

Solar PBR Regulatory Advisory Group (RAP)

November 4, 2019

Draft Meeting Notes

Location: DEQ Piedmont Regional Office
Training Room
4949-A Cox Road
Glen Allen, VA 23060

Start: 9:30 a.m.

Break: 10:35 p.m.

Reconvene: 10:50 p.m.

Lunch Break: 12:30 p.m.

Reconvene: 1:40 p.m.

Break: 2:25 p.m.

Reconvene: 3:00 p.m.

End: 4:10 p.m.

RAP Members Present:

Jon Hillis; SolUnesco
Richard Gangle; Dominion Energy
William Reisinger; (Maryland-DC-Delaware-Virginia Solar Energy Industries Ass. MDV-SEIA)
Dan Holmes; Piedmont Environmental Council
Judy Dunscomb; The Nature Conservancy
Joe Lerch, Virginia Association of Counties (VACo)
Ken Jurman; Virginia Department of Mines, Minerals and Energy
Cliona Mary Robb, Virginia Solar Energy Development and Energy Storage Authority

Roger W. Kirchen; Virginia Department of Historic Resources (DHR)
S. René Hypes; Virginia Department of Conservation and Recreation (DCR)
Ernie Aschenbach; Virginia Department of Game & Inland Fisheries (DGIF)
Hannah Coman; Southern Environmental Law Center
Harry Godfrey; Advanced Energy Economy
David Krupp; Community Energy
Terrance Lasher; Virginia Department of Forestry (DoF)

RAP Members Absent:

John D. Hutchinson, V; Shenandoah Valley Battlefields Foundation

Facilitator: Trieste Lockwood, DEQ and Tamera Thompson, DEQ

Recorders: Jill Hrynciw, DEQ and Mary E. Major, DEQ

Guests and Public Attendees:

Aimee Turner
Julia Campus
Don Giecek
Todd Alonzo
Jonah Fogel
Keri Nicholas
Susan Tripp

Ray Fernald
Brandon Searcey
Carrie Hearne
Jenny Bellville-Marrow
Sharon Baxter
Sharon Harless
Chris Moore

Welcome and Introductions:

Trieste Lockwood, (DEQ), provided the framework for the day by outlining the issues to be addressed (see agenda). RAP members and the public attendees made introductions.

Presentation by Dept. Forestry:

Terrance Lasher, Virginia Department of Forestry, provided a power point presentation on the status of the forestry resources throughout the Commonwealth (attachment 1). The key responsibilities of this agency include protection, conservation and the improvement or renewal of forest resources which cover 62% of the Commonwealth. The agency conducts inspections for all silviculture sites that actively grow and harvest timber which contributes to the 3rd largest industry in Virginia and conducted over 18,000 inspections in 2018.

Forests are critical in surface water protection, particularly in heavily-populated areas and currently the loss of forest resources is 16,000 acres per year.

The RAP engaged in a robust discussion of forest resources and whether mitigation would be appropriate for this resource. No decision was made.

Break 10:35 p.m. to 10:50 p.m.

Tamera Thompson (DEQ) let the group in the discussion pertaining to the fees required to support the program according to § 10.1-1197.6 C which states:

C. The Department's regulations shall establish a schedule of fees, to be payable by the owner or operator of the small renewable energy project regulated under this article, which fees shall be assessed for the purpose of funding the costs of administering and enforcing the provisions of this article associated with such operations including, but not limited to, the inspection and monitoring of such projects to ensure compliance with this article.

Chris Moore, DEQ Director of Finance, provided data on the revenue generated by permit fees (attachment 2); a forecast summary of program costs including, sister agencies involved in the permit review process, beginning in fiscal year (FY) 2021 (attachment 3); and a recommend fee structure to generate sufficient revenue to cover those costs based on historic project size (attachment 4), and an alternate scenario based on the project size currently in the PJM queue with a specific sector for projects between 5MW - 25MW (attachment 5 and attachment 6).

The members engaged in a discussion of permit fees.

Lunch from 12:37 p.m. to 1:40 p.m.

The RAP continued the fee discussion. It was determined that the group will provide comments to DEQ by Tuesday, November 12 regarding other suggestions for a fee structure sufficient to cover all program costs.

Break 2:25 p.m. to 3:00 p.m.

Mary Major (DEQ) reviewed a potential change to the PBR application process whereby the sister agency reviews would be completed prior to the PBR application submittal (attachment 7). This approach provides additional clarity and transparency during the public comment period as the public would be able to see the sister agencies' concerns pertaining to potentially significant resources and mitigation plans. In addition, this would reduce the application review time and avoid multiple reviews, as additional supplemental information requests could be significantly reduced.

Meeting ended 4: 10 p.m.

The group will reconvene at 9:30 on November 15, 2019 on the 3rd floor of the Bank of America Building.



Virginia Department of Forestry Forests, Harvesting & Solar

Terry Lasher, Assistant State Forester

November 4, 2019

The image features a background of a lush green forest with tall trees. A decorative banner with a green top section and a blue bottom section curves across the top of the page. The text "Our Mission" is centered in the green section in a white, bold, sans-serif font.

Our Mission

“We protect and develop healthy, sustainable forest resources for Virginians.”



Mission

- VDOF has approximately 230 employees to meet the following goals:
 - Protect the Forest Resource from Wildfire; Insect and Disease, and Other Natural Disasters
 - Protect Water Quality
 - Conserve the Forest Land Base
 - Improve and Renew Forest Resources

Forest Distribution

Virginia Forest Cover

62% Forest



From year 2004-2006 Landsat satellite imagery, classified by the Virginia Department of Forestry



Virginia's Forest Highlights

- 16 million acres of forestland (62% private)
- 47,000 acres of forests are planted
- 189,000 acres benefitted from forest management planning



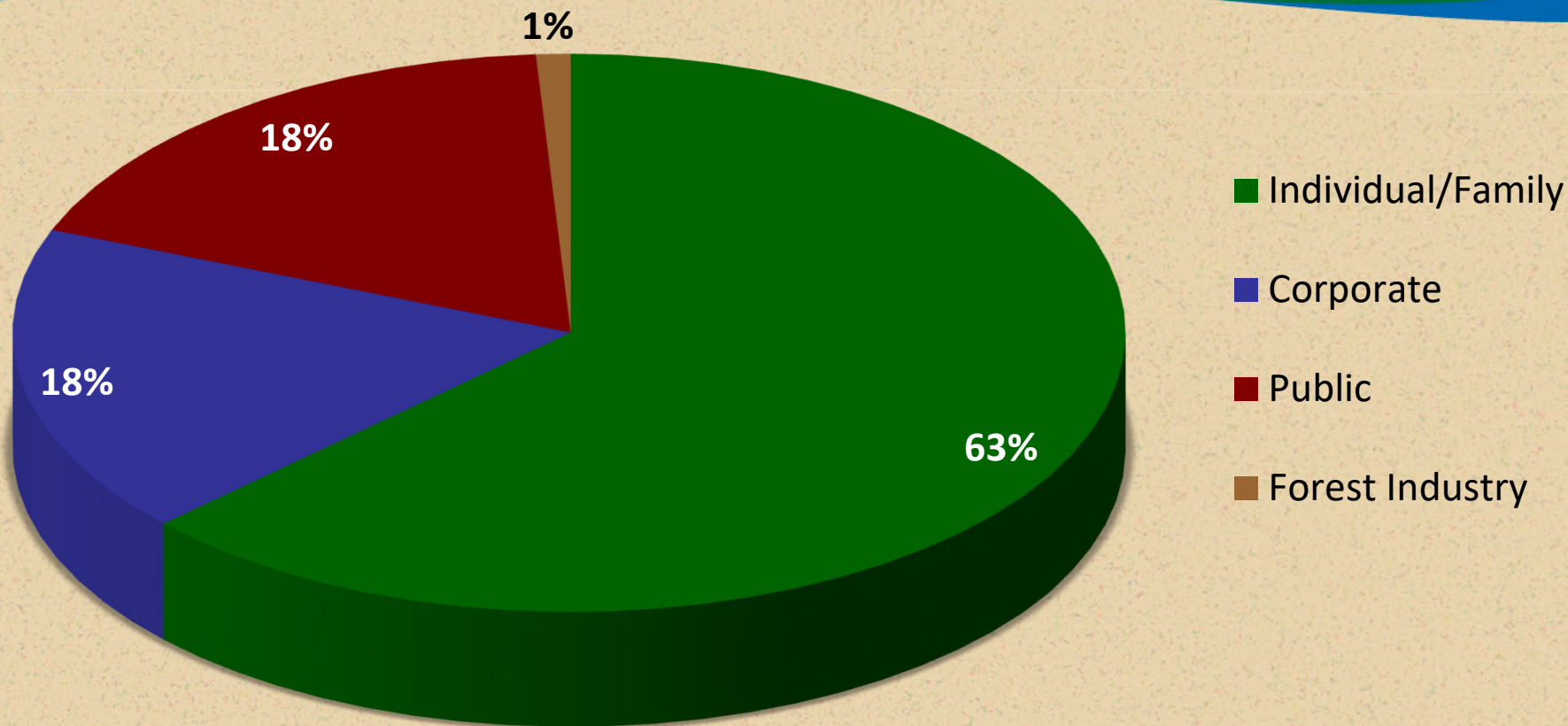
Value of Our Forests

ECONOMICS!

