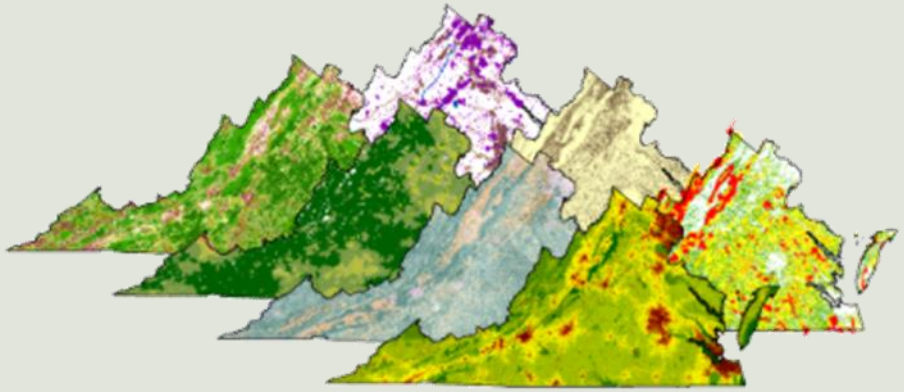
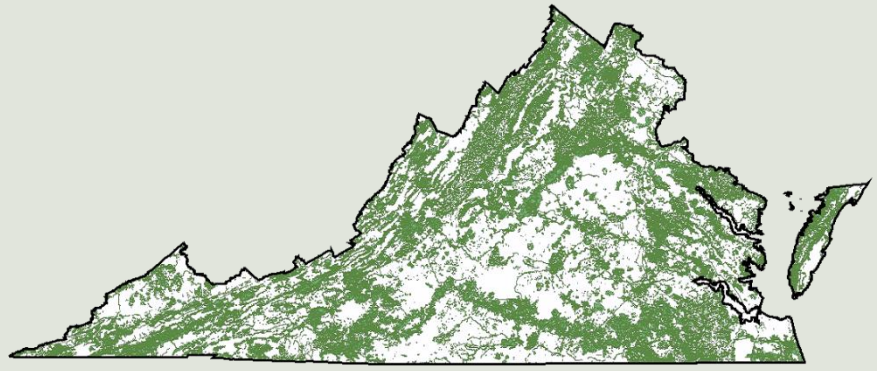
Virginia ConservationVision Nature-based Recreation Access Model

An Overview - June 2021 Version

Model Developers:
Kirsten Hazler, Natural Heritage Landscape Ecologist
David Bucklin, Natural Heritage Spatial Ecologist

DCR
Virginia Department of Conservation & Recreation

ConservationVision vs. ConserveVirginia

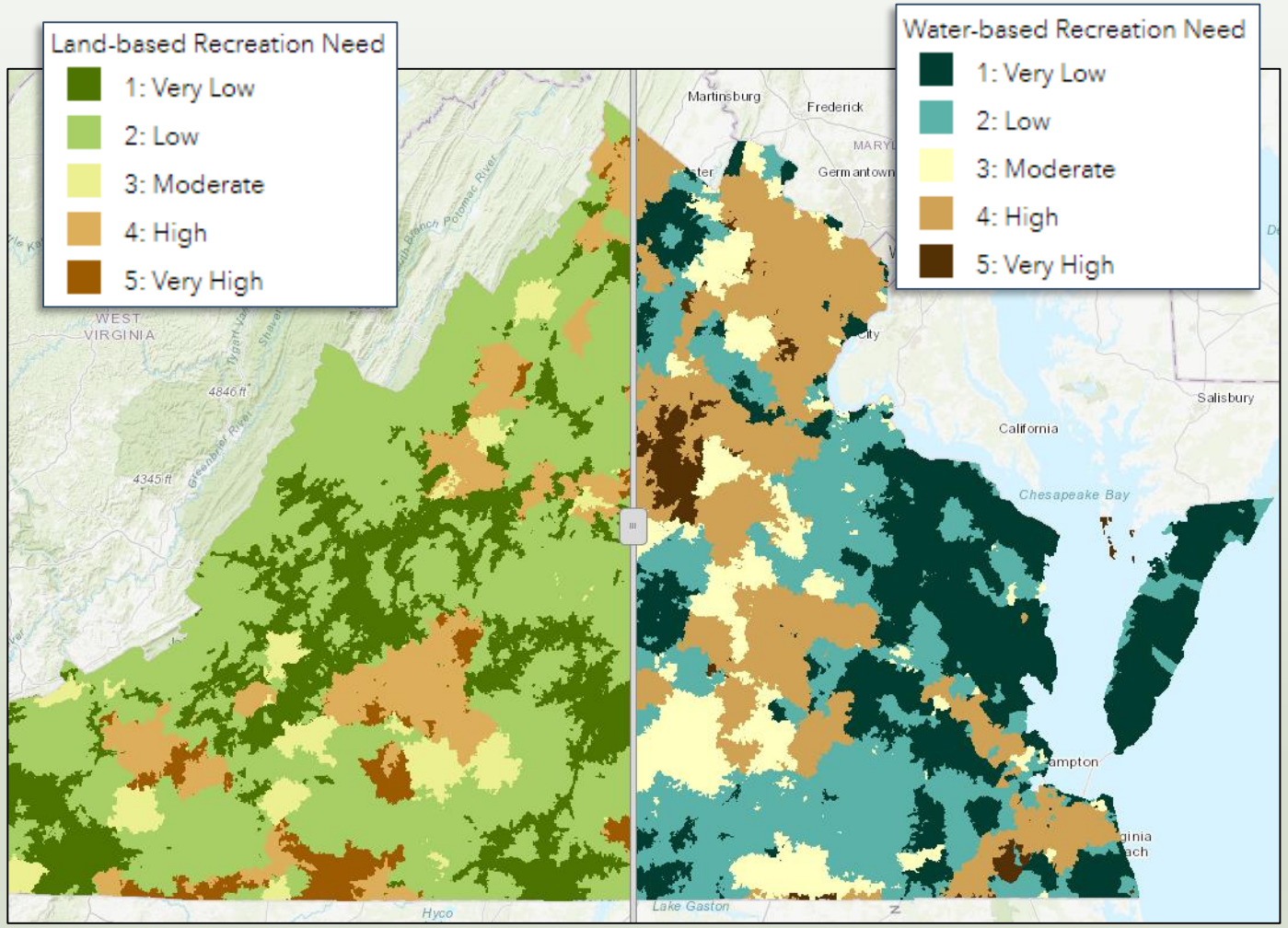
Virginia ConservationVision	ConserveVirginia
Started as the Virginia Conservation Lands Needs Assessment (VCLNA) in 2007	Initiated by Governor Northam in 2018
A conservation atlas – a collection of individual maps/models representing multiple themes	A mashup of multiple maps into a single layer with multiple attributes representing multiple themes
	
May be raster or vector	Vector (polygons)
Priority values may be ranked or continuous	Priority values are binary: YES/NO
Derivatives of some ConservationVision models, along with other data sources, are incorporated into ConserveVirginia	

