

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ)
HB 206 (2022) Forest Cores Mitigation: 2025 Regulatory Advisory Panel (RAP)

2025 RAP Meeting # 1 | Thursday September 11, 2025 | 10 am – 3 pm
Meeting Location: DEQ Piedmont Regional Office | 4949-A Cox Road | Glen Allen, VA 23060

MEETING MINUTES

In Attendance (Organization, Name – in alphabetical order by Last Name):

RAP Primary Members

King George County	Cathy Binder	Virginia Forestry Association	Terry Lasher
City of Danville	Rick Drazenovich	Virginia Association of Counties	Joe Lerch
American Clean Power Association	Natalie Gerber	Virginia Farm Bureau Federation	Martha Moore
Commonwealth Energy Partners Solar	Don Giecek	Dominion Energy	Brandon Searcey
The Piedmont Environmental Council	Dan Holmes	Energix Renewables	Megan Munkacsy
Chesapeake Bay Foundation	Ann Jurczyk	Gentry Locke	Abigail Thompson

RAP Alternates:

CHESSA	Greg Habeeb	The Nature Conservancy	Nikki Rovner
VA, MD & DE Assoc. of Electric Coops (VMDAEC)	Alex Jones	Commonwealth Energy Partners Solar	Matthew Snow

Subject Matter Experts (SME) including Virginia State Agencies and Universities

Department of Energy	Aaron Berryhill	Department of Forestry (DOF)	Nathan Thomson
Department of Wildlife Resources	Hannah Schul	Department of Conservation and Recreation (DCR)	Joe Weber
Virginia Tech	Brian Strahm		

Department of Environmental Quality (DEQ)

Amber Foster
Jonathan Rak
Susan Tripp
Julia Wack

Public:

Jennifer Freese – Wetlands Studies and Solutions	Henry Watkins – Commonwealth Strategy Group
Terry Morgan	

Primary RAP Members Not Present:

Chris Hawk, Advanced Energy United; Ben Saunders, AES Clean Energy; Josh Levi, Data Center Coalition; Tim Sedon, Geosyntec Consultants; Bill Street, James River Association; Josephus Allmond, Southern Environmental Law Center; Brad Copenhaver, Virginia Agribusiness Council; Susan Seward, Virginia Forest Products Association.

The meeting began at approximately 10:00 am

Welcome: RAP Charge for 2025

Jonathan Rak, Chief Policy Advisor, DEQ

Jonathan Rak opened the meeting with welcoming remarks and background for the purpose of the Forest Cores Regulatory Advisory Panel (RAP). This RAP is a continuation of the HB206 RAP that convened from 2022 through 2024 which oversaw the development and implementation of amendments in response to the 2022 Virginia General Assembly Session House Bill 206 (HB 206). HB206 defined adverse impacts of small renewable energy solar projects on prime agricultural soils and forest lands and charged the RAP to determine mitigation plans to avoid, minimize, or otherwise mitigate any impacts to these natural resources. Regarding forest lands, the RAP recommended requiring mitigation for disturbance of forest lands at a ratio of one acre conserved for each acre of forest land disturbed (1:1). The RAP further recommended enhanced mitigation for the disturbance of C1 forest cores at a ratio of 7:1 and mitigation for disturbance of C2 forest cores at a ratio of 2:1. During the 2024 public comment period for the proposed amendments to the Solar permit by rule (PBR) regulation, multiple comments were received regarding the mapping and definition of C1 and C2 forest cores. Specifically, comments received on the proposed regulation identified limitations of the Virginia Natural Lands Assessment (VaNLA) mapping tool and definition of C1 and C2 forest cores when used as a regulatory tool. Because HB206 required amendments to be adopted no later than December 31, 2024, DEQ moved forward with finalizing the amendments related to mitigation for prime agricultural soils and forest lands and delayed the process for enhanced mitigation for forest cores to allow for further discussion.

The HB206 Solar Amendments became effective June 18, 2025, without the enhanced mitigation for disturbance of C1 and C2 forest cores. A Notice of Intended Regulatory Action (NOIRA) to consider further amendment was published in Town Hall on May 19, 2025, to address enhanced mitigation for forest land. Accordingly, the Forest Cores RAP has convened today to discuss and develop forest core language for amendments to the Solar PBR regulation for DEQ consideration. This process is designed to be a collaborative approach of regulatory negotiation and consensus. The RAP has been tasked to address enhanced mitigation for disturbance of forest cores with very high and outstanding ecological integrity using mapping and definitions which can be applied in the field to identify forest cores with very high and outstanding ecological integrity.

Freedom of Information Act (FOIA) Reminder: Outside of RAP in-person public meetings, members may have no virtual or in-person meetings, or email threads with more than two RAP members, and may only consult each other on a one-to-one basis.

RAP Process, Roles, and Timeline: Appendix 1

The roles of Subject Matter Experts (SMEs), DEQ staff, and Regulatory Advisory Panel (RAP) Members:

- Subject Matter Experts (SMEs) from state agencies and universities will actively contribute to the process by providing relevant context and expertise. They will present pertinent information, respond to questions from the Regulatory Advisory Panel (RAP), and offer expert opinions to clarify or support discussions. When requested by the Department of Environmental Quality (DEQ), SMEs will assist in drafting proposals and advising on, or reviewing regulatory language.
- DEQ staff will serve multiple roles throughout the process, acting as the lead convener, decision maker, and stakeholder. They will prepare materials, present information, and actively engage in discussions. DEQ will gather and synthesize technical data for the RAP and take the lead in drafting regulations based on the outcomes of RAP deliberations.

- Members of the RAP will submit proposals, review proposals, and provide input to help improve regulatory outcomes by leveraging their collective expertise. Members will identify potential implementation challenges and, when feasible, propose alternative language or approaches. At a minimum, RAP members must flag and document serious concerns. Between meetings, members are expected to review materials, update their organizations or constituencies, and consult them to prepare informed input for upcoming discussions.

Land Disturbance Analysis: Solar Projects Permitted Through the SCC and DEQ: Appendix 2

Presentation: Aaron Berryhill, the Solar Program Manager at the Department of Energy

Mr. Berryhill provided an overview of land cover change through the implementation of utility scale solar in Virginia. The data presented shows that the total acreage of the 155 solar facilities with a rated capacity of 5 megawatts or more, was approximately 50% forested land. The land cover was further broken down to include 26% cropland, 12% pasture, and 7% timber-harvested, and the rest on a diverse “other” category that includes barren, impervious, grass, shrub, tree, and water surfaces.

Impacts on forest cores, i.e., outstanding cores (C1) and very high integrity cores (C2) were also discussed. Out of 110 solar facilities currently constructed in Virginia, twelve overlap with portions of either C1 or C2 ecological cores, with approximately 10% of the total disturbed acreage affecting these high-value conservation areas. Specifically, three projects impact C1 cores, affecting about 923 acres, while ten projects impact a little over 2,000 acres of C2 cores. When looking at the total parcel area of solar projects that have been permitted but not yet constructed—a somewhat speculative exercise—two of these projects overlap with C1 cores and nine overlap with C2 cores. This forward-looking analysis helps anticipate future impacts on these ecologically significant areas.

Mr. Berryhill mentioned the DEQ the Renewable Energy Development Atlas (REDA), a Geographic Information System (GIS) repository of solar project boundaries (greater than 5 MW), which is publicly accessible on the DEQ website for further review and analysis.

Review Ecological Cores and How they Relate to Our Charge: Appendix 3

Presentation: Joe Weber, Chief of Biodiversity Information and Conservation Tools, DCR

Mr. Weber provided an overview of how the Virginia Natural Lands Assessment (VaNLA) dataset was developed to support biodiversity conservation and maintain essential ecosystem functions across the state. VaNLA is based on foundational landscape ecology principles that identified Ecological Cores. Ecological Cores are areas that provide critical benefits such as wildlife and plant habitat, biodiversity conservation, open space preservation, recreational opportunities, and groundwater recharge, among others. A key ecological consideration in defining the cores is the difference between forest edge and forest interior: forest edges experience negative “edge effects” that reduce habitat quality and compromise the ecological integrity of forest patches, particularly smaller ones. Ecological Cores are sufficiently buffered from these edge effects and from human disturbances, thereby preserving their ecological value.

Data sources and analyses that supported the development of VaNLA included the 2011 National Land Cover Dataset (NLCD) which served as the foundational dataset for the VaNLA. Several key modifications of the NLCD were made to improve the accuracy of identifying cores including the review of aerial photography to correct misclassifications, the creation of a GIS layer to represent fragmenting features, incorporation of field and building footprint data to better capture fragmentation effects, and exclusion of small stream channels as fragmentation features. The refined dataset was used to identify interior forest cover - defined as natural land cover located more than 100 meters from the nearest edge - and areas with more than 100 acres of such interior cover were delineated as Ecological Cores. These areas are

ecologically significant because they support meaningful ecological processes and viable populations of sensitive species, distinguishing them from typical forest cover. Additionally, habitat fragments consisting of 10 to 99 acres of interior cover were identified; although they do not qualify as Ecological Cores, these fragments still hold ecological value.

Cores were prioritized and scored using nine variables related to rare species and habitats, habitat diversity, core characteristics and landscape context, and water quality contributions. A principal components analysis (PCA) was utilized to reduce model complexity, with the first six components used to rank cores from C1 (outstanding ecological integrity) to C5 (general ecological integrity). Importantly, a significant portion of the highest-ranking cores is already conserved: about 44% of the combined C1 and C2 cores are protected, with roughly 57% of C1 Cores and 29% of C2 Cores under conservation status, underscoring the commitment to preserving Virginia's most valuable ecological landscapes.

VaNLA serves as a key resource for conservation planning and decision-making, integrated across various tools and initiatives such as ConserveVirginia (the state's land conservation strategy), the Wildlife Corridor Action Plan, local comprehensive and regional plans, and grant programs from the Virginia Outdoors Foundation and Land Conservation Foundation. It also supports projects like Coastal GEMS, the Forest Conservation Values Model, pipeline mitigation efforts, and data tools like the Natural Heritage Conservation Sites and Data Explorer.

Summary of Discussion Points:

1. Pine Plantations and Ecological Integrity

- Virginia's forests cover about 16 million acres, with 80% hardwood and 20% pine.
- The Department of Forestry (DOF) emphasizes the ecological importance of pine plantations for wildlife and biodiversity.
- DOF is currently working under the guidance of HB309 to gather a forest canopy and forest land impact and land loss report and GIS layer.

2. Ecological Cores in General

- Conserving only the core and not the edges of an Ecological Core would shrink the entire core. Edges play a crucial role in protecting the integrity of the core.
- Areas classified as C3, such as the Northern Neck and Middle Peninsula, though not labeled as C1 or C2, are still vital for mitigation efforts due to their significant impact on Chesapeake Bay's health.
- All Ecological Cores contribute to water quality benefits, highlighting the importance of stream length as a factor, which are incorporated into upcoming proposals.

Presentation & Discussion of Proposals / Q&A

1. Brandon Searcey, Dominion Energy (RAP)
2. Joe Weber, Department of Conservation & Recreation (SME)
3. Aaron Berryhill, Department of Energy (SME)

Presentation 1: Appendix 4

Proposals and recommendations, presented by Brandon Searcey (Dominion Energy)

Point 1: Distinction between protected lands and non-protected lands: This proposal introduces a different outlook for evaluating ecological integrity by emphasizing the distinction between land ownership types—particularly protected lands versus land in private ownership. The current model (VaNLA) treats all lands uniformly – but ownership affects

management practices, protection status, and long-term ecological outcome potentials. This refinement should be accounted for in the model.

Summary of RAP Discussion:

1. Ownership type does not necessarily equate to Ecological Integrity
 - Ownership type (private vs. public) does not inherently determine ecological resilience or integrity.
 - Ecological integrity varies widely even among uniformly owned lands (e.g., national forests).
2. Vulnerability and Management Dynamics
 - Ecological integrity is dynamic and can be altered by changes in land management or new activities.
 - Vulnerability should be considered alongside integrity to reflect potential future risks.
3. Timber Harvesting and Land Use
 - Timber harvesting is widespread in Virginia and typically results in temporary ecological disruption.
 - While it tends to be true that protected lands have a lower level of development, privately-owned lands used for timber harvesting should not necessarily be weighted less. Regulatory safeguards (e.g., DOF notification and reforestation plans) help maintain long-term ecological value.
4. Conservation Status as a Better Metric?
 - Conservation status may be a more acceptable weighting factor than ownership.
 - If conservation values persist, the parcel retains its ecological significance regardless of who owns it.
5. Solar Industry Considerations
 - While ownership does not affect core ecological rankings, it may influence land suitability for solar development due to access, regulation, or infrastructure.

Point 2: Account for intensive forest management: Not all forest cover contributes equally to ecological integrity, e.g., forest managed for industrial timber production, especially loblolly pine monocultures. As such, silvicultural lands should be evaluated differently than unmanaged forests. Consider prioritization of mixed hardwood stands and old-growth forest in scoring; use remote sensing for forest inventory data to distinguish natural forest from plantation forestry; and include a parcel-based land use intensity modifier in the model to downgrade scores for heavily managed forests.

The discussion included a more nuanced ecological scoring system—one that accounts for management practices, lifecycle dynamics, and ecological services beyond biodiversity alone. It also highlighted the need to incorporate site-specific resilience and restoration potential into the characterization of forest land. It was noted that it would be difficult to isolate ecological changes in a single parcel from broader activities and trends.

Summary of RAP Discussion:

1. Herbicide Use and Site-Specific Impact - Herbicides are used in some silvicultural sites, raising concerns about soil and water quality. Herbicide use is typically site-specific and limited—often only once per 40-year cycle.
2. Species Persistence and Seed Bank Dynamics - Clearing land may displace species. Not always the case as some persist via seed banks, allowing regeneration. For example, wildlife activity can reintroduce native hardwoods into loblolly pine plantations, enhancing ecological diversity.
3. Biodiversity and Soil Health - Managed forests often show reduced biodiversity and soil compaction due to machinery.
4. Lifecycle and Long-Term Change - Loblolly pine plantations have about a 40-year lifecycle.

5. Habitat Restoration Through Management - Example: Big Woods Wildlife Management Area in Sussex County uses prescribed burning and thinning to restore habitat for species like the red-cockaded woodpecker and prairie warblers. Active management can enhance habitat value.
6. Ecological Services of Managed Forests - Managed forests contribute to carbon sequestration, forest health, water quality, and habitat for rare vegetative and aquatic species. DOF emphasized the long-term habitat, soil, and water benefits of these plantations.

Point 3: Incorporate parcel-based management history and future risk to measure a site's ecological integrity: Propose to integrate land use history datasets (as available) and management plans into the model. Use predictive modeling to assess future disturbance risk based on ownership and zoning.

Summary of RAP Discussion:

Discussion centered on using historical data to evaluate how many harvest cycles have occurred on a particular parcel and using that information to evaluate the integrity of a site. DOF has a dataset for harvesting but it does not necessarily mean these lands are used for silvicultural purposes.

Point 4: Integrate ground-truthing: Propose that model outputs be or have the ability to be validated and to be refined. Allow for field surveys to confirm habitat quality and species presence.

Summary of Discussion: The conservation values in the model should be able to be reevaluated or redefined. Using the Ecological Core / VaNLA model prevents developers from challenging the conservation value of a site due to the complexities with the model itself. Members of the RAP find it difficult to unpack the weighting of factors and understand how the model itself combines these factors.

Point 5: Using water quality as a condition indicator: The Virginia DEQ Integrated Water Quality Report provides a robust dataset on the health of surface waters across the Commonwealth. Incorporate these data as a modifying factor in the ecological integrity score to reflect the current condition of aquatic ecosystems within or adjacent to forest cores.

Summary of Discussion: The group discussed the occurrence of impaired waters within Ecological Cores and what those impaired waters may mean for the integrity of the core. RAP members noted that impaired waters have regulatory protections due to the reviews (erosion and sediment control / stormwater management) that occur for development around waterways. Using those same considerations here would be a duplication of efforts.

Point 6: Address model transparency and accessibility: Mitigation should be based on an evaluation of the functions and values determined to be lost, with the final mitigation ratio having considered the functions and values that are replaced (partial or full replacement or improved) such as water quality, habitat, soil quality. The model should be fully transparent to support broader use and acceptance of the model. Recommendations include publishing the full list of attributes used in the VaNLA model [there are 9 attributes] and their weightings to make the results more transparent; provide open-source tools or dashboards for the public to explore and customize integrity scores based on additional field-based reconnaissance; encourage the RAP team to consider the precedent of using compensation ratios used at the federal and state level for mitigating impacts to wetlands for forest cores. While these ratios are currently applied based on cover type (forest, scrub shrub, emergent), the three categories of forest considered for mitigation under the PBR can easily adopt those ratios as a starting point:

- 2:1 mitigation for C1 (prior to consideration of function/value replacement factors)
- 1.5:1 mitigation for C2 (prior to consideration of function/value replacement factors)

- 1:1 mitigation for all other forest (prior to consideration of function/value replacement factors)

Summary of RAP Discussion: the RAP discussed the variables of the VaNLA and how they were applied. Conversation turned to current mitigation options for reducing mitigation requirements are available for agricultural land, but not for forest land.

Presentation 2: Appendix 5

SME Proposal, presented by Joe Weber (DCR-Natural Heritage)

Development Impacts to Outstanding and Very High-Integrity Ecological Cores: Focus on Interior Streams

This proposal evaluates Ecological Cores for conversion to non-forest uses and applies a reduced mitigation requirement (i.e., mitigation ratio) if applicable. One of the main drivers of this proposal was finding a verifiable field to protect ecological value without exclusively relying on VaNLA. To do this, the applicant will evaluate the identified Ecological Core within the site boundary, e.g., C1, C2, and determine if the core has been “persistently converted” to another land cover type in the two years prior to the submission of a permit by rule (PBR) application. For the purpose of solar development permitting and mitigation under the PBR program, persistently converted forest refers to forested land that is cleared and no longer managed or permitted to regenerate as forest, resulting in a change in land cover other than forest that would exist into the foreseeable future. [See Appendix 5, slide 2 for additional information on this term.] Persistently converted forest does not apply to silviculture activities or areas that meet the definition of forest but is cleared for the purpose of site preparation or development within two years prior to the PBR application submission.