- 108,000 jobs
- \$21.5 Billion (#3 industry)
- A prosperous and diverse forest industry depends on healthy, sustainable, working forests.
- Forests require investments



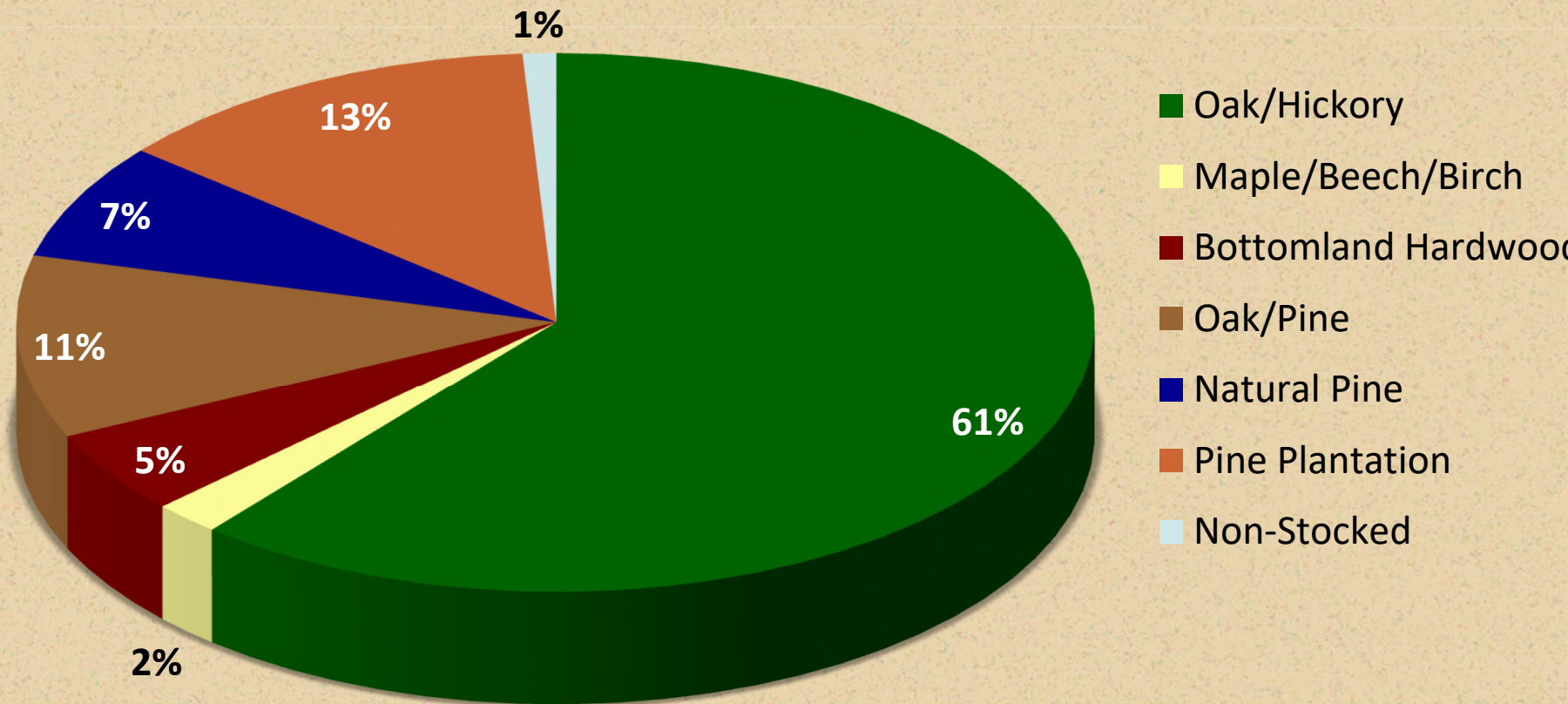
Virginia Timberland Ownership



300,000 landowners with 5 acres or more



Virginia Forest Types





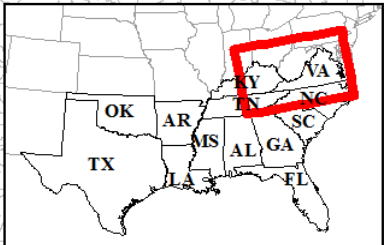
Forest Benefits

- VA Forests sequester 23.5 million metric tons of carbon (14% of total emissions).
- 1 million tons are emitted due to landuse conversion.
- Pollination, recreation, aesthetics, nutrient/sediment reduction, water and air quality, wildlife habitat.
- Renewable natural resources

State of Virginia

Streams and Intrastate Public Water System Intakes Receiving Water from Virginia State and Private Forests

State Plane Virginia South, NAD 1983 (US Feet)
Ning Lu and GR Dobbs
Coweeta Hydrologic Lab, Otto, NC, 2019