Model Mandate

- Focus on green, open space recreation requiring only minimal facilities, like trails and boat launches
- Meet the grant scoring needs of the Virginia Lands Conservation Foundation (VLCF) and other grant programs
- Complement ConserveVirginia

Model Purpose

- Quantify the availability of opportunities for **nature-based** recreation on Virginia's public lands and waters, and
- Identify areas where more opportunities for **nature-based** recreation are needed



nature-based recreation:

“Outdoor activities in natural settings or otherwise involving in some direct way elements of nature—terrain, plants, wildlife, water bodies”[1]

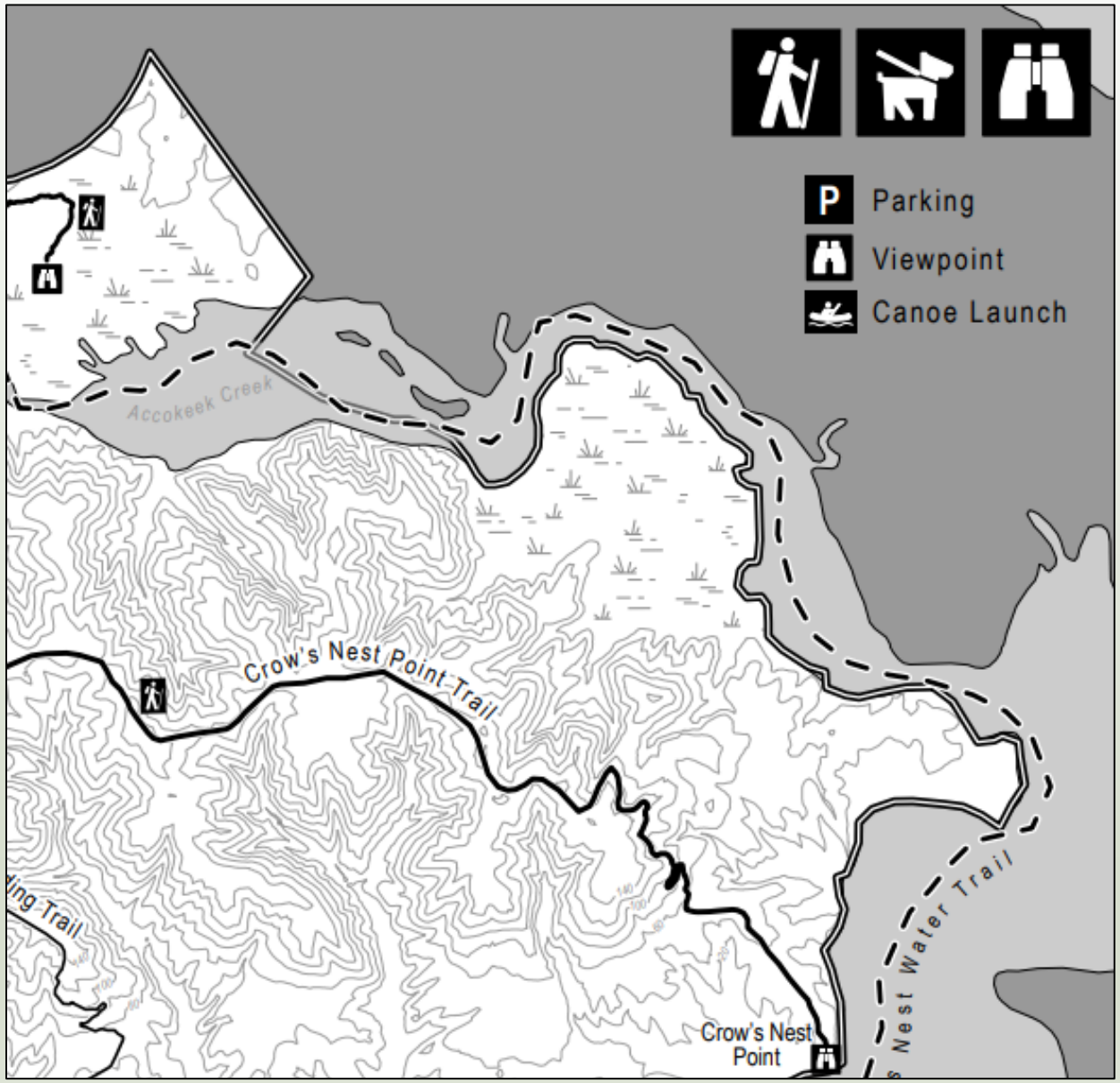
[1]Cordell 2008 – in *Forest History Today*

PPA:

Any protected land with public access

May include:

- State and national parks
- Regional and local parks
- State and national forests
- Battlefields and historic sites
- Natural Area Preserves with public access
- More…



access point:

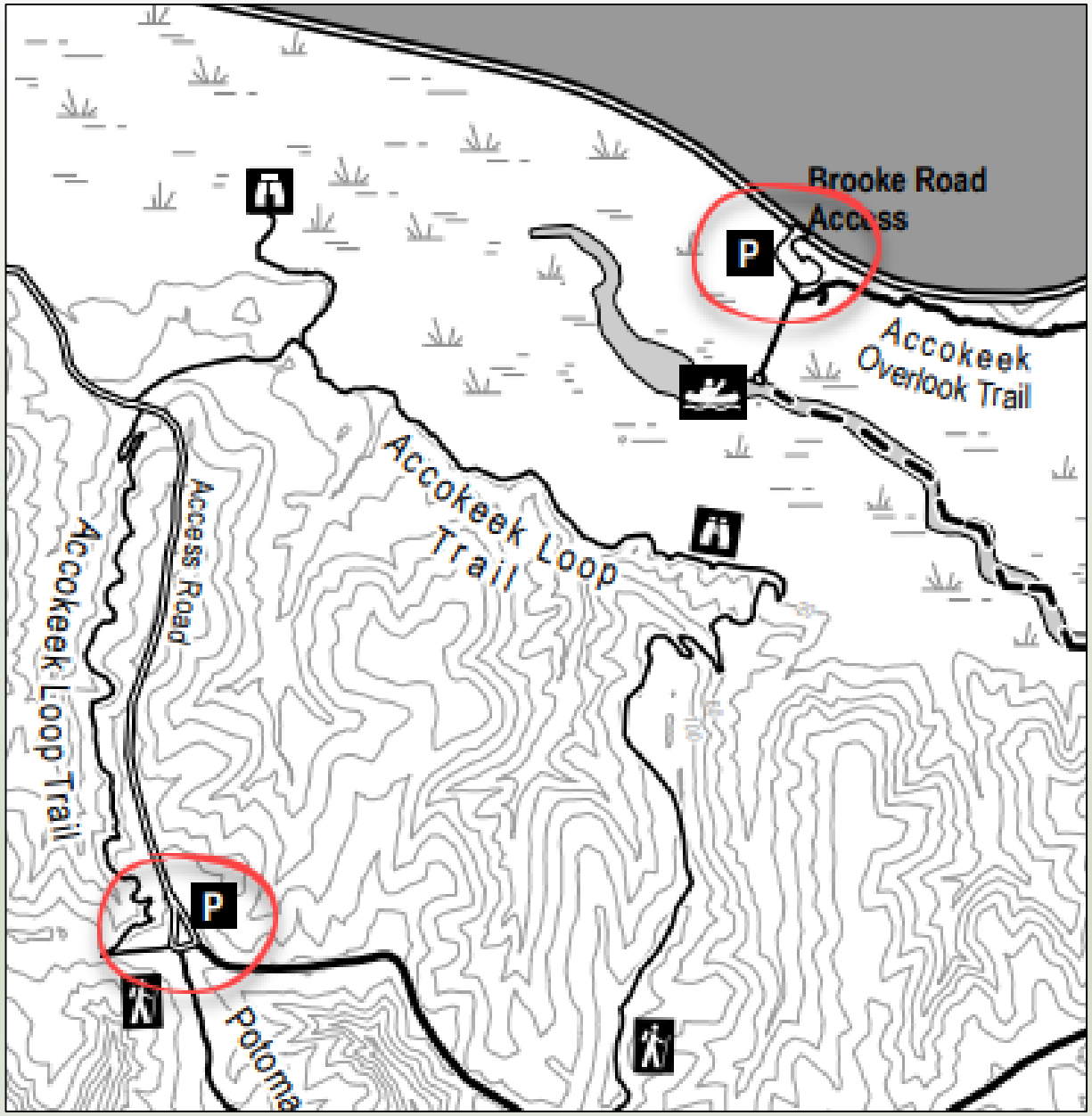
A point of entry or access to public lands and waters

