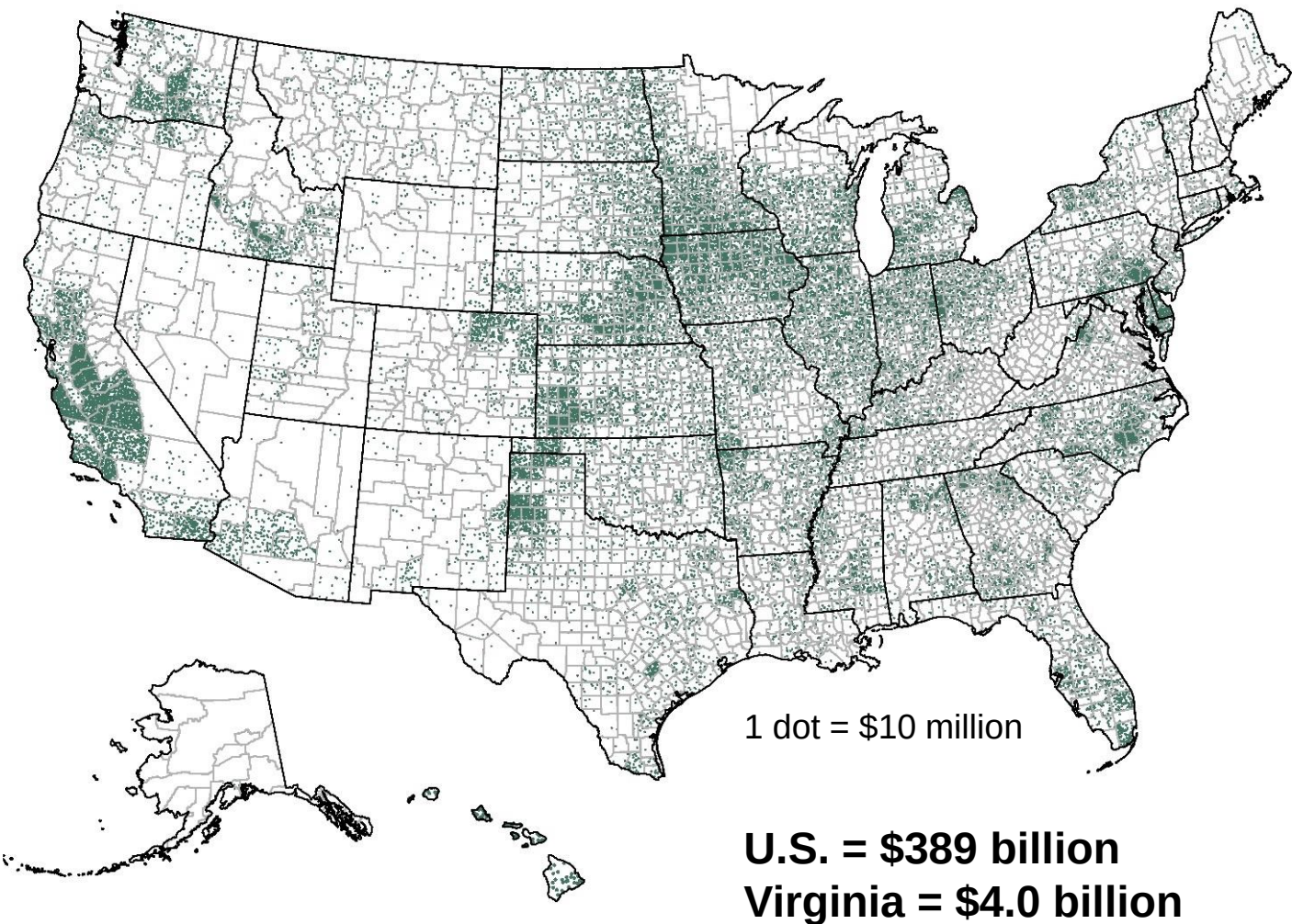
- Market Value of Agricultural Products Sold
- Crop and Livestock Sales
- Farm Income

Number of Farms, by Sales Category, 2012 and 2017 (thousands)



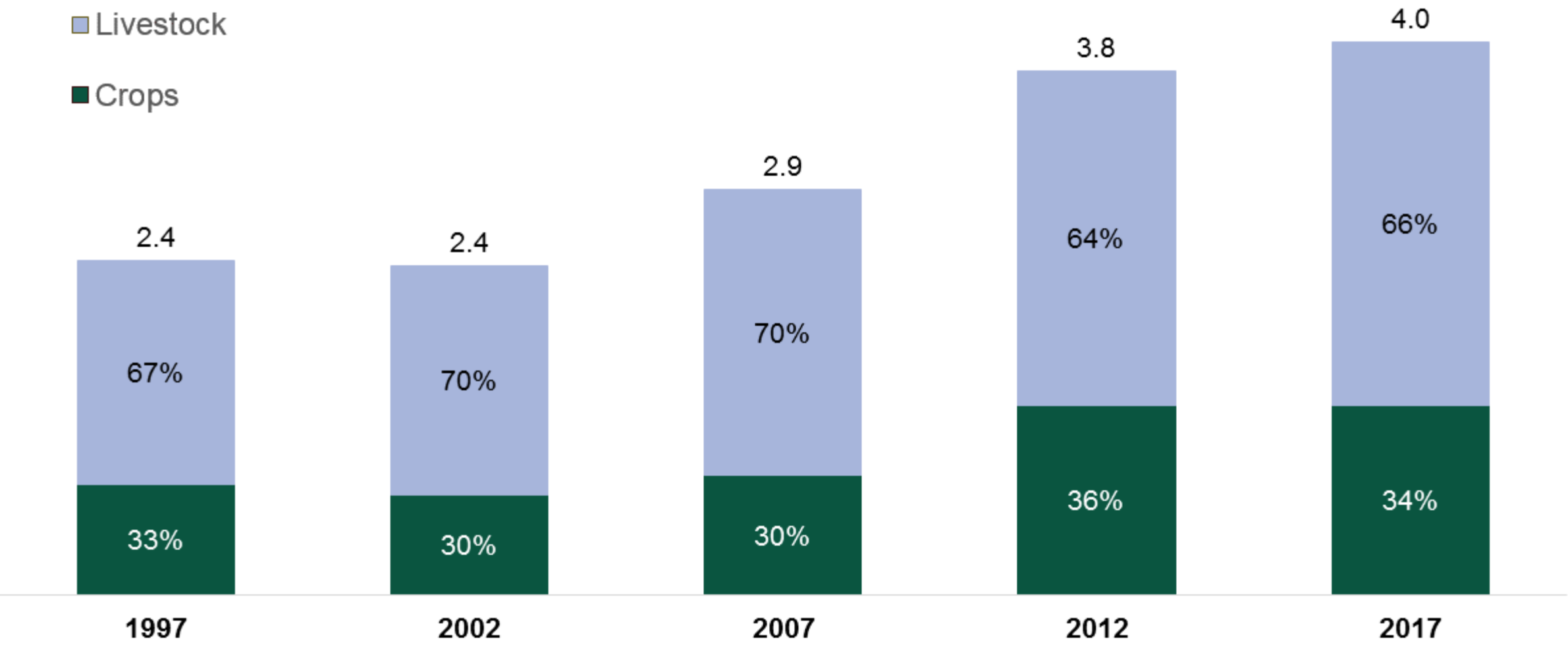
Total Market Value of Agricultural Products Sold by County, 2017

TVP by County



Top 10 Counties	TVP (\$ millions)
Rockingham	796
Augusta	293
Accomack	163
Page	150
Shenandoah	143
Orange	113
Northampton	96
Amelia	87
Southampton	75
Pittsylvania	73

Value of Products, Crops and Livestock, 1997 - 2017 (\$ billions)



Ranking of Market Value of Ag Products Sold, 2017

Item	Farms	Sales (\$1,000)	Rank by Sales	Percent of Total Sales
Total sales	43,225	3,960,501	(X)	(X)
Poultry and eggs	4,752	1,350,654	1	34.1
Cattle and calves	18,729	679,486	2	17.2
Grains and oilseeds	4,239	509,977	3	12.9
Milk	624	334,521	4	8.4
Nursery, greenhouse, floriculture, and sod	1,145	328,121	5	8.3
Other crops and hay	14,200	154,906	6	3.9
Vegetables, melons, potatoes, and sweet potatoes	1,835	111,330	7	2.8
Tobacco	306	107,620	8	2.7
Hogs and pigs	1,244	96,223	9	2.4
Aquaculture	274	90,226	10	2.3

VA

12



Farm Production Expenses, 2017

Farm Expenses	2012	2017	% change
	(\$,1000)		
Feed	1,067,299	859,311	-19.5
Livestock purchased	424,722	432,549	1.8
Hired labor	354,999	419,426	18.1
Fertilizer	235,173	217,774	-7.4
Seeds	152,365	154,511	1.4
Supplies and repairs	221,152	245,863	11.2
Chemicals	116,536	126,534	8.6
Fuels	190,119	155,147	-18.4
Interest	128,243	136,217	6.2

Farm Income and Expenses, 2012 and 2017 (\$ millions)

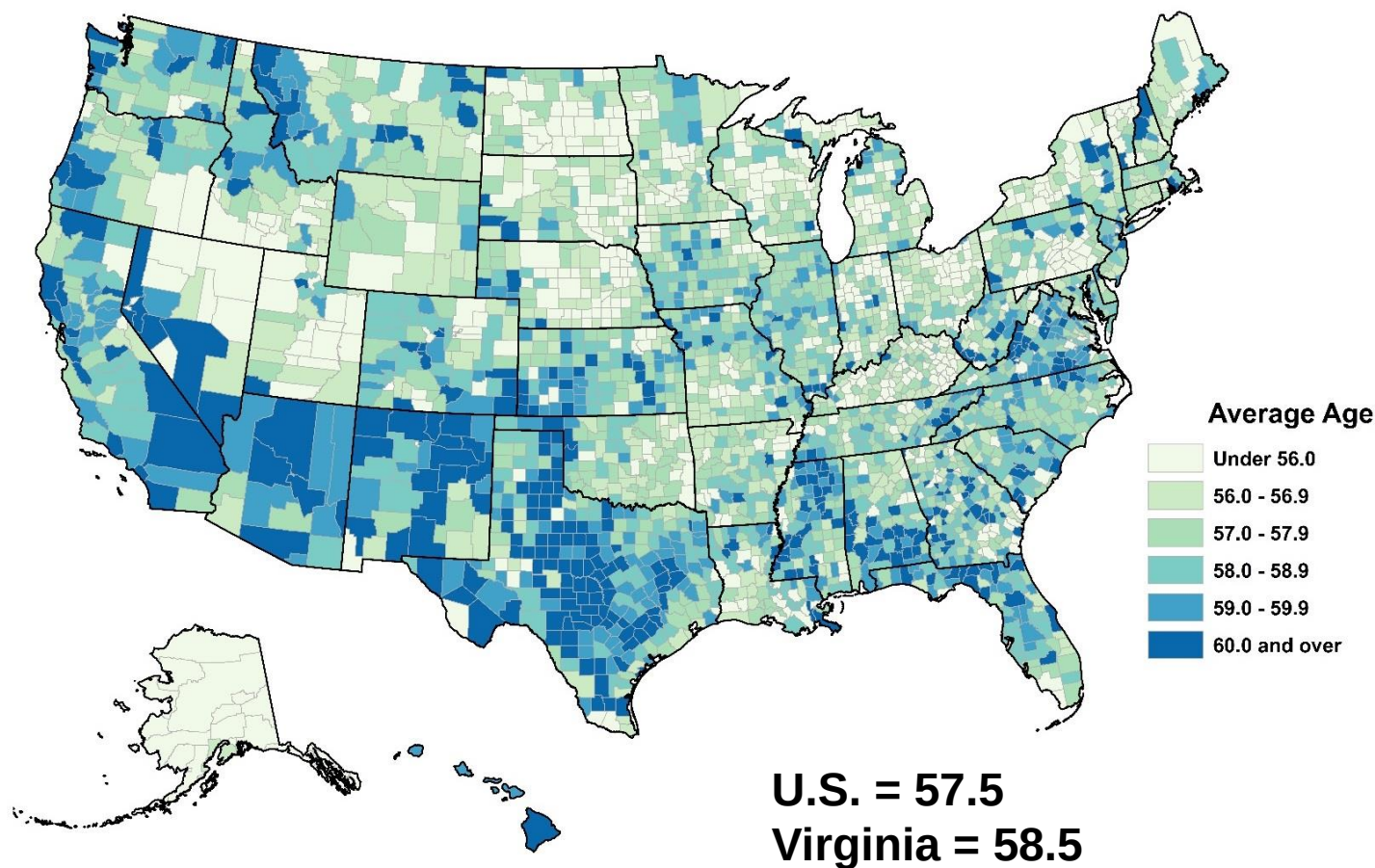
	2012	2017	% change
Value of ag products sold	3,753	3,961	+6
Government payments	82	61	-26
Farm-related income	179	245	+37
Production expenses	3,495	3,432	-2
Net income	520	835	+60
Per farm average net income (dollars)	\$11,300	\$19,306	+71

Demographics of Farm Producers

- Average Age of Producers
- Young Producers
- New and Beginning Producers
- Producers with Military Service
- Farm and Producer Characteristics by Sex/Race/Ethnicity

Average Age of Producers

All Producers, by County, 2017

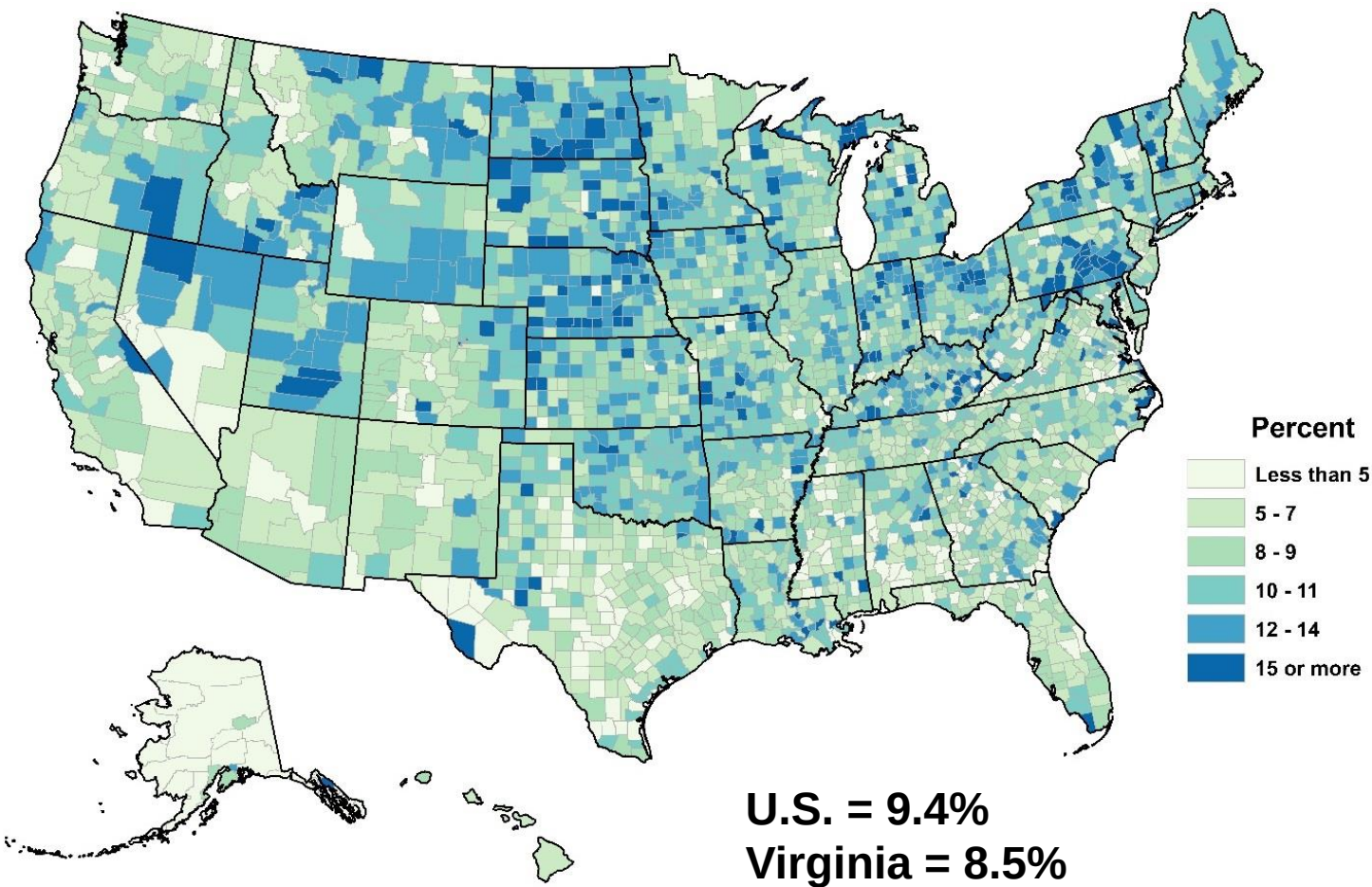


All Producers, 2007 - 2017

2007	55.7
2012	57.2
2017	58.5

Young Producers (Age 35 years or less), 2017

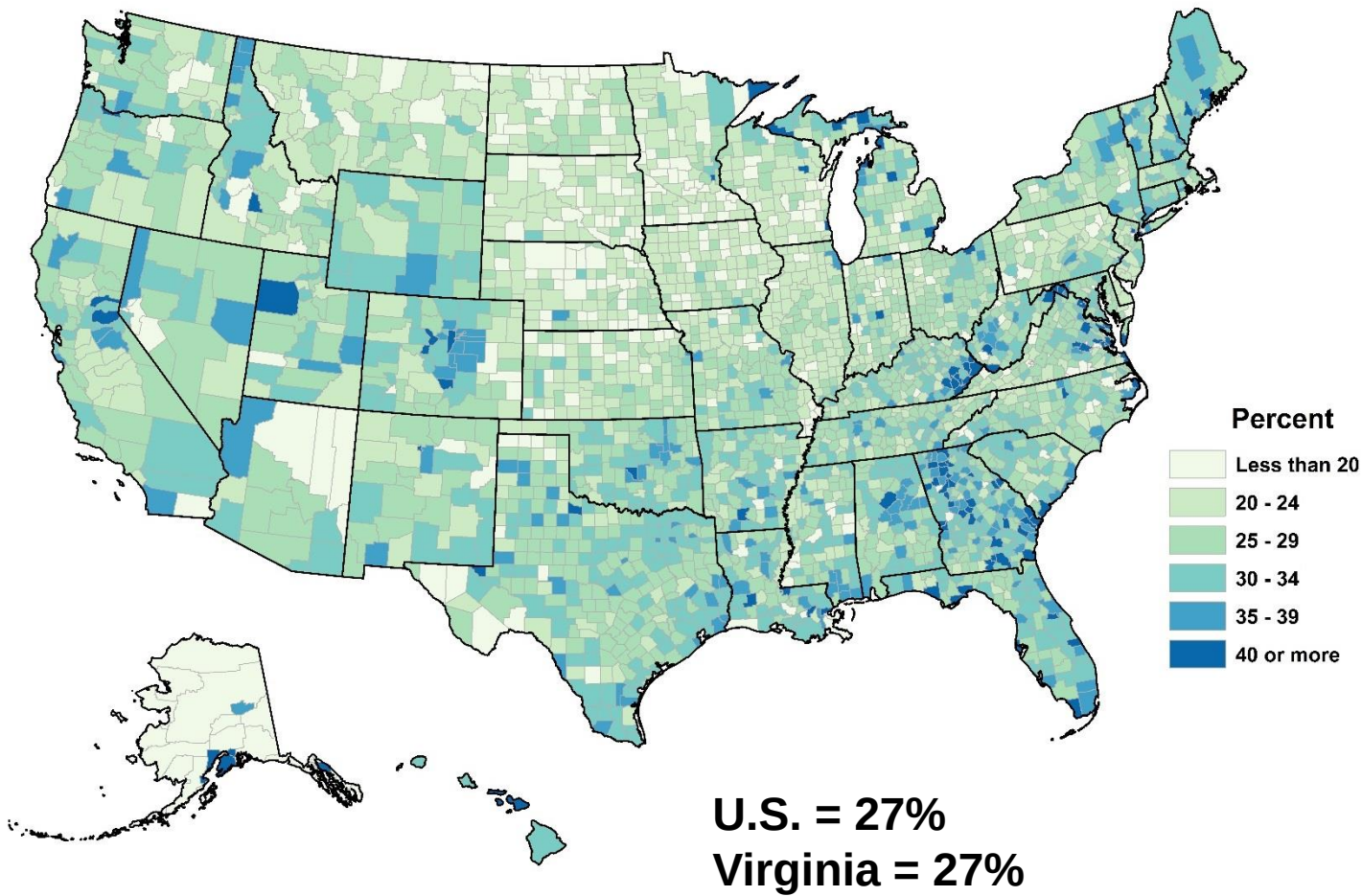
As a Percent of All, by County



Producers		
	Young	All
Number	5,996	70,594
Average age	29.2	58.5
Farms		
Number	4,502	43,225
Average farm size (acres)	195	180
Average TVP	\$171,084	\$91,625