Public Water System Intakes

% Water from SPF

- > 0 - 25
- 26 - 50
- 51 - 75
- 76 - 100

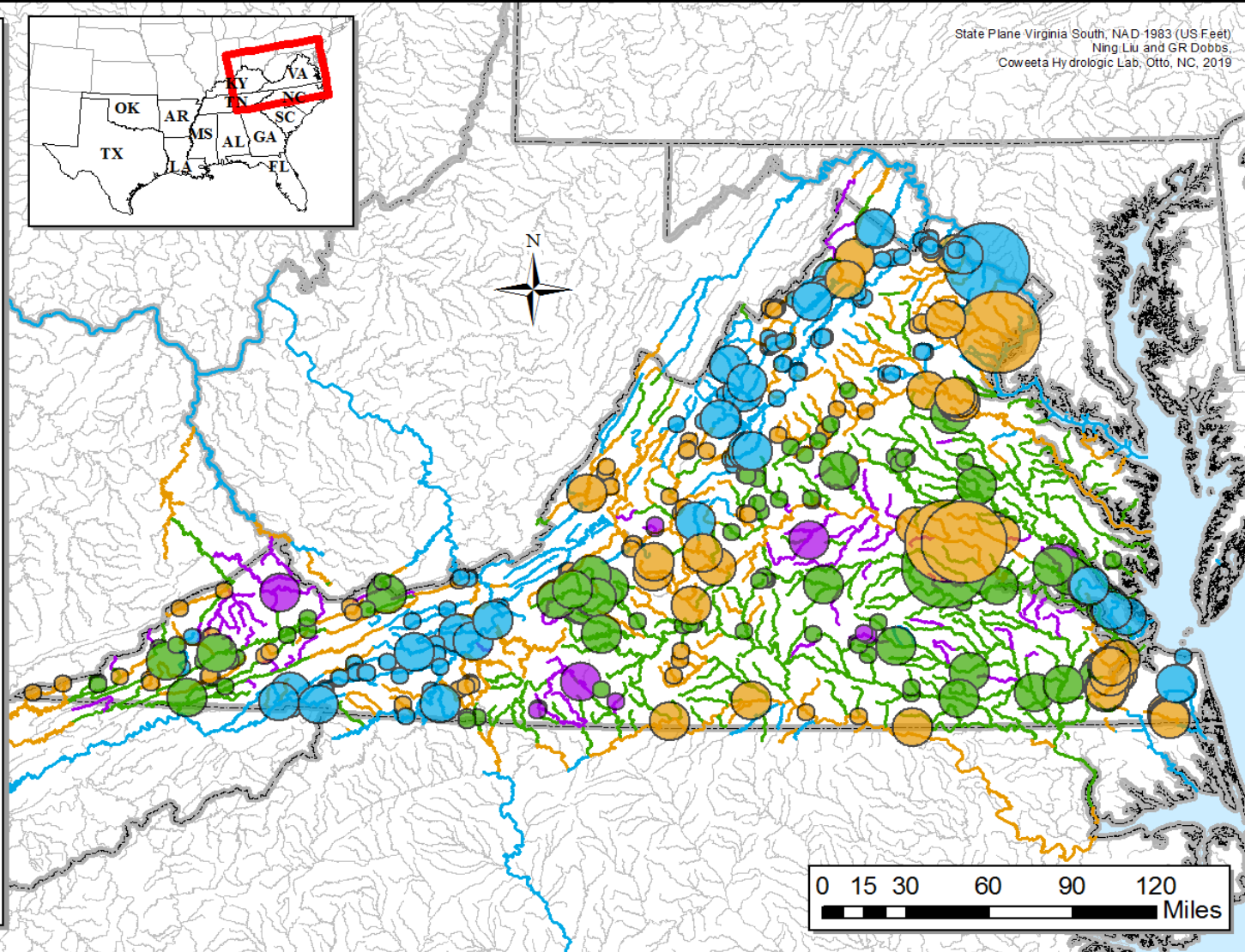
Population Served

- 1 - 5,000
- 5,001 - 50,000
- 50,001 - 150,000
- 150,001 and above

Streams and Rivers

% Water from SPF

- > 0 - 25
- 26 - 50
- 51 - 75
- 76 - 100





Harvest Inspection Program

- Inspect all harvested sites
- Make recommendations on BMPs as well as inspect for compliance with Silvicultural Water Quality Law
- Opportunity for one-on-one contact with loggers; this is the backbone of the program
- Inspected 4,774 logging jobs in FY18 on 216,077 Acres
- **18,086 Inspections done in FY18**
- Average inspection area approximately 45 acres
- Average of 3.8 inspections per tract



Protecting Virginia's Water Quality

- Program began in mid 1980's.
- Provides 1 on 1 contact between VDOF and Harvest Operators.
- Leads to education, increased compliance and technology transfer of latest science.

Since 1997

- ◆ Trained 9,272 harvesting professionals in 304 programs relating to water quality protection.

Since 2012

- ◆ Conducted 89 logger training programs offered with 2,465 participants.



Protecting Virginia's Water Quality

Since WIP II

- VDOF personnel have inspected 14,443 timber harvest sites across 581,806 acres of the Virginia Chesapeake Bay Watershed
- Of these harvested acres, 93%, or 538,775 acres, were in compliance with forestry BMPs
- **Bay Specific:** BMP implementation rates over the last 2 years was 94.7% and 96.6% (goal of 90%).
- **New WIP III** Bay goal is 95% (currently achieving 96.8%).



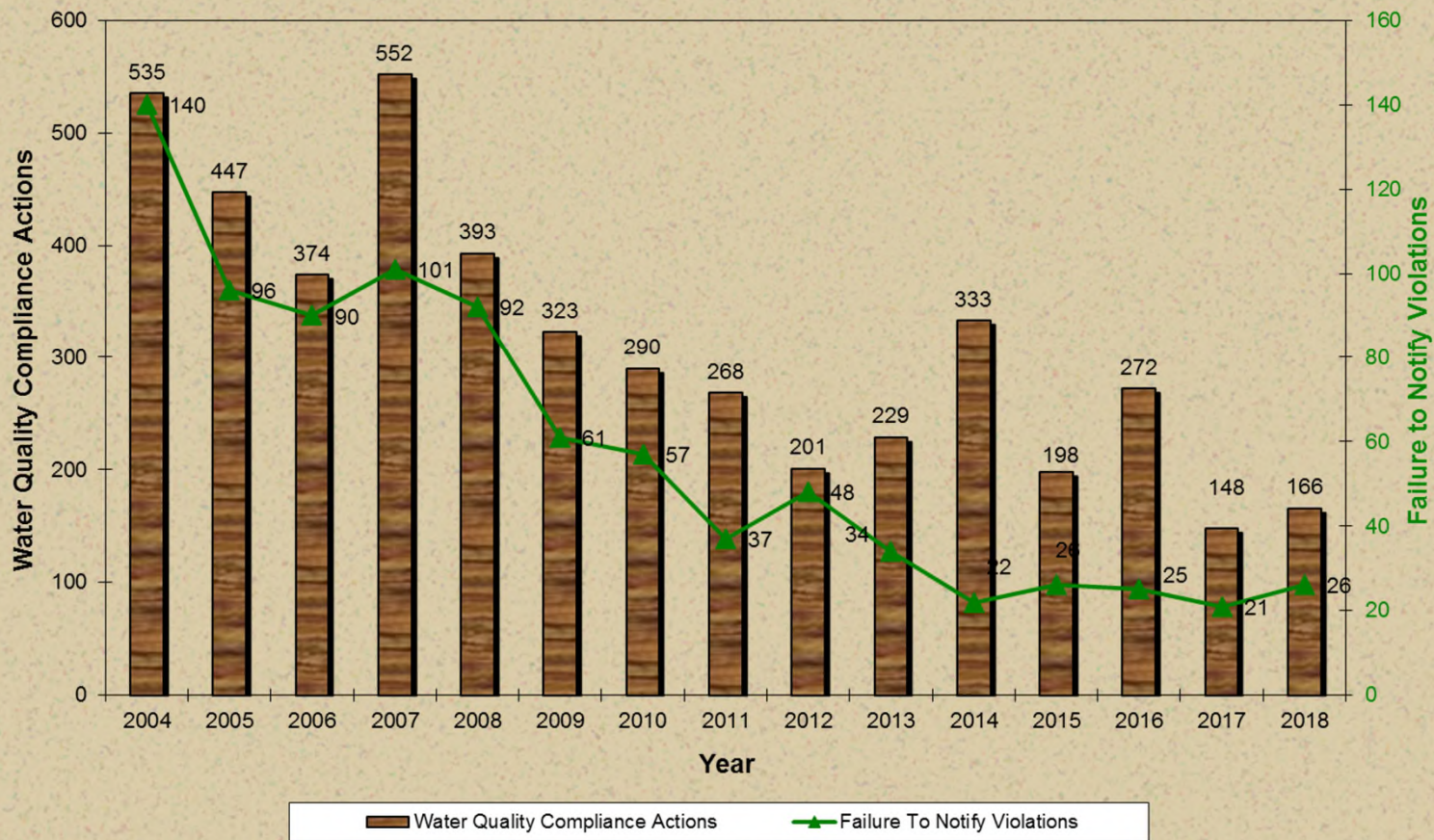
Law Enforcement

- Virginia continues to be the only state in the southeastern U.S. that grants enforcement authority to the state's forestry agency.
- Since 2012, the VDOF was involved with 928 water quality actions initiated under the Silvicultural Law within the Chesapeake Bay watershed.
 - ◆ Of these 928 actions, less than 1% resulted in Special Orders being issued for violations of the law; all other issues were corrected through informal conference or civil action.
- Cooperative enforcement of laws impacting the Chesapeake Bay watershed are shared between localities and VDOF.