- The proposal utilizes the length of streams in interior forests, referred to here as interior streams, to serve as a practical and defensible surrogate for the broader ecological integrity of a core. Interior streams have been identified because they are the most straightforward to verify using field observation; aerial photography; and GIS analysis. Ecological Cores provide a wide range of high-quality ecosystem services; those cores associated with interior streams are among the most visible, measurable, and ecologically significant.
- Evaluation process:
 - If there is no persistent conversion of the land, there is no consideration of length of streams, and the core retains its original ranking.
 - Assess persistent conversion:
 - If conversion is present, digitize a new boundary reflecting current conditions. Compare the current core boundary to the new boundary.
 - If the decrease in forested area is 10% or less, the core is considered intact and maintains its original ranking.
 - Calculate interior stream length within the core and then apply the mitigation key (see Appendix 5, slide 7)
 - If a C1 core has more than 10% conversion and $\geq 20,000$ meters of interior stream, the core remains a C1 and the easement mitigation ratio requirement is 7:1 (seven acres conserved for every one C1 acre disturbed). If less than 20,000 meters of interior stream, the core is “demoted” to a C2 and the mitigation ratio is reduced to 2:1.
 - Summary: if no persistent conversion of forest occurred at least two years before application for a PBR, the Ecological Core remains intact, its rank does not change, and mitigation should follow its original rank. In such cases, the GIS analysis and mitigation key in this proposal do not apply. According to the VaNLA dataset, 75 C1 (30.1% of 249) and 253 C2 (40.5% of 624) contain initial lengths of interior streams below the thresholds for rank demotion. The SME group recognizes that this approach involves

trade-offs, but maintains that Ecological Cores without more than de minimis conversion should be mitigated based on their original rank.

Summary of Themes Discussed:

1. Stream Length as a Proxy for Ecosystem Services

- VaNLA core verification is difficult and this attempts to address field verifiability with 2D topographic maps and field observations. This approach serves as a reasonable proxy for the identification of VaNLA cores.
- Ecosystem services are represented in the VaNLA data and the length of streams data support this assessment.
- Field verification of stream length is difficult, especially in more areas with much more topography; actual stream presence may differ from GIS data.

2. Local Buffer Requirements

- Some localities implement buffer requirements in new development to protect waterways.
- These buffers help safeguard aquatic species and enhance water quality.

Presentation 3: Appendix 6

SME Proposal, presented by Aaron Berryhill, Department of Energy

This proposal aims to avoid impacts to large, continuous forest blocks because these areas provide significantly greater ecosystem benefits compared to fragmented forests. To achieve this, the Virginia Natural Landscape Assessment (VaNLA) is utilized to delineate the boundaries of forest cores, focusing solely on the total area of the contiguous forest blocks, without considering the modeling results and corresponding ranking of cores generated by the VaNLA. This proposal allows adjustments to forest block boundaries on project sites if persistent land conversion is present, using a straightforward verification process.

- Question: Would the forest cover dataset that DOF is working on be able to come into play?
- Answer: This data will be ready to be used in 2026. Following the publication of this resource, HB309 requires data to be updated every 3 years.

Mitigation ratios are tied to the size of the cores, with cores larger than or equal to 4,000 acres triggering the highest mitigation requirement—reflecting the fact that about 75% of C1 cores exceed this size. Cores between 2,000 and 4,000 acres require additional, but lower, mitigation, aligned with the size distribution of C2 cores. This method simplifies the process by removing the complexity of multi-layered modeling. However, the proposed approach may risk creating arbitrary mitigation boundaries and potentially overlooking smaller but ecologically important forest patches. While an alternative could involve developing a new GIS layer with more current data to better capture contiguous forest blocks, this option is not feasible within the current regulatory timeframe.

- Question: If only a small acreage were taken out of forest and converted to solar, would there be any reconsideration of demoting the ratio?
- Answer: There is not going to be a reevaluation of a core and its ecological components to determine if the mitigation ratio could be demoted.

Summary of Discussion Points:

1. Timing and Project Planning:

- There is concern that the proposed mitigation approach may introduce additional requirements late in the development process, particularly due to the large size of certain forest blocks.
- Developers emphasize the need to understand mitigation costs early, as these significantly impact project planning and budgeting. DEQ encourages developers to engage with them early in the process to avoid unexpected issues later on.

2. Fairness and Consistency in Mitigation Requirements:

- Some comments raise concerns that large forest cores ranked as C3 could face increased mitigation under the new proposal, even though they were not previously considered high-integrity areas (like C1 or C2).
- Others remind the group that the overarching goal of HB206 is the protection of agricultural and forest resources, and mitigation should reflect that purpose.

3. Development Constraints and Flexibility:

- Only certain areas in Virginia are suitable for utility-scale solar due to interconnection and siting constraints.
- Developers generally aim to avoid C1 and C2 cores; complete avoidance not always possible.
- Suggestion that mitigation focus on replacing lost ecological value rather than requiring total avoidance, especially given the limited availability of viable development sites.

RAP Next Steps

The scope of ongoing discussions include the definition of which lands should be mitigated, but also the ratio at which mitigation should occur. There will be time for more in-depth discussion on this at our next RAP meeting on October 9th. The RAP will have the opportunity to ask additional questions; please prepare to have more structured discussions on these proposals.

RAP schedule and meeting topics for the Forest Cores RAP:

2025 Forest Core RAP Meeting Topics	Dates
1: Introductions, Background Information, Introduce Set of Proposals	Thursday, September 11, 2025
2: Discussion of Proposals	Thursday, October 9, 2025
3: Identify Proposals with Greatest Support	Thursday, November 6, 2025

All meetings to be held at the DEQ Piedmont Regional Office at 4949-A Cox Road, Glen Allen, VA 23060

Meeting concluded at approximately 3:05 PM





Amendments to Solar Permit by Rule

Enhanced Mitigation for Forest Cores

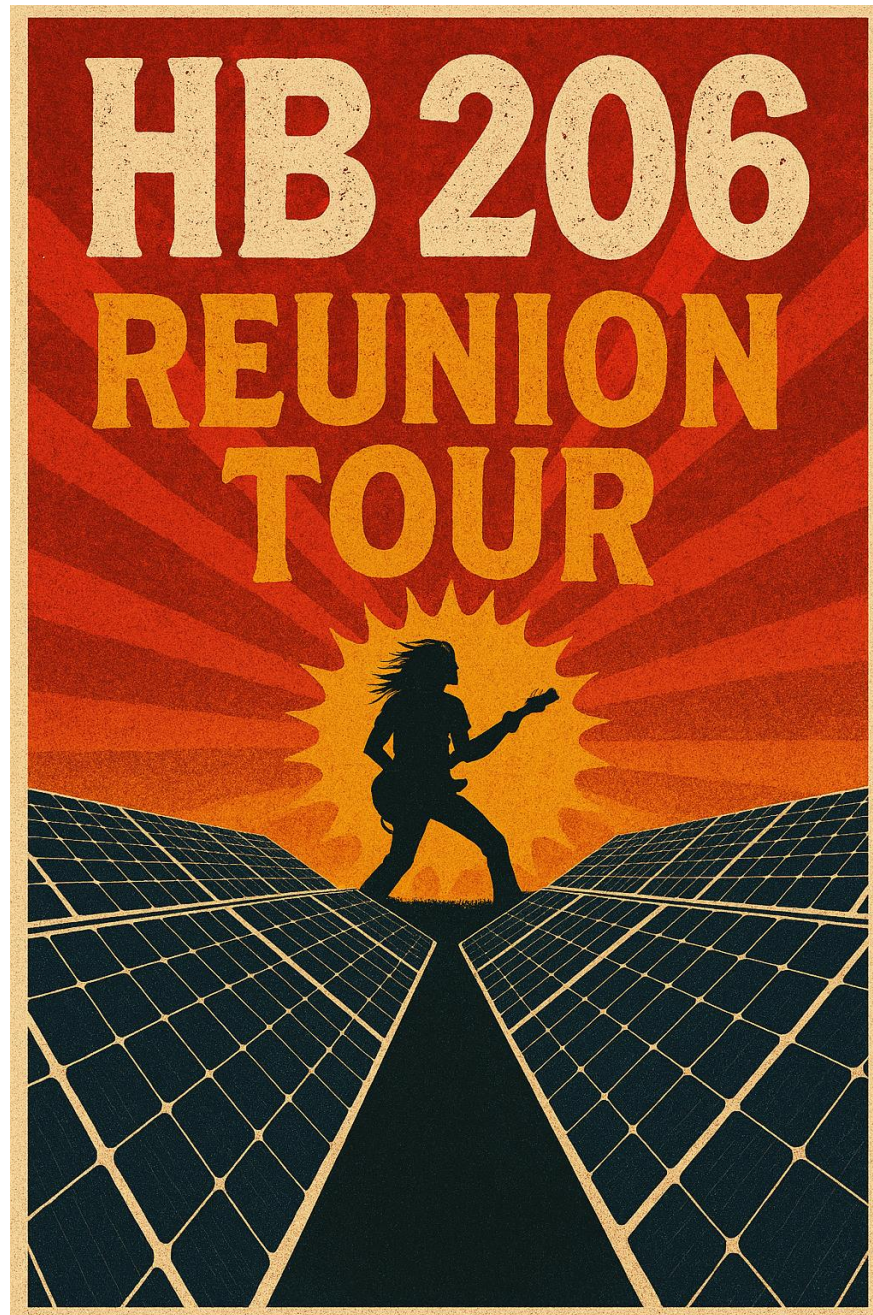
RAP Meeting #1

Jonathan Rak

Chief Policy Advisor

Virginia Department of Environmental Quality

September 11, 2025



Today's Agenda

10:00 Welcome: RAP Charge for 2025

10:10 Introductions

10:25 RAP Process, Roles, and Timeline (September - November 2025)

10:45 Land Disturbance Analysis: Solar Projects Permitted Through the SCC and DEQ

Presentation & Discussion / Q&A

- Aaron Berryhill, Department of Energy

11:15 Review Ecological Cores and How they Relate to Our Charge

Presentation & Discussion / Q&A

- Joe Weber, Department of Conservation & Recreation

12:15 LUNCH BREAK (provided for Primary RAP members and SME)

1:00 Presentation & Discussion of Proposals / Q&A

2:45 Wrap-Up/Next Steps - *Adjourn at or by 3 pm*

2025 RAP Charge

- The primary function of the panel is to develop recommended regulation amendments for DEQ consideration through the collaborative approach of regulatory negotiation and consensus.
- This amendment will address enhanced mitigation for disturbance of forest cores with very high and outstanding ecological integrity using mapping and definitions which can be applied in the field to identify forest cores with very high and outstanding ecological integrity.

Introductions

2025 RAP Members and Subject Matter Experts

RAP Process, Roles, and Timeline (September - November 2025)

Status of HB 206 Implementation

- Final Amendments became effective June 18, 2025.
- Enhanced Mitigation for Forest Cores not included.
- Notice of Intended Regulatory Action (NOIRA) to consider further amendment for Forest Cores published May 19, 2025

Proposed Language for Forest Cores - September 2024

- "C1 forest core" means forest land with at least 100 acres of continuous interior natural habitat that has been mapped in the Outstanding category (C1) by the Department of Conservation and Recreation in the Virginia Natural Landscape Assessment.
- "C2 forest core" means forest land with at least 100 acres of continuous interior natural habitat that has been mapped in the Very High category (C2) by the Department of Conservation and Recreation in the Virginia Natural Landscape Assessment.

Proposed Language for Forest Cores - September 2024

Mitigation measures for significant adverse impacts to natural heritage resources described in Virginia Natural Landscape Assessment Ecological Cores shall include all reasonable measures to avoid and minimize significant adverse impacts. The applicant shall demonstrate in its mitigation plan what significant adverse impacts cannot practicably be avoided and why additional proposed actions are reasonable. Additional proposed actions shall include practices to minimize or offset significant adverse impact through activities to protect, restore, or enhance the affected or similar resource.

Proposed Language for Forest Cores - September 2024

If impacts to C1 or C2 forest cores cannot be avoided, mitigation shall be required in the form of a conservation easement. For disturbance of C1 forest cores, the applicant shall provide a conservation easement for land containing C1 forest cores within the same mitigation district at a mitigation ratio of seven to one.

For disturbance of C2 forest cores, the applicant shall provide a conservation easement for land containing C2 forest cores within the same mitigation district at a mitigation ratio of two to one.

Comments on Forest Cores in Proposed Regulation

- The map of ecological cores (including the geographic information system (GIS) criteria used to map C1 and C2 cores) was not adopted as part of any regulatory process with opportunity for public comment.
- The Virginia Natural Landscape Assessment that maps the cores has not been updated since 2017 using 2011 land cover imagery. Examples have been provided where C1 and C2 forest cores have subsequently been cleared and may no longer be mapped as cores today.
- The GIS criteria used to map C1 and C2 cores have not been translated into definitions of the cores that can be physically verified on site. Therefore, applicants have no recourse to challenge the accuracy of the designation.

Final Regulation effective June 18, 2025

- Definitions and mitigation requirements for C1 and C2 cores deleted.
- Simultaneous NOIRA proposing to development further amendment to address enhanced mitigation for disturbance of forest cores with very high and outstanding ecological integrity using mapping and definitions which can be applied in the field to identify forest cores with very high and outstanding ecological integrity.

HB 206 Enactment Clause

“the advisory panel shall consider, but not be limited to, the following factors in determining appropriate mitigation techniques or criteria to be included in an applicant's mitigation plan:

- (i) the mitigation techniques to avoid, minimize, or otherwise mitigate any such impacts;
- (ii) the cost of mitigation relative to the project cost, including the costs of proposed mitigation to rate payers;
- (iii) onsite minimization of impacts;
- (iv) payment of in-lieu fee funds for mitigation;

HB 206 Enactment Clause (cont.)

- (v) the impact on the local agricultural or forestry economy when such soils or lands are displaced;
- (vi) the loss of ecosystem benefits;
- (vii) noncompliance with Virginia's Watershed Implementation Plan III goals on the Chesapeake Bay TMDL; and
- (viii) noncompliance with other water quality criteria and standards.

RAP Schedule

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LAND COVER CHANGE ANALYSIS OF SOLAR IN VIRGINIA

Aaron Berryhill

Solar Program Manager
Virginia Department of Energy

September 11, 2025



HB 206 Forest Cores RAP Meeting 1

LAND COVER CHANGE

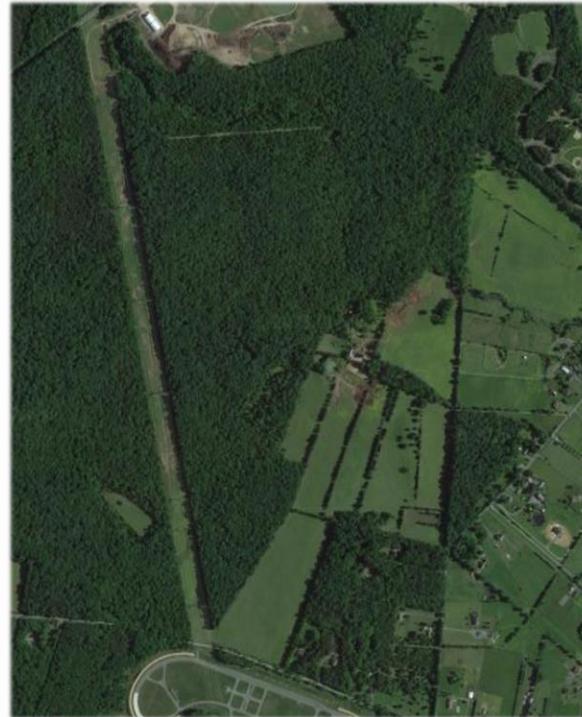
Solar Fenced In / Disturbed Area

As of August 2025:

- 110 Solar Facilities Completed
- 33,870 acres
- 4,925 MW

~55 Solar Facilities Permitted But Not Completed

- 45 PBR, 10 CPCN



LAND COVER CHANGE

Solar Fenced In / Disturbed Area

Solar

110 Facilities, 33,870 acres, 4,925 MW

Land Cover	Acres	Percent
Forest	17,011	50%
Cropland	8,963	26%
Pasture	4,150	12%
Harvested	2,308	7%
All Other*	1,432	4%

Virginia

(2016 Land Cover)

Land Cover	Acres	Percent
Forest	14,770,460	54%
Cropland	1,335,967	5%
Pasture	3,107,189	11%
Harvested	601,685	2%
All Other*	9,293,858	27%

*Other Includes: *Barren, Impervious, Grass, Shrub, Tree, and Water*



IMPACTS TO C1 / C2 CORES

Completed Solar Facilities (110 Facilities, 33,870 acres)

Disturbed Area:

- 12 out of 110 solar facilities in or partially in a C1 or C2 core
 - *(*1 facility overlaps both a C1 and C2 core)*
- 3,237 acres of disturbed area on a C1 or C2 core
 - 9.6% of solar disturbed area

IMPACTS TO C1 / C2 CORES

Completed Solar Facilities (110 Facilities, 33,870 acres)

3,237 acres of solar built on C1 or C2 core

C1 Core Impacts

- Projects: 3
- Impacted C1 Acres: 923
- Percent of Virginia's C1 Acres: 0.036%

C2 Core Impacts

- Projects: 10
- Impacted C2 Acres: 2,314
- Percent of Virginia's C2 Acres: 0.108%

IMPACTS TO C1 / C2 CORES

Facilities Permitted, Not Completed (~55 Facilities)

Parcel Area Overlaps with C1 Core

- Projects: 2
- Acres: ?

Parcel Area Overlaps with C2 Core

- Projects: 9
- Acres: ?