New and Beginning Producers (10 years or less on any farm), 2017

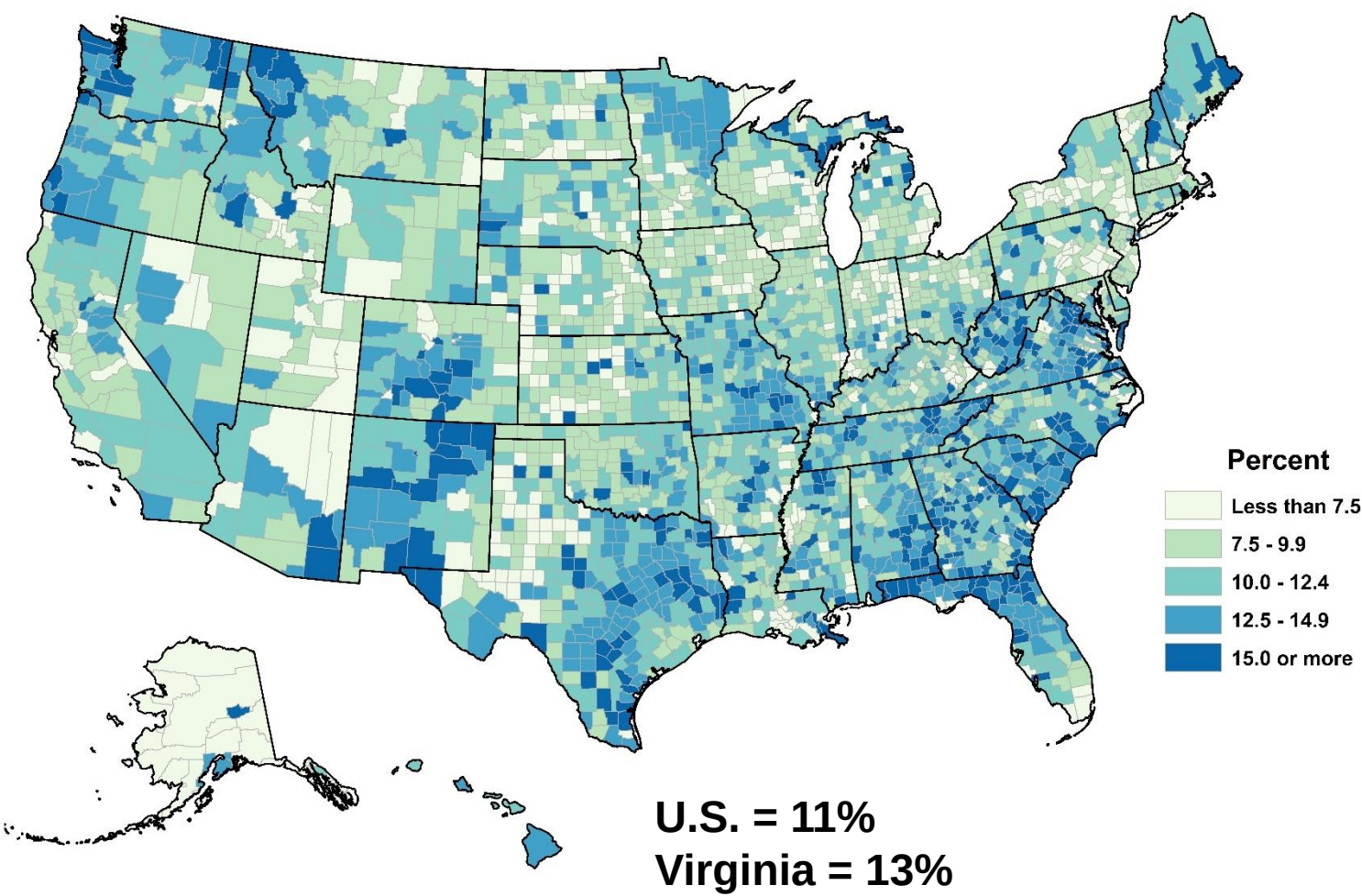
As a Percent of All, by County



Producers		
	New and Beginning	All
Number	18,957	70,594
Average age	47.3	58.5
Farms		
Number	12,502	43,225
Average farm size (acres)	124	180
Average TVP	\$74,624	\$91,625

Producers with Military Service, 2017

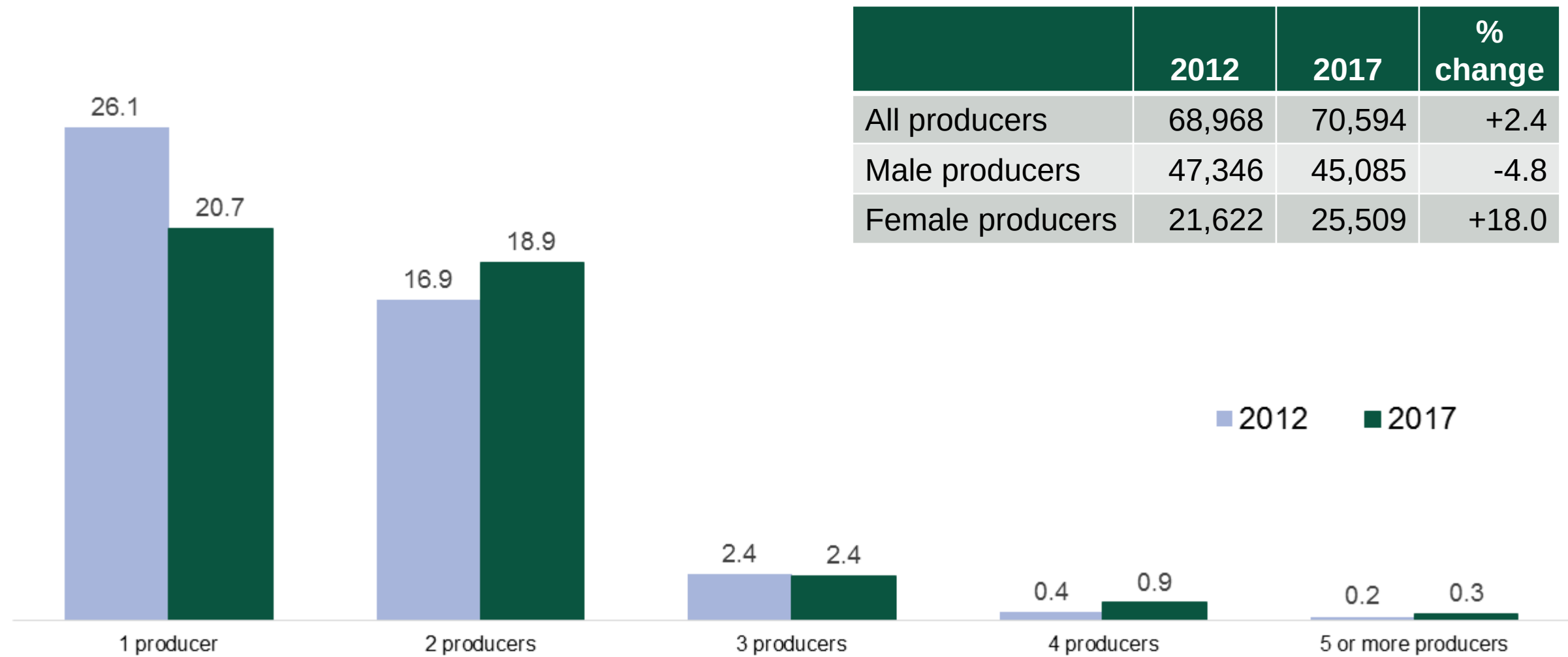
As a Percent of All, by County



Producers		
	With Military Service	All
Number	9,217	70,594
Average age	67.5	58.5
Farms		
Number	8,715	43,225
Average farm size (acres)	151	180
Average TVP	\$51,904	\$91,625

Farm Structure, 2012 and 2017

Farms by Number of Producers (thousands)

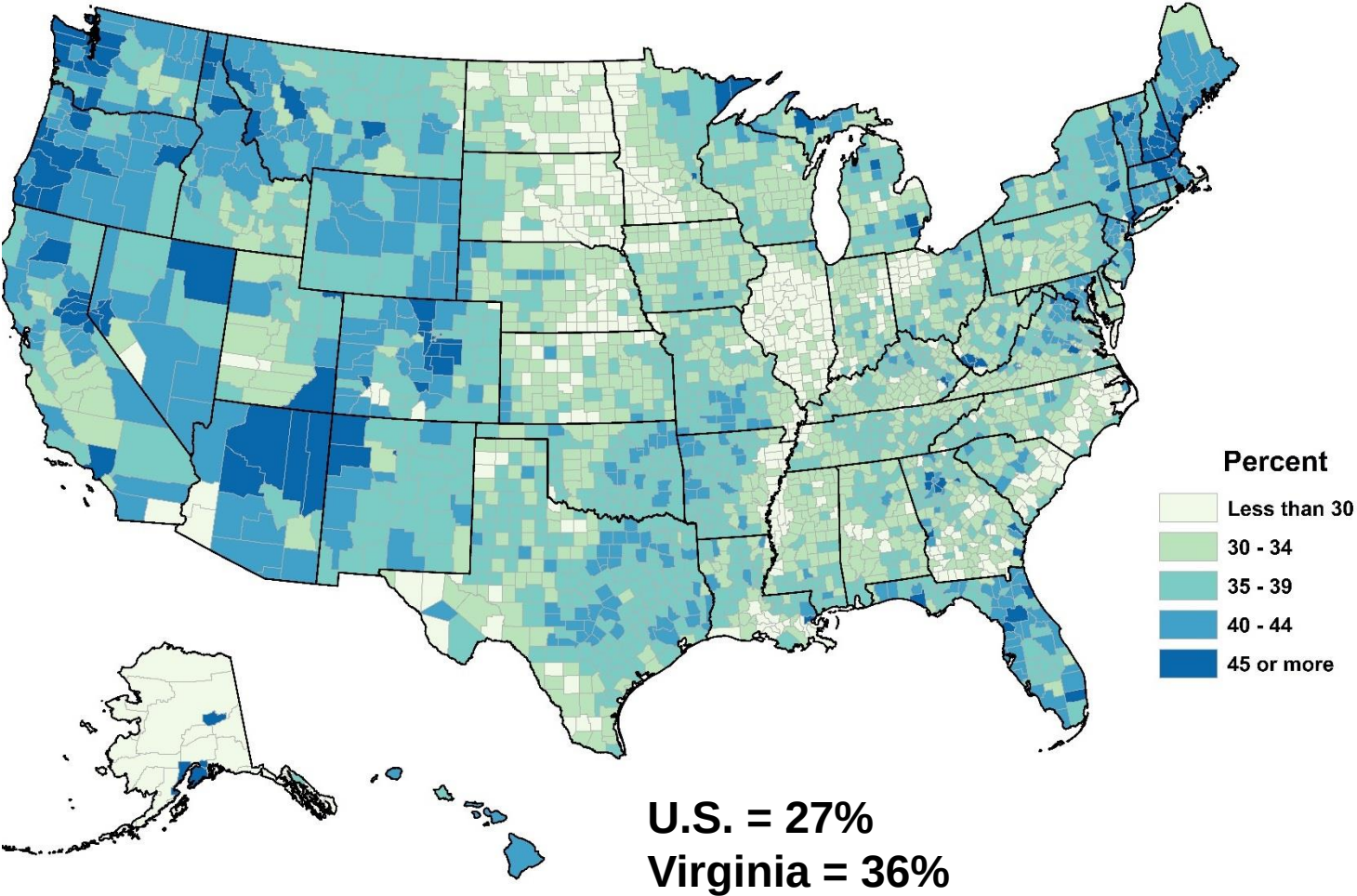


Producers by Sex

	2012	2017	% change
All producers	68,968	70,594	+2.4
Male producers	47,346	45,085	-4.8
Female producers	21,622	25,509	+18.0

Producers by Sex, 2017

Female Producers as a Percent of Total



Producers		
	Female	Male
Number	25,509	45,085
Average age	57.4	59.1
Farms		
Number	23,575	39,148
Average farm size (acres)	136	189
Average TVP	\$75,489	\$98,594

Characteristics by Ethnicity and Race, 2017

Producers	2012	2017
Black	1,865	1,693
Hispanic	755	845
American Indian	265	168
Asian	245	259
Native Hawaiian	12	32

2017 Top 5 Counties, Ranked by Black Producers

County	2012	2017
Halifax	223	207
Mecklenburg	75	78
Pittsylvania	92	68
Fauquier	40	61
Southampton	47	60

2017 Top 5 Counties, Ranked by Hispanic Producers

County	2012	2017
Loudoun	59	42
Augusta	8	39
Fauquier	41	38
Rockingham	22	35
Culpeper	33	34

2017 Top 5 Counties, Ranked by American Indian Producers

County	2012	2017
Franklin	2	15
Halifax	6	11
Stafford	11	10
Gloucester	5	8
Rappahannock	2	8

2017 Top 5 Counties, Ranked by Asian Producers

County	2012	2017
Loudoun	12	28
Fauquier	9	23
Amelia	-	13
Accomack	18	13
Fairfax	3	13



Thank You!

All Reports Available At
www.nass.usda.gov

For Questions
202-720-2127
800-727-9540
nass@nass.usda.gov



Virginia's Forest Action Plan

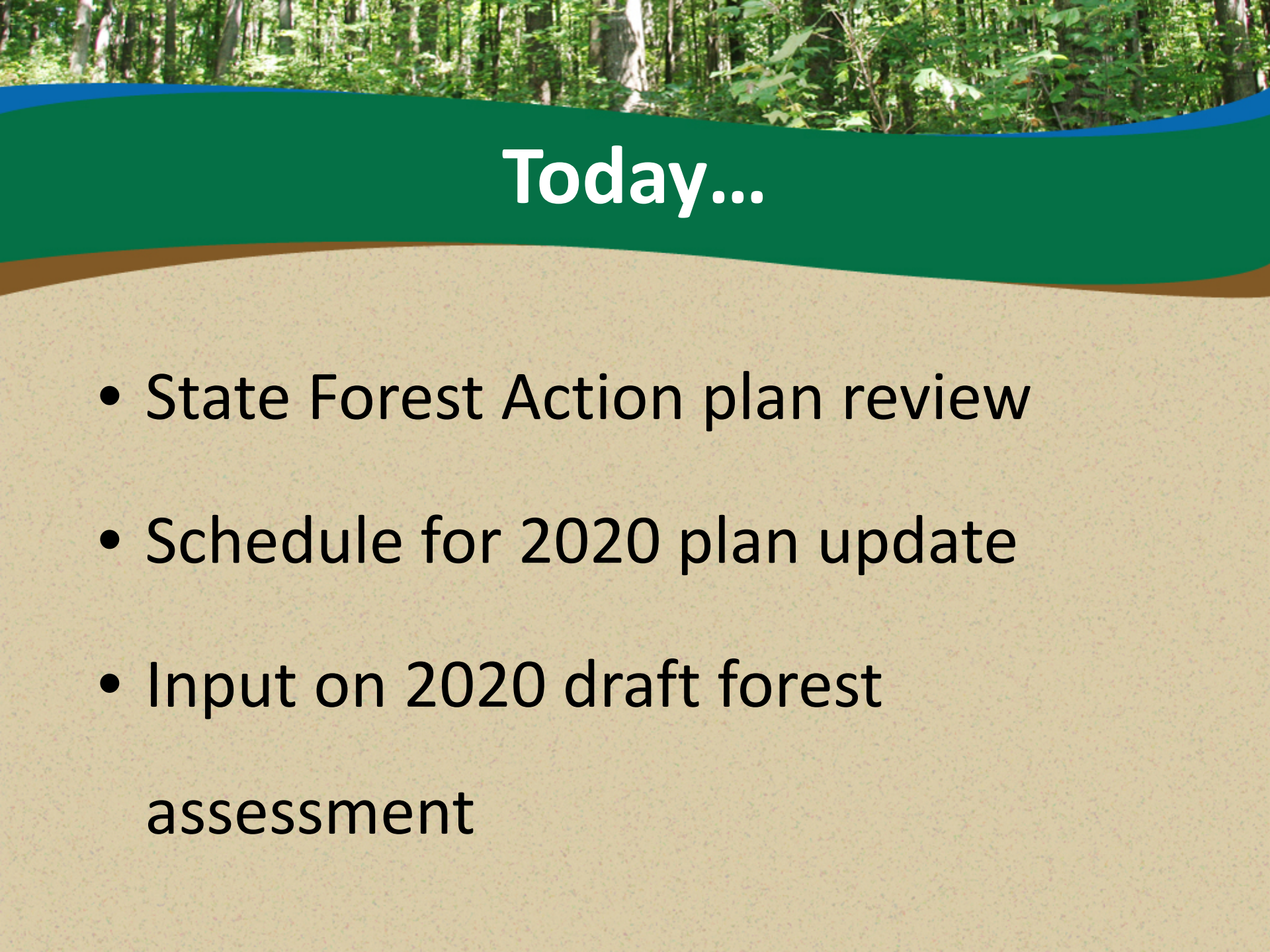
Bryant Bays

Regional Forester, Eastern Region

Virginia Department of Forestry

bryant.bays@dof.virginia.gov

540-558-8423



Today...

- State Forest Action plan review
- Schedule for 2020 plan update
- Input on 2020 draft forest assessment

A photograph of a dense forest with many green trees and foliage, serving as the background for the top portion of the slide.

Virginia's Forest Action Plan

- Virginia's 1st Forest Action Plan completed 2010
- Plans revised every 10 years (updates every 5).
- Required coordination with outside agencies and stakeholders.

A photograph of a dense forest with tall trees and green foliage, serving as the background for the top portion of the slide.

Forest Action Plans

- 2008 Farm Bill amended Cooperative Forestry Assistance Act of 1978.
- Requires Statewide “Assessment” and “Strategies” for forest resources
- State Forest Action Plans are required for both core program and competitive funding

A photograph of a dense forest with many green trees and foliage, serving as the background for the top portion of the slide.