Law Enforcement

Compliance Actions and Violations (2004-2018)



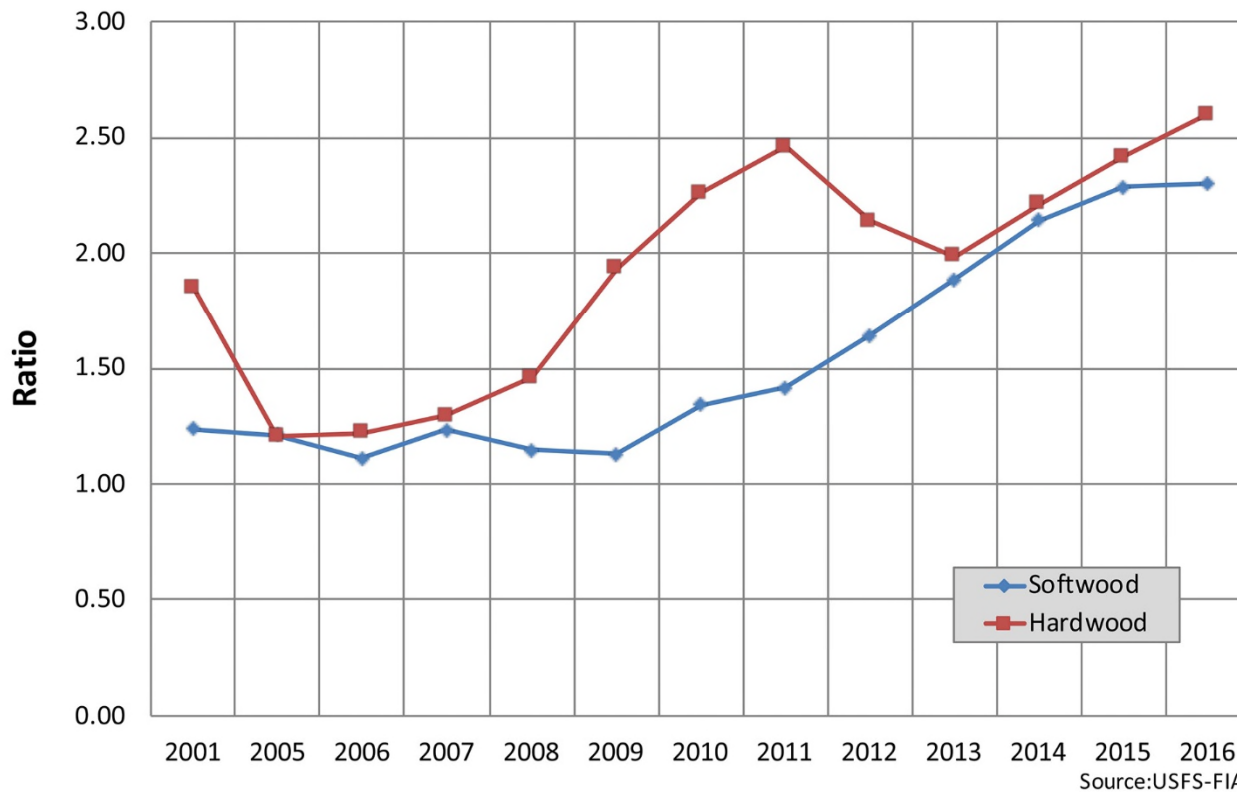


Research & Audit Program

- Monitor 240 sites annually for BMP Implementation – currently at 95% BMP Implementation annually statewide.
- 100% of audit tracks had no active sedimentation leaving site.
- BMP Monitoring data is utilized for annual logger education
- Collaborating with Virginia Tech on several BMP effectiveness studies.
- Work with the US Forest Service Southern Research Station on BMP and Drinking Water research.

Are We Sustainable?

Growth:Drain Ratio for Softwoods & Hardwoods
on Timberland Statewide



Virginia Natural Landscape Assessment

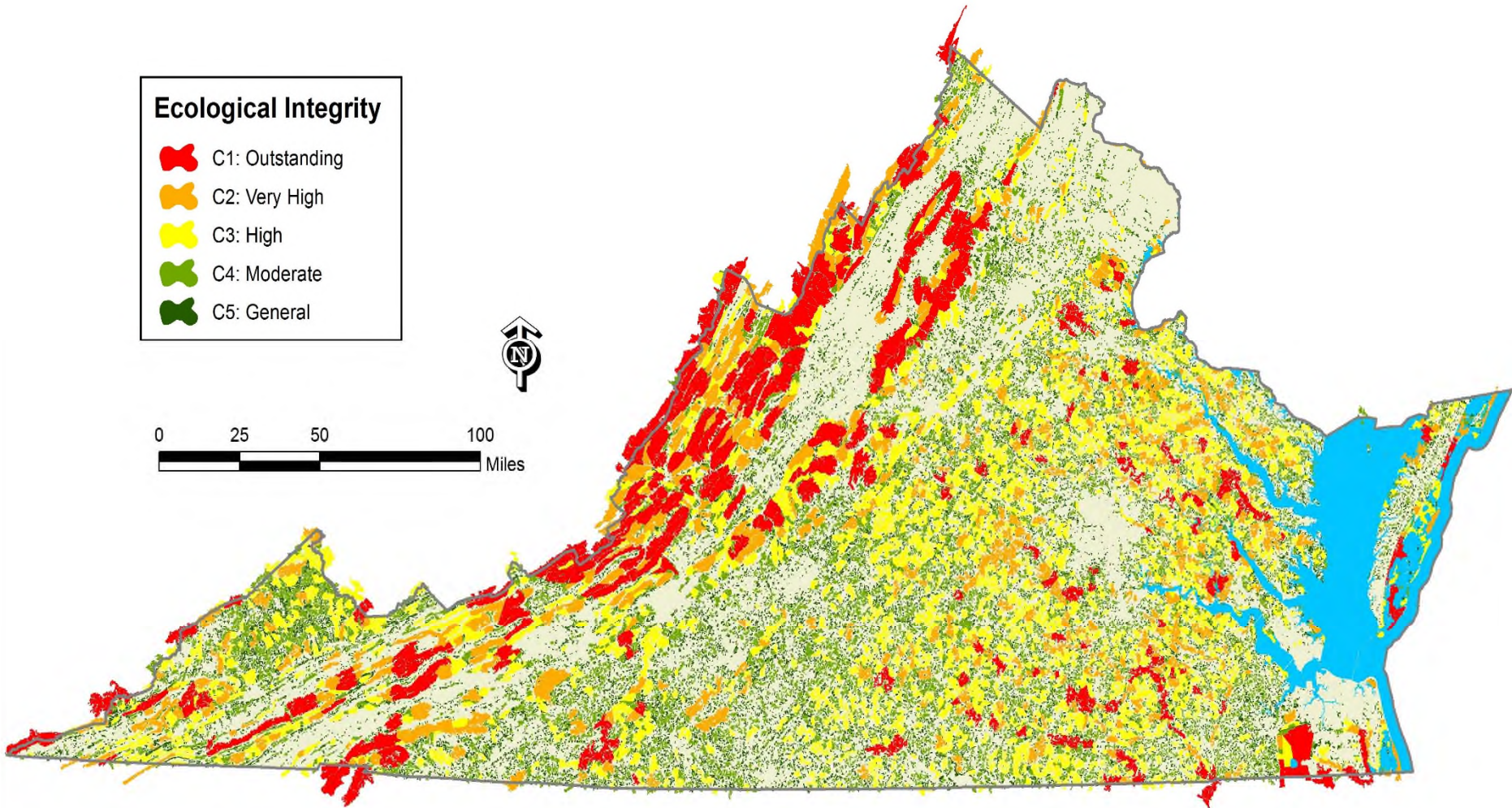
2017 Ecological Cores Ranked by Integrity