Virginia Natural Landscape Assessment

Joe Weber

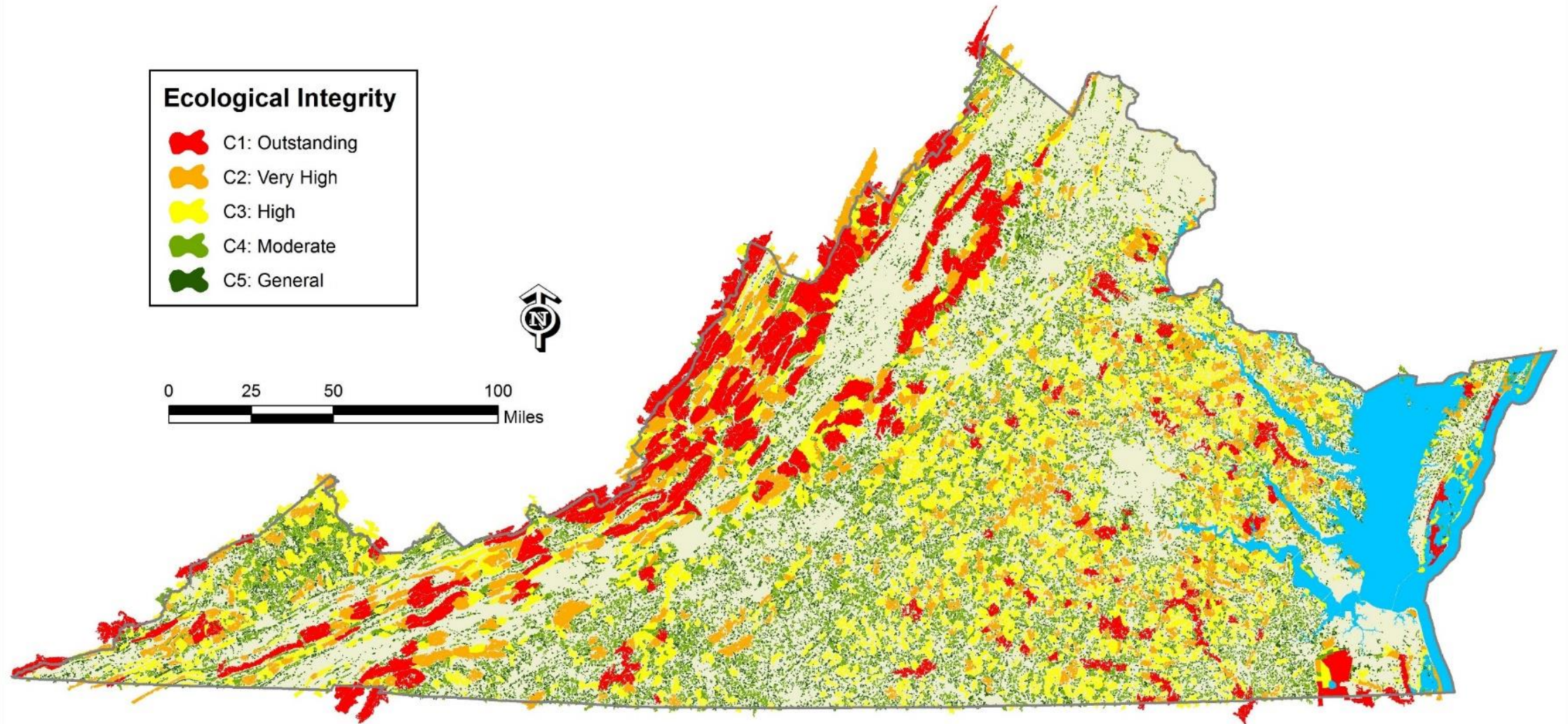
Chief of Biodiversity Information and Conservation Tools

Virginia Department of Conservation and Recreation



Virginia Natural Landscape Assessment

2017 Ecological Cores Ranked by Integrity



Benefits of Natural Land Networks like the VaNLA

- wildlife and plant habitat
- biodiversity conservation
- open space
- recreational opportunities
- groundwater recharge
- maintenance of water quality
- climate regulation
- carbon sequestration
- crop pollination
- protection from storm and flood damage
- erosion control and sediment retention
- soil formation and nutrient cycling
- ecological connectivity
- cultural, spiritual, and educational value

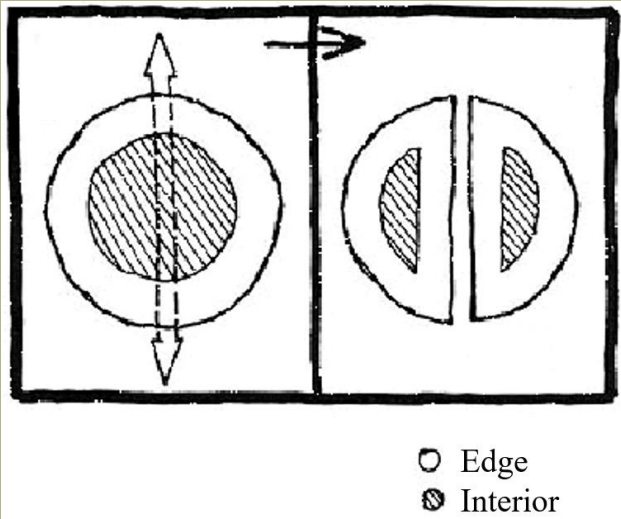


An estimated one out of every three bites of food we eat comes from a pollinator.

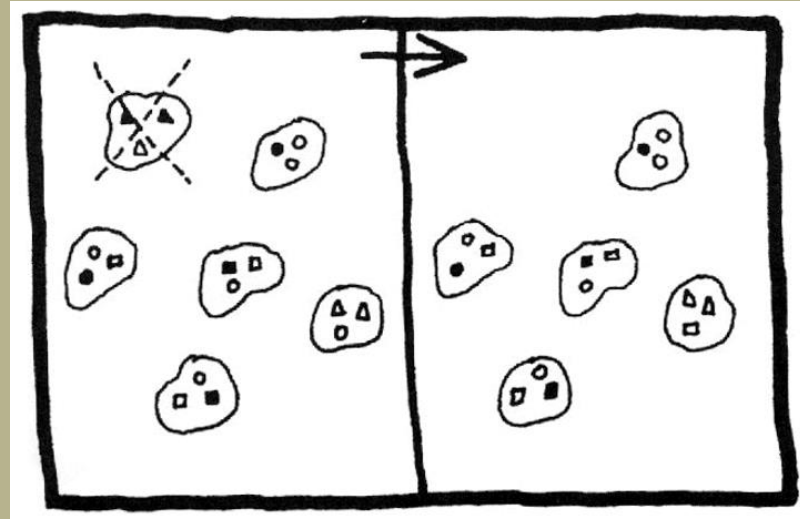
Source:

North American Pollinator Protection Campaign

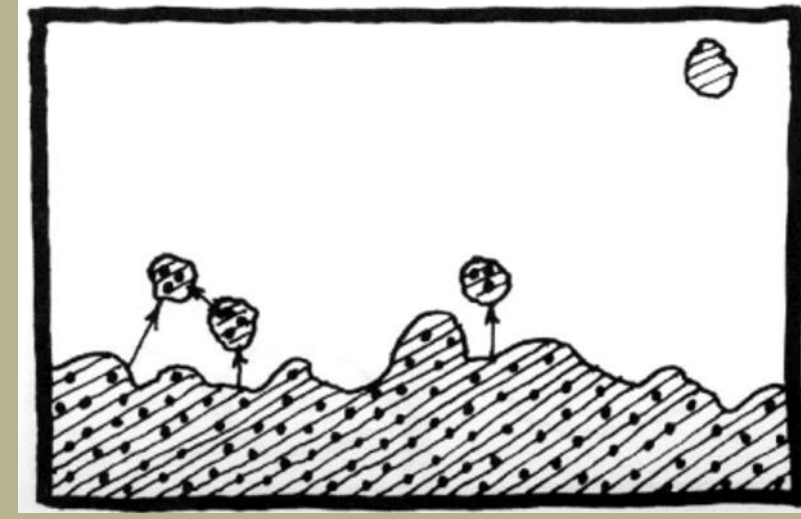
Landscape Ecology Concepts



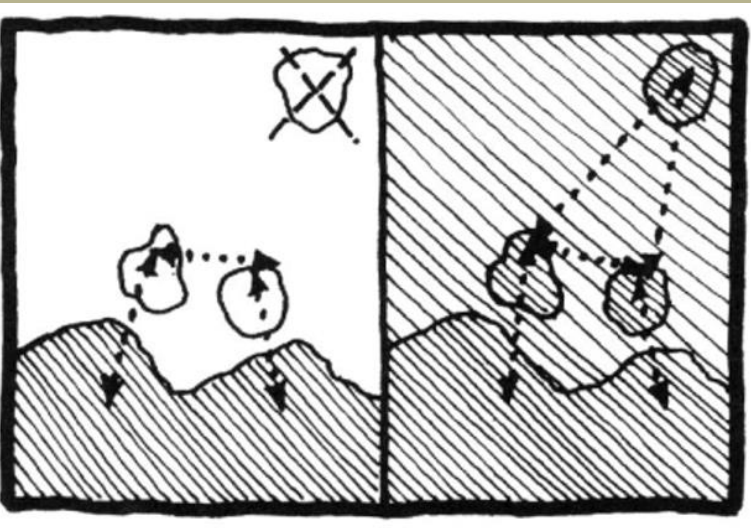
patch fragmentation



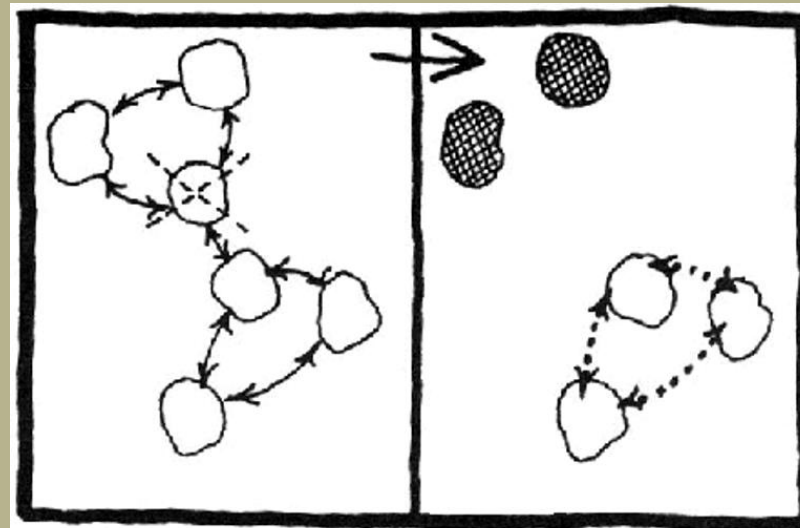
loss of unique habitat



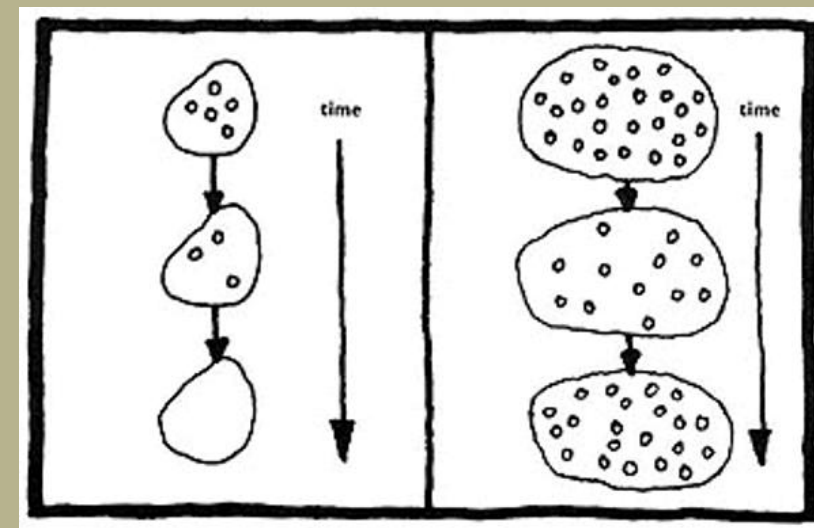
patch isolation



matrix characteristics

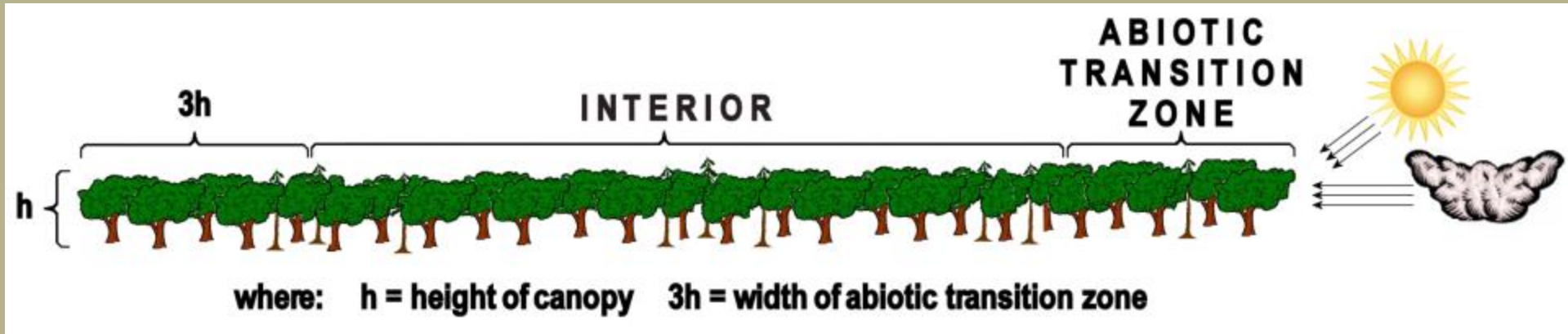


metapopulation stability



patch size and populations

Edge Effects



Can change microclimates:

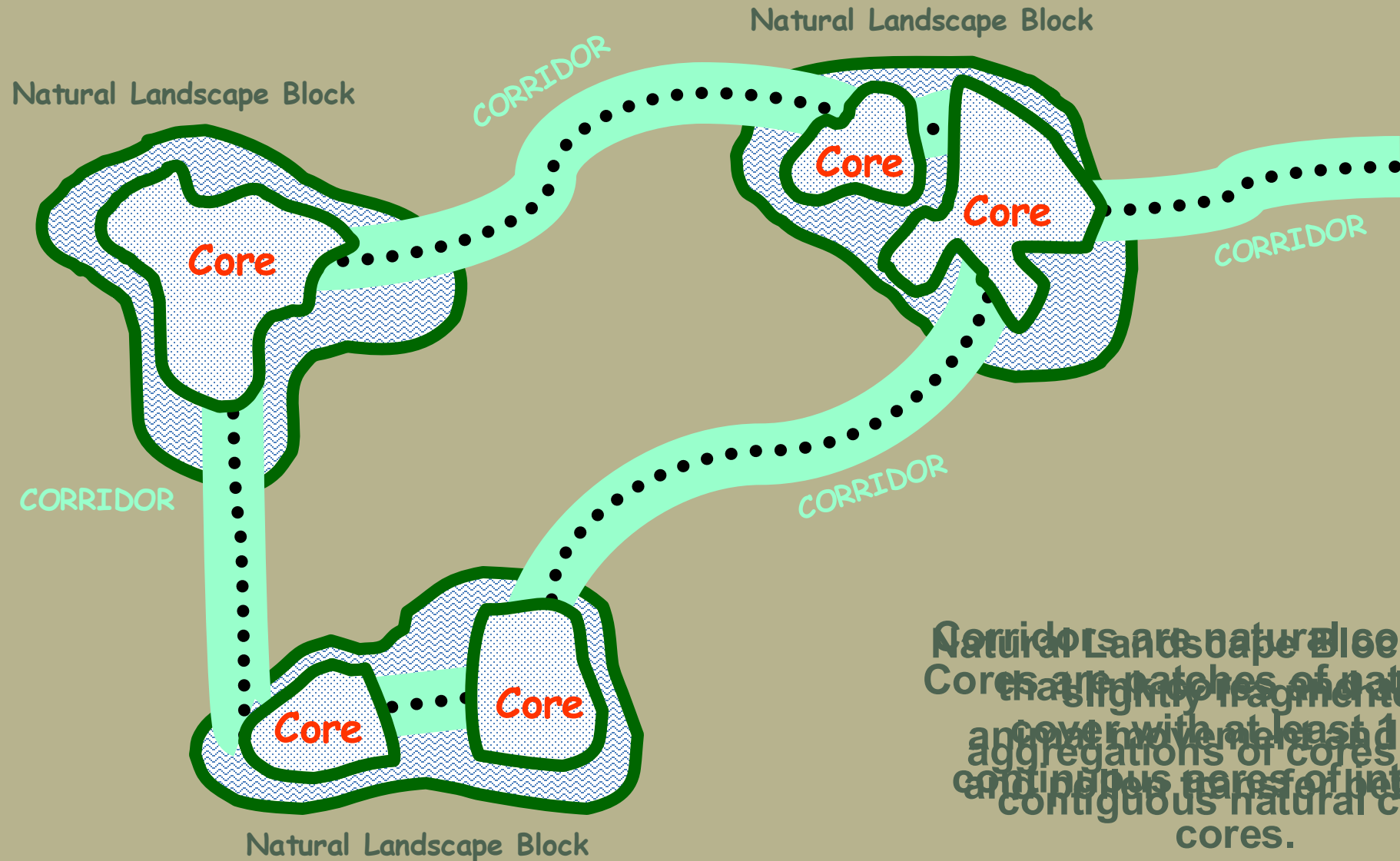
- Can change humidity and water in the air and soil



Can create pathways that facilitate:

- increased predation of native wildlife by mesopredators and pets
- increased nest parasitism and competition for nest cavities
- advances by invasive species