Recreation feature:

A water access point or a PPA

Note:

- A PPA can have multiple access points.
- Access points very close to each other are treated as one.



available area (of a PPA):

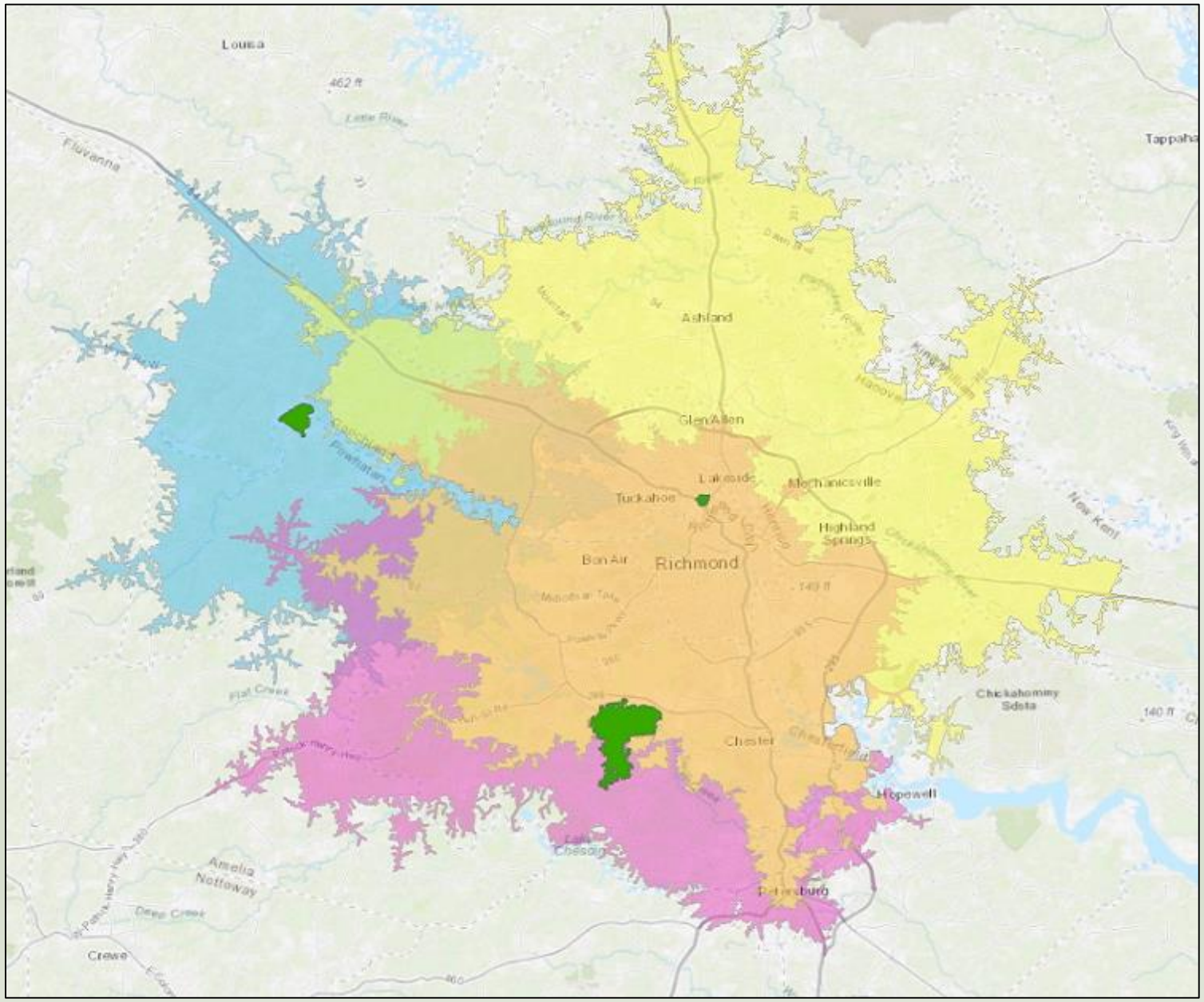
The non-water portion of a PPA that is within a specified buffer distance (300 feet) of an access point, trail or internal road.

available greenspace (AG):

The non-impervious portion of land within the available area of a PPA.

service area:

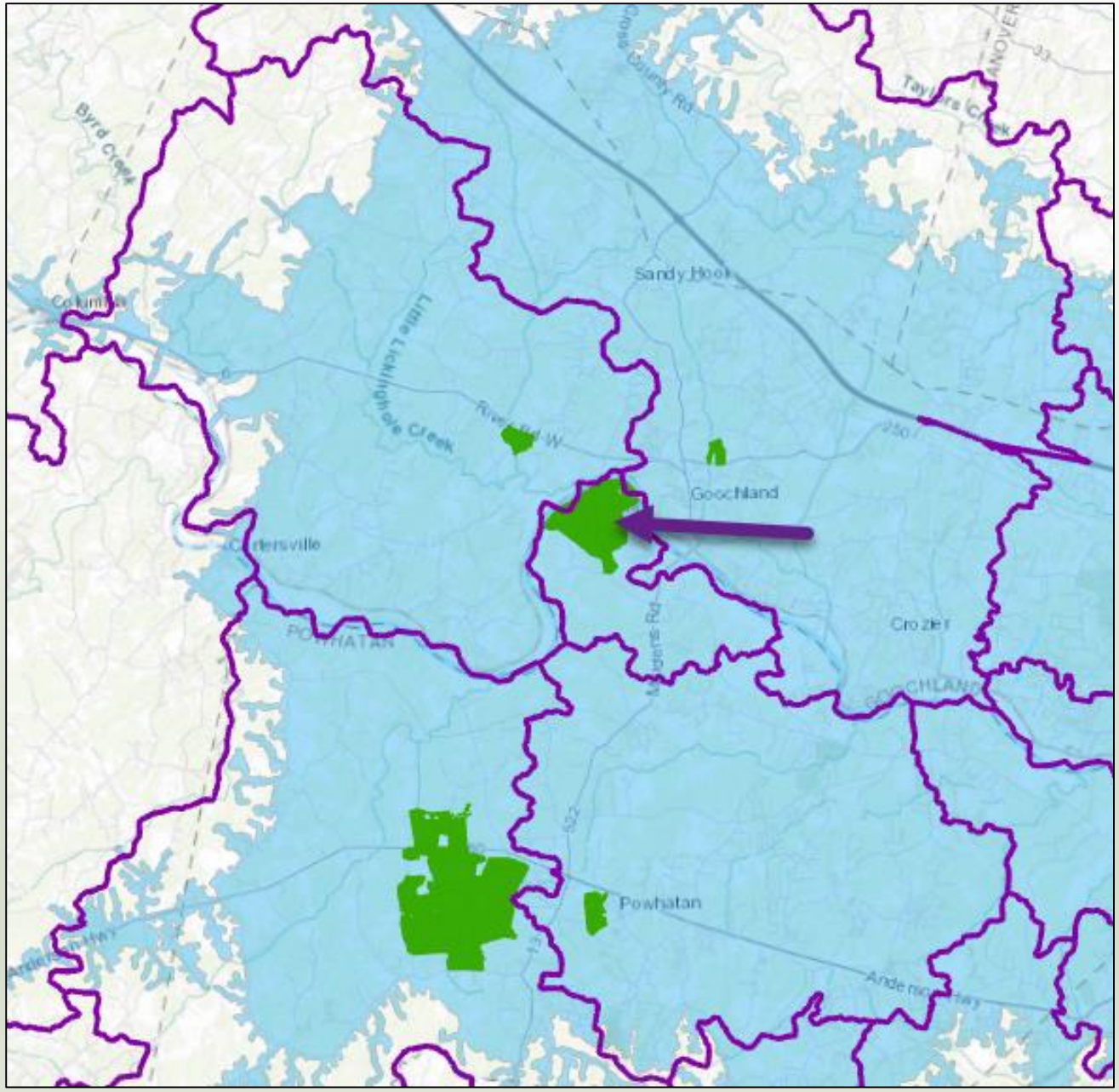
The area around a recreation feature (PPA or water access point) that can be reached within a specified travel time (30 or 60 minutes) for a specified mode of travel (car).



Example shown:
Overlapping, 30-minute service areas for three parks in the Richmond area

service catchment:

The subset of a service area for which the travel time to the target recreation feature is shorter than for any other recreation feature included in the analysis