Ecological Integrity

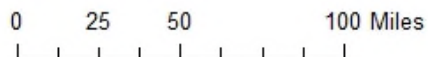
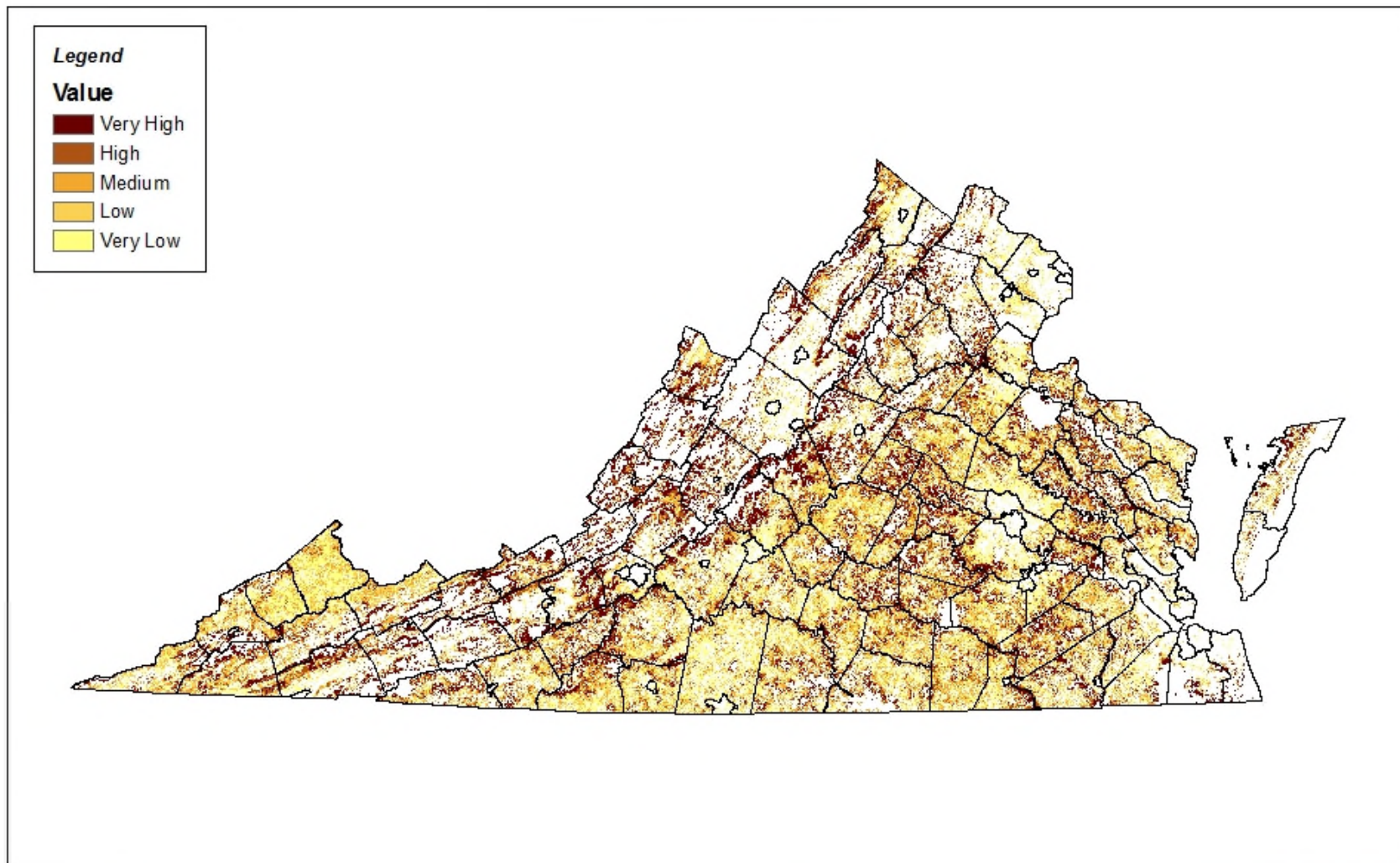
-  C1: Outstanding
-  C2: Very High
-  C3: High
-  C4: Moderate
-  C5: General