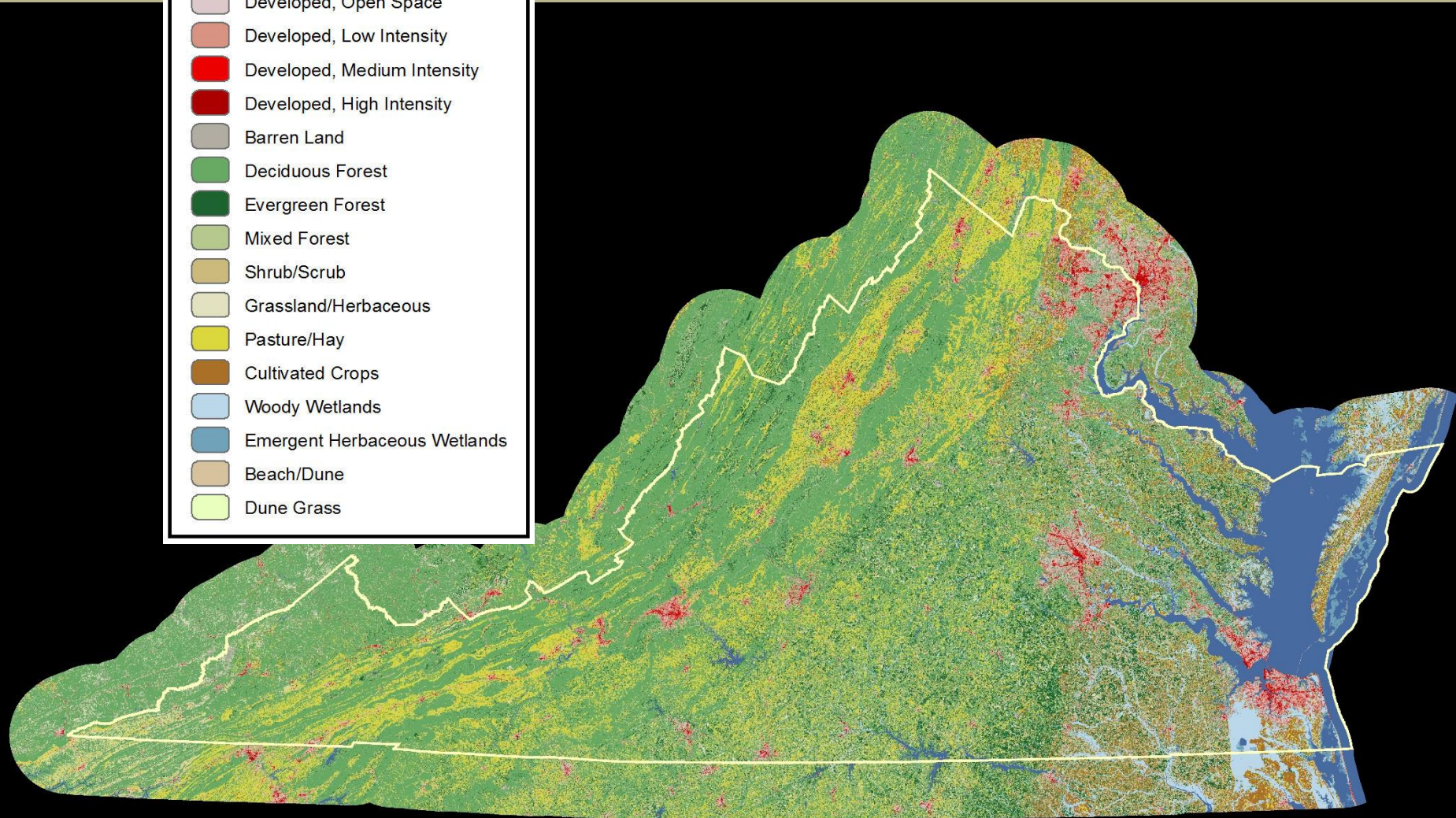
Conceptual Model



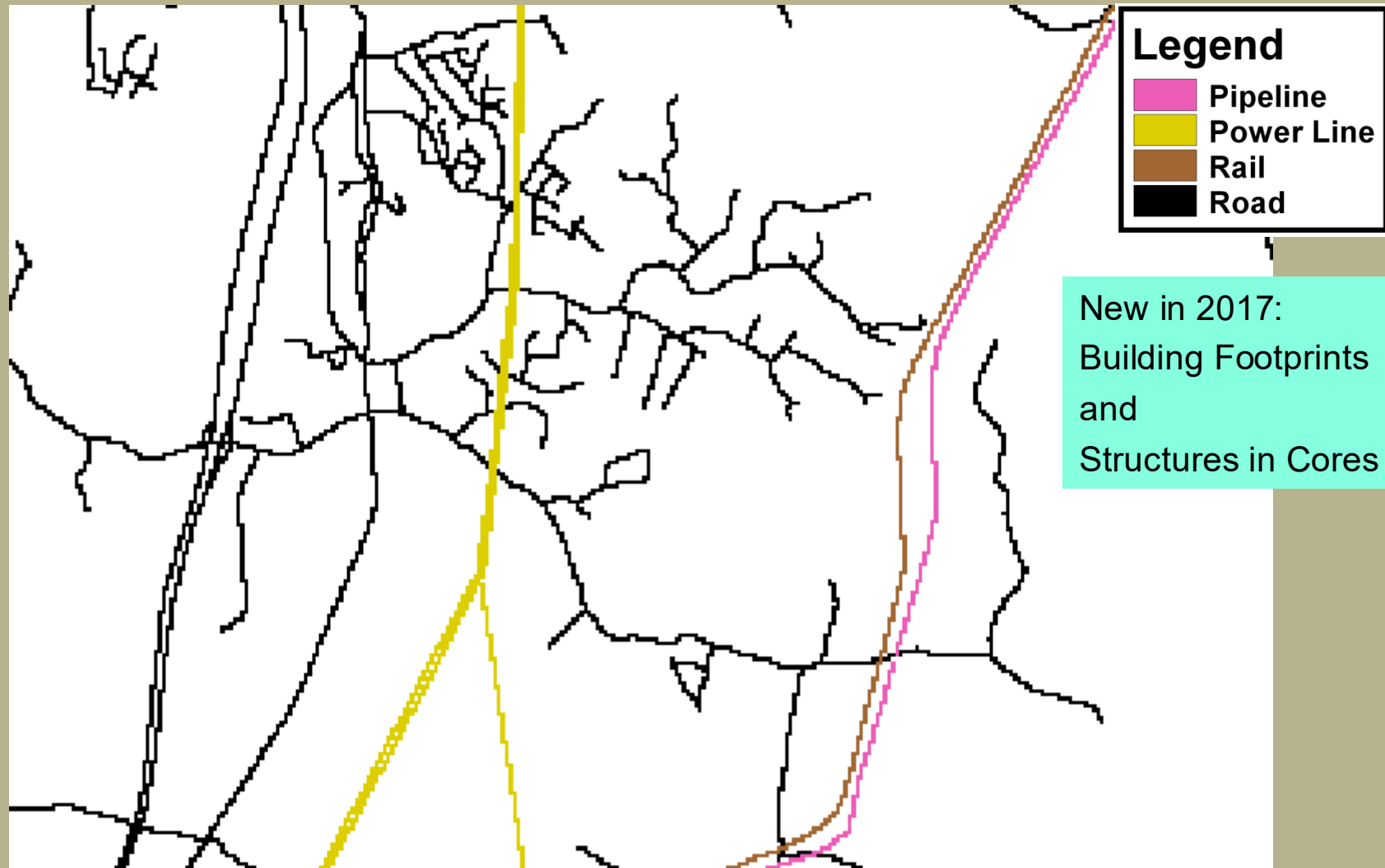
Land Cover

Land Cover

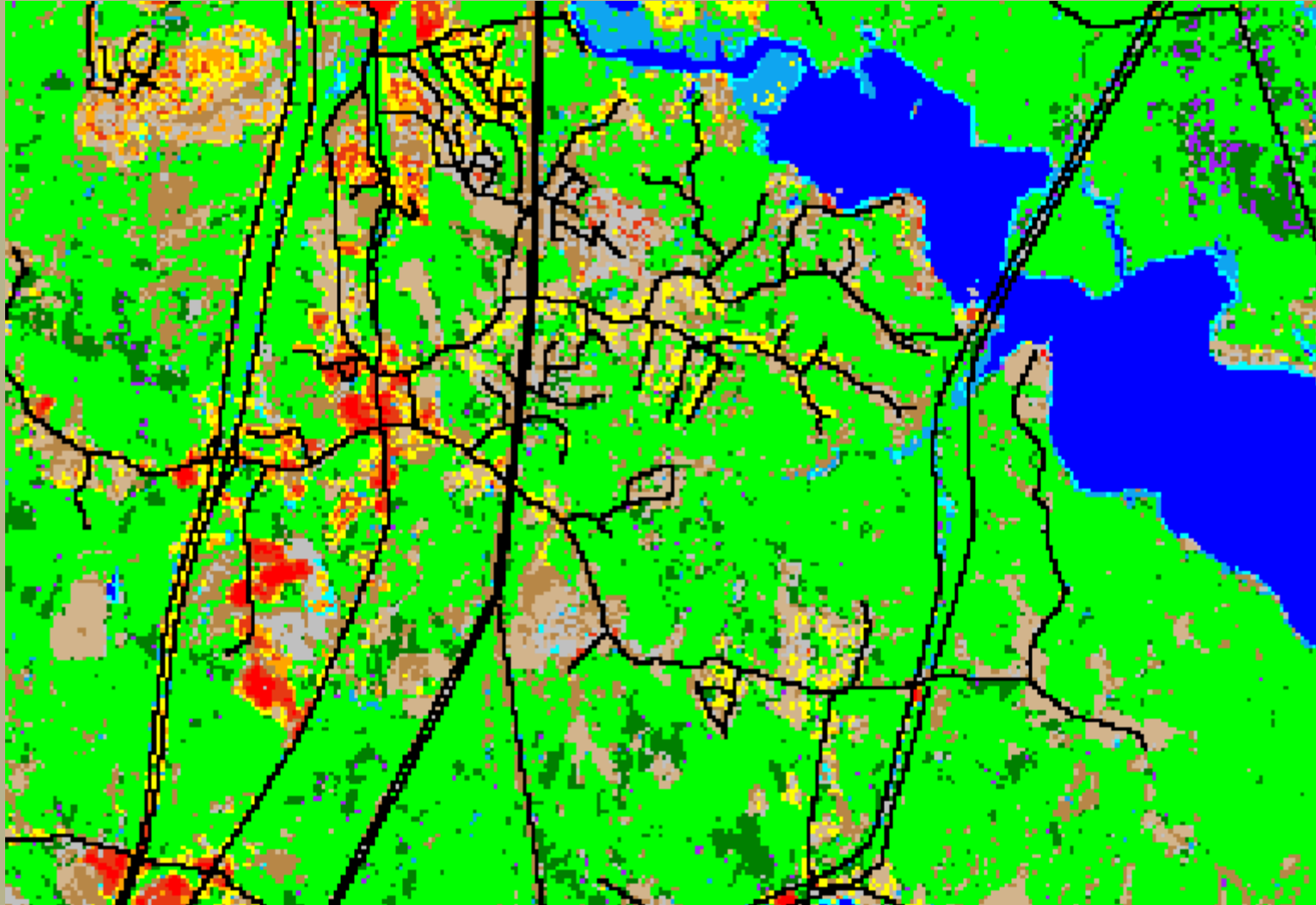
- Open Water
- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Barren Land
- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Shrub/Scrub
- Grassland/Herbaceous
- Pasture/Hay
- Cultivated Crops
- Woody Wetlands
- Emergent Herbaceous Wetlands
- Beach/Dune
- Dune Grass