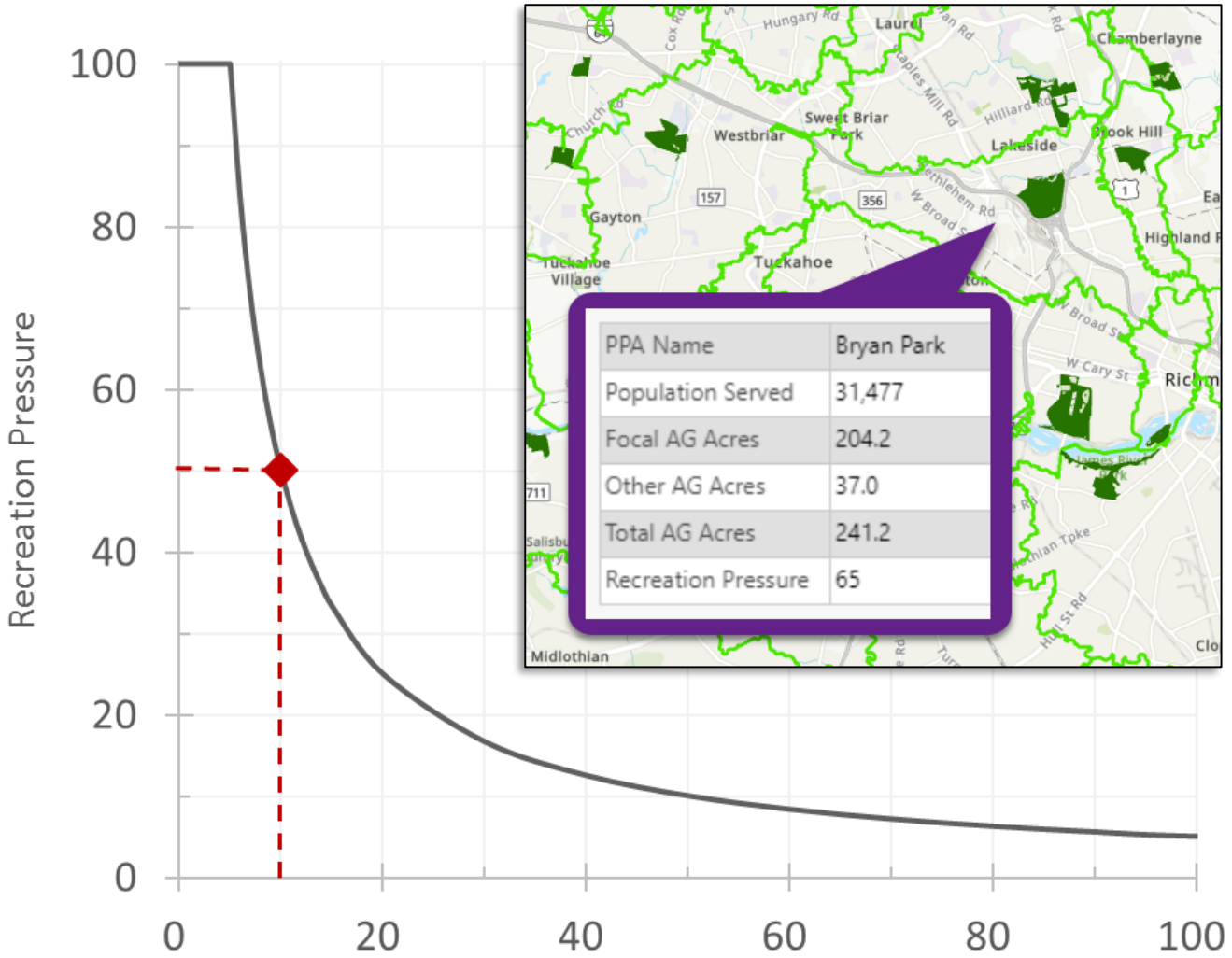


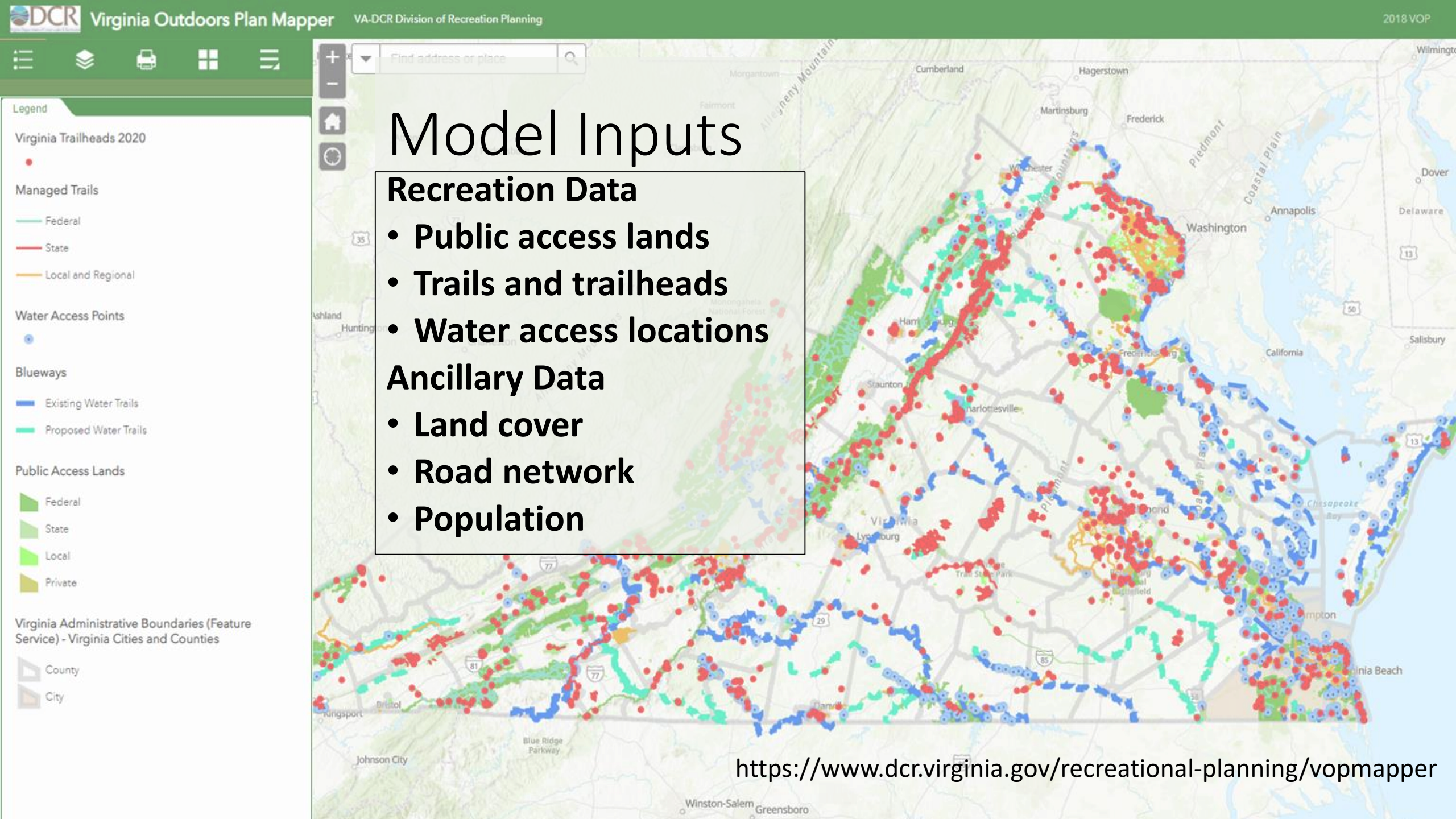
Example shown:
30-minute service catchments for several PPAs west of Richmond. For comparison, the blue shaded area represents the 30-minute service area (extending out of the frame) for the PPA marked with the arrow.

recreation pressure:

A measure of the potential for overcrowding and/or overuse of a recreation feature, based on the size of the population within its service catchment and, for PPAs, the amount of available greenspace (AG).

Note:
We assumed that a level of service of 10 acres of available greenspace per 1,000 people or 10 water access points per 100,000 people would result in "moderate" recreation pressure.




DCR Virginia Outdoors Plan Mapper
VA-DCR Division of Recreation Planning
2018 VOP
Legend
Virginia Trailheads 2020
Managed Trails
Federal
State
Local and Regional
Water Access Points
Blueways
Existing Water Trails
Proposed Water Trails
Public Access Lands
Federal
State
Local
Private
Virginia Administrative Boundaries (Feature Service) - Virginia Cities and Counties
County
City
Model Inputs
Recreation Data
• Public access lands
• Trails and trailheads
• Water access locations
Ancillary Data
• Land cover
• Road network
• Population
https://www.dcr.virginia.gov/recreational-planning/vopmapper

Model Metrics –
How to measure recreation access?

Goals for developing metrics:

- Limited to a small handful of metrics
- Limited to few assumptions
- Reasonable to calculate statewide
- Reasonably intuitive for users to comprehend
- Each metric can stand alone, useful in its own right
- Metrics can be readily combined into a composite score