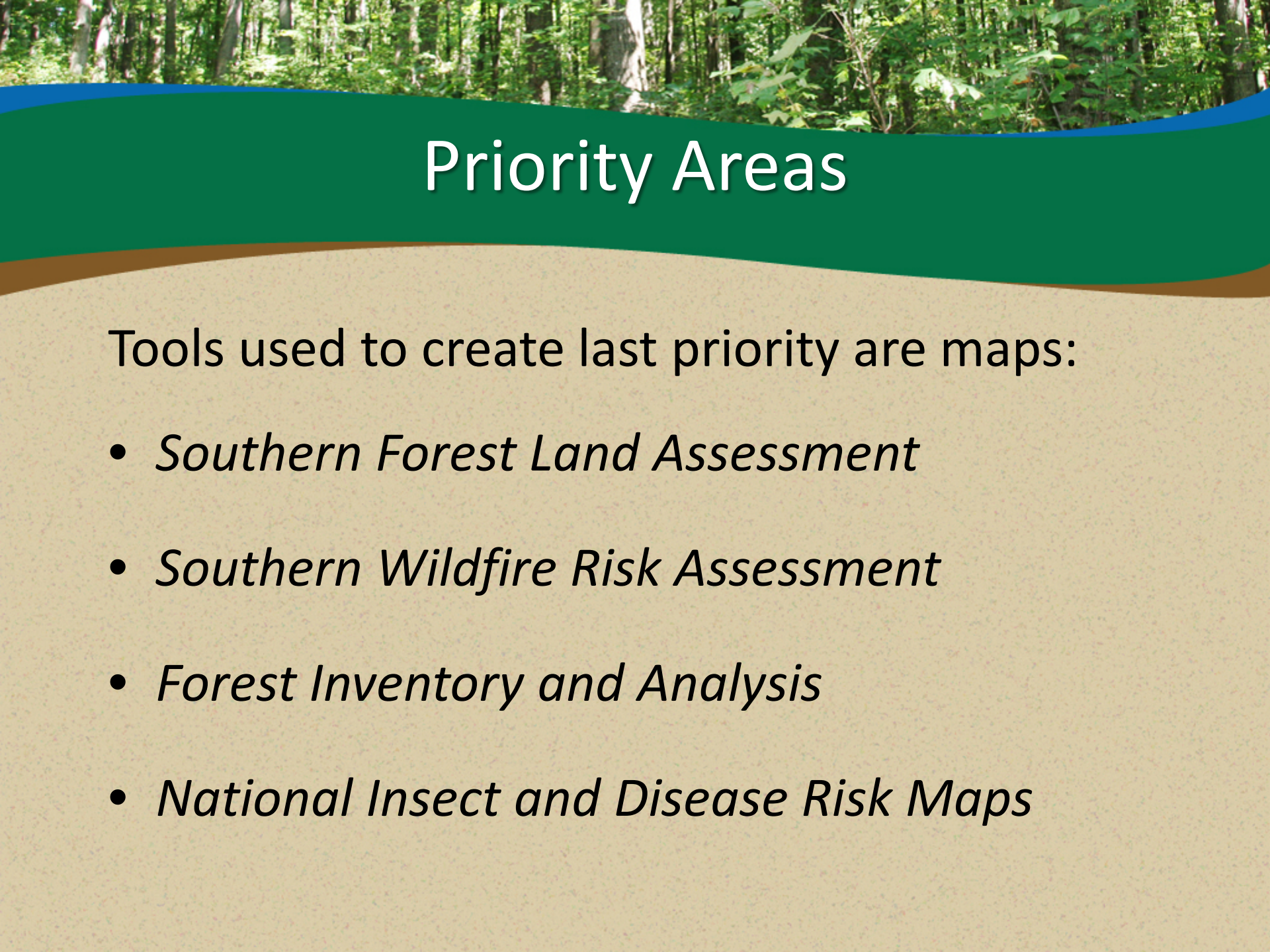
Private Forest Conservation goals:

- Conserve and manage working forest landscape for multiple values and uses
- Protect forest from threats
- Enhance public benefits from trees and forests

A photograph of a dense forest with many green trees and foliage, serving as the background for the top portion of the slide.

Statewide Forest Assessment:

- Conditions and trends of forest resources in the State
- Threats to forest lands and resources in the State consistent with national priorities
- Identifies priority areas in the state
- Identifies regional priority areas between states

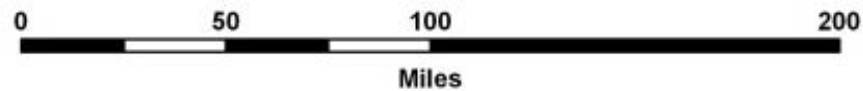
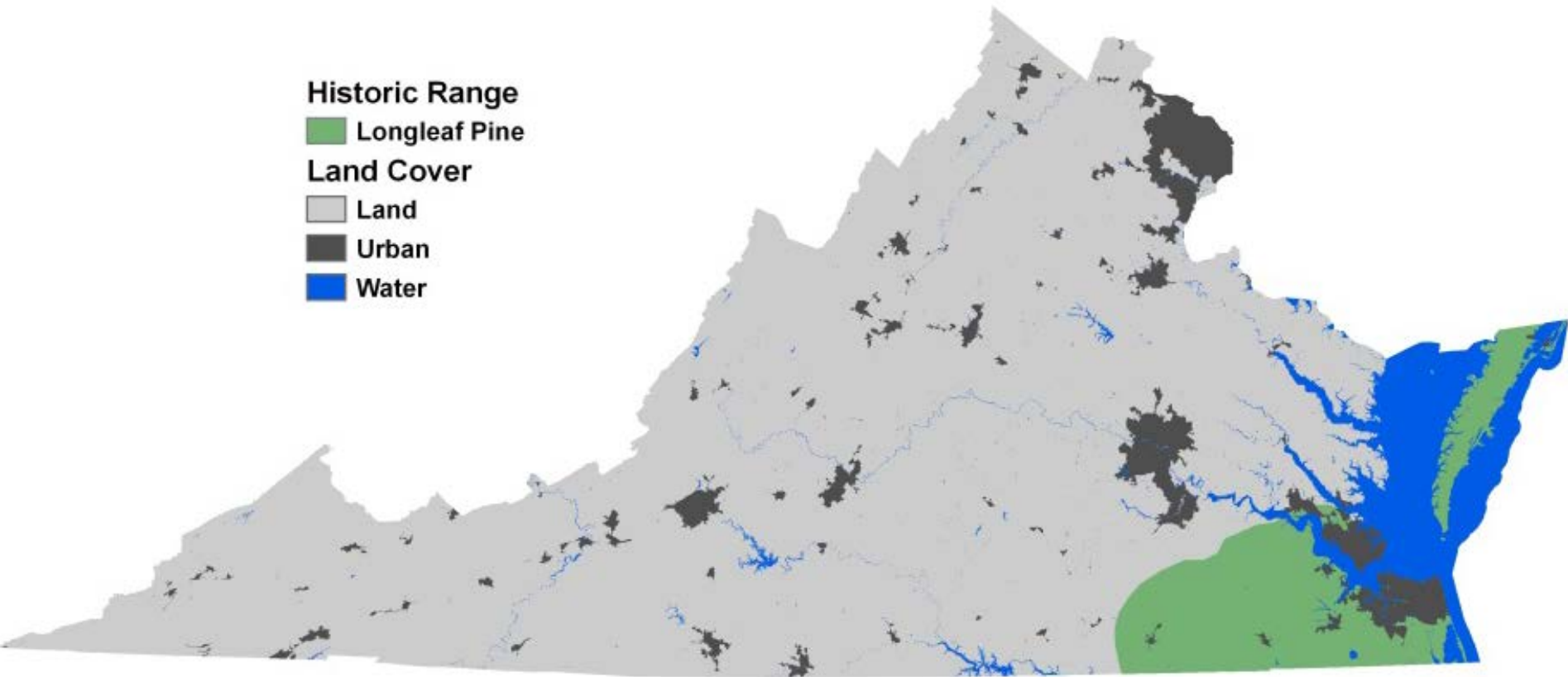


Priority Areas

Tools used to create last priority are maps:

- *Southern Forest Land Assessment*
- *Southern Wildfire Risk Assessment*
- *Forest Inventory and Analysis*
- *National Insect and Disease Risk Maps*

Diminished Forest Types: Longleaf Pine



A photograph of a dense forest with tall trees and green foliage, serving as the background for the top portion of the slide.

Statewide Forest Strategy:

- Long-term strategies to address threats to forest resources in the State Assessment
- Description of resources necessary to address the statewide strategy
- Address national priorities for S&PF

A photograph of a dense forest with green foliage and tree trunks, serving as the background for the top portion of the slide.

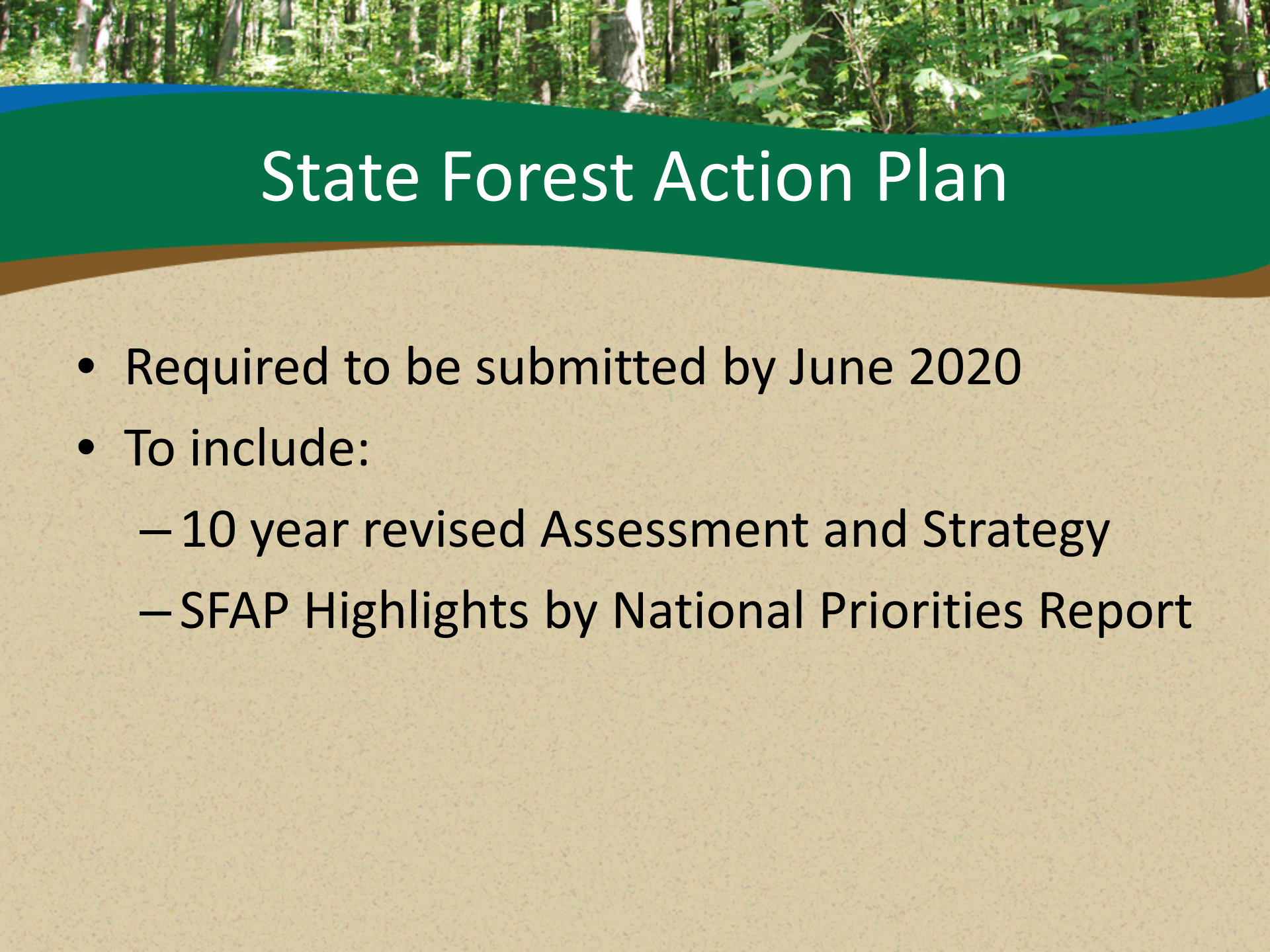
Additional Requirements

Plans Required to be incorporated

- Community Wildfire Protection plans
- State Wildlife Action Plan

Required stakeholder groups

- VDGIF
- State Forest Stewardship Coordinating Committee
- State Technical Committee
- Applicable Federal land management agencies
- Military installations



State Forest Action Plan

- Required to be submitted by June 2020
- To include:
 - 10 year revised Assessment and Strategy
 - SFAP Highlights by National Priorities Report

A photograph of a dense forest with many green trees and foliage, serving as the background for the top portion of the slide.

Opportunities to be involved

- Review & comment on drafts
 - Assessment draft - Summer 2019
- Online survey
 - Sent to stakeholders & interested parties
- Stakeholder meeting
 - Second half of 2019

A photograph of a dense forest with many green trees and foliage, serving as the background for the top portion of the slide.

Changes impacting Va's Forests

- Population growth and expanding metropolitan areas.
- Changes in forest ownership, particularly from one generation to the next.

2006 Urban Sprawl

Virginia in 2006

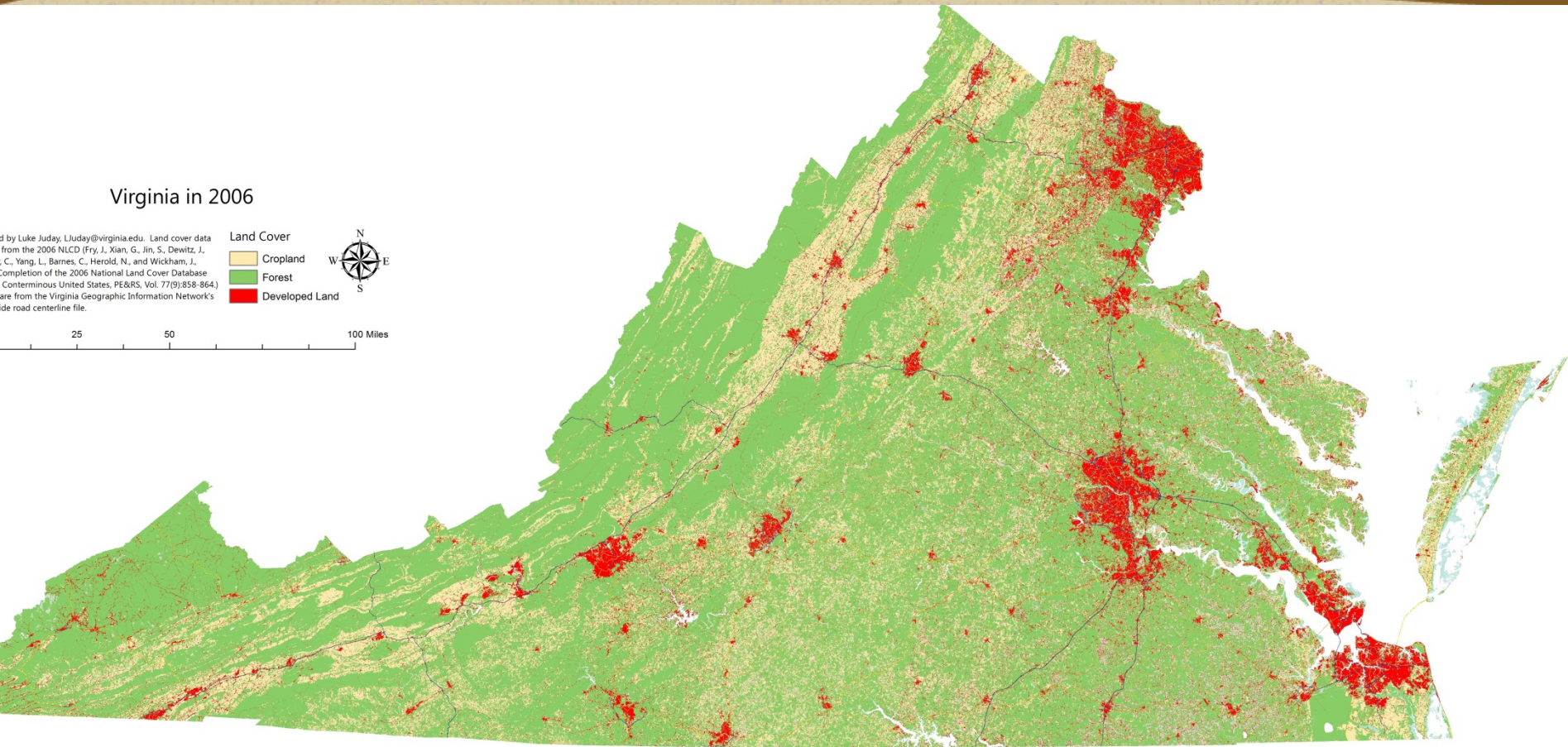
Map by Luke Juday, LJuday@virginia.edu. Land cover data from the 2006 NLCD (Fry, J., Xian, G., Jin, S., Dewitz, J., Yang, L., Barnes, C., Herold, N., and Wickham, J., Completion of the 2006 National Land Cover Database, Conterminous United States, PE&RS, Vol. 77(9):858-864) are from the Virginia Geographic Information Network's side road centerline file.

Land Cover

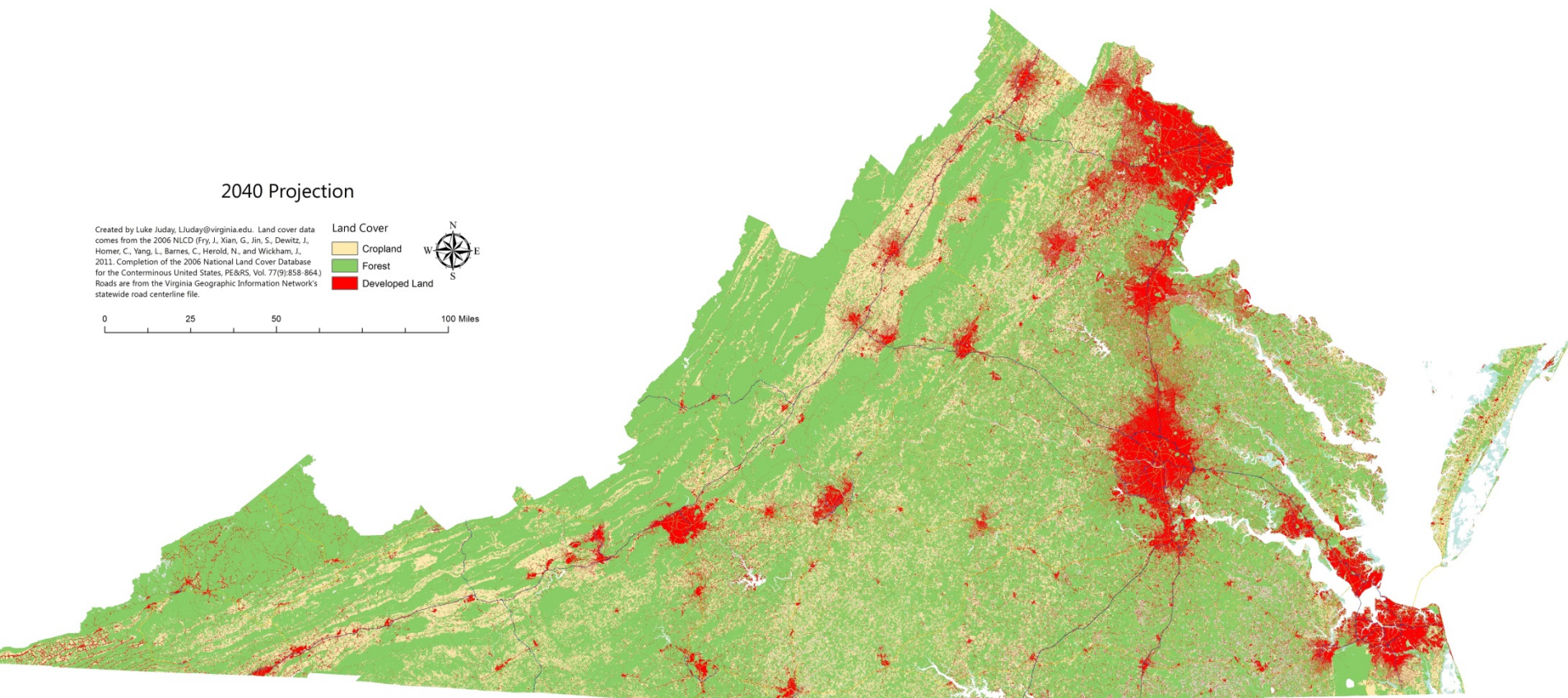
- Cropland
- Forest
- Developed Land



25 50 100 Miles



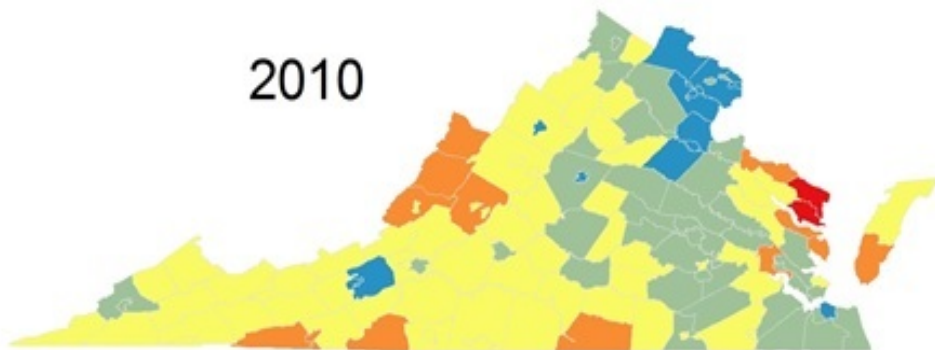
2040 Urban spread prediction



Aging Population

PERCENTAGE OF POPULATION OVER 65 YEARS

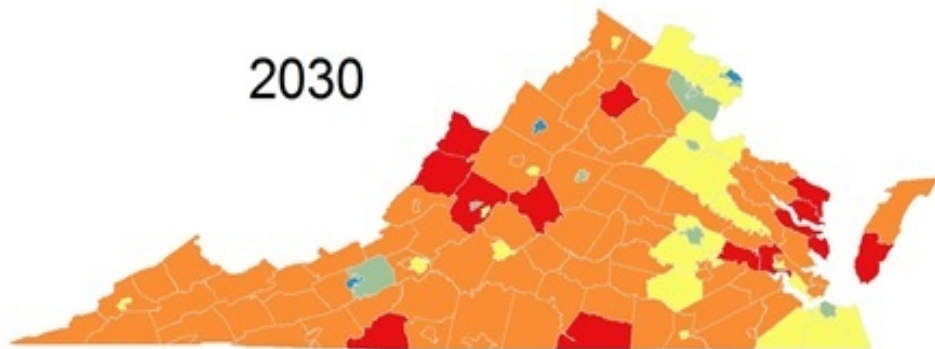
2010



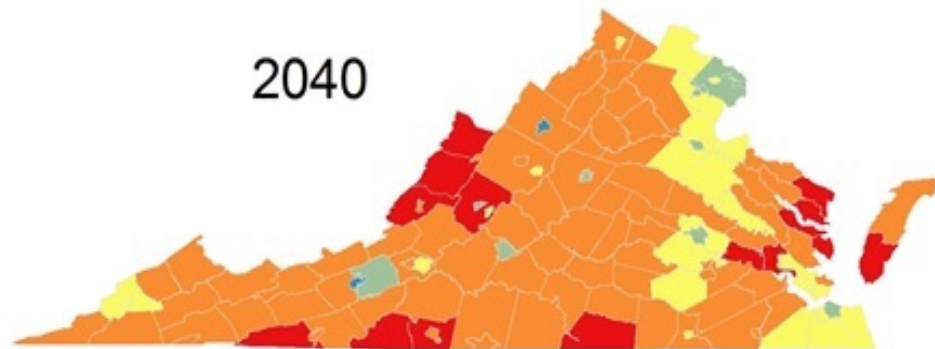
2020



2030



2040



Virginia's forest trends

- 16 Million acres of forestland – 62% of Commonwealth.