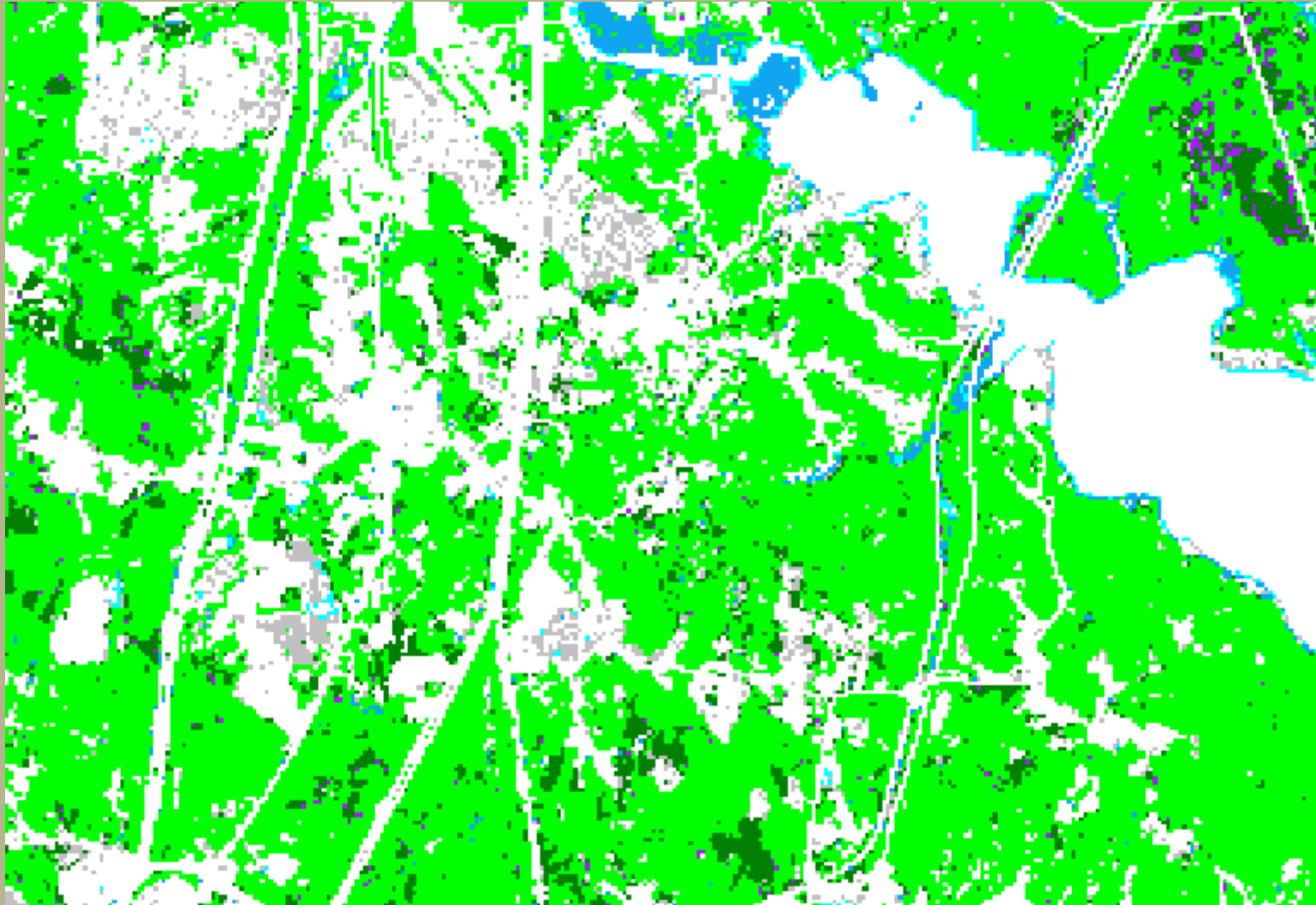
Fragmentation Layer



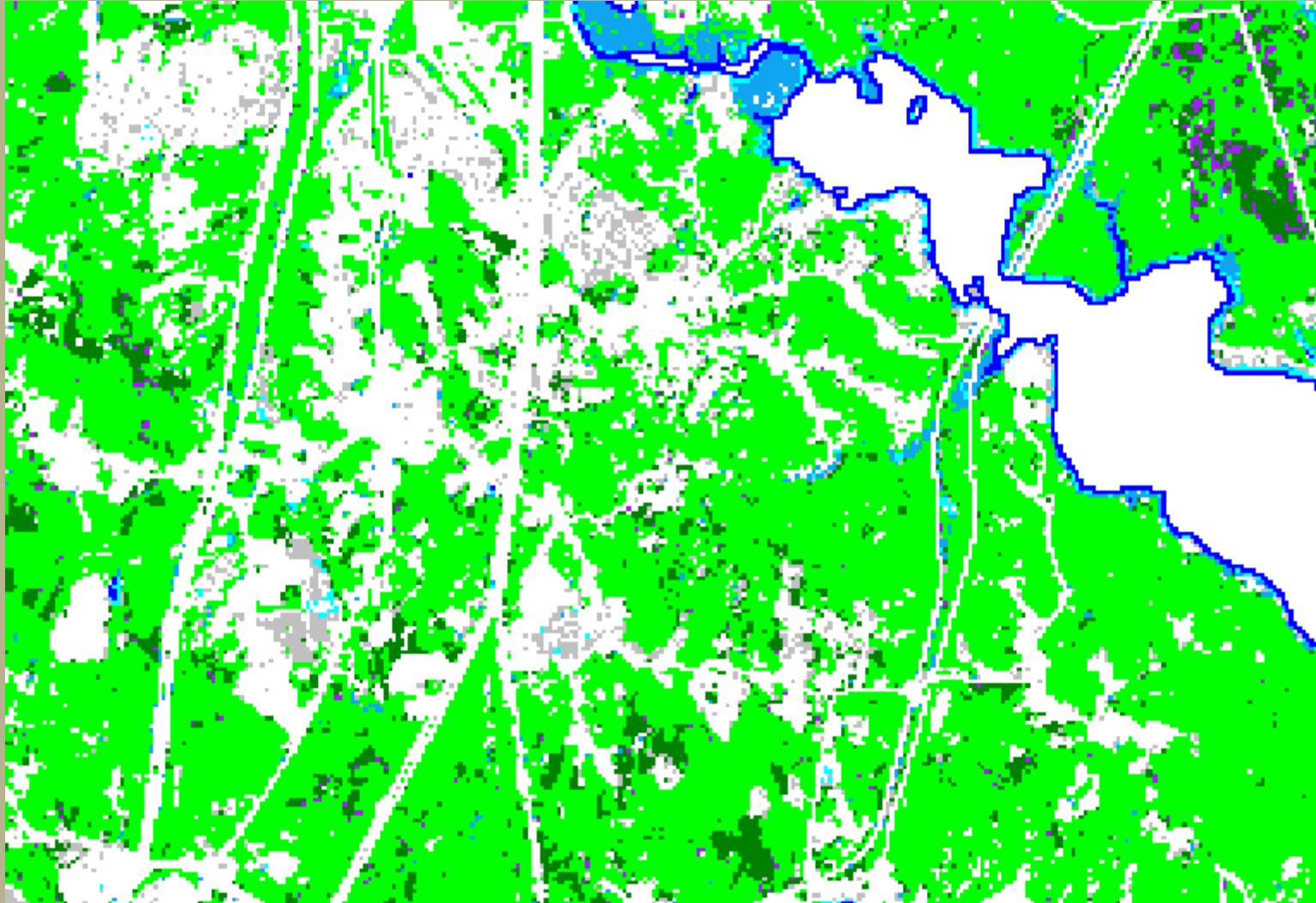
Fragmented Land Cover Image



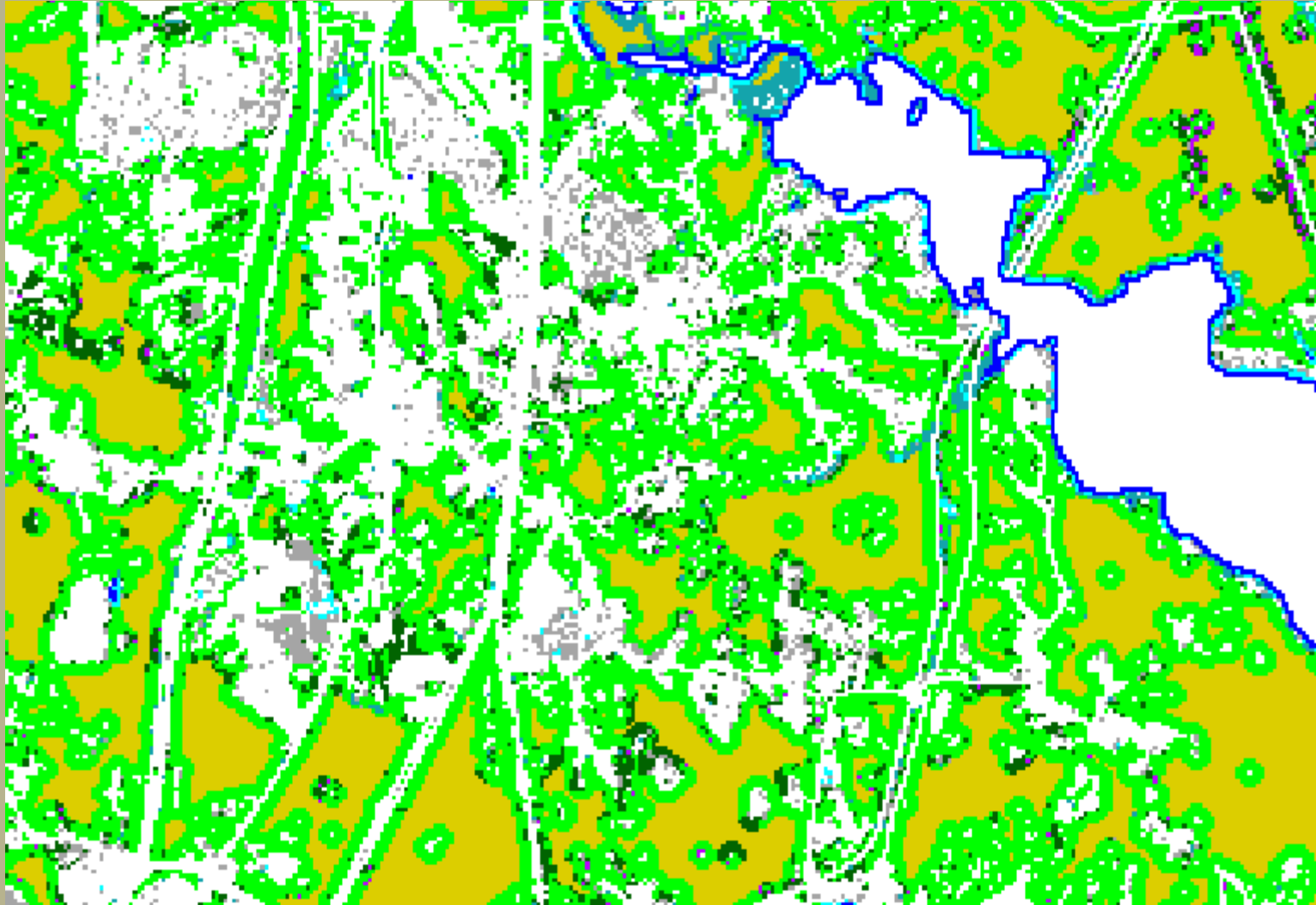
Natural Land Cover



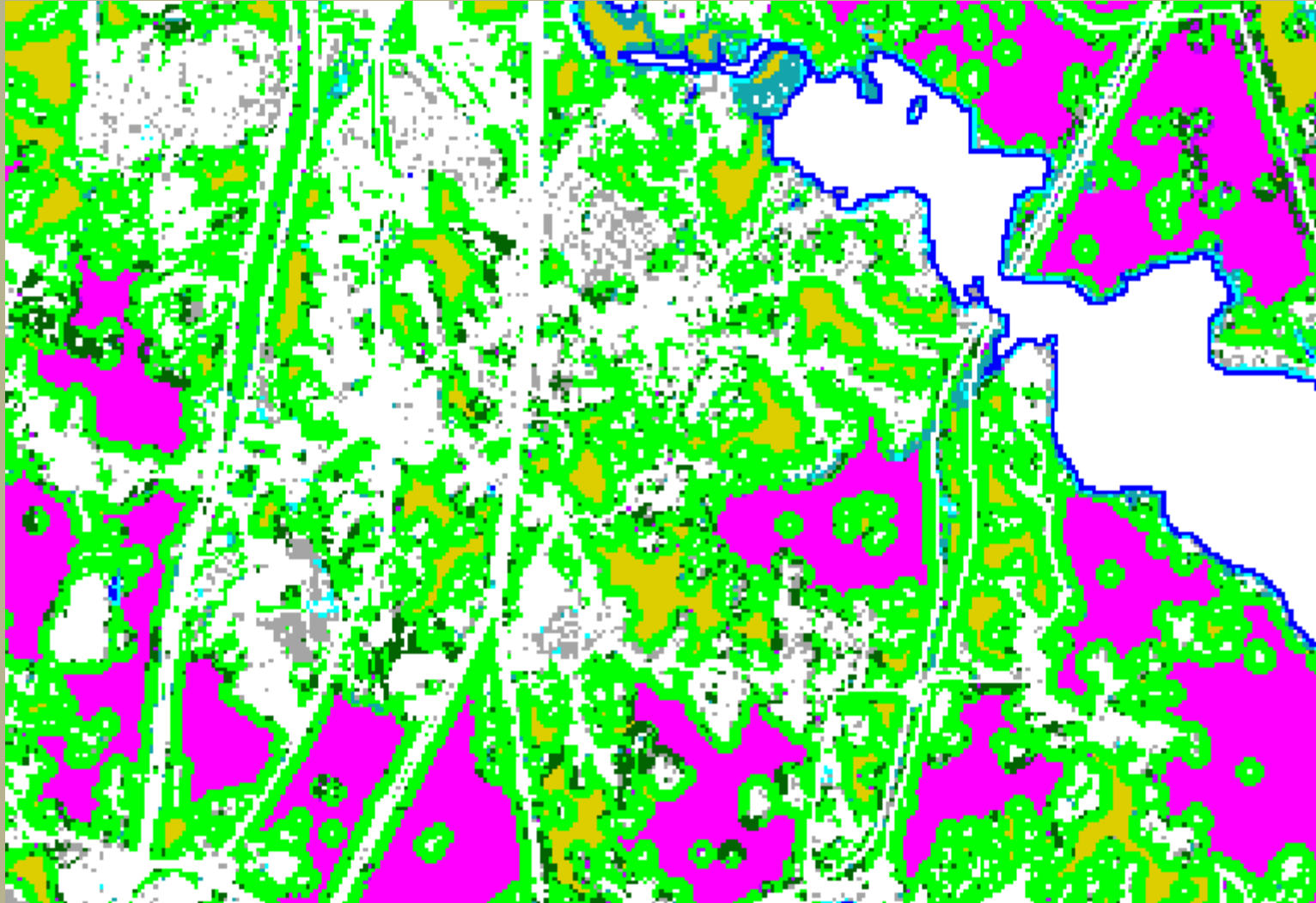
Natural Land Cover Plus Near-Shore Water



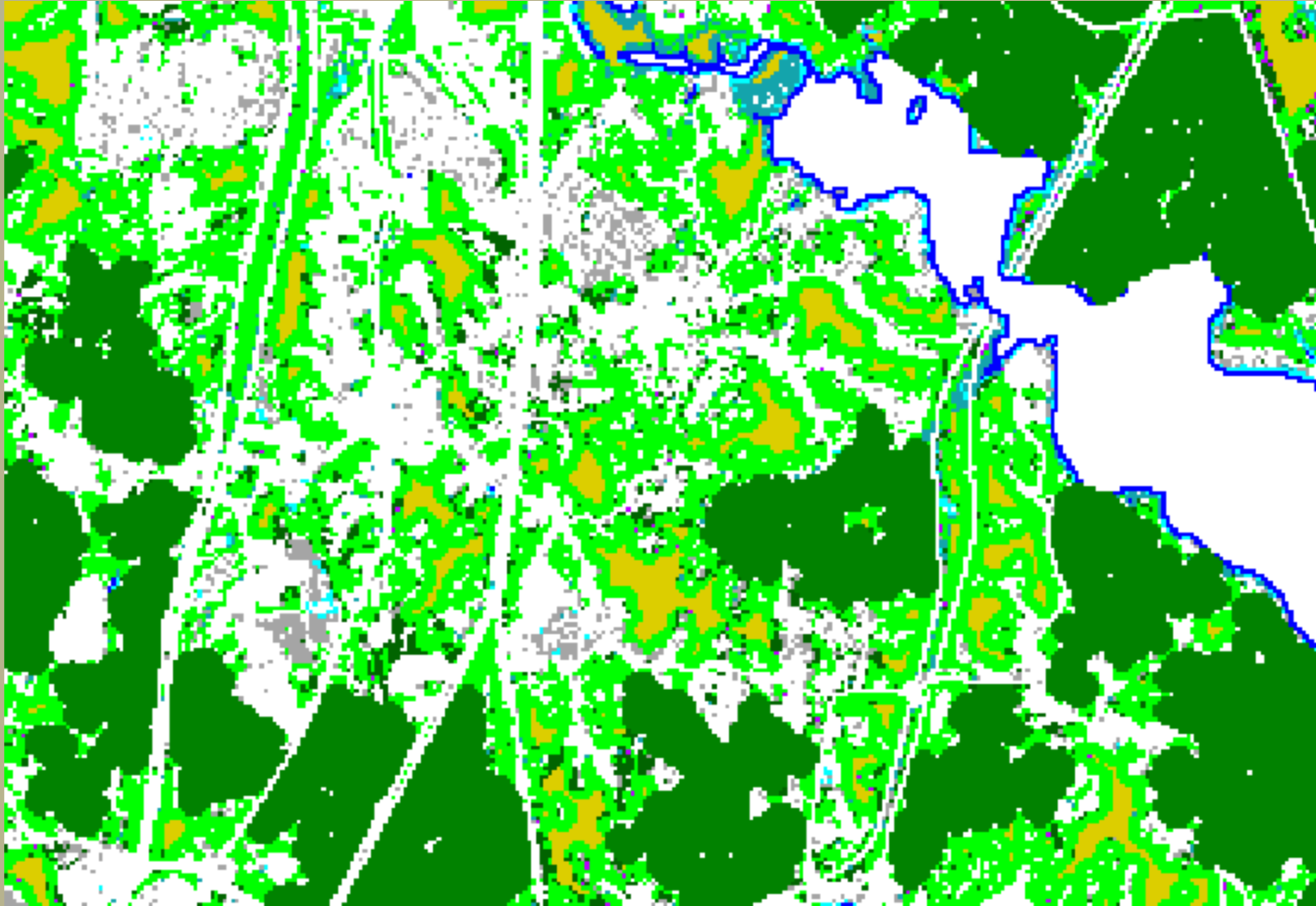
Interior Natural Area



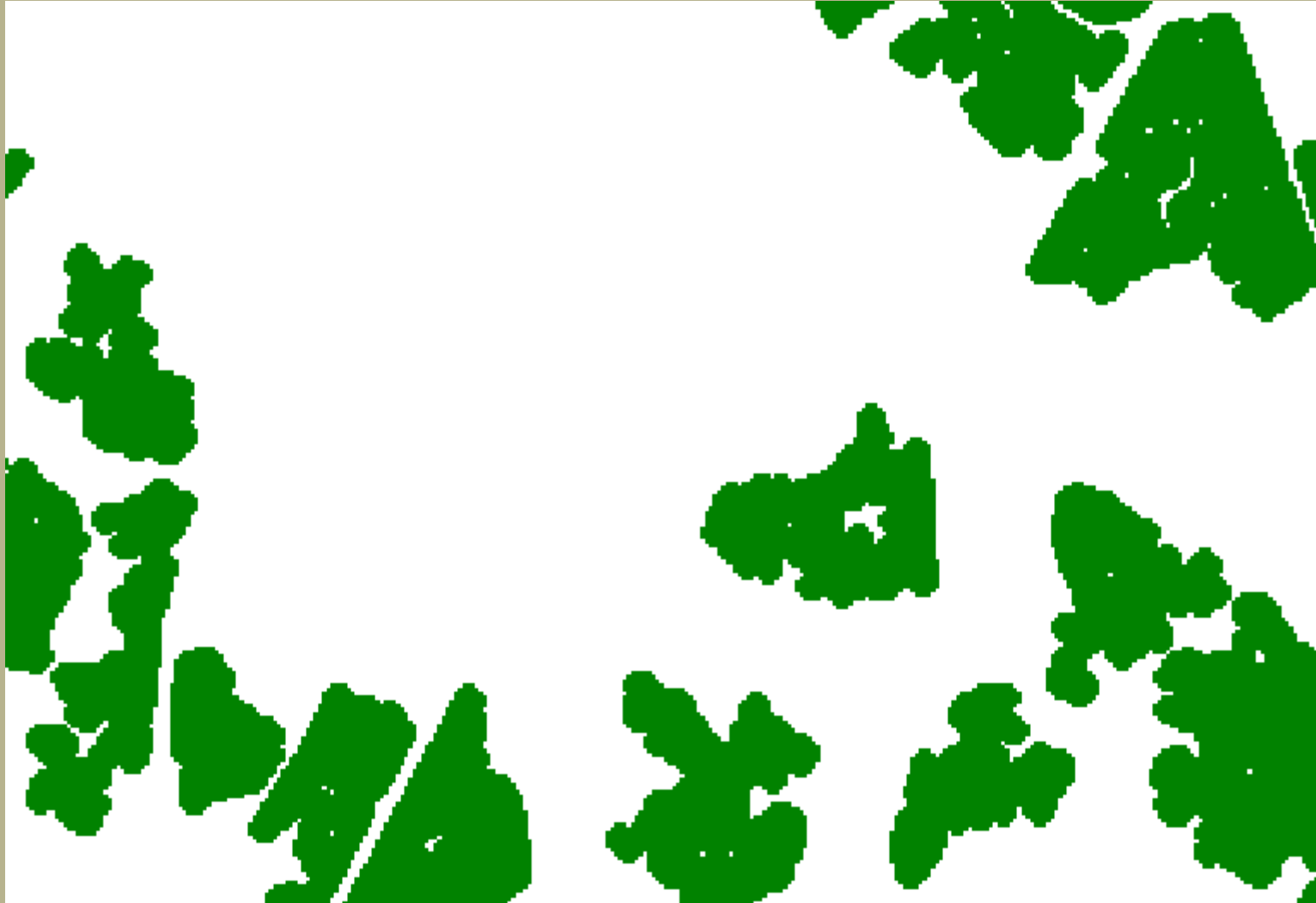
Interior Natural Area >100 Acres



Cores



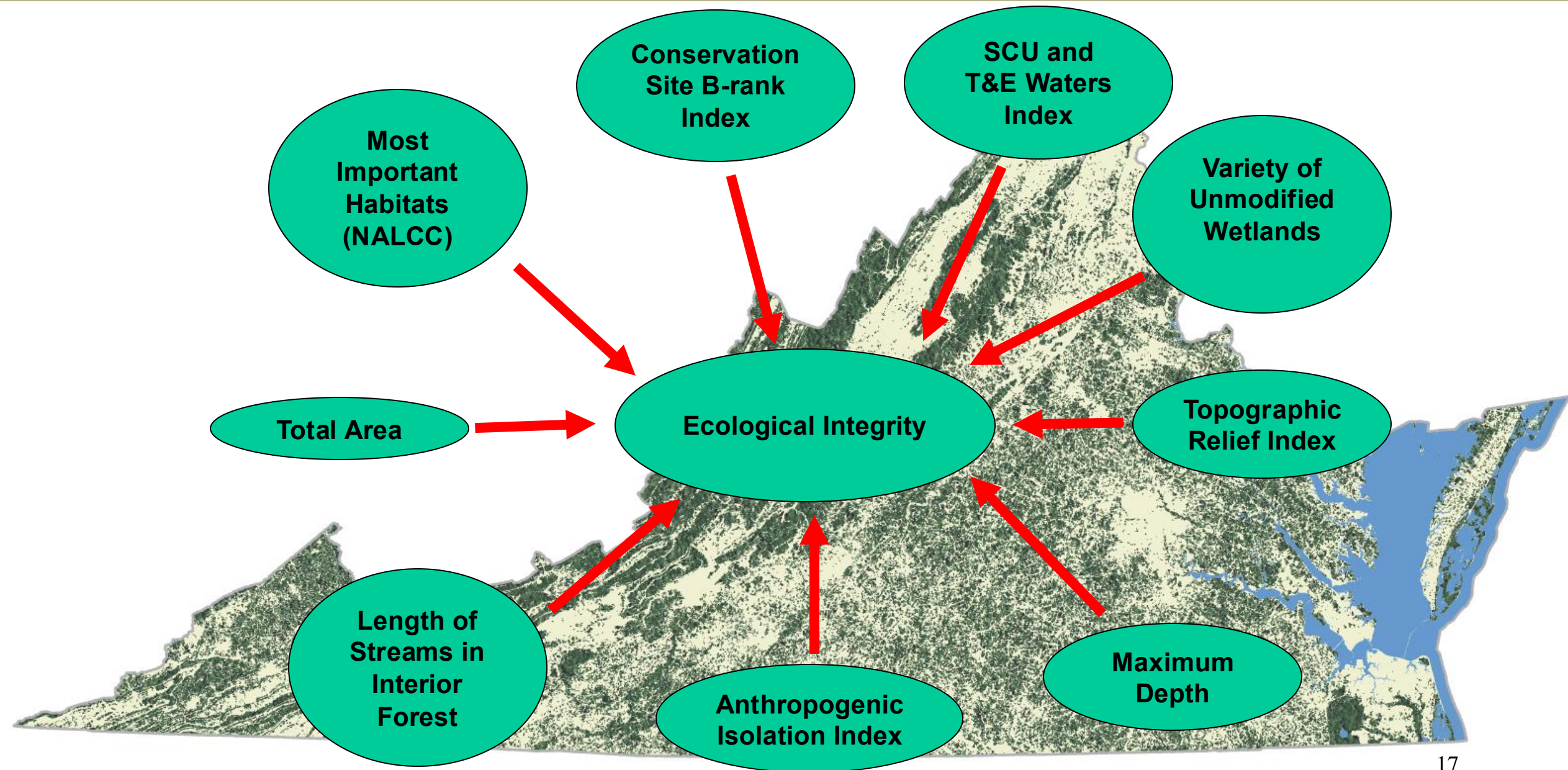
Cores



Prioritization - Ecological Integrity

Maintaining vital natural landscapes is essential for basic ecosystem services such as cleaning our air and filtering our water. Natural lands also harbor thousands of species of animals and plants and contain libraries of genetic information from which we derive new foods, materials, and medicinal compounds. These parts of the landscape also provide us with recreational opportunities and open space resources. But these qualities are represented differently across the cores and habitat fragments that constitute the natural landscape. To assess their unique values, each core and habitat fragment has been assigned an **ECOLOGICAL INTEGRITY** score that rates the relative contribution of that area to the ecosystem service values above. In general, larger, more biologically diverse areas are given higher scores. Scores are enhanced if the core or habitat fragment is part of a larger complex of natural lands. Scores also are increased for those cores and habitat fragments that **contribute to water quality** enhancement.

Ecological Integrity Model



Prioritization Variables

Most Important Habitats

This field contains the total area of intersection between each Ecological Core or Habitat Fragment and important habitats for imperiled species and Species of Greatest Conservation Need as identified by the North Atlantic Landscape Conservation Cooperative, of which the Virginia Department of Wildlife Resources was a member.

Variety of Unmodified Wetlands

This field contains the variety of unmodified wetlands per Ecological Core or Habitat Fragment. Unmodified wetlands were based on USFWS National Wetlands Inventory data from which farmed, diked, ditched, and otherwise modified wetlands were removed. Beaver impoundments, which are a natural form of modification, were left in the unmodified wetlands layer.

Topographic Relief Index

This field contains the standard deviation of elevation values from 1-arc second, USGS Digital Elevation Models per Ecological Core or Habitat Fragment.

Anthropogenic Isolation Index

This field contains a measure of anthropogenic core isolation, which was calculated by dividing the proximity zone of each Ecological Core or Habitat Fragment by its area. Open water was not used as an isolation feature for this variable.

Length of Streams in Interior Forest

This field contains the total length (meters) of streams within interior forest per Ecological Core or Habitat Fragment. High-resolution flow lines from the USGS National Hydrography Dataset were used for the streams data source.

Prioritization Variables

Total Area

This field contains the total area of each Ecological Core or Habitat Fragment in square meters.

Maximum Depth

This field contains the maximum depth of each Ecological Core or Habitat Fragment. This value represents the maximum distance (meters) to the deepest part of the feature measured from all edges.

Conservation Site Biodiversity Rank Index

This field contains the Conservation Site Biodiversity Rank Index value for each Ecological Core or Habitat Fragment. The index was developed by summing the products of biodiversity rank factors and biodiversity rank weights for each feature. The biodiversity rank factors resulted from dividing conservation site intersections with each feature by the total area of the intersecting conservation sites with the same biodiversity rank. The biodiversity rank weights were 50, 40, 30, 20, and 10 for B1, B2, B3, B4, and B5 ranked conservation sites, respectively. The Conservation Sites dataset was developed by the DCR-NH.