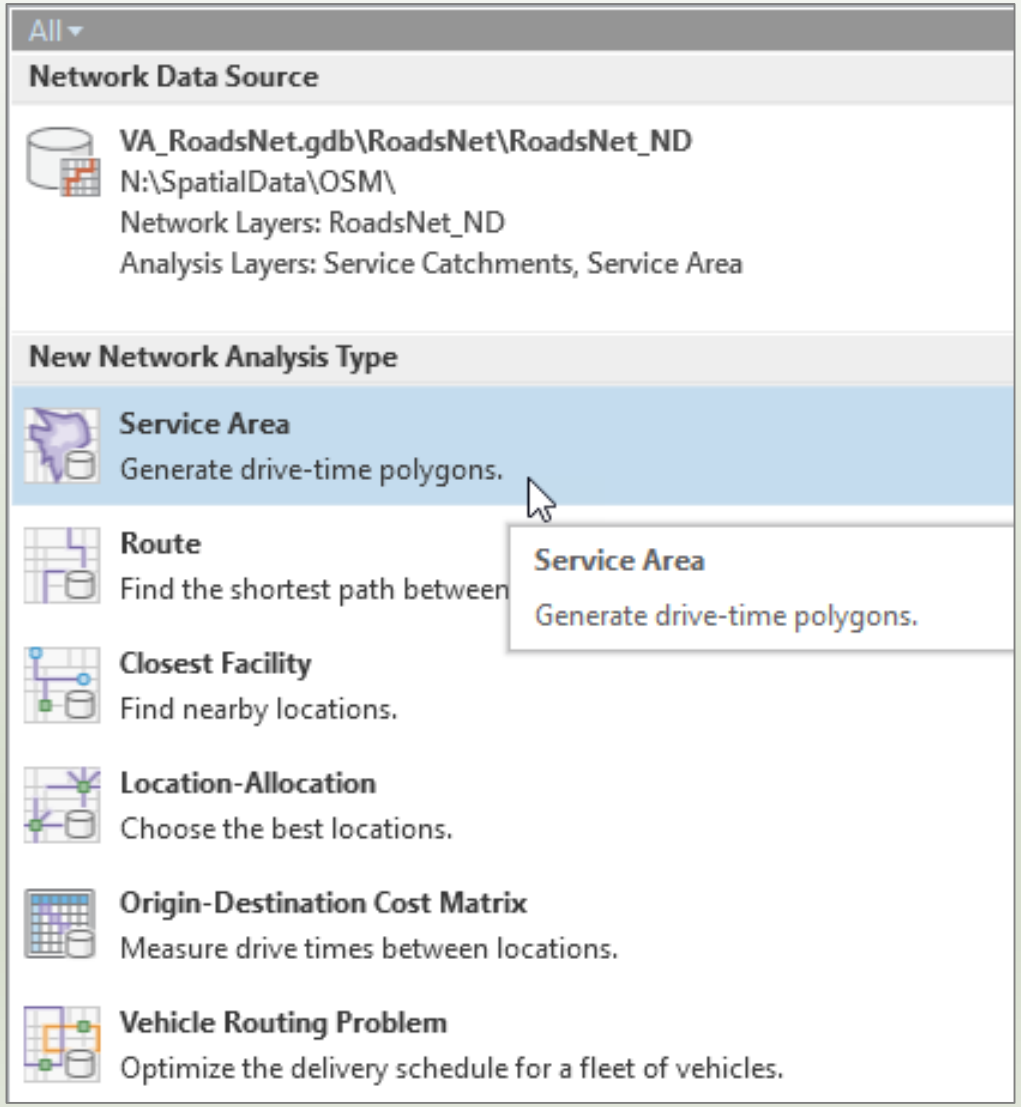
Model Metrics: Land-based

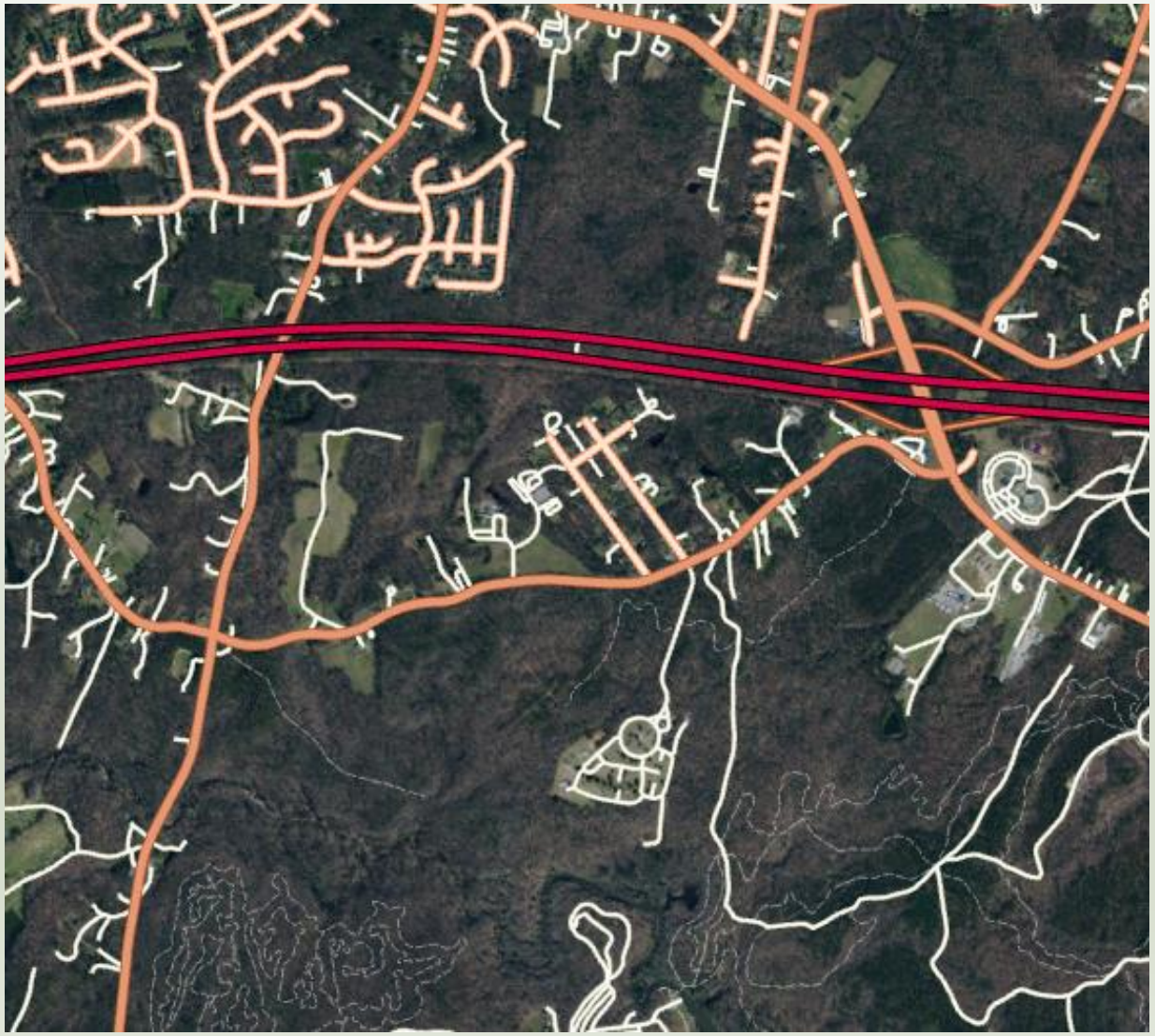
- Travel time to the nearest PPA offering at least 5 acres of available greenspace
- The number of PPAs offering at least 100 acres of available greenspace, that can be reached within a 30-minute drive
- The number of PPAs offering at least 600 acres of available greenspace, that can be reached within a 60-minute drive
- Land-based recreation pressure, based on population size and the amount of available greenspace within service catchments and gaps delineated for PPAs with at least 25 acres of available greenspace

Model Metrics: Water-based

- Travel time to the nearest water access point
- The number of water access points that can be reached within a 30-minute drive
- The number of water-based activities (fishing, swimming, or boating) that can be reached within a 30-minute drive
- Water-based recreation pressure, based on population size within service catchments and gaps delineated for water access points