0 25 50 100
Miles



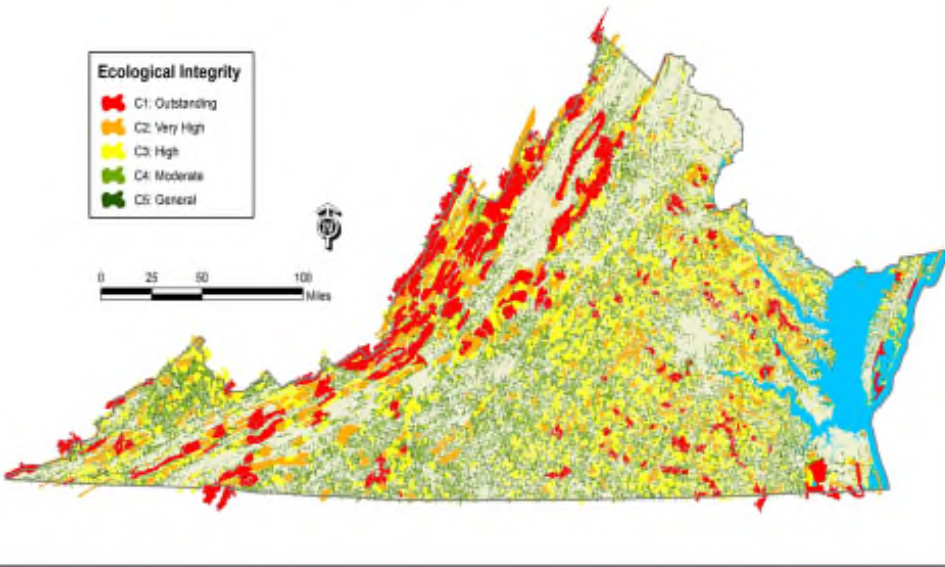
Forest Conservation Value





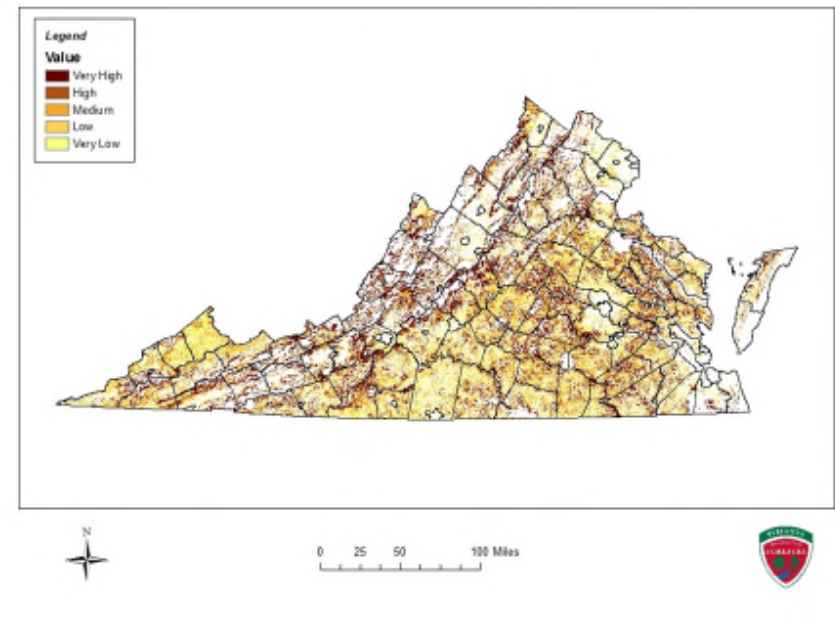
Core Value & Forest Value

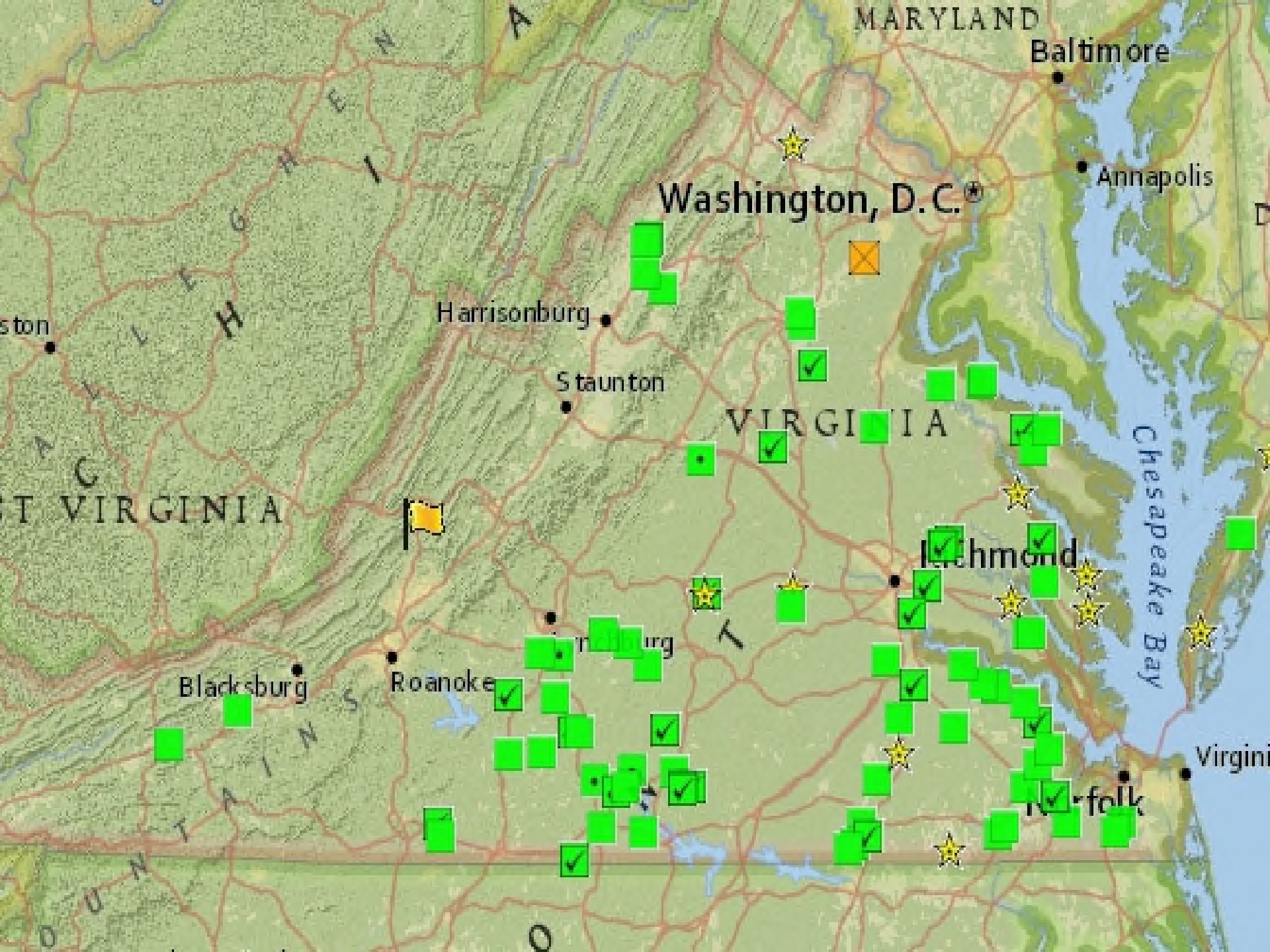
Virginia Natural Landscape Assessment
2017 Ecological Cores Ranked by Integrity



Date: 6/27/2019

Forest Conservation Value

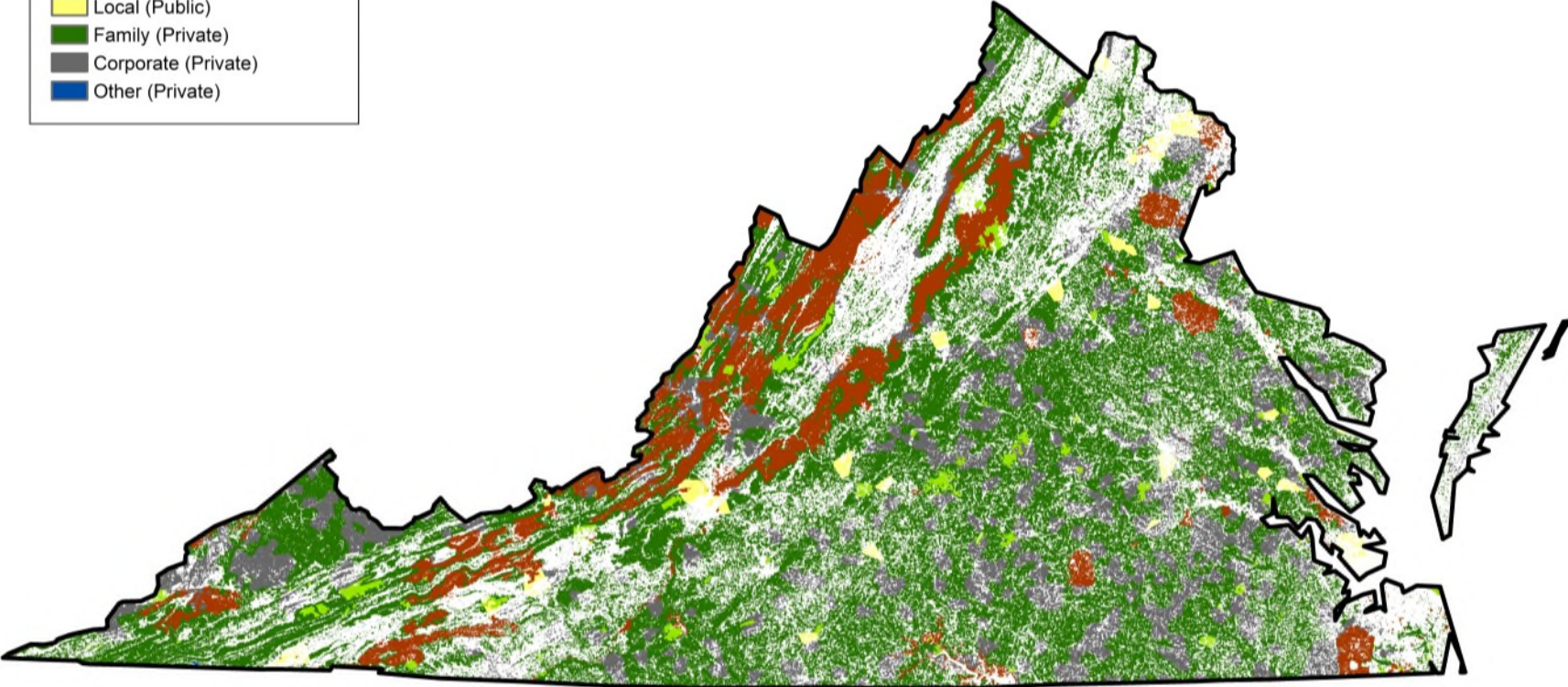




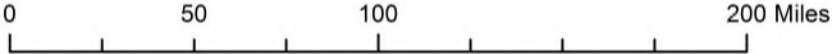
Forest Ownership in Virginia

Forest Ownership Type

- Federal (Public)
- State (Public)
- Local (Public)
- Family (Private)
- Corporate (Private)
- Other (Private)