Stream Conservation Units and Threatened and Endangered Waters Index

This field contains the Stream Conservation Units (SCU) and Threatened and Endangered (T&E) Waters Index value for each Ecological Core or Habitat Fragment. The index was developed by summing the products of biodiversity rank factors and biodiversity rank weights for each feature. The T&E Waters were buffered to the same width (5 meters) as SCUs and assigned biodiversity ranks before they were merged. The biodiversity rank factors resulted from dividing T&E-SCU waterway intersections with each feature by the total area of the intersecting T&E-SCU waterway with the same biodiversity rank. The biodiversity rank weights were 50, 40, 30, 20, and 10 for B1, B2, B3, B4, and B5 ranked conservation sites, respectively. The T&E Waters dataset was developed by the Department of Wildlife Resources. The SCU dataset was developed by DCR-NH

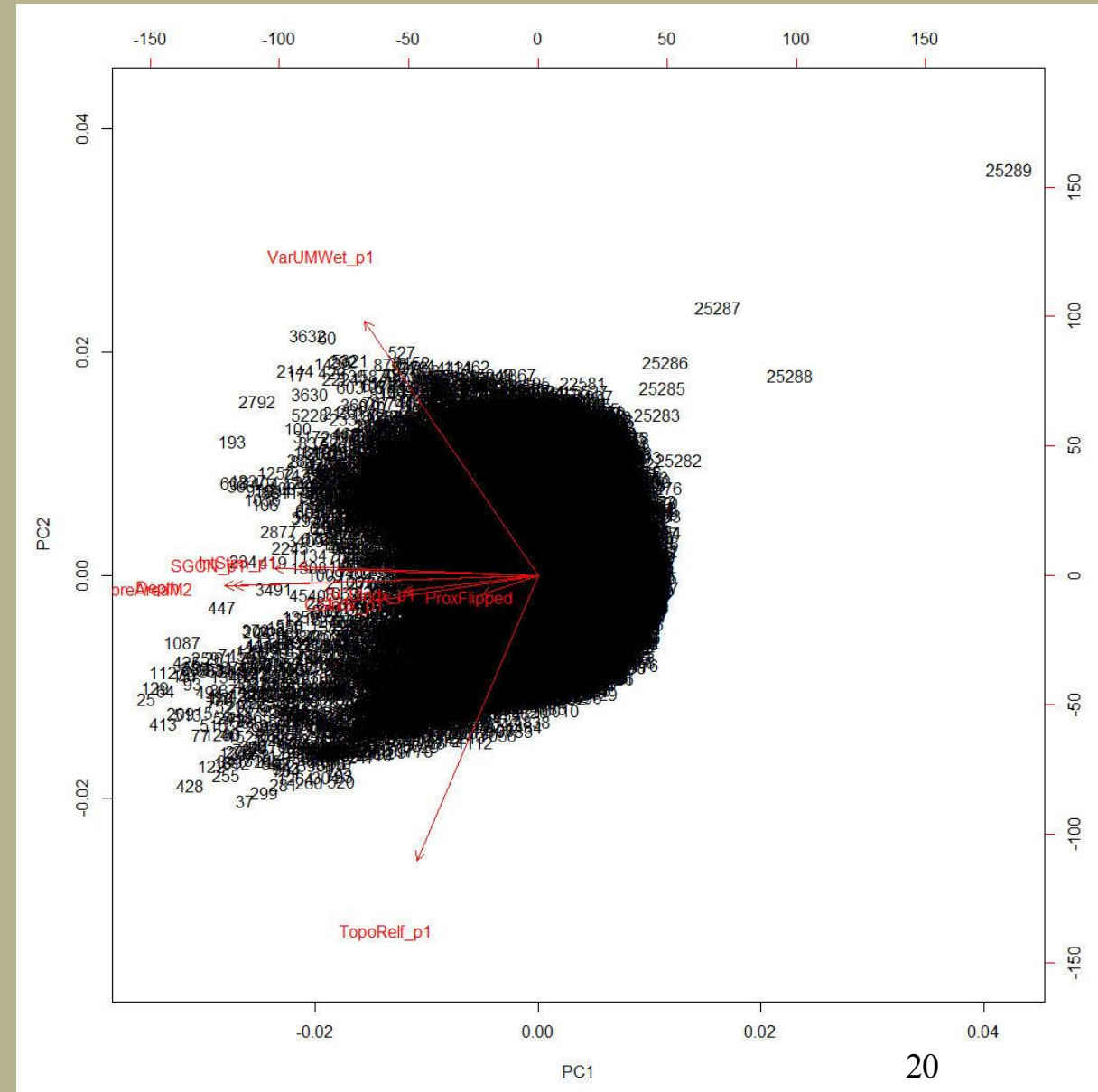
Principal Components Analysis (PCA): A *Simplified* Overview

What is PCA?

- Reduces large datasets to key components
- Converts correlated variables into uncorrelated ones
- Preserves essential patterns in the data

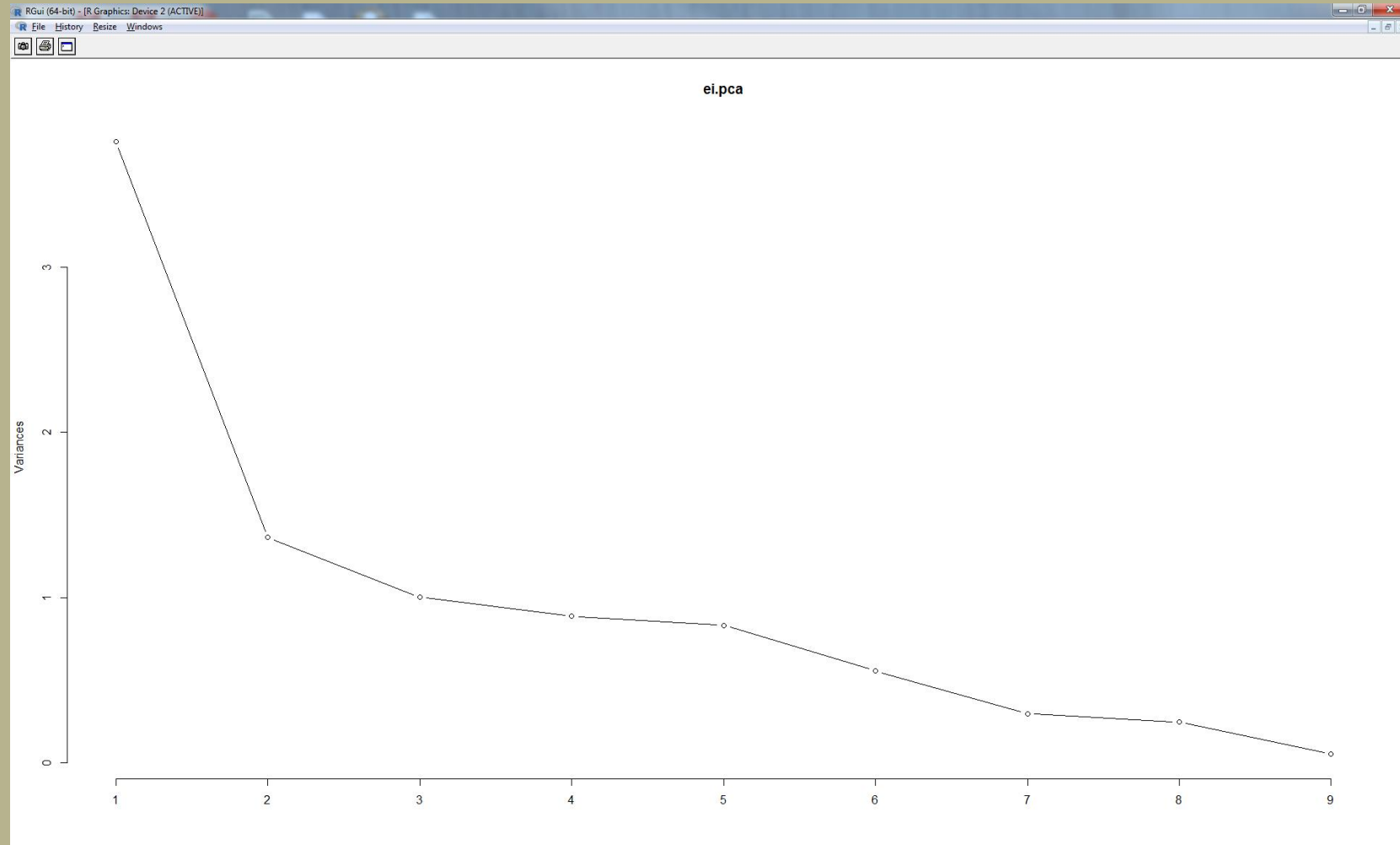
Why use PCA?

- Environmental data are often highly correlated
- PCA simplifies interpretation and analysis
- Helps assign meaningful weights to variables



Importance of Principal Components

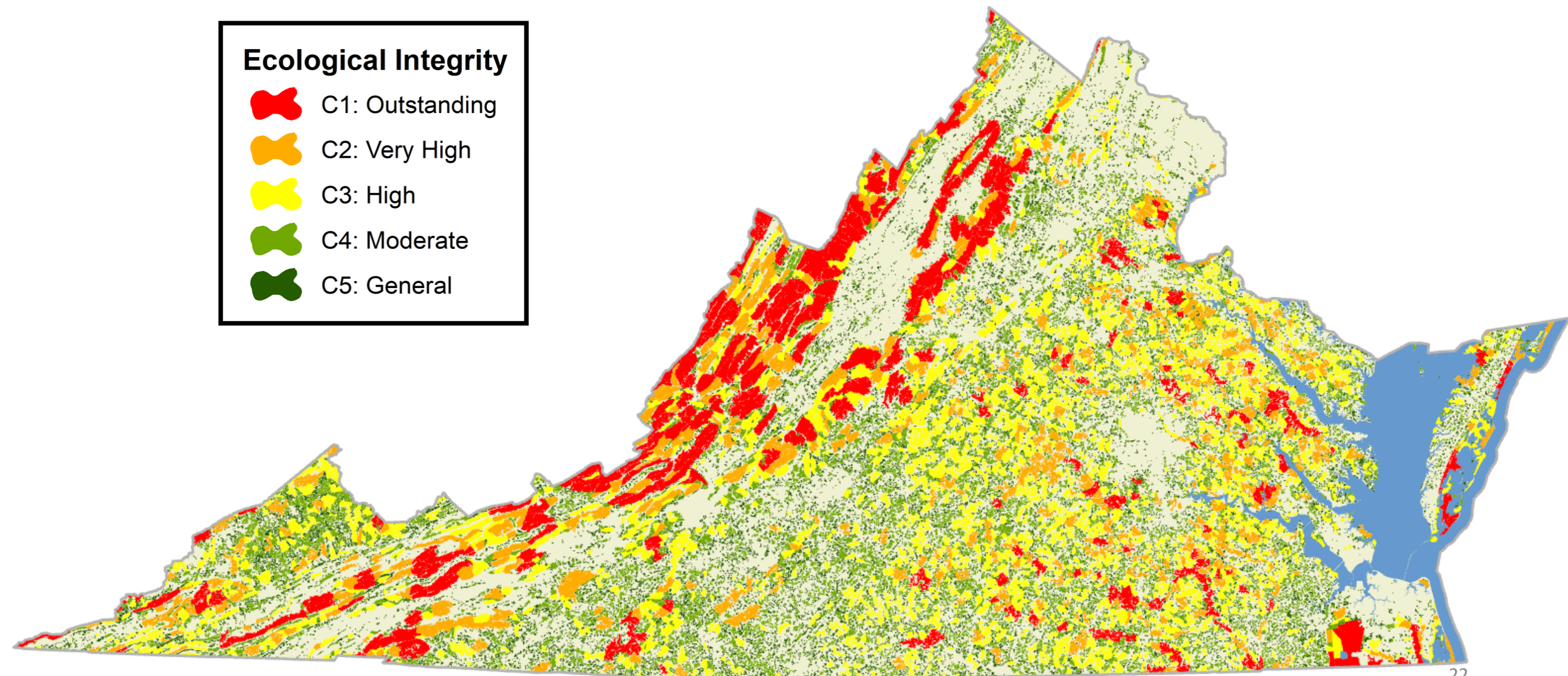
- Variance explained decreases with each component
- First 6 components capture most of the variation



2017 Ecological Cores

Ecological Integrity

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



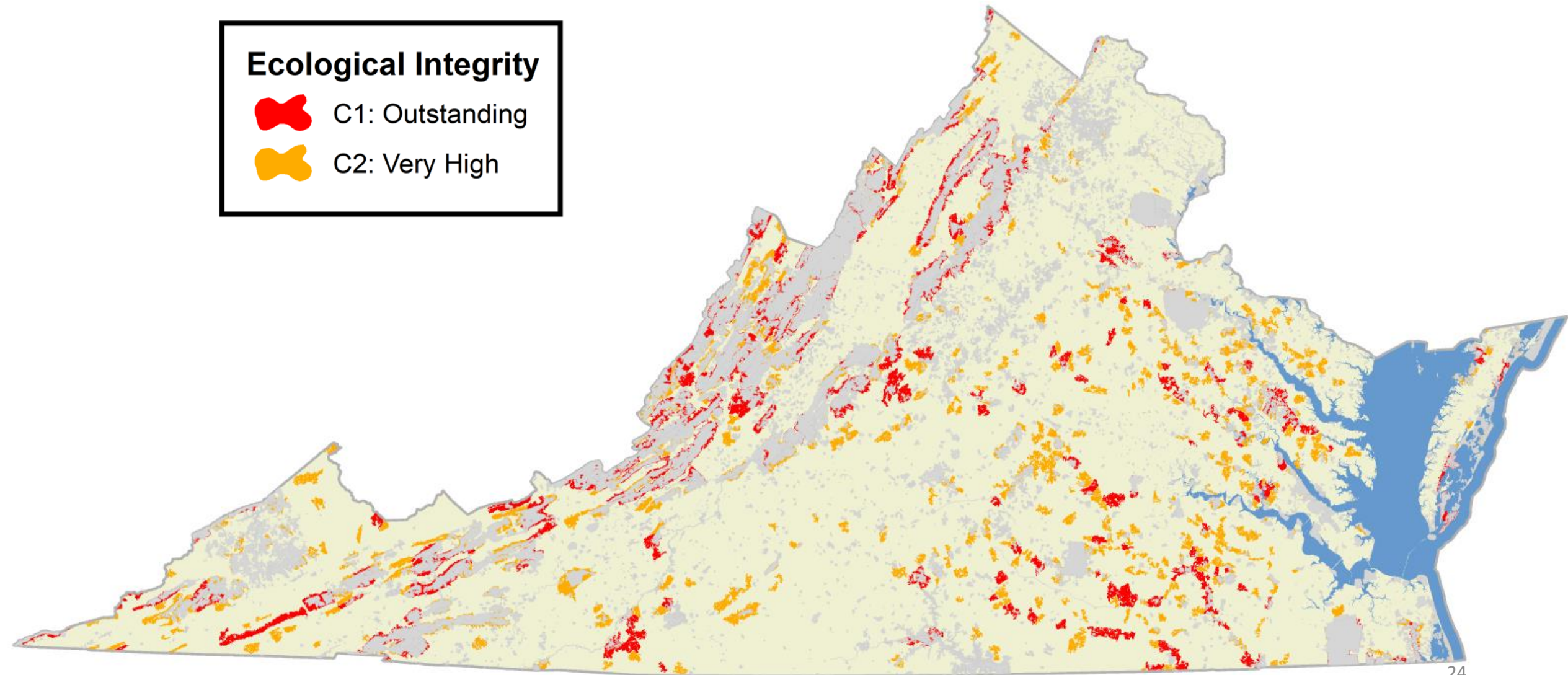
2017 Ecological Cores

Ecological Integrity Rank	Count	Acres	% of Virginia Land Area*
1	249	2,553,553	10.1
2	624	2,145,731	8.5
3	2,223	3,467,291	13.7
4	5,219	2,657,570	10.5
5	16,974	1,898,455	7.5
Total	25,289	12,722,601	50.3