FIA Forestland Acres for VA (2001-2017)



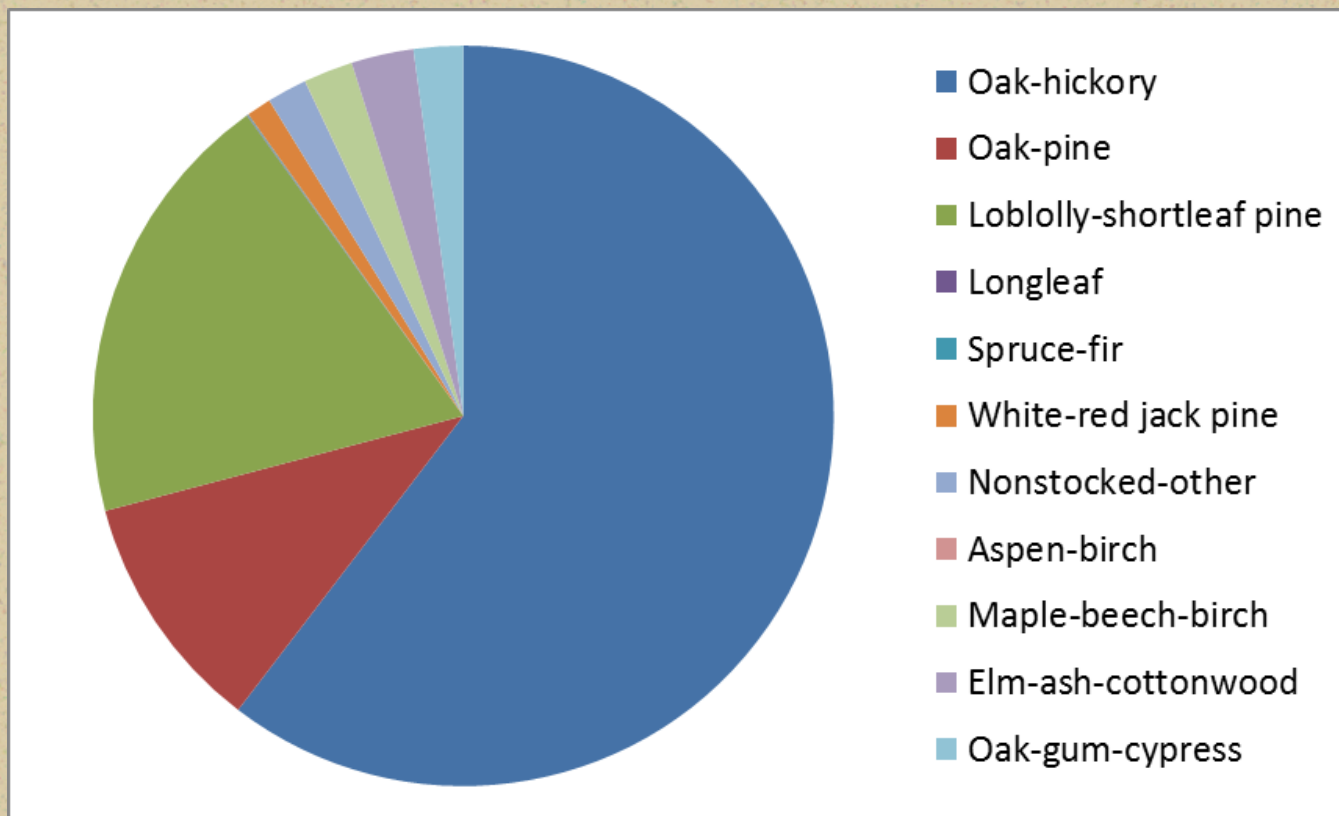
A photograph of a dense forest with many green trees and foliage, serving as the background for the top portion of the slide.

Growth/drain ratio

- Net growth to removal ratio of 3.01 for hardwoods statewide.
- For softwoods (pine), the ratio is also positive: 2.34 statewide.

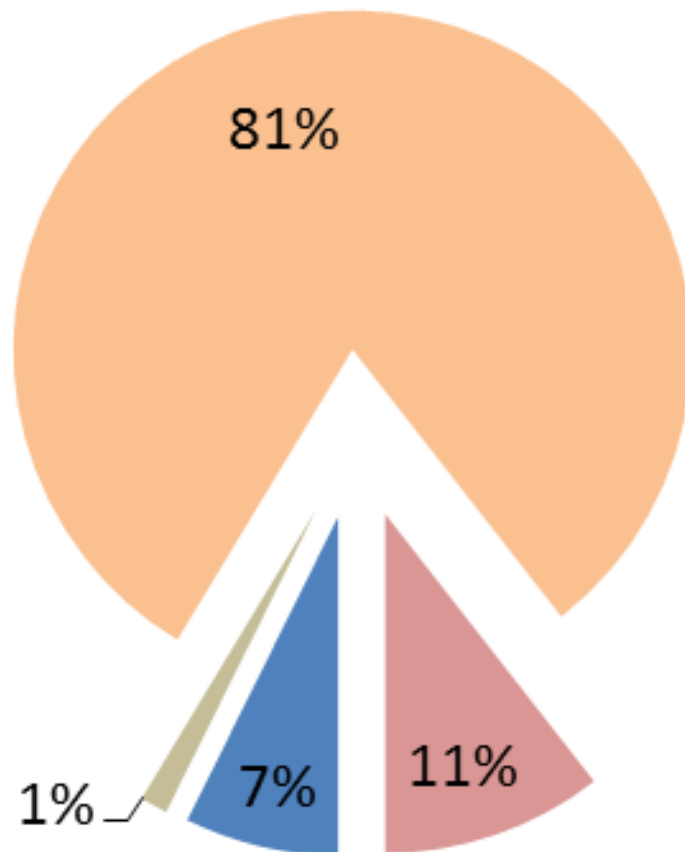
Forest Composition

- Hardwood & hardwood/pine types – 12 million acres (78%)



Virginia Forestland Ownership

■ National Forest ■ Other Public ■ Forest Industry ■ Private



A photograph of a dense forest with many green trees and foliage, serving as the background for the top part of the slide.

Threats, issues, opportunities

Conserve working forestlands

- Conservation of the forestland base
- Promote larger, connected forest landscape
- Ensure the sustainable use of forest resources



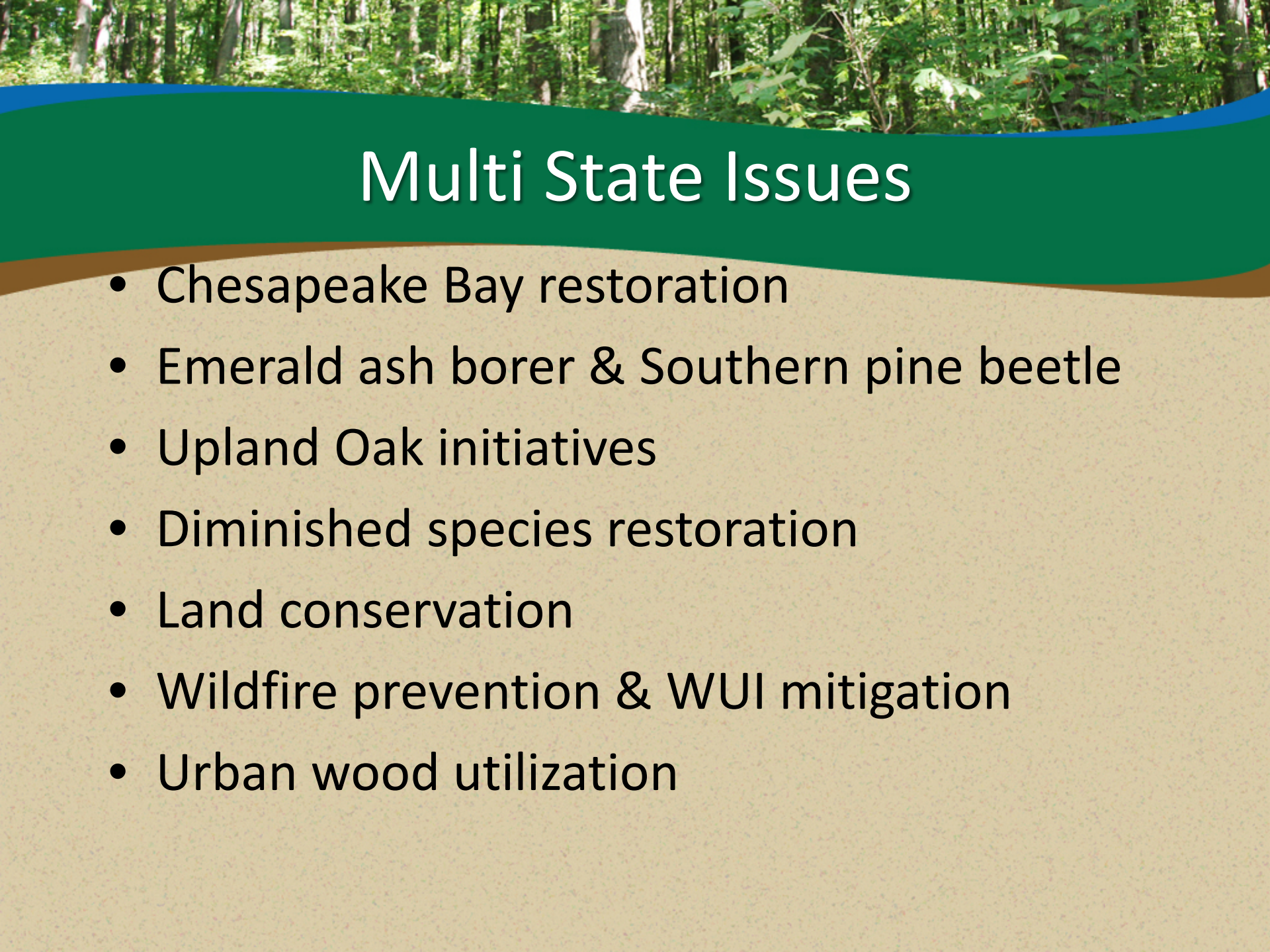
Protect Forests from harm

- Expanding wildland-urban interface and the associated dangers of wildland fire.
- Protect forests from insects & disease.
- Conserve and restore diminished species.



Enhance Public Benefits from Trees & Forests

- Enhance role of forest in maintaining water quantity and quality.
- Support the forest economy and new forest product markets
- Expand and improve urban & community forests.



Multi State Issues

- Chesapeake Bay restoration
- Emerald ash borer & Southern pine beetle
- Upland Oak initiatives
- Diminished species restoration
- Land conservation
- Wildfire prevention & WUI mitigation
- Urban wood utilization

A photograph of a dense forest with green foliage and tree trunks. A decorative banner with a green top half and a blue bottom half is overlaid on the image.

Forest Action plan comments or feedback:

Bryant Bays

bryant.bays@dof.virginia.gov

-or-

forestactionplan@dof.virginia.gov

2018 Farm Bill Virginia NRCS Programs Questionnaire

2018 Farm Bill Programs Questionnaire Background

In FY2016, Virginia NRCS Programs conducted a similar survey to more efficiently gather input from stakeholders, Local Work Groups (LWGs), the State Technical Committee, and our staff. We used the results of that survey to guide us with our program priorities – principally the Environmental Quality Incentives Program (EQIP), as states have the most flexibility with that program.

With the 2018 Farm Bill enacted into law on December 20, 2018, we thought it would be a great time to send out a questionnaire, the results of which we could use to guide us for the coming years.

2018 Farm Bill Programs Questionnaire Background

Task at Hand

As in FY2018, each Service Center was required to convene LWG meetings and collect a unified response from each LWG for submission.

Additionally, each NRCS employee was asked to submit personal responses to the same questionnaire. Responses were voluntary.

2018 Farm Bill Programs Questionnaire Background

The Questionnaire was divided into the following sections:

Resource Concerns

- Sub-Resource Concerns

Environmental Quality Incentives Program (EQIP)

- Screening Criteria, Ranking Tools, and Fund Pools
 - Screening Criteria
 - Ranking Tools
 - Fund Pools
 - Mandatory Fund Pools with Nationally-Assigned Funding
 - Mandatory Fund Pools with State-Designated Funding
 - State Priority Fund Pools with State-Designated Funding
- Available Practices (per Fund Pool)
- Payment Caps (75% or 90%)

Conservation Stewardship Program (CStP)

Conservation Innovation Grants (via EQIP)

Easements (ACEP: ALE and WRE)

Regional Conservation Partnership Program (RCPP)

2018 Farm Bill Programs Questionnaire

Who Responded?

Affiliation	Number of Responses	Percentage of the Total
Internal NRCS Employee	48	46.7%
Local Working Group	31	30%
State Technical Committee Member	11	9.7%
Non-NRCS Technical Staff	7	6.8%
Landowner/Grower/SWCD Director	5	4.9%
NGO	1	1.9%

From Where	Number of Responses	Percentage of the Total
Area I (Harrisonburg)	21	20%
Area II (Christiansburg)	13	12.6%
Area III (Farmville)	26	25.2%
Area IV (Smithfield)	14	13.6%
State Office (Richmond)	4	3.9%
Did not select an Area	24	23.3%
Other	1	>.1%

NRCS Staff Details (Position)	Number of Responses	Percentage of the Total
District Conservationist	18	37.5
Soil Conservationist	12	25%
Soil Conservation Technician	7	14.6%
Civil Engineer	2	4.2%
Farm Bill Specialist	2	4.2%
Program Manager	2	4.2%
ACES	1	2.1%
Assistant State Con – Field Ops	1	2.1%
Pathways	1	2.1%
Private Lands Biologist	1	2.1%
Unknown	1	2.1%

2018 Farm Bill Programs Questionnaire

Resource Concerns

By obtaining feedback on priority Resource Concerns and the Sub-Resource Concerns within each SWAPA + H+ E category, the Programs Team can begin to develop screening and ranking criteria based on critical need for conservation.

So...what was the most important Resource Concern?

Soil, **W**ater, **A**ir, **P**lants, **A**nimal, **H**uman, **E**nergy

2018 Farm Bill Programs Questionnaire

EQIP Resource Concerns

Resource Concern	1 st Place Votes	2 nd Place Votes	3 rd Place Votes	Median Score (Lower Equals a Higher Priority)
Soil Erosion	33	32	19	2.5
Soil Quality	12	32	31	3.0
Water Quality	42	16	27	2.5
Excess/Insufficient Water	4	5	6	5.8
Air Quality	2	3	1	7.5
Degraded Plant Condition	1	5	9	4.8
Livestock Production	2	1	4	5.7
Inadequate Habitat for Fish & Wildlife	3	7	4	5.5
Energy Inefficient Use	3	1	3	7.7

Rankings	
1	Water Quality Degradation
2	Soil Erosion
3	Soil Quality Degradation
4	Degraded Plant Condition
5	Excess/Insufficient Water
6	Livestock Production Limitation
7	Inadequate Habitat for Fish and Wildlife
8	Air Quality
9	Energy Inefficient Use

2018 Farm Bill Programs Questionnaire

EQIP Resource Concerns: Top 3 Sub-Resource Concerns

Water Quality Degradation

1. Excess Nutrients in Surface and Ground Waters
2. Excessive Sediments in Surface Waters
3. Excess Pathogens and Chemicals from Manure, Bio-Solids, or Compost Applications

Soil Erosion

1. Sheet, Rill, and Wind Erosion
2. Excessive Bank Erosion from Streams, Shorelines, or Water Conveyance Channels
3. Concentrated Flow Erosion

Soil Quality Degradation

1. Organic Matter Depletion
2. Compaction

2018 Farm Bill Programs Questionnaire

EQIP Resource Concerns: Other Comments

Sample/Other Comments from the Respondents

Water Quality Degradation
Soil Erosion

"Stream stabilization and restoration is also important and addresses multiple resource concerns"

"Let's start working in streams"

Soil Quality Degradation

"Soil Quality is very important. Let's improve it all that we can!"

Degraded Plant Condition

"We like being given the opportunity to convert pasture fields to native warm season grasses, and endophyte free fescue. Thank you NRCS."

Excess/Insufficient Water

"Increasing public, regulatory, and research interest in air emissions from poultry houses may point to credible resource concern in the future."

Livestock Production Limitation

"The LWG wanted to note, they feel the Roofed Winter Feed Structures are a great practice in Southwest VA

Inadequate Habitat for Fish and Wildlife

"The LWG here do not feel that we should be putting cost share dollars out there for wildlife habitat."

Air Quality

"Not near as big a concern as in other parts of the country."

Energy Inefficient Use

Consider bringing back energy upgrade financial assistance.

2018 Farm Bill Programs Questionnaire

EQIP: Screening Criteria, Ranking Tools, and Fund Pools

Screening: For the last Farm Bill, Virginia implemented a general application screening process for all EQIP applications.

We asked if we should continue to use a screening tool for the 2018 Farm Bill.