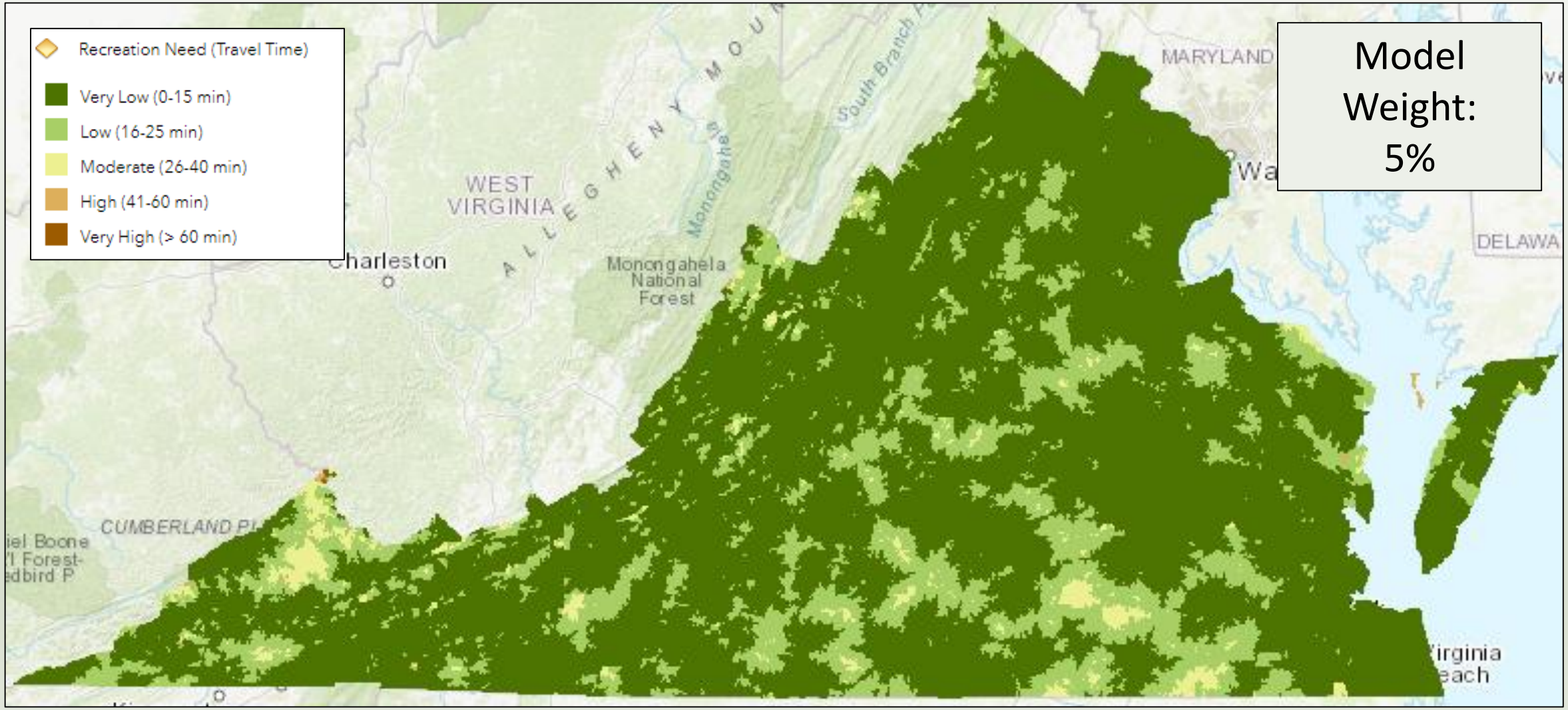
Model Foundation: Travel Time Analyses





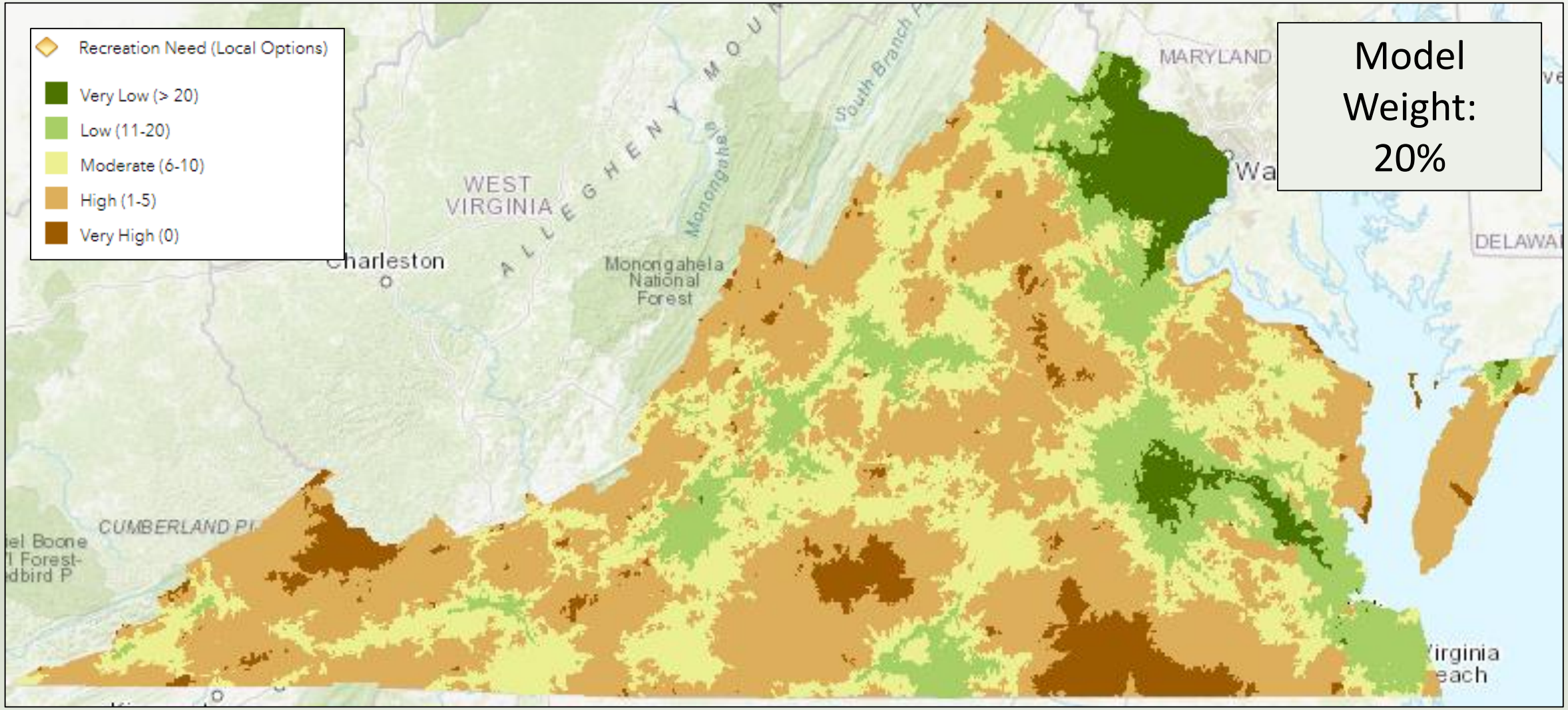
Model Result: Terrestrial Proximity Score

(based on travel time to nearest PPA with ≥ 5 acres available greenspace)