2017 Ecological Cores

Ecological Integrity

-  C1: Outstanding
-  C2: Very High

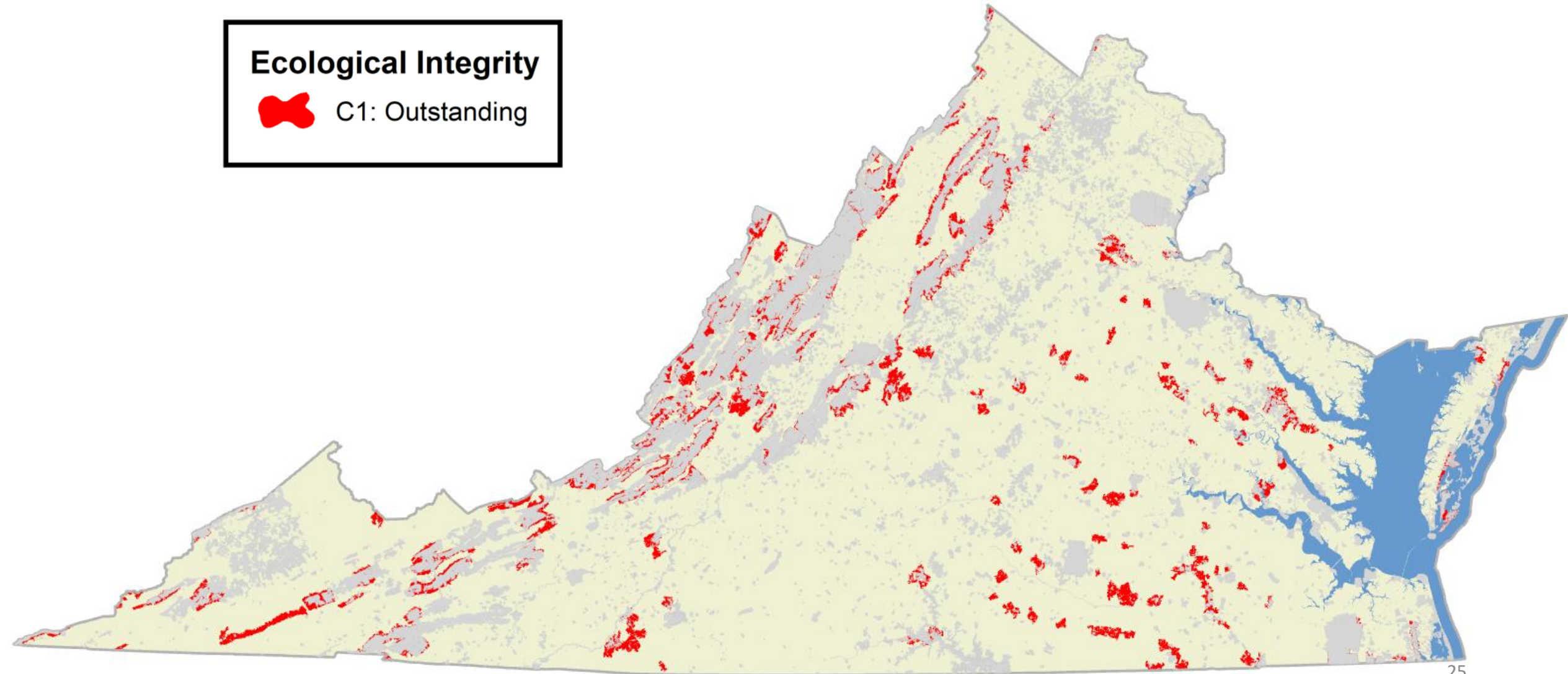


2017 Ecological Cores

Ecological Integrity

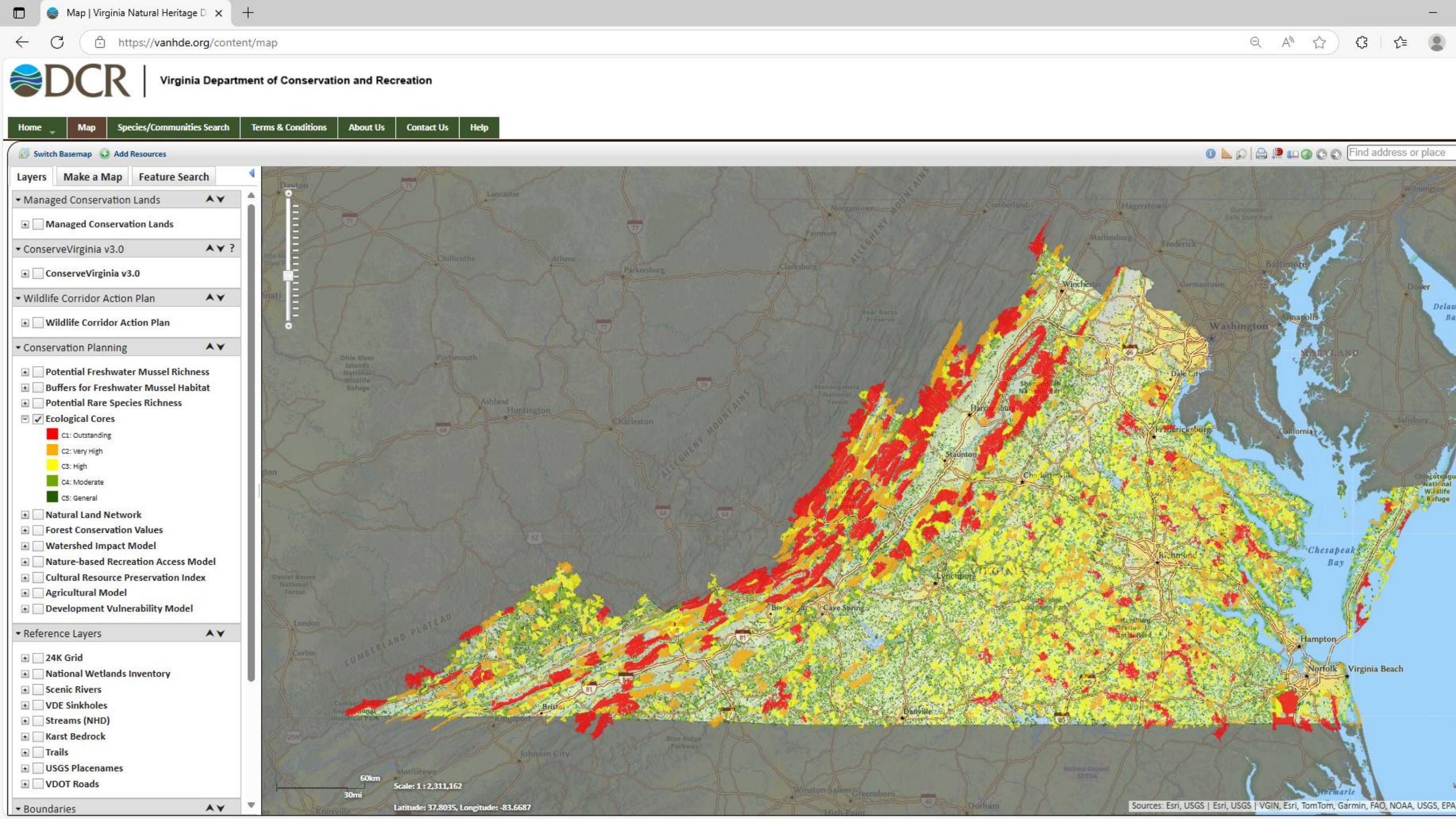


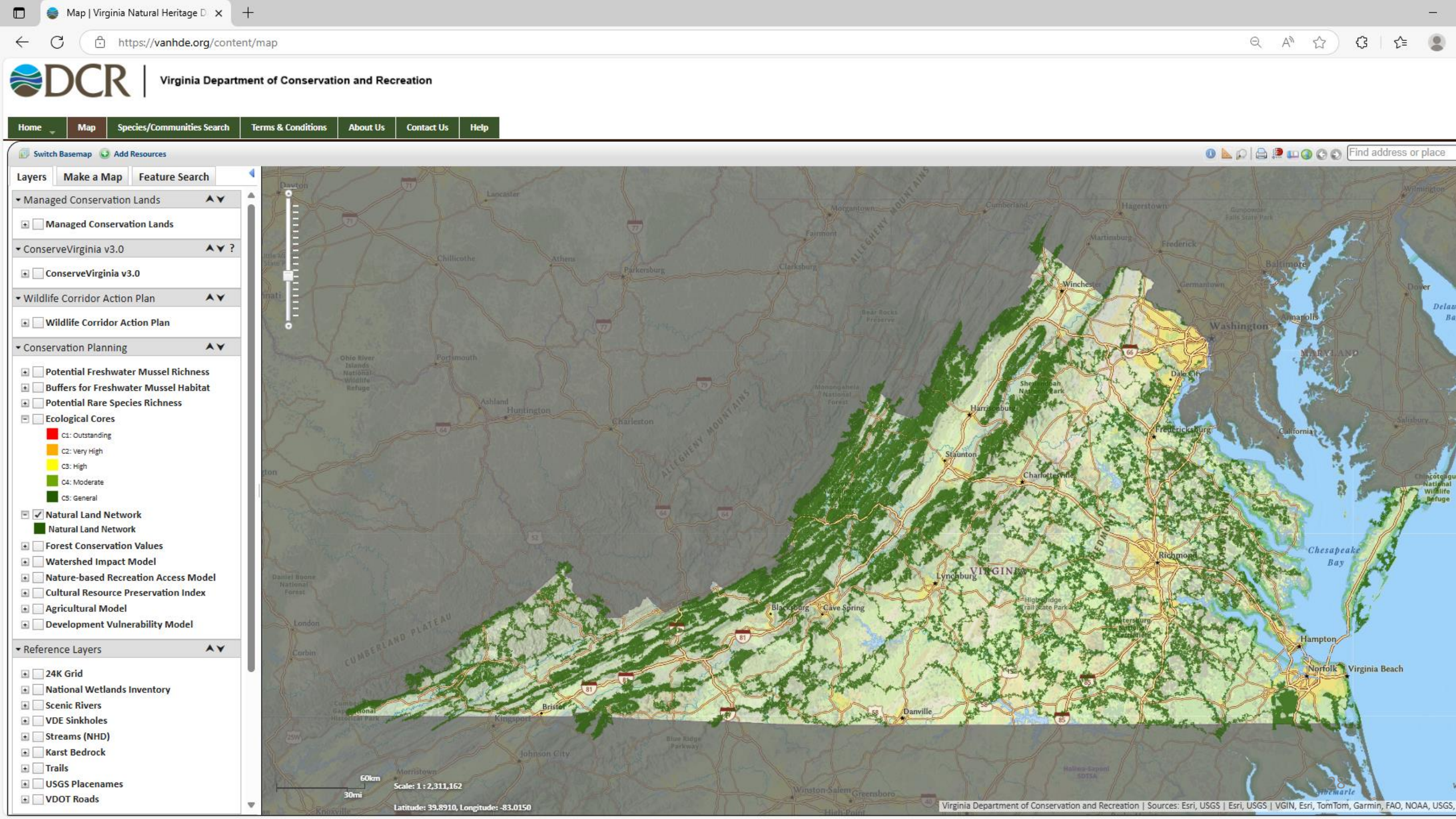
C1: Outstanding

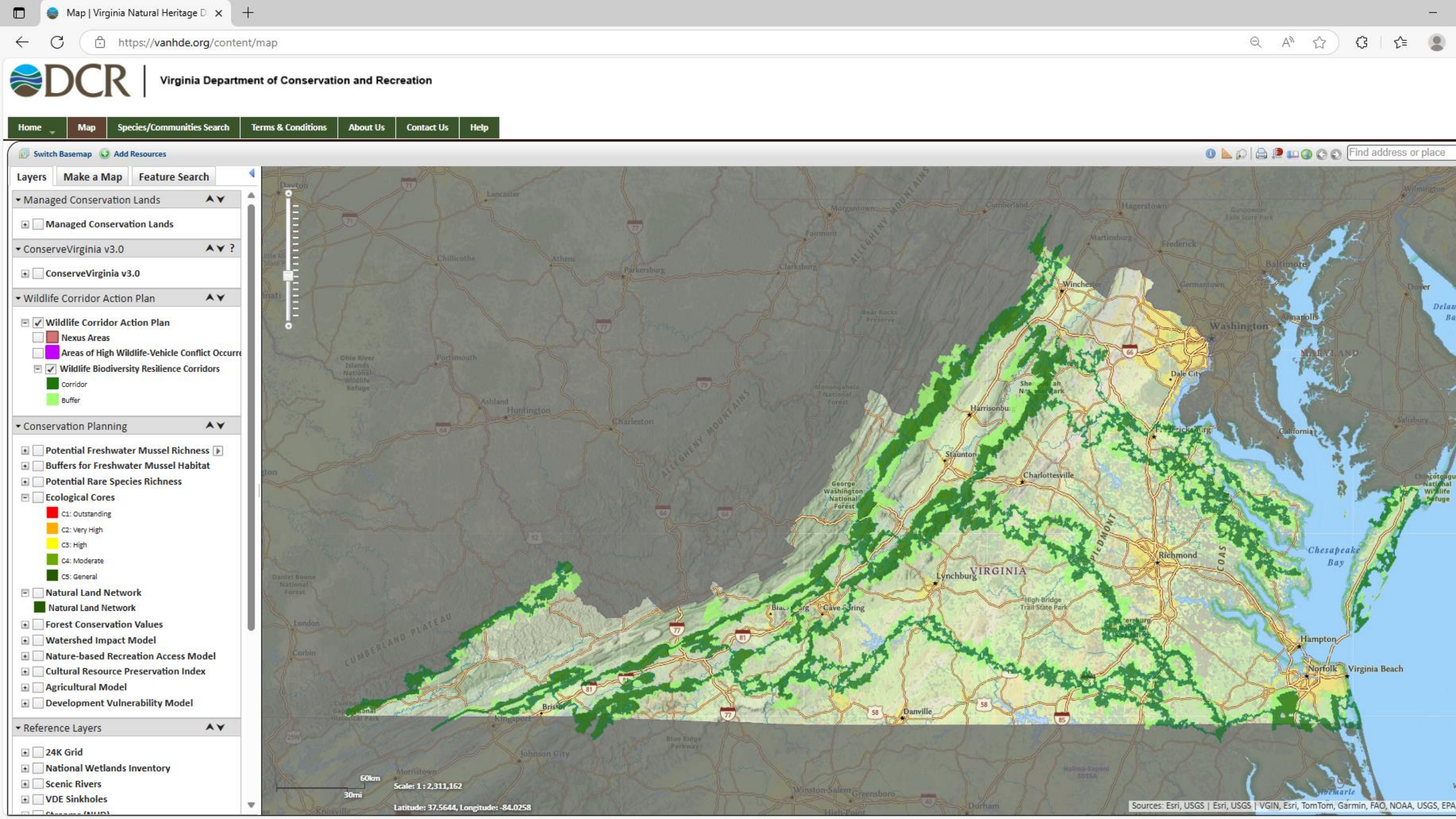


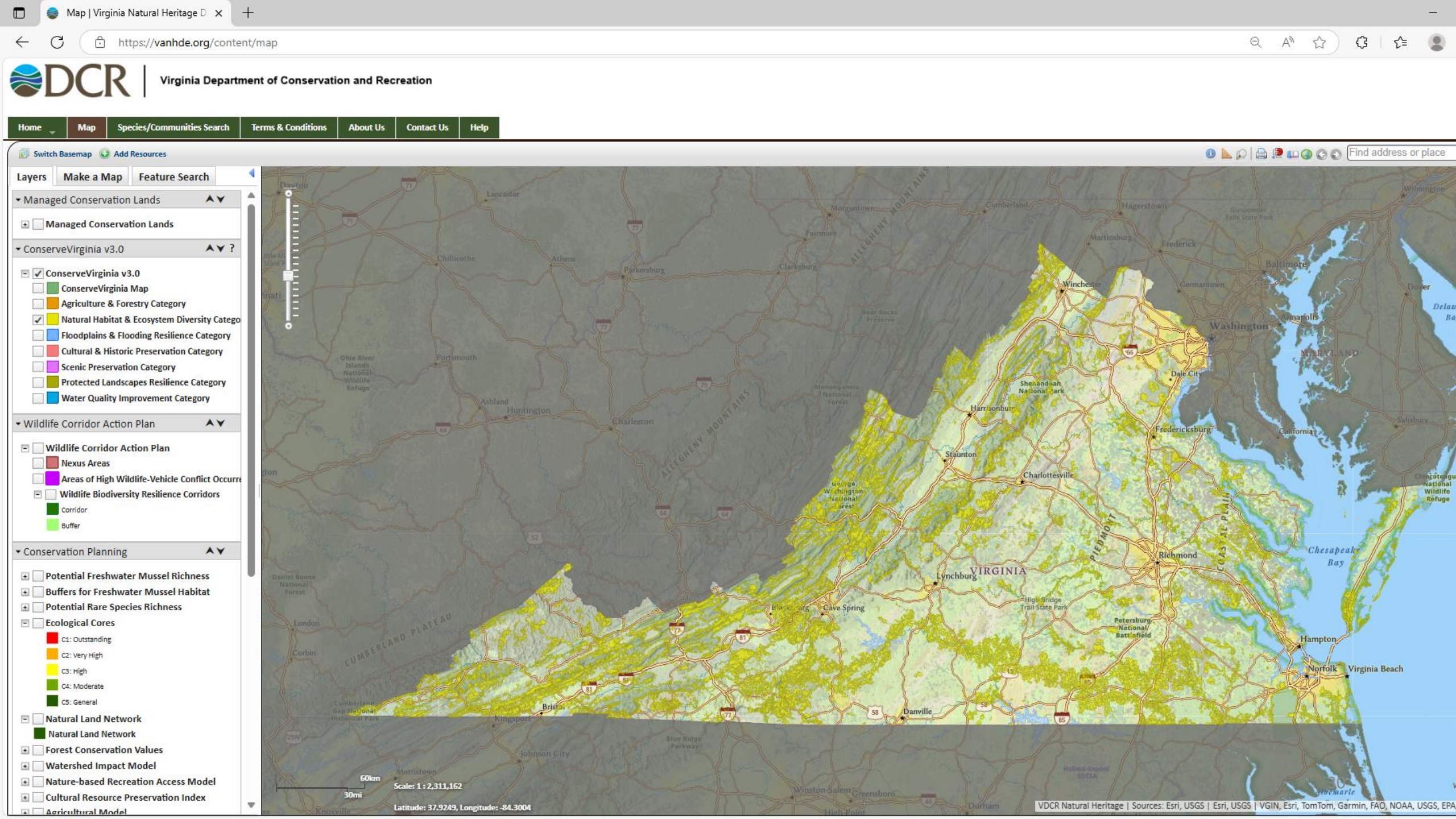
Uses of the VaNLA

- **ConserveVirginia: Virginia's Land Conservation Strategy (§ 10.1-104.6:1)**
- **Wildlife Corridor Action Plan – DWR, VDOT, DOF and DCR (§ 29.1-578 and § 29.1-579)**
- **Comprehensive and Regional Plans – Localities and PDCs**
- **Virginia Outdoors Foundation easement and acquisition grants - (e.g., CORE Fund)**
- **Virginia Land Conservation Foundation program grants**
- **Coastal GEMS – Virginia Coastal Zone Management Program**
- **Forest Conservation Values Model – DOF**
- **Mitigation approaches for the Atlantic Coast and Mountain Valley Pipelines**
- **Natural Heritage Conservation Sites – DCR**
- **Natural Heritage Data Explorer – DCR**









Joe Weber
Chief of Biodiversity Information and Conservation Tools
Virginia Natural Heritage Program
Department of Conservation and Recreation
600 East Main St, 16th Floor
Richmond, VA 23219
(804) 371-2545
Joseph.Weber@dcr.virginia.gov



Conserving Virginia's biodiversity through inventory, information management, protection, and stewardship

By Electronic Mail: amber.foster@deg.virginia.gov

August 28, 2025

Virginia Department of Environmental Quality
Attention: Ms. Amber Foster, Renewable Energy PBR Coordinator, Office of Air Permitting &
Renewable Energy
1111 E Main Street
Richmond, VA 23219

RE: Forest Cores RAP Considerations

Dear Ms. Foster,

In response to the July 31, 2025 email soliciting proposals for consideration to support enhancements to the Forest Core Integrity Model by the Regulatory Advisory Panel (RAP), Dominion Energy offers the following for consideration to aid in improvements to the Forest Core Integrity Model.

1. Distinguish Between Protected Lands and Other non-protected lands

The current model treats all land uniformly, but ownership affects management practices, protection status, and long-term ecological outcome potentials which should be accounted for in the modeling.

- Protected lands (e.g., state parks, national forests, and land with conservation easements) have lower development risk.
- Other non-protected lands may be subject to timber harvesting, development, or other land uses that degrade ecological integrity.

Recommendation: Add a weighting factor to the integrity score based on ownership type and conservation status (e.g., protected, easement, unprotected).

2. Account for Intensive Forest Management

Not all forest cover contributes equally to ecological integrity. Forests managed for industrial timber production, especially monocultures like loblolly pine, often lack structural diversity, native understory, and habitat value.

- These areas may have high canopy cover but low ecological function.
- Loblolly pine plantations can suppress native biodiversity, impact soil qualities, and alter hydrology.

Recommendations:

1. Include a parcel-based land use intensity modifier in the model to downgrade scores for heavily managed forests.
2. Use remote sensing or forest inventory data to distinguish natural forest from plantation forestry.

3. Prioritize mixed hardwood stands and old-growth remnants in scoring.

3. Incorporate Parcel based Management History and Future Risk

Ecological integrity should reflect both current conditions and future vulnerability.

- Forests with recent clearcuts or active logging permits should be flagged.
- Areas with conservation plans or sustainable forestry certifications could be scored more favorably.

Recommendations:

1. Integrate land use history datasets and management plans into the model.
2. Use predictive modeling to assess future disturbance risk based on ownership and zoning.

4. Integrate Ground-Truthing

Model outputs should be or have the ability to be validated and to be refined.

Recommendation: Allow for field surveys to confirm habitat quality and species presence.

5. Water Quality as a Condition Indicator

The Virginia DEQ Integrated Water Quality Report provides a robust dataset on the health of surface waters across the Commonwealth. It should be incorporated into the forest core integrity model to better reflect current ecological conditions.