	Yes	No
Continue to use?	80	11

2018 Farm Bill Programs Questionnaire

EQIP: Screening Criteria, Ranking Tools, and Fund Pools

Screening: Should we continue to use the questions below? (a Yes response to the question results in the application being screened as a Low Priority)

Continue to use the question?	Yes	No
Has the applicant had a contract terminated within the last five fiscal years?	92	11
Does the applicant have Active contracts that are behind schedule as of October 1 st ?	88	15
Does the applicant have Active OR Completed contract(s), that used Federal funding, where they have not exhibited proper Operation & Maintenance for the Practice Lifespan*, and such findings have been documented by the field staff in the case file?	93	10

2018 Farm Bill Programs Questionnaire

EQIP: Screening Criteria, Ranking Tools, and Fund Pools

Ranking-Do you think the EQIP ranking tools should take into account

	Yes	No
Applications that address Resource Concerns that were identified as the highest priority in this questionnaire?	99	4-did not answer
Other Suggestions/Comments: - Provide an opportunity for incremental improvement, e.g. if cattle are already excluded, still have EQIP options; - Encourage proper conservation planning via the ranking tool questions; - Include specific watersheds and endangered ecosystems; - Provide ranking points for other resource concerns; - More points for applications that address multiple resource concerns. - T&E hits should have greater points, e.g. Hellbender; - Consider points for applications that will assist with the state's Watershed Implementation Plan; - Consider geology-is the application on/near Karst Topography?		

2018 Farm Bill Programs Questionnaire

EQIP: Screening Criteria, Ranking Tools, and Fund Pools

Fund Pools are separated into 3 categories:

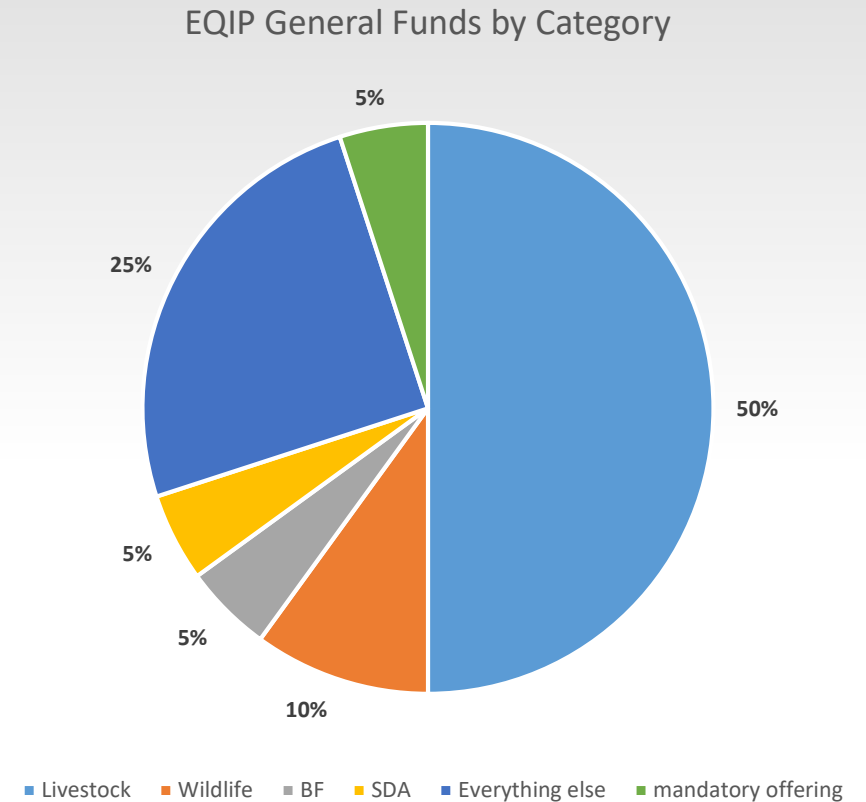
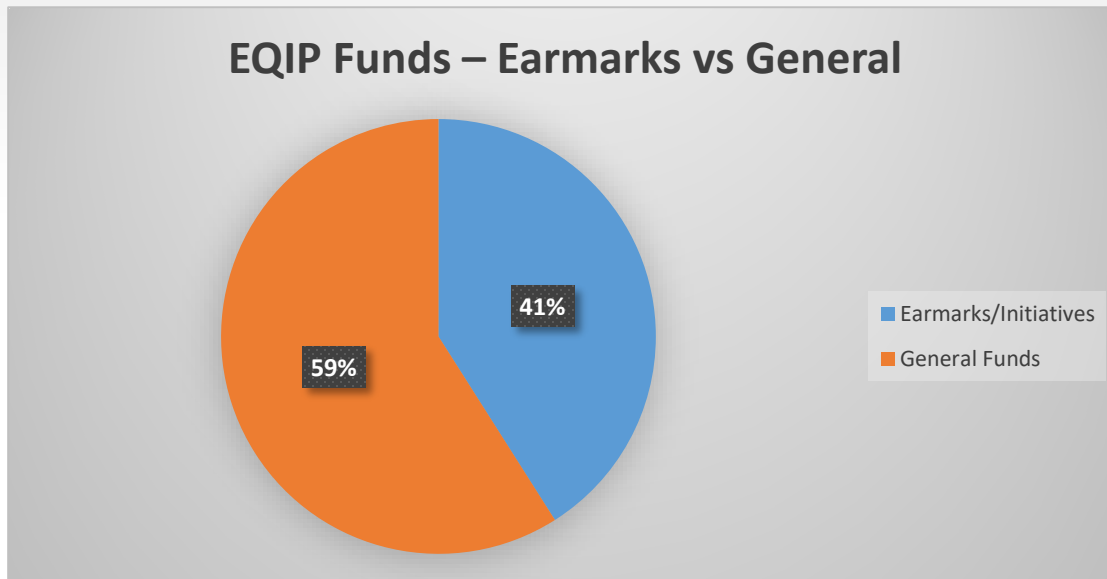
1. Mandatory Fund Pools with Nationally-Assigned Funding
 2. Mandatory Fund Pools with State-Designated Funding
 3. State Priority Fund Pools with State-Designated Funding
-
1. States are given *earmarked* funds and those funds must be used only for the originally intended purpose. States cannot change the fund amount or reallocate the funds to other fund pools.
 2. States must offer these fund pools, but the amount allotted is determined by the states.
 3. States may choose to use remaining funds for state priorities. National Headquarters does not mandate these to be offered and does not designate funding levels.

2018 Farm Bill Programs Questionnaire

EQIP: Screening Criteria, Ranking Tools, and Fund Pools

Fund Pools are separated into 3 categories:

1. Mandatory Fund Pools with Nationally-Assigned Funding
2. Mandatory Fund Pools with State-Designated Funding
3. State Priority Fund Pools with State-Designated Funding



2018 Farm Bill Programs Questionnaire

EQIP: Practice Availability

Top 10 Practices Not Offered in EQIP – To consider Adding

Code	Practice Name	Add to EQIP Votes	90% “Cost-Share” ?
328	Conservation Crop Rotation	40	20
576	Livestock Shade Structure	39	9
595	Pest Management Conservation System	35	13
655	Forest Trails and Landings	29	5
511	Forage Harvest Management	29	3
374	Farmstead Energy Improvement	27	7
201	Edge of Field (EOF) Water Quality Monitoring – Data Collection	25	5
443	Irrigation System, Surface and Subsurface	24	6
202	Edge of Field (EOF) Water Quality Monitoring – System Installation	24	4
355	Groundwater Testing	22	7

2018 Farm Bill Programs Questionnaire

EQIP: 90 % Financial Assistance per Practice

Top 20 Practices to Consider offering 90 % “Cost-Share”

Rank	Code	Practice Name	90% “Cost-Share” Votes
1	382	Fence	50
2	391	Riparian Forest Buffer	41
3	340	Cover Crop	35
4	614	Watering Facility	32
5	516	Livestock Pipeline	30
6	528	Prescribed Grazing	28
7	327	Conservation Cover	27
8	512	Forage and Biomass Planting	27
9	392	Residue and Tillage Management, No-Till	25
10	342	Critical Area Planting	24

2018 Farm Bill Programs Questionnaire

EQIP: 90 % Financial Assistance per Practice

Top 20 Practices to Consider offering 90 % “Cost-Share”

Rank	Code	Practice Name	90% “Cost-Share” Votes
11	578	Stream Crossing	24
12	642	Water Well	24
13	313	Waste Storage Facility	23
14	533	Pumping Plant	21
15	590	Nutrient Management	21
16	612	Tree/Shrub Establishment	21
17	328	Conservation Crop Rotation	20
18	395	Stream Habitat Improvement and Management	20
19	561	Heavy Use Area Protection	20
20	390	Riparian Herbaceous Cover	19

2018 Farm Bill Programs Questionnaire

CSP Resource Concerns

Resource Concern	1 st Place Votes	2 nd Place Votes	3 rd Place Votes	Median Score (Lower Equals a Higher Priority)
Soil Erosion	35	33	18	2.4
Soil Quality	27	24	34	2.5
Water Quality	29	26	23	2.6
Excess/Insufficient Water	4	2	9	5.7
Air Quality	3	1	1	7.5
Degraded Plant Condition	2	10	7	4.7
Livestock Production	3	0	4	5.8
Inadequate Habitat for Fish & Wildlife	4	7	4	5.3
Energy Inefficient Use	2	1	0	8.0

Rankings	
1	Soil Erosion
2	Soil Quality Degradation
3	Water Quality Degradation
4	Degraded Plant Condition Inadequate Habitat for Fish and Wildlife
5	Excess/Insufficient Water
6	Livestock Production Limitation
7	Air Quality
9	Energy Inefficient Use
10	

2018 Farm Bill Programs Questionnaire

CSP: How to Improve Interest

Comment	Response
Relax Control of Land Requirements	This is not an option. A national requirement for operator of record. We do accept (and grant) waivers to this policy.
There are real challenges with getting 5-yr lease agreements since land rental is often informal and of shorter duration. Not sure how to address this. Farmers hesitant to engage landowners since they fear rental rate will go up if landowner knows farmer is getting assistance. Perhaps include in outreach the value to the landowner if their farmer is under CSP?	See above. Don't have to enroll what they don't have lease agreements for. If that changes, then can sign those acres up in future CSP applications
Increase knowledge of field staff of the program.	Agreed.
Emphasize that they do not have to meet all or even the majority of resource concerns to qualify and meet the minimum threshold criteria.	Agreed. Not sure why this is a misunderstanding. Must meet two resource concerns.
Offer more enhancements for Livestock producers.	We have added new enhancements for FY20 for livestock growers.
Reduce the size and complexity of Job Sheets on Enhancements. Each operation is different need flexibility	Consolidation ongoing by NHQ - recommendations to reduce enhancements from 220 to 151; we've increased flexibility on many

2018 Farm Bill Programs Questionnaire

General Conclusion

The top 4 Priority Resource Concerns

CSP Resource Concern Rankings	
1	Soil Erosion
2	Soil Quality Degradation
3	Water Quality Degradation
4	Degraded Plant Condition
5	Inadequate Habitat for Fish and Wildlife
6	Excess/Insufficient Water
7	Livestock Production Limitation
8	Air Quality
9	Energy Inefficient Use

EQIP Resource Concern Rankings	
1	Water Quality Degradation
2	Soil Erosion
3	Soil Quality Degradation
4	Degraded Plant Condition
5	Excess/Insufficient Water
6	Livestock Production Limitation
7	Inadequate Habitat for Fish and Wildlife
8	Air Quality
9	Energy Inefficient Use

2018 Farm Bill Programs Questionnaire

- Streamline, Efficiency & Customer Service
- Streamline Reading the Land
- Efficient Conservation Planning and Ranking
- Improve Services and Time to Interact with the Client
- Program Neutral Planning informs Programs in a consistent, integrated process.
- Adaptive Learning Framework
- CART will be fully integrated into Planning and Program Policy. No Duplication of Work

CART
Conservation
Assessment & Ranking
Tool



2018 Farm Bill Programs Questionnaire



Managing Risks in Organic Production through Soil Health Practices

Mark Schonbeck

Research Associate, Organic
Farming Research Foundation



Virginia NRCS – State Technical
Committee Meeting

Richmond, VA – June 27, 2019

The Journey to Soil Health: NRCS Four Principles



Keep soil covered



Diversify the cropping system



*Maintain
living
roots*

*Minimize
disturbance*



Production risks in organic farming

- Nitrogen (N) limitation
- Phosphorus (P) excesses
- Weeds
- Cultivation impacts on soil
- Pests, diseases
- Costs of organic inputs
- Lower yields
- Knowledge-intensive system



Organic farmers rely on healthy soil to enhance crop resilience and reduce risk, but cultivation needed for weed control can compromise soil health.

Risk mitigating factors in organic farming

- Non-use of synthetic inputs:
 - Protects soil life and beneficial organisms
 - Protects water quality
 - Avoids herbicide carryover
 - Can save money
- Organic inputs build soil
- Organic price premiums
- Strong market demand



*Non-use of herbicides
facilitates diverse cropping
for diverse markets.*

Risk factors during organic transition

- Steep learning curve
- Soil health challenges:
 - Compacted or eroded
 - Depleted organic matter and soil life
 - Slower nutrient release
 - Higher risk of diseases
 - Yield dip upon transition
- Weed pressure
- Organic price premiums not available for three years.



Newly transitioned fields with conventional history often have low SOM, poor tilth, low inherent fertility, or high weed populations.

How healthy soil reduces risk
in organic production

How healthy soil reduces risk: physical properties

Soil life and soil organic matter (SOM)
maintain structure (tilth)

- Timely planting
- Better crop emergence
- Easy to work, saves fuel
- Easy cultivation for weed control

Resists compaction and erosion

- Reduced soil losses
- Sustained fertility



*The “crumb structure”
of healthy topsoil makes
it less likely to erode or
become compacted.*

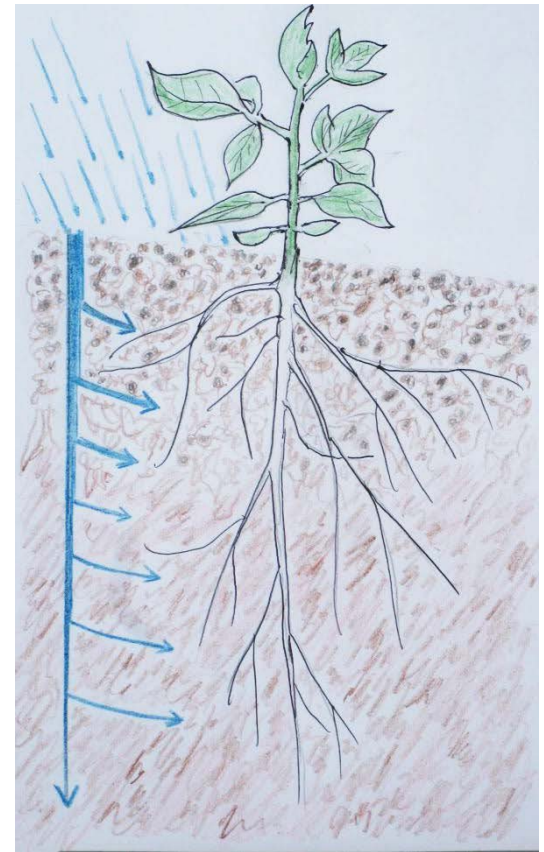
How healthy soil reduces risk: water relations

Absorbs, retains, and delivers plant-available moisture

- Drought resilient crops
- Less irrigation needed
- Reduced runoff and erosion

Drains well

- Healthier roots, less disease
- Fewer planting delays



Healthy soil holds more plant-available water

Drought resilience and yield stability



In Rodale trials, organically managed soil held sufficient moisture to sustain corn through drought (left), while conventional corn showed severe water stress (right) and 31% lower yields.

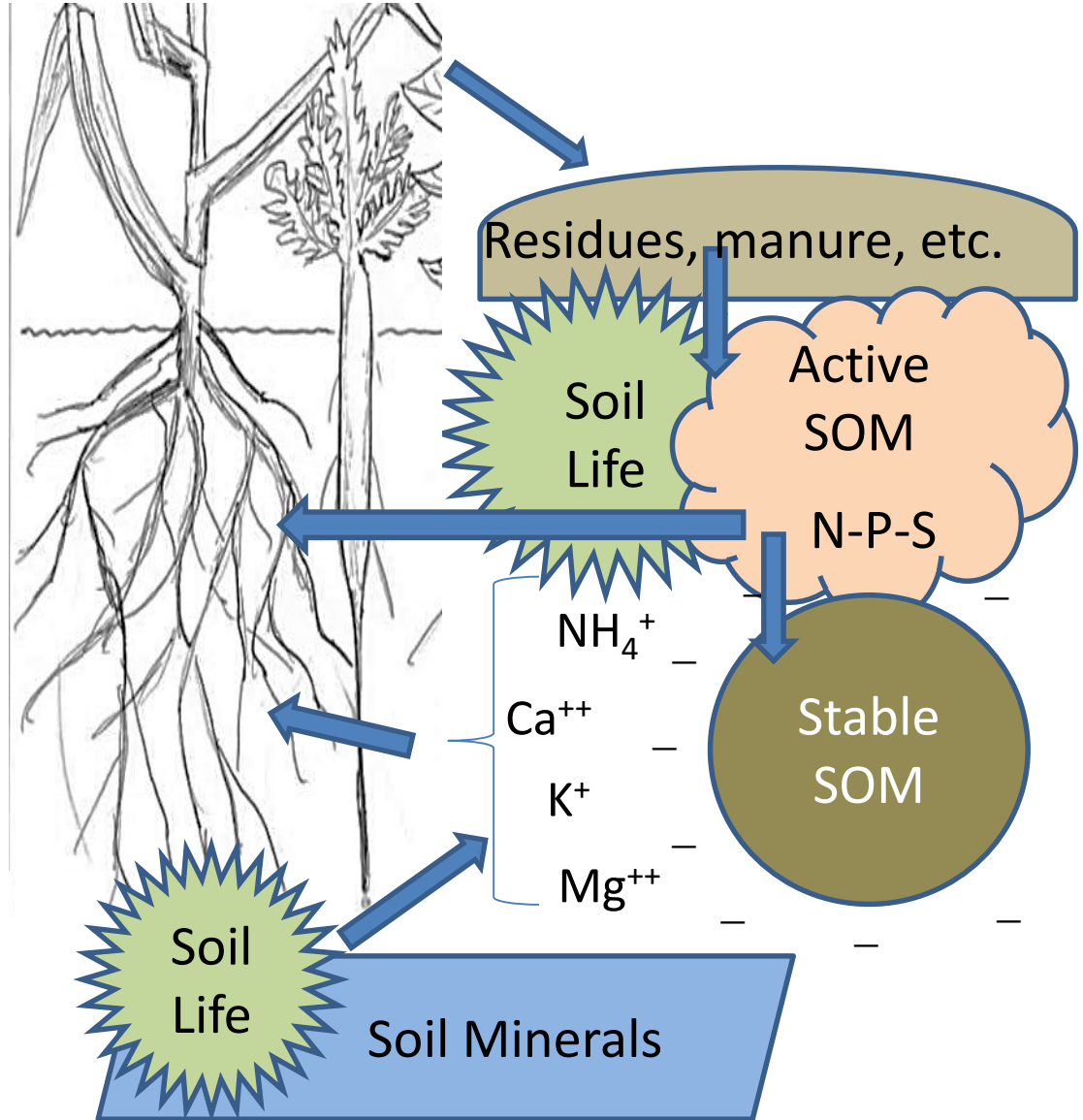
How healthy soil reduces risk: crop nutrients

Retains and recycles nutrients:

- Lower fertilizer costs

- Water quality
Delivers sufficient but not surplus nutrients to crops:

- Yield and quality
- Soil life



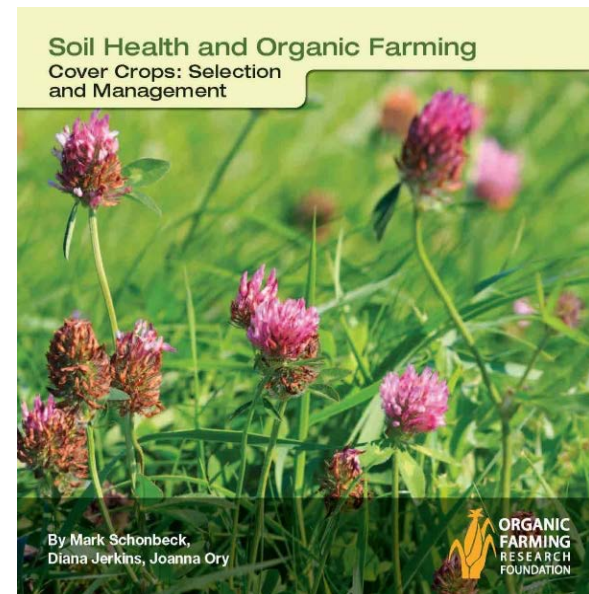
Diversifying the Farming Systems

Cover crops

Cash crops

Forage crops

Crop-livestock Integration



SARE Cover Crop Surveys: 2012 – 2016

- Benefits cited by farmers:
 - Healthier soil (85%)
 - Weed management (69%).
 - Yield stability (66%).
 - Increased net return (33%)
- Corn and soybean yield response to cover crops:
 - Up 1 – 5% most years
 - Up 9 – 11% in 2012 drought

<https://www.sare.org/Learning-Center/Topic-Rooms/Cover-Crops/Cover-Crop-Surveys>



Rye, crimson clover, and radish were most widely planted.