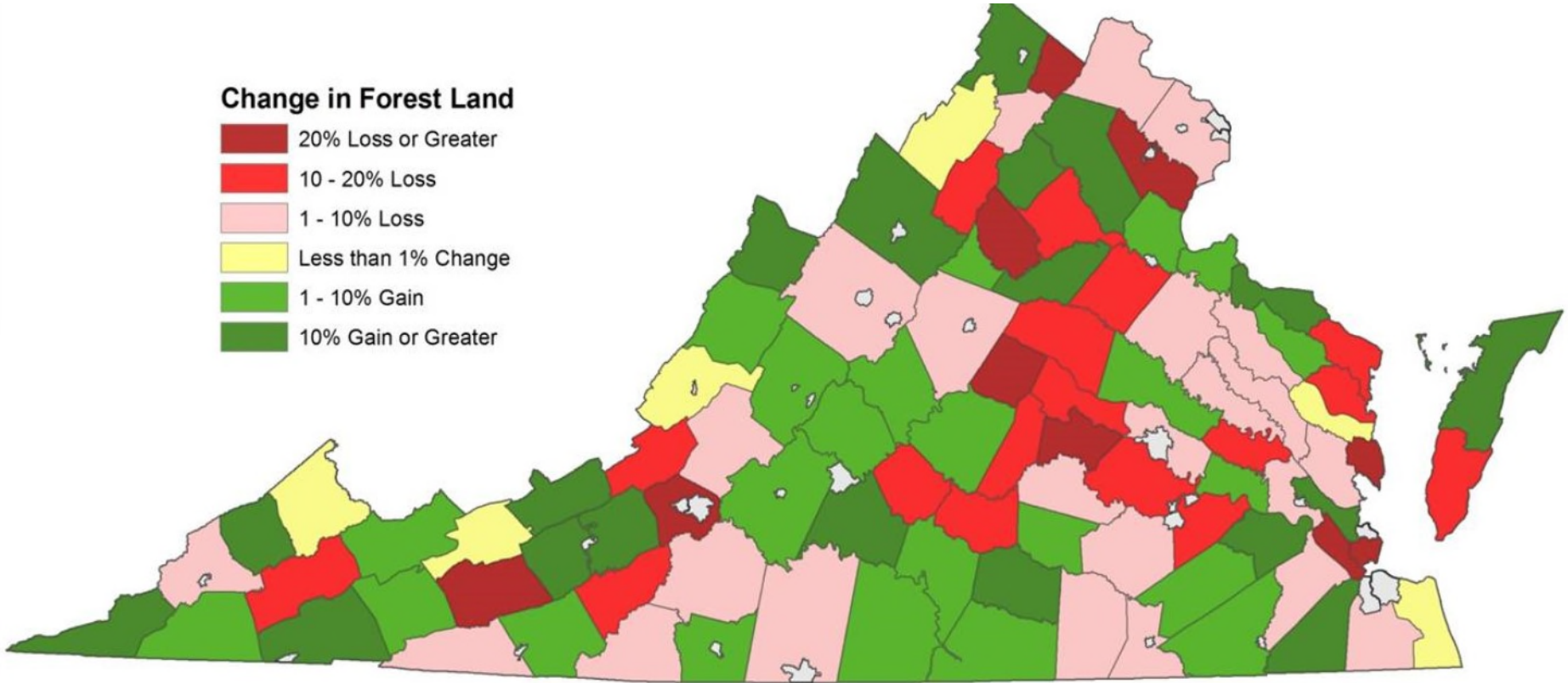


Data Source: Hewes et al. 2014



Change in Forestland, 1992 – 2011

Change in Forest Land



Source: USFS - FIA



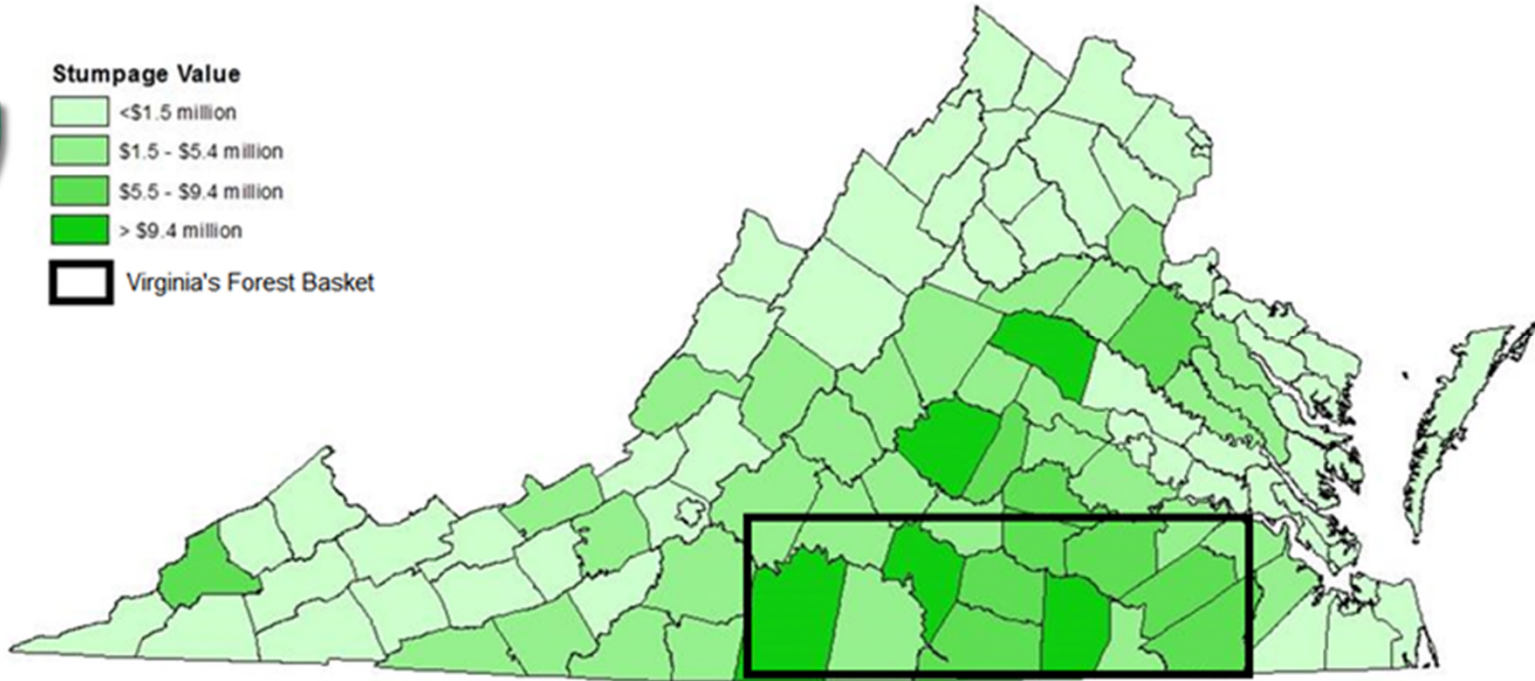
Virginia High Conservation Value Forest Areas



Stumpage Value



Virginia's Forest Basket





Questions?

Terry Lasher
Assistant State Forester
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434-220-9095

DEQ
Permit By Rule, Not Including Mitigation
Revenues by Fiscal Year

Year	Solar	Wind	Combustion	Total
FY 2015	14,000.00	-	-	14,000.00
FY 2016	8,000.00	16,000.00	-	24,000.00
FY 2017	76,000.00	-	-	76,000.00
FY 2018	124,000.00	-	-	124,000.00
FY 2019	128,000.00	-	-	128,000.00
Total Throu	<u><u>\$ 350,000.00</u></u>	<u><u>\$ 16,000.00</u></u>	<u><u>\$ -</u></u>	<u><u>\$ 366,000.00</u></u>

Expenditure Forecast Summary
Beginning in FY 2021

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Notes
DEQ Permitting	515,455	525,764	536,279	547,005	557,945	Includes 3.75 FTE
DEQ Compliance	149,800	152,796	155,852	158,969	162,148	Includes 1 FTE
DHR	115,500	117,810	120,166	122,570	125,021	
DGIF	231,000	235,620	240,332	245,139	250,042	
Total Projected Costs	<u>1,011,755</u>	<u>1,031,990</u>	<u>1,052,630</u>	<u>1,073,682</u>	<u>1,095,156</u>	

Small Renewable Energy
 Permit By Rule, Not including Mitigation
 Recommended Fee Structure - Initial
 Beginning in FY 2021

	Fee Amount	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Notes
Estimated Number of PBRs, by Year		20	20	20	20	20	
Estimated Number of PBRs, Cumulative, as of the beginning of the year		82	102	122	142	162	
Historical Percentages by Megawatt:							
5 - 50 MW	67%						
>50 to 75 MW	13%						
>75 to 150 MW	20%						
<u>Recommended New Fee Structure:</u>							
Application Fees							
5 - 50 MW	30,000	400,000	400,000	400,000	400,000	400,000	Assume the same historical %s by MW
>50 to 75 MW	40,000	106,667	106,667	106,667	106,667	106,667	Assume the same historical %s by MW
>75 to 150 MW	50,000	200,000	200,000	200,000	200,000	200,000	Assume the same historical %s by MW
Modification Fees							
5 - 50 MW	7,500	7,500	7,500	7,500	7,500	7,500	Assume 1 per year in each category
>50 to 75 MW	10,000	10,000	10,000	10,000	10,000	10,000	Assume 1 per year in each category
>75 to 150 MW	12,500	12,500	12,500	12,500	12,500	12,500	Assume 1 per year in each category
Incomplete Fees							
5 - 50 MW	15,000	15,000	15,000	15,000	15,000	15,000	Assume 1 per year in each category
>50 to 75 MW	20,000	20,000	20,000	20,000	20,000	20,000	Assume 1 per year in each category
>75 to 150 MW	25,000	25,000	25,000	25,000	25,000	25,000	Assume 1 per year in each category

NOI Fee

For all sizes	2,000	80,000	80,000	80,000	80,000	80,000	Assumes 40 per year
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Maintenance Fees