- Forest cores adjacent to or encompassing impaired waters show reduced ecological function due to nutrient loading, sedimentation, hydrological alteration.
- Conversely, cores associated with unimpaired waters demonstrate intact ecological processes and stronger ecosystem services.

Recommendation: Use water quality status as a modifying factor in the ecological integrity score to reflect the current condition of aquatic systems within or adjacent to forest cores.

6. Address Model Transparency and Accessibility

Model should be fully transparent to support broader use and acceptance of the model.

Recommendations:

1. Publish the full list of 50+ attributes and their weightings.
2. Provide open-source tools or dashboards for the public to explore and customize integrity scores based on additional field-based reconnaissance.

Mitigation should be based on an evaluation of the functions and values determined to be lost, with the final mitigation ratio having considered the functions and values that are replaced (partial or full replacement or improved) such as water quality, habitat, soil quality.

The RAP team should consider the well-established precedent of using compensation ratios used at the federal and state level for mitigating impacts to wetlands. While these ratios are currently applied based on cover type (forest, scrub shrub, emergent), the three categories of forest considered for mitigation under the PBR can easily adopt those ratios at a starting point.

- 2:1 mitigation for C1 (prior to consideration of function/value replacement factors)

- 1.5:1 mitigation for C2 (prior to consideration of function/value replacement factors)
- 1:1 mitigation for all other forest (prior to consideration of function/value replacement factors)

We look forward to participation in the RAP to help inform the final regulation.

Sincerely,

A handwritten signature in dark ink, reading "Amelia H. Boschen". The signature is written in a cursive, flowing style.

Amelia Boschen

Director Environmental & Sustainability

Forest Cores Proposal for Consideration #2 – SME

Development Impacts to Outstanding and Very High-Integrity Ecological Cores Focus on Interior Streams

- Applies when forest within a core has been persistently converted to another land cover type at least two years prior to application for utility-scale solar development.
- If no such conversion occurred, the Ecological Core is considered:
 - intact
 - its rank remains unchanged
 - mitigation should follow its original rank
- Mitigation ratios:

• C1 Outstanding Ecological Integrity	7:1
• C2 Very High Ecological Integrity	2:1
• C3-C5 Ecological Cores and Habitat Fragments	1:1

Definition of Persistently Converted Forest

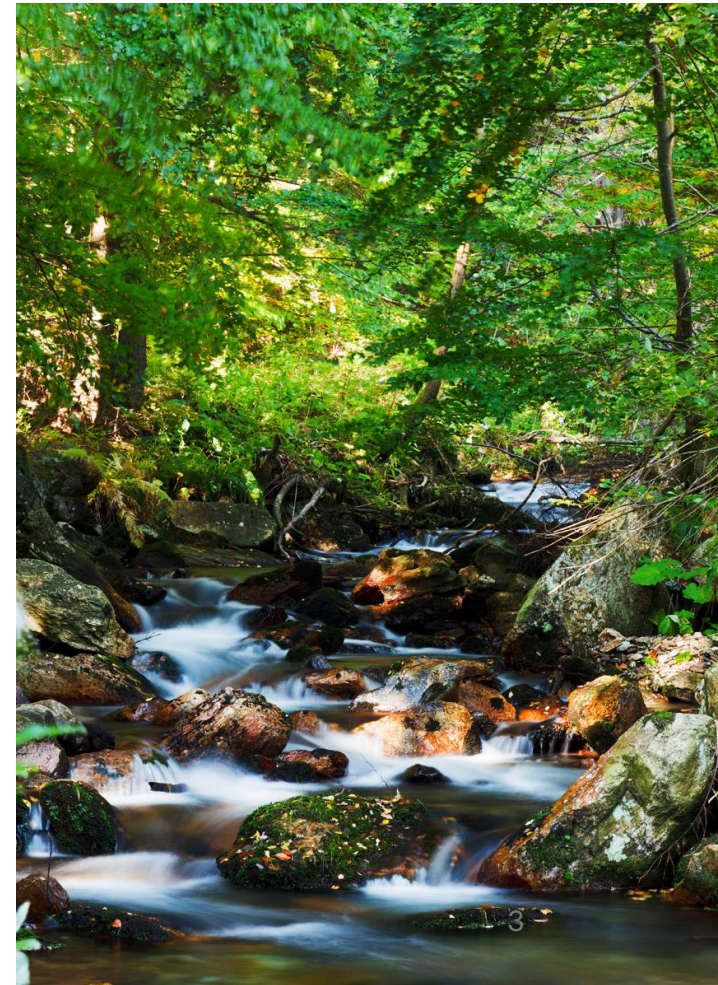
For the purposes of solar development permitting and mitigation, persistently converted forest refers to forested land that is cleared and no longer managed or permitted to regenerate as forest, resulting in a change in land cover away from forested conditions that would exist into the foreseeable future or reduce the functional, ecological, or economic capacities of the forest that would regenerate on the site. This includes land that is converted to built infrastructure, maintained in an unforested condition (e.g., maintained turf, gravel, or panel arrays), or otherwise excluded from natural or managed forest regeneration.

This definition does NOT apply to:

- Silvicultural activities such as timber harvests or clearcuts, including harvests of pine plantations, provided the area is replanted or allowed to regenerate as forest in accordance with applicable forestry practices.
- Areas cleared within two years prior to the solar permit application for the purposes of site preparation or development, if the forest cover present prior to clearing would otherwise meet the definition of forest.

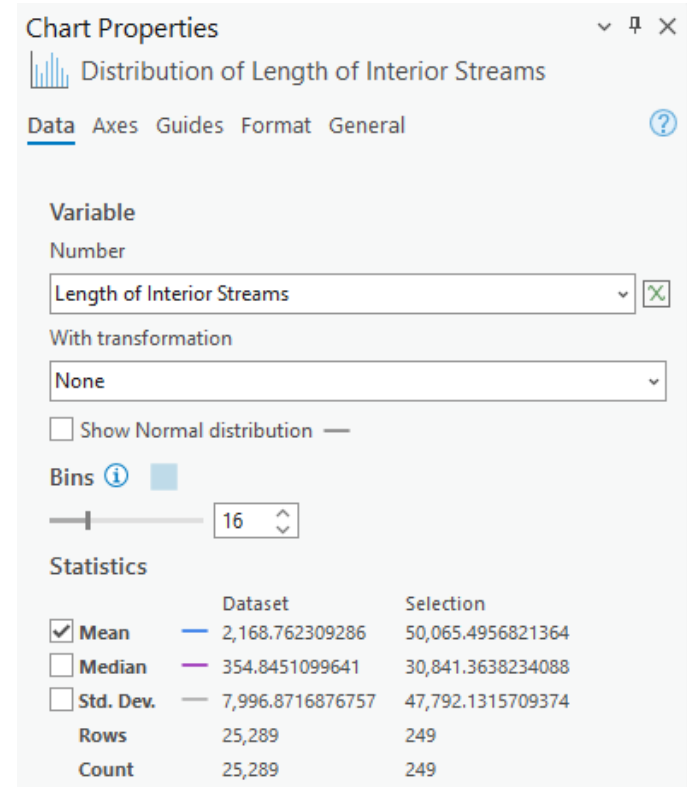
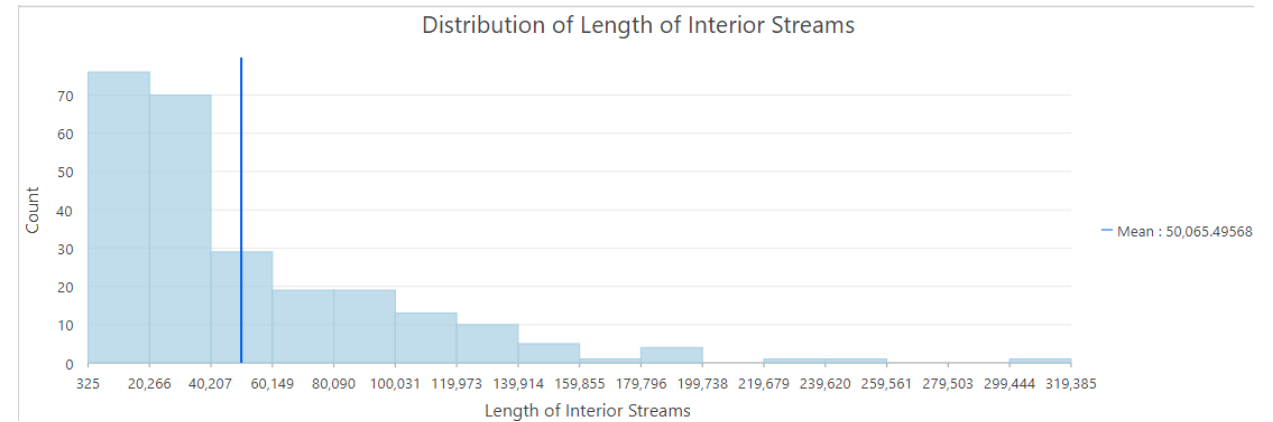
Length of Streams in Interior Forest

- Length of Streams in Interior Forest: defined as the total length of streams in meters within interior forest for each Ecological Core or Habitat Fragment.
- Interior streams serve as a practical and defensible surrogate because they are the most straightforward to verify using:
 - field observation
 - aerial photography
 - GIS analysis
- The ecosystem services associated with interior streams are among the most:
 - visible
 - measurable
 - ecologically significant



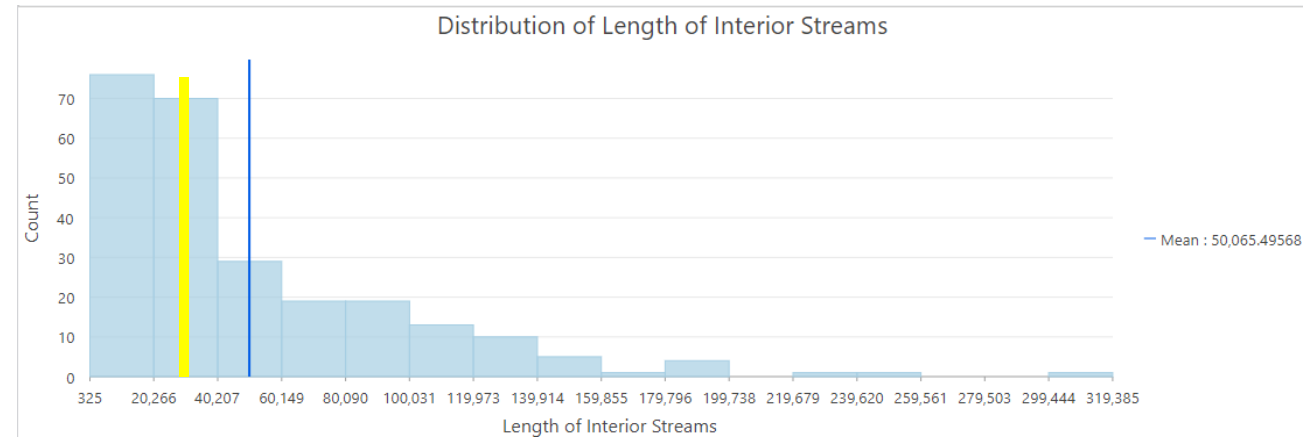
Statistics

- All variables considered were heavily skewed to the right
- Did not transform the data
 - thought it would be less transparent
- If transformed, however
 - parametric statistics
 - thresholds based on standard deviations
(the RAP can consider)



Thresholds for Rank Demotion

- Medians used for thresholds for rank changes



Threshold values for demoting Ecological Cores are calculated as follows:

- C1 to C2: $((30,841.36 - 12,410.93) / 2) + 12,410.93 = 21,626.15$ meters (rounded to 20,000 meters)
 - C1 cores with $\geq 20,000$ meters of interior streams remain C1
 - C1 cores with $< 20,000$ meters are demoted to C2
- C2 to C3: $((12,410.93 - 5,968.81) / 2) + 5,968.81 = 9,189.87$ meters (rounded to 10,000 meters)
 - C2 cores with $\geq 10,000$ meters of interior streams remain C2
 - C2 cores with $< 10,000$ meters are demoted to C3

Simplified GIS Procedure to Determine Mitigation

- Assess Persistent Conversion
 - If persistent conversion of forest has occurred, digitize a new boundary to reflect current conditions, using the SME-defined criteria.
- Compare Areas
 - De Minimis Exemption: If the decrease is 10% or less, the core is considered intact, its rank remains unchanged, and mitigation follows the original rank.
- Identify Interior Forest
- Extract and Clip Flowlines
- Calculate Interior Stream Length
- Apply Mitigation Key

Ecological Core Mitigation Key

Step 1: Was a new boundary digitized due to persistent conversion?

- No: Mitigate at 7:1 (C1) or 2:1 (C2) with adequate vegetated buffers on waterways to be protective of aquatic species.
- Yes: Proceed to Step 2.

Step 2: Was the original rank C1?

- Yes: Proceed to Step 3.
- No: Proceed to Step 4.

Step 3: Does the core have $\geq 20,000$ meters of interior streams?

- Yes: Remains C1; mitigate at 7:1 with adequate vegetated buffers on waterways to be protective of aquatic species.
- No: Demoted; proceed to Step 4.

Step 4: Does the core have $\geq 10,000$ meters of interior streams?

- Yes: Mitigate at 2:1 with adequate vegetated buffers on waterways to be protective of aquatic species.
- No: Demoted; mitigate at 1:1 with adequate vegetated buffers on waterways to be protective of aquatic species.

Context and Limitations

- If no persistent conversion of forest occurred at least two years before application for utility-scale solar development, the Ecological Core:
 - remains intact
 - its rank does not change
 - mitigation follows original rank.
- No single-variable method is perfect. This method was designed to be
 - simple
 - repeatable
 - defensible
 - objective
- Initial lengths of interior streams below thresholds for rank demotion
 - 75 C1 (30.1% of 249)
 - 253 C2 (40.5% of 624)
 - However, Ecological Cores without more than de minimis conversion should be mitigated based on their original rank.

Forest Core Proposal for Consideration #1

Subject Matter Expert (SME) Proposal

September 11, 2025

HB 206 Forest Cores RAP Meeting 1

Background

- “ *A project will be deemed to have a significant adverse impact if it would disturb more than.... 50 acres of **contiguous forest lands.***”-§ 10.1-1197.6.
- Is there any greater significance of contiguous forest lands?

Ecosystem Benefits of Large Forests

Biodiversity & Habitat

- Presence of interior habitat
- Reduced edge effects
- Greater resilience from disturbances
- Nutrient cycling

Water & Hydrology

- Water quality protection
- Stream health
- Flood mitigation
- Erosion control

Human & Economic

- Forest management
- Timber harvesting
- Carbon sequestration
- Recreation
- Air quality

Overview

What:

Avoid or minimize impacts to Virginia's largest, **contiguous** blocks of forest land.

Why:

Large forested blocks, in general, provide more ecosystem benefits compared to smaller, fragmented forest blocks.

How:

Identify boundaries of forest blocks and define a minimum size threshold for forest blocks that would require additional mitigation if impacted.

Methods

Proposed Methodology

- Use the VaNLA Ecological Cores layer to represent the boundaries for forested blocks
- Consider a Core's total size as the basis for mitigation, not the Core rank
- Allow for adjustments to a Core boundary and its size if persistent conversion has already occurred

Pros

- Relatively simple desktop and onsite verification
- Core size is generally correlated with Core rank
- Relies on existing, well established VaNLA layer

Cons

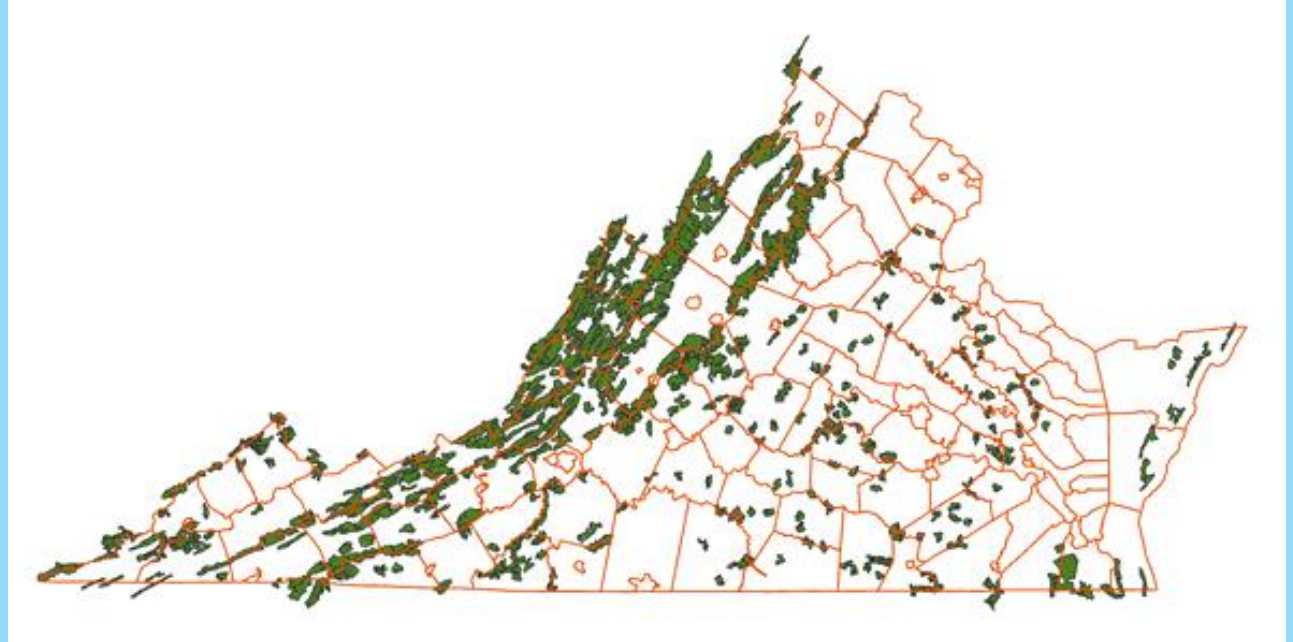
- Selecting an acre threshold for mitigation may be arbitrary
- Smaller blocks of forests with critical natural habitats could be neglected

Proposed Mitigation Requirement

- If a Core is $\geq 4,000$ acres = *Highest Mitigation*

Typical C1 Core Size

- *Mean:* 11,748 acres
- *Median:* 7,945 acres
- *Lower Quartile:* 4,180 acres
 - 75% of C1 cores are larger than 4,180 acres
 - Rounded down to 4,000 acres



Proposed Mitigation Requirement

- If a Core is $< 4,000$ acres and $\geq 2,000$ = *Additional Mitigation*

Typical C2 Core Size

- *Mean:* 3,667 acres
- *Median:* 2,746 acres
- *Lower Quartile:* 1,734 acres
 - 75% of C2 cores are larger than 1,734 acres
 - Rounded up to 2,000 acres



Methods

Alternative Option

- Create a new GIS layer to represent contiguous forest blocks based on updated land cover data
- Define a size threshold for additional mitigation

Pros

- New, updated model based on most recent land cover data

Cons

- Additional state agency time and resources required
- Uncertainty about mitigation requirements

Questions?