Example: winter rye improves water availability to cotton in coastal plain

Sandy soils with compacted E horizon, usually require annual subsoiling.

Winter rye cover crops (top right):

- Increased SOM by 0.5% and water content by 1 – 1.5” in top 18”.
- Relieved compaction, allowing cotton to access subsoil moisture.
- Increased no-till cotton yields 38%.

Marshall et al., 2016. *Open Journal of Soil Science* 6: 149-158. <http://dx.doi.org/10.4236/ojss.2016.610015>



Crop-livestock integration at Elmwood Stock Farm, Scott Co, Kentucky



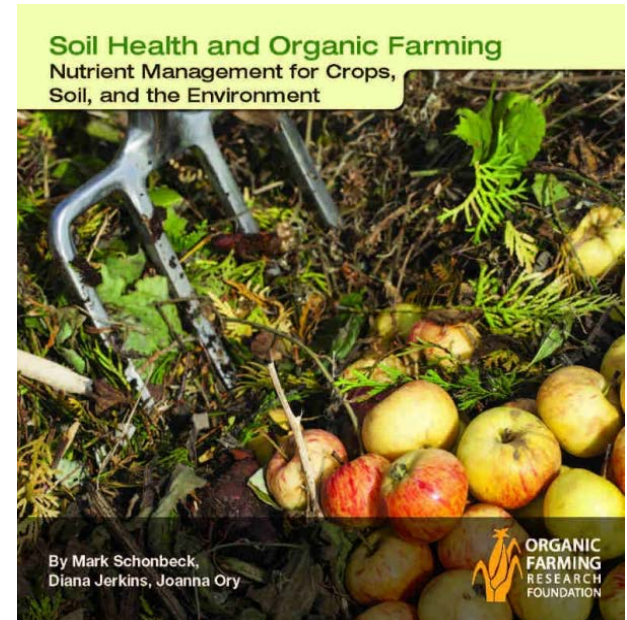
Rotation:

- 3 years vegetables with winter cover crops
- 5 years pasture, mixed livestock, mob-grazed
- 3 years feed grains with cover crops
- 5 years pasture

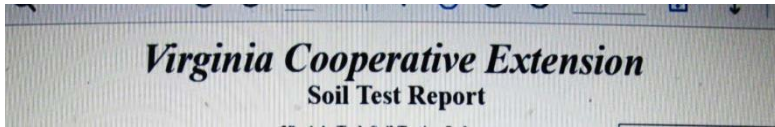
Excellent soil health and agricultural resilience.

Adjusting Nutrient Inputs

More is not always
better



The Soil Test Paradox



P (lb/A)	K (lb/A)
85	421
H	VH

Fe (ppm)	B (ppm)
14.8	0.4
SUFF	

Soil pH	Buffer Index
6.5	6.14



Recommendations for tomato:

Fertilizer, lb/A		
N	P205	K20
90	100	50

Why soil labs recommend more NPK than needed

- Measure top 6" only.
- Ignore soil life.
- Assume soil is "leaky".
- Overlook nutrient recovery by crops.

Robin Kloot, 2017 Organic Agriculture Research Symposium, Lexington, KY.

Organic Nutrient Strategies and Risks

“Feed the Soil”

- *N limited yields*

Input substitution

- *High costs*

Compost or manure for N.

- *P excess*

Replenish nutrients harvested-off

- *Amend for P, fix N, retrieve soil mineral K*

Harvest removal	N	P	K
Vegetables (avg.)	50	8	64
Grains (avg. yields)	150	25	35
Hay (5 t/ac)	180	30	190
Amendments			
Compost (1-1-1), 5 t/ac	100	44	83
Poultry fertilizer (5-4-3), 1 t/a/c	100	35	50

“Living soil changes everything”

Robin Kloot, 2017 Organic Agriculture Research Symposium, Lexington, KY

- 5-year trial, corn-soy-wheat with cover crops (up to 4.5 t/ac).
- Orangeburg loamy sand.
- Organic practices, no fallow.
- No P or K vs recommended rate.
- N at half of recommended.

Results:

- SOM 1.2 → 1.7%
- Full crop yield without P or K.
- Soil test pH, P, and K stable.



Southeast coastal plain soil in good health, with plant roots accessing subsurface nutrients and moisture.

This presentation was excerpted from a webinar on soil health and risk reduction presented on February 6, 2019 by OFRF via eOrganic.

This Guide and webinar were produced with funding from USDA Risk Management Agency (RMA).

All OFRF Soil Health Guides are available at <https://ofrf.org>.

Reducing Risk through Best Soil Health Management Practices in Organic Crop Production



By Mark Schonbeck
& Michael Stein



ORGANIC
FARMING
RESEARCH
FOUNDATION



Virginia Projects 2014-18

(Regional Conservation Partnership Program)



Overview

The Regional Conservation Partnership Program or RCPP encourages partners to collaborate with producers to restore and sustainably use soil, water, wildlife and related natural resources on regional or watershed scales.

Through the program, NRCS and its partners help producers install and maintain conservation activities in selected project areas. Partners leverage RCPP funding in project areas and report on the benefits achieved.

RCPP projects address resource concerns listed below. An initiative must address at least one resource concern to receive national funding. To receive state funding, a project must address either a national resource concern or a resource concern identified by the state.

- Excess/Insufficient water/drought
- Water quality degradation
- Soil quality degradation

- Inadequate habitat for fish and wildlife (and invertebrates)
- Air quality impacts
- Degraded plant condition (specific to certain CCA only)
- Energy
- Climate change

The 2018 Farm Bill demonstrates strong congressional support for private lands conservation. This legislation contains improvements to make the program more efficient and effective with greater flexibility for NRCS and partners to better manage funding for the duration of projects (see chart below).

Look inside this booklet to get a closer look at 11 projects benefitting Virginia agricultural producers and forest landowners (5 CCA, 2 national, and 4 state).

2014 Farm Bill	2018 Farm Bill
NRCS implements RCPP conservation program contracts and easement agreements through four existing program authorities: • <i>Agricultural Conservation Easement Program (ACEP)</i> • <i>Environmental Quality Incentives Program (EQIP)</i> • <i>Conservation Stewardship Program (CSP)</i> • <i>Healthy Forests Reserve Program (HFRP)</i>	RCPP will be a stand-alone program and simplify funding authorities for program implementation. The 2018 Farm Bill will also expand the flexibility for alternative funding arrangements with partners.
Three Funding Pools: • <i>Critical Conservation Areas (CCA): 35% of Funding</i> • <i>Chesapeake Bay Watershed</i> • <i>Longleaf Pine Range</i> • National or multistate projects: 40% of funding • Single State: 25% of funding	The 2018 Farm Bill offers two funding pools and will expand availability of watershed program authorities to projects outside critical conservation areas.

FY 14/15

1. Delmarva Whole System Conservation

Partnership – From Field to Stream (MD, DE, VA): \$5M (Critical Conservation Area or CCA - Chesapeake Bay Watershed)

Lead Partners: The Nature Conservancy and the Delaware Maryland Agribusiness Association

This multi-state partnership project focused on: 1) improving water quality through advanced nutrient management practices and restoring, enhancing, and protecting acres of natural filters (wetlands and buffers); and 2) expanding wildlife habitat by restoring/protecting acres of high quality wetlands and buffers.

The partners estimated that these conservation systems in priority locations would reduce total nitrogen, total phosphorus, and total suspended solids delivered to local waterways each year to help achieve Chesapeake Bay Total Maximum Daily Load (TMDL) goals.

2. Forests – Fundamental for Conservation in Virginia:

\$1.3M (State)

Lead partner: Virginia Department of Forestry



The Virginia Department of Forestry leveraged its strong partnership with NRCS to help increase adoption of forest management planning and practices among Virginia's more than 350,000 forest land owners through coordinated outreach, education and funding assistance.

Installed practices offered numerous statewide conservation benefits from cleaner water in the Chesapeake Bay to restoration of declining tree species like the Longleaf Pine and re-establishment of habitat for bobwhite quail and pollinators. Landowner engagement through participation in the Conservation Stewardship Program helped ensure that forest stands were retained and enhanced for ongoing natural resource protection.

3. Accelerating Chesapeake Bay Watershed Implementation Plans (MD, DE, VA): \$5.5M (CCA)

Lead partner: Maryland Department of Agriculture

This multi-state project sought to fill an unmet demand for conservation programs to reach Chesapeake Bay TMDL targets. The team used state implementation plans to accelerate targeted, cost-effective conservation in the project area. Implementation was adapted to each state's high priorities and opportunities for innovation.

4. Comprehensive Watershed Conservation in Dairy and Livestock Landscapes of the Chesapeake Bay: (VA, WV, PA) \$7M (CCA)

Lead Partner: National Fish and Wildlife Foundation



A diverse group of partners used a "raise the bar" approach that rewarded agricultural producers for implementing higher impact, priority conservation practices in targeted sub-watersheds and counties of the Chesapeake Bay watershed.

The approach addressed both water quality degradation and inadequate habitat for fish and wildlife in the watershed through a combination of comprehensive conservation planning, practice implementation, and strategic habitat restoration. The project also proposed a new concept of conservation brokerage in which agency-neutral funding was used to best address resource concerns. The partners also used cost-benefit targeting to focus financial assistance dollars.

FY 16

5. Blue Ridge PRISM Landowner Programs

Expansion: \$894K (State)

Lead Partner: Shenandoah National Park Trust

The Blue Ridge PRISM project is the first Cooperative Weed Management Area (CWMA) in Virginia to

address invasive plants. The team identified a 10-county project area of nearly three million acres in the Northern Blue Ridge because invasive species control is more effective if a large number of adjacent landowners perform the same treatments.

The Blue Ridge PRISM designed an innovative grassroots initiative called the Area Stewards Program to solve the common challenge of organizing contiguous landowners into large blocks and coordinating the work. Proactive landowners are Area Stewards who treat invasive plants on their own properties and enlist their neighbors to do the same.

6. Upper Clinch-Powell Watershed Partnership (TN, VA): \$4.5M (National)

Lead Partner: The Nature Conservancy - Clinch Valley Program

Lead State: Virginia



The globally important Upper Clinch-Powell River Watershed, located in the Appalachian Mountains of Virginia and Tennessee, is a leading national hotspot for biodiversity and imperiled species, sustaining over 40 varieties of rare mussels and supporting at least 129 native types of fish. A rural landscape with forests, coal mining areas, and sensitive caves surrounds the rivers. These areas are critical to groundwater, working farms, and small Appalachian towns struggling to remain economically viable.

To protect and sustain this region, The Nature Conservancy and partners formed the Clinch-Powell Clean Rivers Initiative (CPCRI) to document and address ecosystem stressors, including excess sediments and nutrients, metals, dissolved solids, pesticides and persistent organics.

This project is designed to improve water quality and aquatic habitat by developing a local working group for resource identification and Best Management Practices (BMP) prioritization, designing a GIS-based ranking system to prioritize RCCP project investments, implementing agricultural and mining BMPs in

biologically critical areas, and assessing the positive impacts of these BMPs on water quality.

FY 17

7. Engaging Small Producers in the Nutrient Management Planning Process (MD, VA): \$4.57M (CCA)

Lead Partner: Sustainable Chesapeake

Lead State: Virginia

Partners engaged Maryland and Virginia small dairy producers in the development and implementation of comprehensive nutrient management plans. This effort supported producer and state efforts to meet Chesapeake Bay and local pollution reduction goals.

8. Oyster Bottom Restoration through Aquaculture: \$852K (State)

Lead Partner: Virginia Marine Resources Commission



Wild oyster populations in the Chesapeake Bay watershed have declined dramatically over the past 60 years due to over harvesting and habitat degradation from human population growth and sedimentation from land-based activities. As diseases became more entrenched in Chesapeake Bay, investment and oyster farming on these leases declined and the beds left fallow.

This project seeks to restore degraded oyster habitat in Virginia's tidal tributaries of the Bay through a partnership between NRCS, Virginia Marine Resources Commission, Virginia Institute of Marine Science, and Virginia oyster producers. The program provides oyster shell substrate needed to rebuild a suitable habitat for oyster survival and growth on privately leased oyster bottom. In return, producers privately invest in planting the restored area with an adequate volume of spat-on-shell oysters

These efforts will address two priority natural resource

concerns by removing excess nitrogen through filtration feeding (water quality) and providing a needed habitat for a variety fish, juvenile crabs and other wildlife. Increasing the amount of oysters planted on restored bottom also helps local governments meet the nutrient goals established in the Chesapeake Bay TMDL.

FY 18

- 9. Working Forests for Wildlife** (KY, TN, VA) (FY18); \$4.99M (National)
Lead Partner: The Nature Conservancy, Kentucky

Working Forests for Wildlife project seeks to conserve 25,000 acres of high priority forest in Kentucky, Virginia and Tennessee. By connecting forestland owners with The Nature Conservancy's existing carbon markets, these forests can be managed to improve biological diversity and provide habitat for endangered species.

- 10. Franklin County Dairy Ag and Water Protection:** \$850K (State)
Lead Partner: Virginia Cooperative Extension



Franklin County is home to 41 dairy farms. Eighty percent of these farms are located less than 300 feet from streams that drain into the Pigg River and Blackwater River (two major TMDL waterways). The average age of major on-farm structures is 60 years, furthering water quality and soil erosion concerns.

Project partners will identify and rank farms based on proximity to water sources and water quality, soil erosion and health, ag viability, and animal health,

and wildlife protection. Funding will help support the relocation and building of manure storage, water runoff receptacles, and housing structures to an area outside the flood zone and away from stream banks.

- 11. Chesapeake Bay Farm Stewardship and Preservation** (DE, MD, VA): \$6M (CCA)
Lead Partner: Sustainable Chesapeake
Lead State: Virginia

The Chesapeake Bay Farm Stewardship and Preservation project supports a diverse three-state partnership to accelerate the adoption of precision nutrient management and soil health practices. Financial and technical assistance will be focused where:

- 1) practices will have the greatest impact on Chesapeake Bay water quality;
- 2) farmers have demonstrated enthusiasm for these practices;
- 3) partner outreach and education and technical assistance efforts support financial assistance delivery; and
- 4) prime farmland are located.

Funds from this project will make significant contributions to reducing nitrogen and sediment loading to the Chesapeake Bay, helping the agricultural sector to meet Chesapeake Bay TMDL milestone goals.

For More Information

Julie Hawkins

Assistant State Conservationist,
Financial Assistance and Easement Programs
PH: (804) 287-1692
Email: julie.hawkins@usda.gov

Stacey Bradshaw

RCPP Program Manager
PH: (804) 287-1673
Email: stacey.bradshaw@usda.gov



EQUIP Budget Allocation - 6/26/2019

Fund Code	Account Name	Allocated	Contracts	Contract Approval	Preapproved	Preapproved Amount	Funds Remaining
76F 51	Virginia	\$26,896,954.57	456	\$16,962,275.08	128	\$8,749,053.34	\$1,185,626.15
76F 51 BC	Beginning Farmer - Cropland	\$270,236.65	4	\$258,701.00	1	\$2,135.65	\$9,400.00
76F 51 BF	Beginning Farmer - Livestock	\$450,295.00	5	\$332,295.00	1	\$118,000.00	\$0.00
76F 51 CA	CAPS-Conservation Activity Plans	\$83,697.07	23	\$73,822.07	3	\$9,875.00	\$0.00
76F 51 CC	Cropland - Christiansburg	\$58,799.00	2	\$58,799.00			\$0.00
76F 51 CF	Cropland - Farmville	\$63,794.00	4	\$63,794.00			\$0.00
76F 51 CH	Cropland - Harrisonburg	\$448,400.00	11	\$433,300.00	1	\$15,100.00	\$0.00
76F 51 CS	Cropland - Smithfield	\$811,781.00	13	\$564,031.00	8	\$247,750.00	\$0.00
76F 51 FS	Forestry - Longleaf/ Shortleaf Pine & Hardwood Mgm	\$122,232.00	11	\$102,318.00	1	\$19,914.00	\$0.00
76F 51 CP	Forestry - SDA Initiative CAPs	\$11,272.00	7	\$11,272.00			\$0.00
76F 51 SB	Forestry SDA Initiative	\$90,000.00	7	\$66,784.00	2	\$10,530.60	\$12,685.40
76F 51 2	FY19 Organic Certified	\$60,093.00	2	\$60,093.00			\$0.00
76F 51 3	FY19 Organic Transition	\$39,752.00	5	\$39,752.00			\$0.00
76F 51 GW	Golden Winged-Warbler	\$925,928.00	2	\$43,558.00	8	\$696,074.80	\$186,295.20
76F 51 HT	High Tunnel Systems	\$403,766.80	30	\$291,226.80	12	\$112,540.00	\$0.00
76F 51 JC	Joint Chiefs - Lower Cowpasture Restoration Projec	\$150,000.00	5	\$119,614.00			\$30,386.00
76F 51 AC	Livestock - Christiansburg	\$2,055,756.00	5	\$948,810.00	3	\$996,288.00	\$110,658.00
76F 51 LF	Livestock - Farmville	\$2,348,519.25	21	\$1,569,219.00	8	\$773,979.69	\$5,320.56
76F 51 LH	Livestock - Harrisonburg	\$3,780,049.53	11	\$1,527,306.00	18	\$2,252,743.53	\$0.00
76F 51 LS	Livestock - Smithfield	\$2,103,857.59	3	\$781,315.00	7	\$1,322,542.59	\$0.00
76F 51 GS	Livestock Grazing Systems Pilot	\$100,000.00	0	\$0.00			\$100,000.00
76F 51 LP	Long Leaf Pine Initiative	\$100,000.00	2	\$36,725.91			\$63,274.09
76F 51 FM	NWQI - Smith Creek - Gap Creek	\$300,000.00	2	\$29,269.00			\$270,731.00
76F 51 MR	NWQI - Smith Creek - Mountain Run	\$300,000.00	0	\$0.00	2	\$230,664.01	\$69,335.99
76F 51 WB	NWQI - Smith Creek - War Branch	\$300,000.00	0	\$0.00	2	\$36,216.71	\$263,783.29
76F 51 SC	Socially Disadvantaged - Cropland	\$121,236.00	12	\$121,236.00			\$0.00
76F 51 SD	Socially Disadvantaged - Livestock	\$392,790.88	8	\$339,131.00	1	\$53,659.88	\$0.00
76F 51 SP	StrikeForce - CAPS	\$115,213.08	44	\$115,213.08			\$0.00
76F 51 FC	StrikeForce - Cropland	\$2,425,380.37	58	\$1,434,825.99	16	\$990,554.38	\$0.00
76F 51 SS	StrikeForce - High Tunnel Systems	\$538,207.00	36	\$353,207.00	19	\$184,259.08	\$740.92
76F 51 SF	StrikeForce - Livestock	\$6,475,937.64	65	\$5,976,640.64	4	\$499,297.00	\$0.00
76F 51 WA	Wildlife - Aquatic Habitat	\$1,917.00	1	\$1,917.00			\$0.00
76F 51 WT	Wildlife - Terrestrial Habitat	\$823,433.31	38	\$708,250.40	7	\$115,182.91	\$0.00
76F 51 PS	WLFW 2.0 - Northern Bobwhite in Pine Savannahs	\$233,867.32	6	\$233,867.32			\$0.00
76F 51 AB	WLFW 2.0 - American Black Duck	\$20,000.00	0	\$0.00	2	\$20,000.00	\$0.00
76F 51 BQ	WLFW 2.0 - Northern Bobwhite in Working Grasslands	\$168,385.78	13	\$126,640.27	2	\$41,745.51	\$0.00
76F 51 18737	FY19 CIG State Component	\$133,650.00	0	\$133,650.00			\$0.00
76F 51 18922	FY19 EQUIP Reserve	\$18,707.30		\$5,691.60			\$13,015.70
	Balance Available	\$50,000.00					\$50,000.00
	Total	\$26,896,954.57	456	\$16,962,275.08	128	\$8,749,053.34	\$1,185,626.15

RCPP Budget Allocation - 6/26/19

Fund Code	Account Name	Allocated	Contracts / Approved	Contract Approval	# Preapproved	Preapproved Amount	Funds Remaining
RCPP-TNC	Upper Clinch-Powell Watershed Partnership	\$2,040,000.00	44	\$2,002,367.19			\$37,632.81
RCPP-VRMC	Oyster Bottom Restoration through Aquaculture	\$776,284.00	31	\$590,450.18			\$185,833.82
RCPP-NM	Chesapeake Bay Farm Stewardship and Preservation	\$1,363,240.00	8	\$1,104,912.00	3	\$255,351.59	\$2,976.41
RCPP-FCD	Franklin County Dairy Ag and Water Protection	\$637,500.00	1	\$164,699.00	2	\$384,942.86	\$87,858.14
RCPP-Small AFO's	Engaging Small AFOs in the NM Planning Process	\$651,000.00	1	\$195,284.00	1	\$446,134.32	\$9,581.68
	Totals	\$5,468,024.00	85	\$4,057,712.37	6	\$1,086,428.77	\$323,882.86



Easement Valuation for FY-20: WRE Easement Land Values

Agricultural Conservation Easement Program (ACEP)

Components: Agricultural Land Easement (ALE) & Wetland Reserve Easement (WRE)

WRE Easement Land Value Determination Process - for Easement Compensation Package

Geographic Area Rate Cap (GARC) Rate Process & Results

To the State Technical Committee for Review: Please review the summary below of the process Virginia NRCS uses to determine land values to pay landowners for WRE easements. If you have comments about the process, please send them to Diane.Dunaway@usda.gov, Easement Program Manager by **July 26, 2019**. Thank you.