5 - 50 MW	1,500	82,000	102,000	122,000	142,000	162,000	Assume the same historical %s by MW
>50 to 75 MW	2,250	24,600	30,600	36,600	42,600	48,600	Assume the same historical %s by MW
>75 to 150 MW	3,000	49,200	61,200	73,200	85,200	97,200	Assume the same historical %s by MW

Sum of Projected Fees

<u>1,032,467</u>	<u>1,070,467</u>	<u>1,108,467</u>	<u>1,146,467</u>	<u>1,184,467</u>
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5 - 50 MW	504,500	524,500	544,500	564,500	584,500
>50 to 75 MW	161,267	167,267	173,267	179,267	185,267
>75 to 150 MW	286,700	298,700	310,700	322,700	334,700
For all sizes	80,000	80,000	80,000	80,000	80,000
Total	<u>1,032,467</u>	<u>1,070,467</u>	<u>1,108,467</u>	<u>1,146,467</u>	<u>1,184,467</u>

Small Renewable Energy
Permit By Rule, Not including Mitigation

Small Renewable Energy
 Permit By Rule, Not including Mitigation
 2nd Scenario -- after lunch on 11/4
 Beginning in FY 2021

	Fee Amount	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Notes
Estimated Number of PBRs, by Year		20	20	20	20	20	
Estimated Number of PBRs, Cumulative, as of the beginning of the year		82	102	122	142	162	

New Estimated Percentages by Megawatt:

5 - 25 MW	19.0%
> 25 - 50 MW	7.9%
>50 to 75 MW	20.6%
>75 to 150 MW	52.5%

Recommended New Fee Structure:

Application Fees

5 - 25 MW	20,000	76,000	76,000	76,000	76,000	76,000
> 25 - 50 MW	30,000	47,400	47,400	47,400	47,400	47,400
>50 to 75 MW	34,000	140,080	140,080	140,080	140,080	140,080
>75 to 150 MW	42,800	449,400	449,400	449,400	449,400	449,400

Modification Fees

5 - 25 MW	5,000	5,000	5,000	5,000	5,000	5,000	Assume 1 per year in each category
> 25 - 50 MW	7,500	7,500	7,500	7,500	7,500	7,500	Assume 1 per year in each category
>50 to 75 MW	8,500	8,500	8,500	8,500	8,500	8,500	Assume 1 per year in each category
>75 to 150 MW	10,700	10,700	10,700	10,700	10,700	10,700	Assume 1 per year in each category

Incomplete Fees

5 - 25 MW	10,000	10,000	10,000	10,000	10,000	10,000	Assume 1 per year in each category
> 25 - 50 MW	15,000	15,000	15,000	15,000	15,000	15,000	Assume 1 per year in each category
>50 to 75 MW	17,000	17,000	17,000	17,000	17,000	17,000	Assume 1 per year in each category
>75 to 150 MW	21,400	21,400	21,400	21,400	21,400	21,400	Assume 1 per year in each category

NOI Fee

For all sizes	1,700	68,000	68,000	68,000	68,000	68,000	Assumes 40 per year
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Maintenance Fees

5 - 25 MW	1,000	15,580	19,380	23,180	26,980	30,780
> 25 - 50 MW	1,400	9,069	11,281	13,493	15,705	17,917
>50 to 75 MW	1,800	30,406	37,822	45,238	52,654	60,070
>75 to 150 MW	2,500	107,625	133,875	160,125	186,375	212,625

Sum of Projected Fees

	<u>1,038,660</u>	<u>1,078,338</u>	<u>1,118,016</u>	<u>1,157,694</u>	<u>1,197,372</u>
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5 - 25 MW	106,580	110,380	114,180	117,980	121,780
> 25 - 50 MW	78,969	81,181	83,393	85,605	87,817
>50 to 75 MW	195,986	203,402	210,818	218,234	225,650
>75 to 150 MW	589,125	615,375	641,625	667,875	694,125
For all sizes	68,000	68,000	68,000	68,000	68,000
Total	<u>1,038,660</u>	<u>1,078,338</u>	<u>1,118,016</u>	<u>1,157,694</u>	<u>1,197,372</u>

check	-	-	-	-	-
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Small Renewable Energy
 Permit By Rule, Not including Mitigation
 3rd Scenario -- end of day on 11/4
 Beginning in FY 2021

	Fee Amount	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Notes
Estimated Number of PBRs, by Year		20	20	20	20	20	
Estimated Number of PBRs, Cumulative, as of the beginning of the year		82	102	122	142	162	
New Estimated Percentages by Megawatt:							
5 - 25 MW	19.0%						
> 25 - 50 MW	7.9%						
>50 to 75 MW	20.6%						
>75 to 150 MW	52.5%						

Recommended New Fee Structure:

Application Fees

5 - 25 MW	10,000	38,000	38,000	38,000	38,000	38,000	
> 25 - 50 MW	25,000	39,500	39,500	39,500	39,500	39,500	
>50 to 75 MW	35,000	144,200	144,200	144,200	144,200	144,200	
>75 to 150 MW	46,000	483,000	483,000	483,000	483,000	483,000	

Modification Fees

5 - 25 MW	2,500	2,500	2,500	2,500	2,500	2,500	Assume 1 per year in each category
> 25 - 50 MW	6,200	6,200	6,200	6,200	6,200	6,200	Assume 1 per year in each category
>50 to 75 MW	8,700	8,700	8,700	8,700	8,700	8,700	Assume 1 per year in each category
>75 to 150 MW	11,500	11,500	11,500	11,500	11,500	11,500	Assume 1 per year in each category

Incomplete Fees

Natural Resource Reviews

A. The applicant shall conduct preconstruction wildlife analyses and supply all data and supporting documents to the DGIF for review and approval of analysis required under this subsection. The analyses of wildlife shall be based on information on the presence, activity, and migratory behavior of wildlife to be collected at the site for a period of time dictated by the site conditions and biology of the wildlife being studied, not exceeding 12 months and shall include the following:

1. A wildlife report and map generated from information from the DGIF Virginia Fish and Wildlife Information Service web-based application or from a data and mapping system including the most recent data available from DGIF's subscriber-based Wildlife Environmental Review Map Service of the following:

a. Known endangered wildlife species and habitat features on the site or within two miles of the boundary of the site; and,

b. Known or potential sea turtle nesting beaches located within one-half mile of the disturbance zone.

2. A determination, based on consultation of the "Coastal Avian Protection Zones" map generated on the department's Coastal GEMS geospatial data system whether the proposed project site will be located in part or in whole within one or more CAPZ designated areas.

3. The applicant shall assess and describe the expected beneficial and adverse impacts, if any, of the proposed project on wildlife identified by these studies and analyses.

B. The applicant shall conduct a preconstruction historic resources analyses performed by a professional meeting the qualification standards of the Secretary of the Interior's Standards for Archeology and Historic Preservation in the appropriate discipline and supply all data and supporting documents to the DHR for review and approval of analysis required under this subsection. The analysis shall include each of the following:

1. Information on known historic resources within the disturbance zone and within one-half mile of the disturbance zone boundary presented on the context map referenced in 9VAC15-60-70 B, or as an overlay to this context map, as well as in tabular format;

2. A field survey for architectural resources, including cultural landscapes, 50 years of age or older within the disturbance zone and within one-half mile of the disturbance zone boundary and evaluate the potential eligibility of any identified resource for listing in the VLR.

3. An archaeological field survey of the disturbance zone to assess the potential eligibility of any identified archaeological site for listing in the VLR. The findings and recommendations of the survey shall be approved by DHR prior to

Natural Resource Reviews

submittal as part of the application. As an alternative to performing this archaeological survey, the applicant may make a demonstration to the department that the project will utilize nonpenetrating footings technology and that any necessary grading of the site prior to construction does not have the potential to adversely impact any archaeological resource.

C. The applicant shall conduct a natural heritage resources analyses and supply all data and supporting documents to the DCR for review and approval of analysis required under this subsection. The analysis shall include:

1. A preconstruction desktop survey of natural heritage resources that must be conducted by DCR-Natural Heritage Program within six months prior to the date of the application submittal; and
2. A preconstruction analysis of outstanding (C1) or very high ecological (C2) integrity cores as identified in the Virginia Natural Landscape Assessment for forest fragmentation impacts.