When NRCS receives a WRE application from a landowner, we need to determine the land value so we know how much to pay for the WRE easement. Therefore, following policy, we hire an appraiser to perform a Fair Market Value (FMV) appraisal (using USPAP standards).

Since NRCS is purchasing only a portion of the land rights, we do not pay the full FMV, but do pay 95% of that FMV since we are purchasing most of those rights to protect the wetland. (The WRE landowner retains 5% of the FMV and some land rights.)

The 95% is referred to as the percentage Geographic Area Rate Cap (GARC). The 95% is a cap, or maximum, of the FMV that we will pay for the land. How is the 95% determined? NRCS policy requires that there be a “logical, defensible, and well-documented process” to determine that reduced value.

This current process for VA was developed in FY-2015 and was acceptable to WRE enrollees through FY-2019. (It was approved by the NRCS easement national appraiser each year.) For FY-2019 NRCS is using the same successful process with data updates. Below are the sources and types of information that were considered in developing current GARC, and will be used in FY-20.

1. Data sets of previously obtained ACEP-WRE or WRP appraisals and GRP land values.
2. Forest Inventory Analysis data from VA Dept. of Forestry 2017.
3. GARC, Corresponding GARC from adjacent states.
4. National Agricultural Statistics Service (NASS) Cropland and Pasture Rental Rates for VA 2016.
5. National, State, or local agricultural statistics.
6. USDA/Census of Agriculture Value of Land & Buildings 2012 (or most recent).
7. USDA/Produce Prices Paid Index 2013-2018.
8. For GARC greater than \$5,000 per acre, a written evaluation and justification of the ecological importance of enrolling these high-cost lands (if applicable).

Virginia's WRE Land Value Determination process and GARC were developed by David Faulkner, Natural Resource Economist, with VA Easement Staff.



Update on Land Conservation Easements

Agricultural Conservation Easement Program (ACEP)

Components: Agricultural Land Easement (ALE) & Wetland Reserve Easement (WRE)

VA Perpetual Easements Acquired with NRCS Funds

141 Total Perpetual Easements and 16,555 Total Acres

	VA NRCS Easements Funded 1993 – 2019 (life of program)
78	# Agricultural (Farmland) Easements (ALE, FRPP, GRP)
63	# Wetland Easements (WRE, WRP, EWPP)
141	# Total easements funded (both Ag & Wetland)
16,555 acres	Total ACRES funded (both Ag & Wetland)

FY-19 Highlights

- **New applications:** 9 Total (6 ALE, 3 WRE). Total funds applied for: approx. \$3.3 million. FY-19 allocation total is \$1,156,086. Returned \$249,314 WRE due to two ineligible and one canceled. Requested additional \$532,000 for ALE.
- **In progress:** 3 easement acquisitions (2 ALE, 1 WRE), 5 WRE restorations, Enrolling 2 new ALE plus 1 new ALE RCPP.
- **WRE compensation:** the FY-19 purchase valuation utilizes a Geographic Area Rate Cap (GARC) percentage of 95%, applied to individual property appraisals, as done in recent years.
- **Higher WRE compensation** per-acre rate caps were approved for 20 counties with special values. These higher value counties have high development pressure and networks of tributaries flowing through the Chesapeake Bay Watershed. Boosting WRE enrollment in these counties would improve habitat throughout the watershed and ultimately the Bay.
- **Closed** one ALE, a 154- acre farm.
- **Monitored** 44% of NRCS-held and -funded easements, on the way to 100% by end of FY.

Diane D. Dunaway . Easement Program Manager . USDA Natural Resources Conservation Service .
[VA NRCS Easement Website](#) . 804.287.1634

From: Hawkins, Julie - NRCS, Richmond, VA
Sent: Thursday, May 2, 2019 9:19 AM
To: ug-VA-nrcs <va-nrcs@one.usda.gov>
Subject: CSP Myth Busters, 2 example CSP Scenarios and EAP for every acre

Conservationists,

With one week left for CSP signup, we wanted to share a few thoughts with you based on conversations we've had with staff and partners on conservation needs of our clients. There are several myths we've overheard stated about CSP or old rules that haven't applied for years and we've created 10 myth busters for you. We also hear staff say that EQIP pays more but the EAP for all acres enrolled is not being considered. EQIP can't and won't do everything so we want you to think about maximizing CSP. We've developed 2 CSP scenarios for you to review in comparison to EQIP. As always, please contact our CSP czar, Patrick with questions. Thank you!

10 CSP Myth Busters

1. You don't have to enroll land you don't have control of in future years.
2. You don't have to enroll land you are farming if you are not listed as operator of record.
3. You don't have to have an enhancement on every acre.
4. If a producer has an active CSP contract, they still can enroll newly acquired land which is not currently enrolled under an active CSP contract.
5. Small producers that don't have a lot of land to enroll can still earn a \$1,500 annual minimum payment per year.
6. Five Percent of funding has to go to both BF and SDA applicants. We never get enough of SDA application requests for the amount of funding set-a-side for that fund pool.
7. Even if you meet the resource concerns, you can select enhancements for "additionality."
8. If a producer has an active EQIP contract, that land is eligible for enrollment in CSP.
9. The payments are no longer exactly the same every year.
10. CSP is not supposed to pay for everything just like EQIP is not supposed to pay for everything.

CSP Payments

- Conservation payments for CSP include an Existing Activity Payment (EAP) for every acre enrolled as well as additional payments for enhancements, bundles (multiple enhancements) and practices.
 - The EAP payment is calculated for each land use using the following formula:
 - **(AxB) + (CxD)** Where—
 - A = the number of resource concerns met at the time of application
 - B = a standard rate that is the same for all resource concerns
 - C = the acres in the land use
 - D = a standard rate that is determined for each land use (\$7.50 per cropland acre, \$3.00 per pasture acre, \$0.50 per forest/associated agricultural land acre)

Two Example CSP Scenario option compared to EQIP FA

Scenario 1 cow/calf operation with 300 acres and 6 paddocks at 50 acres each; participant already has all infrastructure, exclusion, prescribed grazing plan paid through EQIP applicant wants Endophyte-infected fescue conversion to cool season grass and legume mixture on one 50 acre paddock					
Option	Activity	payment rate	acres	years	Total payment
EQIP	512	\$ 303.82	50	1	\$ 15,191.00
			TOTAL		\$ 15,191.00
Participant meets 7 resource concerns of water quality, soil erosion, soil quality, degraded plant condition, insufficient water, excess water and inefficient energy use					
Option	Activity	payment rate	acres	years	Total payment
CSP	EAP	\$ 3,350.00	300	5	\$ 16,750.00
	512	\$ 20.62	50	1	\$ 1,031.00
	E528140Z1	\$ 3.28	300	5	\$ 4,920.00
			TOTAL		\$ 22,701.00

49% higher financial award under CSP than EQIP, even if you drop the 528 enhancement it's still 17% higher than EQIP

Scenario 2 cow/calf operation with 300 acres and 6 paddocks at 50 acres each; participant already has all infrastructure, exclusion, prescribed grazing plan paid through EQIP applicant wants to convert WSG on 20 acres and split one of the paddocks					
Option	Activity	payment rate	acres	years	Total payment
EQIP	512	\$ 265.20	50	1	\$ 13,260.00
			TOTAL		\$ 13,260.00
Participant meets 7 resource concerns of water quality, soil erosion, soil quality, degraded plant condition, insufficient water, excess water and inefficient energy use					
Option	Activity	payment rate	acres	years	Total payment
CSP	EAP	\$ 3,350.00	300	5	\$ 16,750.00
	512	\$ 31.94	20	1	\$ 638.80
	E528140Z1	\$ 3.28	300	5	\$ 4,920.00
			TOTAL		\$ 22,308.80

68% higher financial award under CSP than EQIP, even if you drop the 528 enhancement it's still 31% higher than EQIP

Julie Hawkins

Assistant State Conservationist – Financial Assistance and Easement Programs
 State Program Appeals and Equitable Relief Coordinator
 USDA NRCS
 1606 Santa Rosa Road, Suite 209
 Richmond, VA 23229
 804.287.1692 (o)
 434.390.9154 (c)

COLLABORATION CAN PROTECT SOURCES OF DRINKING WATER

TOGETHER

- Help NRCS direct 10 percent of conservation program spending to source water protection (2018 Farm Bill)
- Leverage funding
- Include multiple partners
- Measure progress
- Help producers and private landowners, agencies, and partners create a more sustainable future

STATE SOURCE WATER PROGRAM

- Share data and information on delineated source water protection areas, priority contaminants, sources of contamination, and water quality monitoring results
- Provide information and leverage potential funding sources
- Assist with implementation and help target USDA initiatives (e.g., identifying priority areas, potential to drinking water)
- Partner in conducting outreach to private landowners and operators
- Help engage drinking water utilities and other source water protection stakeholders
- Contact: asdwa.org/sourcewatercontacts

STATE CONSERVATIONIST

- Implement NRCS conservation programs – technical assistance and funding to private landowners and operators for conservation plans, and financial assistance for conservation practices
 - Environmental Quality Incentives Program (EQIP)
 - National Water Quality Initiative (NWQI) Source Water Pilot
 - Regional Conservation Partnership Program (RCPP)
 - Joint Chiefs Landscape Restoration Partnership
 - Conservation practice standards
- Funding capacity, and discretion about what to fund
- Agreements with partners (e.g., conservation districts)
- Discretionary technical assistance (e.g. sign up workshops for private landowners and operators)
- Contact: nrcs.usda.gov/wps/portal/nrcs/main/national/contact/states/

OUR COMMON GROUND

- Voluntary (non-regulatory) programs for private landowners and operators
- Focus on protecting soil, water quality, and health
- Achieve and demonstrate water quality results in priority areas
- Help assure overall health of communities

Note: It's a good idea to find out who USDA NRCS work with in your state. We are using "private landowners and operators" as a general term in this infographic. NRCS may work with a variety of producers - farmers, ranchers, poultry and livestock producers, dairymen, forest landowners, including those who rent land.

 **sourcewater**
COLLABORATIVE
SourceWaterCollaborative.org

The Source Water Collaborative, twenty-seven national entities representing federal, state, and local partners, works together to protect drinking water sources for generations to come.

2018 FARM BILL EMPHASIZES PROTECTION OF DRINKING WATER SOURCES

H.R. 2 – 92

(d) SOURCE WATER PROTECTION THROUGH TARGETING OF AGRICULTURAL PRACTICES - Section 1244 of the Food Security Act of 1985 (16 U.S.C. 3844) (as amended by subsection (b)) is amended by adding at the end the following:

“(n) SOURCE WATER PROTECTION THROUGH TARGETING OF AGRICULTURAL PRACTICES.

“(1) IN GENERAL.—In carrying out any conservation program administered by the Secretary, the Secretary shall encourage practices that relate to water quality and water quantity that protect source water for drinking water (including protecting against public health threats) while also benefitting agricultural producers.

“(2) COLLABORATION WITH WATER SYSTEMS AND INCREASED INCENTIVES.

“(A) IN GENERAL.—In encouraging practices under paragraph (1), the Secretary shall

“(i) work collaboratively with community water systems and State technical committees established under section 1261(a) to identify, in each State, local priority areas for the protection of source waters for drinking water; and

“(ii) subject to subparagraph (B), for practices described in paragraph (1), offer to producers increased incentives and higher payment rates than are otherwise statutorily authorized by the applicable conservation program administered by the Secretary.

“(B) LIMITATION.—An increased payment under subparagraph (A)(ii) shall not exceed 90 percent of practice costs associated with planning, design, materials, equipment, installation, labor, management, maintenance, or training.

“(3) RESERVATION OF FUNDS.

“(A) IN GENERAL.—In each of fiscal years 2019 through 2023, the Secretary shall use to carry out this subsection not less than 10 percent of any funds available for conservation programs administered by the Secretary under this title (other than the conservation reserve program established under subchapter B of chapter 1 of subtitle D).

“(B) LIMITATION.—Funds available for a specific conservation program shall not be transferred to fund a different conservation program under this title.”.



Webinar: Working with NRCS and Agricultural Partners to Protect Drinking Water Sources

Date: Tuesday, June 25, 2019

Time: 12:00 – 1:30 pm (eastern time)

[REGISTER HERE](#)

Description: This free webinar is intended to encourage and promote partnerships between the USDA Natural Resources Conservation Service (NRCS), state water programs, water utilities and other stakeholders to take advantage of NRCS opportunities (i.e., new Farm Bill provisions, National Water Quality Initiative (NWQI) Source Water Protection watersheds, and Regional Conservation Partnership Projects (RCPP)) to work with agricultural and forest landowners to implement conservation and best practices that protect drinking water sources. State drinking water and water quality programs, drinking water utilities, NRCS State Conservationists, and all other Source Water Collaborative organizations and their members are encouraged to attend, along with anyone else who would like to participate.

Webinar Agenda:

- **NRCS National Water Quality Initiative (NWQI) and Source Water Protection:** *Dee Carlson, USDA-NRCS Water Quality Specialist, and Martin Lowenfish, USDA-NRCS Branch Chief for Areawide Planning* will share information about the NRCS National Water Quality Initiative (NWQI) that is delivered in partnership with EPA, and seeks to address water bodies impaired by nutrients, sediment and/or pathogens in agricultural-dominated watersheds. NRCS has worked with EPA to expand focus on watershed assessment and partner engagement in priority small watersheds selected in collaboration with state water quality agencies and have seen positive results. In FY19, NWQI expanded to include source water protection areas for both surface and ground water public systems. The initiative can help support states as they roll-out efforts to comply with the source water protection requirements in the new Farm Bill.
- **Regional Conservation Partnership Program (RCPP) and Source Water Protection:** *Kari Cohen, Projects Branch Chief at USDA-NRCS* will share how the 2018 Farm Bill reauthorized RCPP and made substantial changes to the program. This presentation will highlight those changes and discuss how entities interested in source water protection may participate.
- **Locally Led Source Water Collaboratives in Oregon:** *Jay Gibbs, Acting NRCS State Conservationist for Oregon* will present how Oregon's Strategic Approach to Conservation provides a framework for locally led conservation efforts to be successful from inception to implementation including the recent success in securing funding for five SWC planning efforts. The projects in Oregon were not all at the same stage of planning, nor were they reflective of all the stakeholders' number one priorities. Understanding that different stakeholders have different metrics of success allowed the Oregon partnership to agree on the five projects they could all move forward on.
- **Source Water Protection and State Nutrient Reduction Strategies - Overview of Efforts in Iowa:** *Adam Schneiders, Water Quality Resource Coordinator and Acting Legislative Liaison for*



the Iowa Department of Natural Resources will highlight the successes of the Iowa Water Quality and Drinking Water Programs, and the Iowa Agricultural Source Water Collaborative, to leverage resources and funding for NRCS program opportunities in collaboration with drinking water utilities, farmers and landowners, and many other partners. This presentation will explain the role of the state source water protection program in cultivating these partnerships and identifying priority areas, and share tips and examples for developing successful NRCS projects and proposals to implement agricultural conservation and management practices that protect critical drinking water sources and improve water quality.

- **Establishing a NWQI Source Water Protection Project:** *Jennifer Heymann, Source Water Protection Program Manager, American Water Mid-Atlantic Division* will provide an overview of the NWQI Source Water Protection program and a case study of how a water utility got involved in establishing a project in central Pennsylvania. This will include a review of lessons learned from the process and resources available to other utilities and partners who may be interested in this program.

Webinar Moderator



Karen Wirth is the Team Leader for the Source Water Protection Team in EPA's Office of Ground Water & Drinking Water and has been with EPA's Office of Water since 1999. Her primary focus is protecting sources of drinking water – the lakes, rivers, streams and aquifers that are tapped for drinking purposes. Karen is also EPA's representative to the National Source Water Collaborative with 29 federal, state, and local members that work together and with many partners to integrate source water protection into key land use decision making processes at the local level.

Webinar Speakers



Dee Carlson is the Water Quality Specialist with USDA-NRCS in Washington, DC. She coordinates the National Water Quality Initiative and the Mississippi River Basin Healthy Watershed Initiative. Dee has 35 years of experience working in water resource planning and has expertise in hydrology and erosion modeling.



Martin Lowenfish is the Branch Chief for Areawide Planning with USDA-NRCS and has responsibility for overseeing the design and delivery of targeted efforts to deliver USDA conservation programs in a way that achieves outcomes for clean water, wildlife habitat and other objectives. Water quality efforts include the National Water Quality Initiative and the Mississippi River Basin Health Watershed Initiative. Martin began his USDA career working with Alaska Native communities to support reindeer management and has been working on national programs since 2001.



Kari Cohen oversees a team responsible for a number of project-based programs at USDA-NRCS. These programs include the Regional Conservation Partnership Program, Conservation Innovation Grants, the Great Lakes Restoration Initiative and the Wetlands Mitigation Banking Program. Prior to this most recent position, Kari served as the Director of NRCS's Conservation Innovations Team, providing strategic and operational leadership for the agency's environmental markets and conservation finance activities.



Jay Gibbs is currently the Acting State Conservationist for Oregon, he is usually a Basin Team Leader in the John Day / Umatilla and Snake Basin in Eastern Oregon, a position he has held for over 25 years. Jay has successfully implemented multiple collaborative and partnership efforts across a broad geographic area with a wide cross section of partners at the local, state and national levels.



Adam Schneiders is the Water Quality Resource Coordinator and Acting Legislative Liaison for the Iowa Department of Natural Resources (DNR). He has worked in various roles within the DNR including coordinating the state's water quality standards efforts and supervising the NPDES program. He participates in a number of workgroups, including the Gulf of Mexico HTF and the EPA/state Nutrient Working Group. He is the Co-Chair of the ACWA Nutrients Policy Committee and the Chair of the Water Quality Executive Committee for the UMRBA.



Jennifer Heymann is the Source Water Protection Program Manager for American Water's Mid-Atlantic Division. She leads a team to identify and mitigate risks to drinking water supplies for approximately 75 water systems in Pennsylvania and West Virginia. Jennifer currently serves as Chair of the AWWA Source Water Protection Committee and Technical Advisory Workgroup.



The Ground Water Protection Council
13308 N. MacArthur Blvd.
Oklahoma City, OK 73142

Tel: (405) 516-4972
Fax: (405) 516-4973
www.gwpc.org

Dedicated to protecting our nation's ground water

U.S. Department of Agriculture
Office of the Under Secretary for Natural Resources and Environment
1300 Independence Ave, S.W.
Washington, DC 20250
Attention: Rebekah Rodriguez

March 29, 2019

**Re: GWPC Comments on 2018 Farm Bill Implementation
2018 Farm Bill Implementation Listening Session 3/22/19**

The Ground Water Protection Council (GWPC) appreciates the opportunity to submit the following comments for the U.S. Department of Agriculture's Farm Bill Implementation, Title VIII - Forestry. GWPC, and the Association of State Drinking Water Administrators (ASDWA) are the professional associations that represent the collective interests of the nation's state drinking water and ground water programs responsible for implementation of Federal Safe Drinking Water Act regulations and voluntary source water and wellhead protection programs and actions. These GWPC comments address implementation of the 2018 Farm Bill provisions addressing the Forest Service.

GWPC serves with ASDWA as the co-chairs for the national Source Water Collaborative (sourcewatercollaborative.org). The Source Water Collaborative represents 27 national organizations who work together to identify and promote successful implementation of opportunities to protect both groundwater and surface water sources of drinking water. Additional members of the Source Water Collaborative include the Forest Service - State and Private Forestry, Natural Resources Conservation Service (NRCS), Farm Service Agency (FSA), the Environmental Protection Agency (EPA), the National Association of Conservation Districts (NACD), the American Water Works Association (AWWA), and the National Rural Water Association (NRWA). However, these comments represent the collective membership of GWPC and are not intended to represent the views of the full Source Water Collaborative or its other members.

Common Ground Between Source Water Protection Programs and the US Forest Service

As the Forest Service points out in **Water Facts**, "Water is one of the most important natural resources flowing from forests": <https://www.fs.fed.us/managing-land/national-forests-grasslands/water-facts>
Healthy forests are vital to clean and abundant supplies of water

- Some 180 million people in over 68,000 communities rely on these forested lands to capture and filter their drinking water.
- Forest Service lands are located in source areas for many important rivers as well as local and regional aquifer systems. They are the largest source of municipal water supply in the Nation, serving over 66 million people in 3,400 communities in 33 States.
- Major U.S. cities that may seem distant from forests actually rely on water from agency lands. For example, Los Angeles, Portland, Denver, and Atlanta receive a significant portion of their water supply from national forests.

The Forest Service has taken into account risks to surface drinking water supplies in its excellent Forests to Faucets map: https://www.fs.fed.us/ecosystems/services/FS_Efforts/forests2faucets.shtml
Also, the Joint Chiefs Landscape Initiative has funded projects that protect and improve the quality of

drinking water sources: <https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/newsroom/features/?cid=stelprdb1244394>

At the state level, Source Water Protection Programs can help implement the State Forest Action Plans. State source water staff coordinate with their colleagues in the state forestry agencies and can help identify priority drinking water supplies protected by forested lands. This is also a way for states to prioritize Landscape Scale Restoration (LSR) Projects. Two recent examples include:

- 1 **Common Waters - Landscape-Scale Partnership for Protecting Forests and Water Quality in the Upper Delaware River Basin** - a regional partnership of public and non-profit organizations and agencies focused on supporting the development of sustainable communities and working landscapes in the Delaware River watershed.
- 2 **Sustainable Forest Landscapes for Water and Wood: Forest Management in Water Supply Watersheds (Maryland, and Pennsylvania).** This multi-state project advances forest management and certification in forested watersheds that are important for working lands and water quality. Because most of these watersheds span the Maryland and Pennsylvania border, forest planning requires interstate coordination. This project focuses on forest management planning for reservoir forests and will provide technical assistance to foster sustainable forest certification and landscape-scale planning.

Title VIII of the 2018 Farm Bill has several provisions that provide increased opportunities for collaboration to protect and improve drinking water sources, both surface and ground water, affected by forested lands, including:

1. Establish a Water Source Protection Program for watershed protection and restoration projects on National Forest System (NFS) lands.
2. Establish a Watershed Condition Framework under Title II of the Healthy Forests Restoration Act
3. Reauthorize the Collaborative Forest Landscape Restoration Program:
An example of how this program can support the objectives of the source water Protection Programs is the Deschutes Collaborative Forest Project, Oregon:
The Deschutes Collaborative Forest Project landscape contains the headwaters of Whychus and Tumalo Creeks, which serve as municipal watersheds for the cities of Sisters and Bend and provide important aquatic habitat and recreation opportunities. These watersheds have been impacted by stream channelization, road construction, flow diversion, development, and fire. Restoring watershed health is a vital component of the CFLR project... Since FY 2010, the project has decreased sedimentation delivery into waterways by decommissioning more than 5 miles of roads, improved more than 3,270 acres of water or soil resources to achieve desired functioning conditions, enhanced 170 acres of riparian habitat, reconnected more than 2 miles of stream to its floodplain...Two subwatersheds within the CFLR landscape have shifted to a "Properly Functioning" Watershed Condition Framework (WCF) score." *Source: U.S. Forest Service Collaborative Forest Landscape Restoration Program 5-Year Report, FY 2010-2014, April 2015*

Many state source water programs and water utilities have already collaborated successfully with NRCS and with the U.S. Forest Service on efforts to protect and improve the quality of drinking water sources. New provisions in Title VIII of the Farm Bill related to forested lands will also help build on recent successes. Watershed restoration and protection efforts in source water protection areas are critically important to drinking water quality. The "From Forests to Faucets" partnership between Denver Water and the U.S. Forest Service - Rocky Mountain Region is just one example:

"As the water provider to 1.4 million people in the Denver metropolitan area, Denver Water directly depends on healthy forests and watersheds. Denver Water's key collection and delivery infrastructure receives water from snowpack and streams on U.S. Forest Service lands. Denver Water and the U.S. Forest Service have a shared interest in improving forest and watershed conditions to protect water supplies and water quality, as well as to continue providing other public benefits, such as wildlife habitat and recreation opportunities. The U.S. Forest Service

administers more than 14.5 million acres of National Forest System lands in Colorado, and nearly 90 percent of these lands are located in watersheds that contribute to public water supplies. So the two organizations work together to benefit From Forests to Faucets, a watershed management partnership.” <https://www.denverwater.org/your-water/water-supply-and-planning/watershed-protection-and-management>

We are sharing information and reaching out to NRCS to prepare for implementation of the 2018 Farm Bill Section 2503 source water protection provisions, “Source Water Protection Through Targeting of Agricultural Practices.” These provisions apply to all NRCS Conservation Programs except the Conservation Reserve Program (see attached infographic). There are already many examples of successful partnerships between state source water coordinators, community water systems, and NRCS State Conservationists through the National Water Quality Initiative (NWQI) and its new Source Water Protection Pilot, the Regional Conservation Partnership Program (RCPP), the Conservation Innovation Grants (CIG), and through many other key conservation programs like the Environmental Quality Incentives Program (EQIP).

We would like to have similar followup conversations with the Forest Service regarding how we can prepare to collaborate on implementation of Title VIII of the 2018 Farm Bill. State drinking water programs were charged with identifying current and potential sources of drinking water and assessing the potential threat of contaminants to those sources as part of the 1996 Safe Drinking Water Act (SDWA) Amendments, and many states continue to update this information. State source water programs can provide important information on source water protection areas and can help connect with water utilities in each state. We can facilitate these connections. State source water coordinators can provide important expertise and resources to aid in implementation of the Farm Bill source water protection provisions - they have maps of source water protection areas, information on priority contaminant concerns, and the ability to engage other key partners, including community water systems. Here are some specifics: source water coordinators can be found at [asdwa.org/sourcewatercontacts](https://sourcewatercontacts.asdwa.org/). Twenty-two states have source water protection area information available online. For the remaining states, the first step would be to contact the state source water coordinator.

State drinking water and source water protection programs have considerable common ground with USDA programs, particularly the Forest Service and NRCS and FSA conservation programs. The Source Water Collaborative developed a collaboration toolkit with NRCS on “Protecting Drinking Water Sources Through Agricultural Conservation Practices,” that can be found at <https://sourcewatercollaborative.org/swp-usda/>. The toolkit highlights that both programs:

- Have a voluntary, non-regulatory approach to working with producers and private landowners.
- Focus on protecting and improving soil and water quality.
- Can achieve and demonstrate water quality results in priority areas.
- Help protect the health of people and livestock by protecting drinking water sources.

We would like to explore providing similar information on working collaboratively with the Forest Service at the national and state levels.

In closing, GWPC would like to continue to provide input as the Forest Service develops its approach for implementing the Title VIII Forestry provisions. We also plan to continue to provide information and assistance through our networks and the Source Water Collaborative; and to build and strengthen partnerships between state source water coordinators, community water systems, the Forest Service, NRCS State Conservationists, conservation districts, and the broader stakeholder community on these very important efforts to protect drinking water sources.

Thank you for the opportunity to provide comments. USDA's attention to these very important efforts as part of the implementation of the 2018 Farm Bill is essential and greatly appreciated by our

organization and the drinking water community. Please feel free to contact Sylvia Malm of GWPC (703-532-6181 or smalm@gwpc.org) if you have questions or would like to discuss these comments in more detail.

Sincerely,

A handwritten signature in dark ink, appearing to read "Sylvia Malm", written in a cursive style.

Associate Executive Director
The Ground Water Protection Council

Attachment: Infographic "Collaboration Can Protect Sources of Drinking Water"



March 22, 2019

Forestry in the Farm Bill: A Summary of Provisions that relate to Forestry and Conservation

Contact: Under Secretary for Natural Resources and Environment, James Hubbard

Phone:

Email:

The Agriculture Improvement Act of 2018 provides important tools tied to our work to improve the conditions of America's forests and grasslands. This document includes synopsis of each as it pertains to the Forest Service and other provisions affecting forest lands.

H.R.2 – Agriculture Improvement Act of 2018 passed Congress on Dec. 20, 2018: The Farm Bill, as it is commonly known, has provisions for a number of Forest Service and related programs and authorities. The Farm Bill includes provisions in that:

TITLE VIII - FORESTRY

- Extends support for State Assessments and Strategies for Forest Resources through 2023.
- Codifies the Landscape-scale Restoration Program,) and authorizes appropriations through FY 2023
- Authorizes \$20 million annually for cross-boundary fuels reduction, –through 2023. Authorizes grants to states for hazardous fuel reduction on federal and non-federal land.
- Authorizes appropriations of \$10M annually through FY 2023 to establish a Water Source Protection Program for watershed protection and restoration projects on National Forest System (NFS) lands, under which, the Forest Service may enter into water source investment partnership agreements with end water users to restore watersheds.
- Amends title III of the Healthy Forests Restoration Act (HFRA) to establish a Watershed Condition Framework to evaluate and classify watersheds on NFS lands; to prioritize watershed for protection and restoration; to develop watershed restoration and protection actions.
- Adds hazardous fuel reduction projects to the types of projects that may be carried out under the insect and disease provisions in the 2014 Farm Bill; extends the sunset provision in the insect and disease provisions of the 2014 Farm Bill through FY 2023.
- Requires the Forest Service to develop a categorical exclusion for vegetation management activities for sage grouse and mule deer habitat (up to 4,500 acres) and requires 20-year monitoring plan.
- Increases the maximum value of small parcels from \$150,000 to \$500,000 and broadens the types of small parcels that may be exchanged or sold under the Small Tracts Act.
- Leasing authority for FS administrative sites.
- Expands the Good Neighbor Authority (GNA) to tribes and counties. Allows funds received by the Governor from the sale of federal timber to be retained by the Governor for future GNA work (until 2023)
- Reauthorizes the Collaborative Forest Landscape Restoration Program and increases the authorization from \$40 million to \$80 million. Allows current proposals to be extended for up to 10 years.
- Authorizes a pilot program for vegetation management in a utility right of way, includes modification of liability requirements.
- Authorizes appropriations for a Community Wood Energy and Wood Innovation Program through 2023.
- Contains a pilot program for Regional Foresters to appoint RAC members in Montana and Arizona.
- Provides for a direct streamlined contracting process with Tribes for natural resource management work.
- Streamlines the permitting process for communication sites to aid in broadband expansion in rural areas
- Requires an annual report to Congress regarding the health of National Forest System lands and management actions the agency has taken around fire management and habitat improvements.





KEY PROVISIONS RELATED TO CONSERVATION TITLE PROGRAMS

- ***Environmental Quality Incentives Program (EQIP)***
 - Funding increased from \$1.75B in 2019 to \$2.025B in 2023
 - Allows states to determine up to 10 practices that qualify for up to a 90% cost share for practice that are targeted to address a resource concern.
 - Maintains 5% set aside for beginning farmers and 5% set aside for socially-disadvantaged farmers.
 - Drought is now an explicit purpose for EQIP.
- ***Conservation Reserve Program (CRP)***
 - Acreage cap increased to 27 million acres by 2023 and Cost-share payments retained at 50%.
 - Mid-contract pine management incentive increased to \$12M over the life of the bill, but incentive payment reduced from 150% to 100%
 - Limits lands in hardwood trees to one reenrollment
- ***Regional Conservation Partnership Program (RCPP)***
 - Funding increased to \$300M mandatory annually (up from \$100M currently) but 7 percent funding set-aside from covered programs is eliminated;
 - NRCS shall now run RCPP as a stand-alone program. Covered programs will still serve as a guide for what conservation activities can be done through partnership agreements and contracts.
 - Allows agreements to exceed 5 years, to meet the objectives of the program
 - Allows agreements to be extended for one 5-year term
 - Increases funding for State projects to 50 percent and adds authority for multistate projects, eliminates funding for national projects and increases the funding for critical conservation areas to 50 percent.
 - Provides new authority for the Secretary to enter into partnerships through grant agreements or “alternative funding arrangements,” with no more than 15 of these agreements in a given year.
 - CRP and the Watershed Protection and Flood Prevention Act program added as covered programs
- ***Conservation Stewardship Program (CSP)***
 - Retains the program but removes the acre-based funding method and the \$18 per acre national average payment rate, and funding is authorized at \$700M in 2019, increasing to \$1B by 2023
- ***Other Conservation Title Highlights***
 - Fully funds the Conservation Title over 10 years, no cuts to the title in the aggregate.
 - Funding for conservation easements (ACEP) raised to \$450 million a year.
 - Climate and soil health-smart provisions are included in conservation programs like CSP and EQIP.
 - Flexibilities are included in ACEP and RCPP to ease producer access and use, and third party certifiers can aid conservation planning in CSP and EQIP.
 - Requires Secretary to review practice costs and payment rates for conservation programs and evaluate whether those rates are appropriate to encourage participation and effectively address local natural resource concerns.





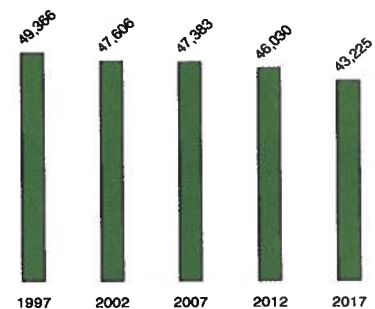
Virginia



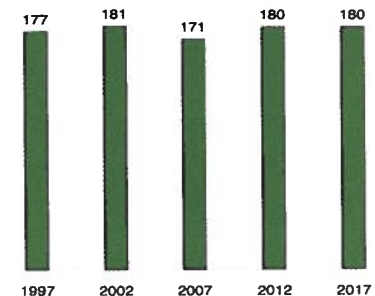
Total and Per Farm Overview, 2017 and change since 2012

	2017	% change since 2012
Number of farms	43,225	-6
Land in farms (acres)	7,797,979	-6
Average size of farm (acres)	180	(Z)
Total	(\$)	
Market value of products sold	3,960,501,000	+6
Government payments	60,805,000	-26
Farm-related income	245,043,000	+37
Total farm production expenses	3,431,827,000	-2
Net cash farm income	834,521,000	+60
Per farm average	(\$)	
Market value of products sold	91,625	+12
Government payments (average per farm receiving)	10,122	+31
Farm-related income	15,685	+40
Total farm production expenses	79,394	+5
Net cash farm income	19,306	+71

Number of Farms, 1997-2017



Average Farm Size, 1997-2017 (acres)



Farms by Value of Sales

	Number	Percent of Total ^a
Less than \$2,500	16,351	38
\$2,500 to \$4,999	4,725	11
\$5,000 to \$9,999	5,927	14
\$10,000 to \$24,999	6,214	14
\$25,000 to \$49,999	3,459	8
\$50,000 to \$99,999	2,119	5
\$100,000 or more	4,430	10

Farms by Size

	Number	Percent of Total ^a
1 to 9 acres	4,595	11
10 to 49 acres	13,631	32
50 to 179 acres	14,800	34
180 to 499 acres	6,732	16
500 to 999 acres	2,127	5
1,000 + acres	1,340	3



United States Department of Agriculture
National Agricultural Statistics Service

www.nass.usda.gov/AgCensus

2017 CENSUS OF AGRICULTURE State Profile

Market Value of Agricultural Products Sold

	Sales (\$1,000)	Rank in U.S. ^b	States Producing Item
Total	3,960,501	29	50
Crops	1,361,462	32	50
Grains, oilseeds, dry beans, dry peas	509,977	29	50
Tobacco	107,620	3	18
Cotton and cottonseed	62,148	14	17
Vegetables, melons, potatoes, sweet potatoes	111,330	23	50
Fruits, tree nuts, berries	76,332	17	50
Nursery, greenhouse, floriculture, sod	328,121	13	50
Cultivated Christmas trees, short rotation woody crops	11,028	7	50
Other crops and hay	154,906	29	50
Livestock, poultry, and products	2,599,039	26	50
Poultry and eggs	1,350,654	13	50
Cattle and calves	679,486	23	50
Milk from cows	334,521	23	50
Hogs and pigs	96,223	19	50
Sheep, goats, wool, mohair, milk	12,664	21	50
Horses, ponies, mules, burros, donkeys	24,173	13	50
Aquaculture	90,226	7	50
Other animals and animal products	11,094	31	50

1 Percent of U.S. agriculture sales

Share of Sales by Type (%)

Crops	34
Livestock, poultry, and products	66

Land in Farms by Use (acres)

Cropland	3,084,067
Pastureland	2,063,507
Woodland	2,212,540
Other	437,865

Top Counties: Land in Farms (acres)

Augusta	290,911
Pittsylvania	246,322
Rockingham	228,542
Fauquier	216,666
Bedford	211,087

Total Producers ^c

70,594

Percent of farms that:

Sex	
Male	45,085
Female	25,509
Age	
<35	5,430
35 – 64	39,150
65 and older	26,014
Race	
American Indian/Alaska Native	168
Asian	259
Black or African American	1,693
Native Hawaiian/Pacific Islander	32
White	68,053
More than one race	389
Other characteristics	
Hispanic, Latino, Spanish origin	845
With military service	9,217
New and beginning farmers	18,957

Have internet access **74**

Farm organically (Z)

Sell directly to consumers **8**

Hire farm labor **25**

Are family farms **97**

Top Crops in Acres ^d

Forage (hay/haylage), all	1,247,300
Soybeans for beans	600,310
Corn for grain	378,073
Wheat for grain, all	151,869
Corn for silage or greenchop	99,224

Livestock Inventory (Dec 31, 2017)

Broilers and other meat-type chickens	44,683,904
Cattle and calves	1,482,888
Goats	48,945
Hogs and pigs	249,231
Horses and ponies	65,588
Layers	2,447,718
Pullets	1,185,887
Sheep and lambs	82,661
Turkeys	5,738,768

See 2017 Census of Agriculture, U.S. Summary and State Data, for complete footnotes, explanations, definitions, commodity descriptions, and methodology.

^a May not add to 100% due to rounding. ^b Among states whose rank can be displayed. ^c Data collected for a maximum of four producers per farm.

^d Crop commodity names may be shortened; see full names at www.nass.usda.gov/go/croptnames.pdf. ^e Position below the line does not indicate rank.

(D) Withheld to avoid disclosing data for individual operations. (NA) Not available. (Z) Less than half of the unit shown. (-) Represents zero.

A Guide to the USDA Noninsured Crop Disaster Assistance Program (NAP)

For Organic Production, 2018 crop year



By Michael Stein & Diana Jerkins, Ph.D.



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Introduction to Crop Insurance for Organic and Transitioning Producers



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