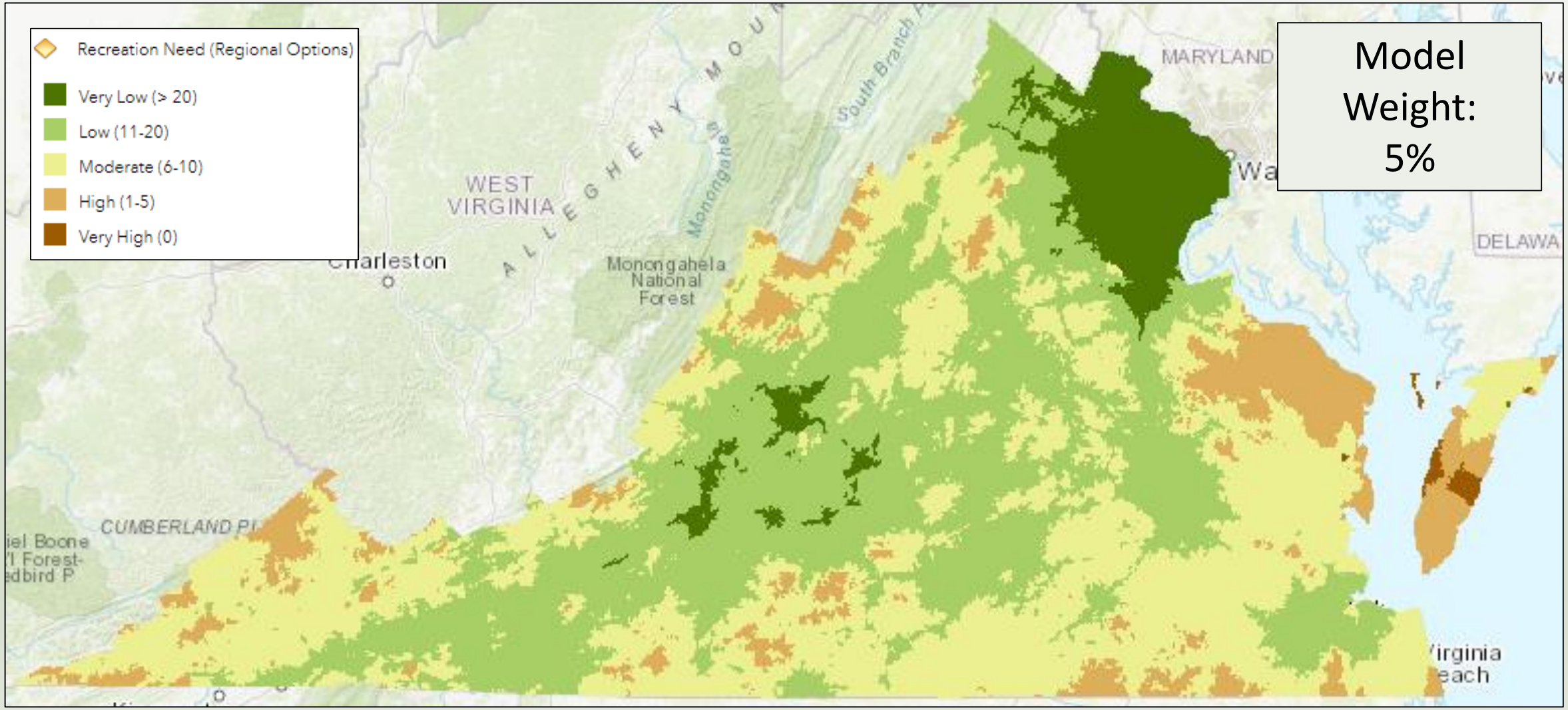
Model Result: Terrestrial Local Access Options Score

(based on number of PPAs with ≥ 100 acres available greenspace, within 30-min drive)



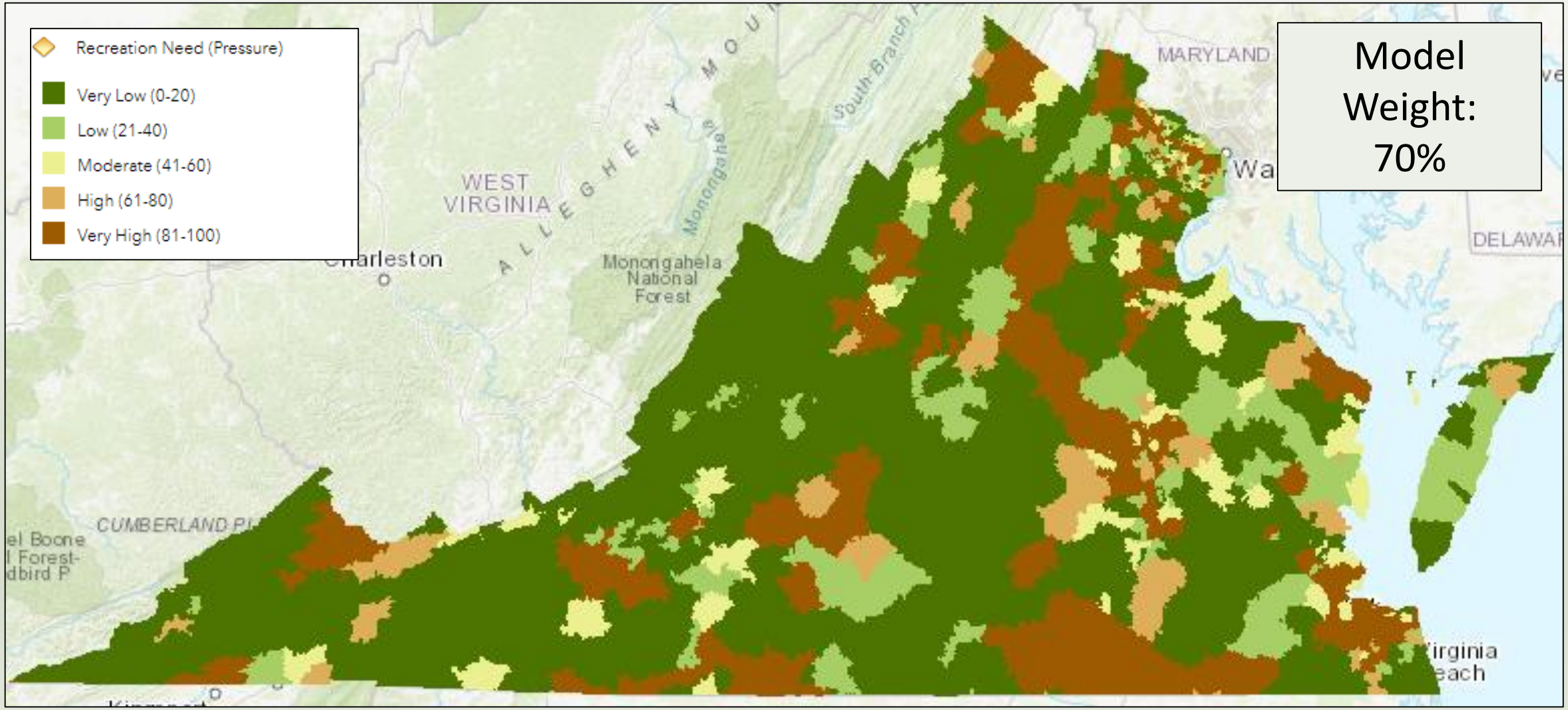
Model Result: Terrestrial Regional Access Options Score

(based on number of PPAs with ≥ 600 acres available greenspace, within 60-min drive)

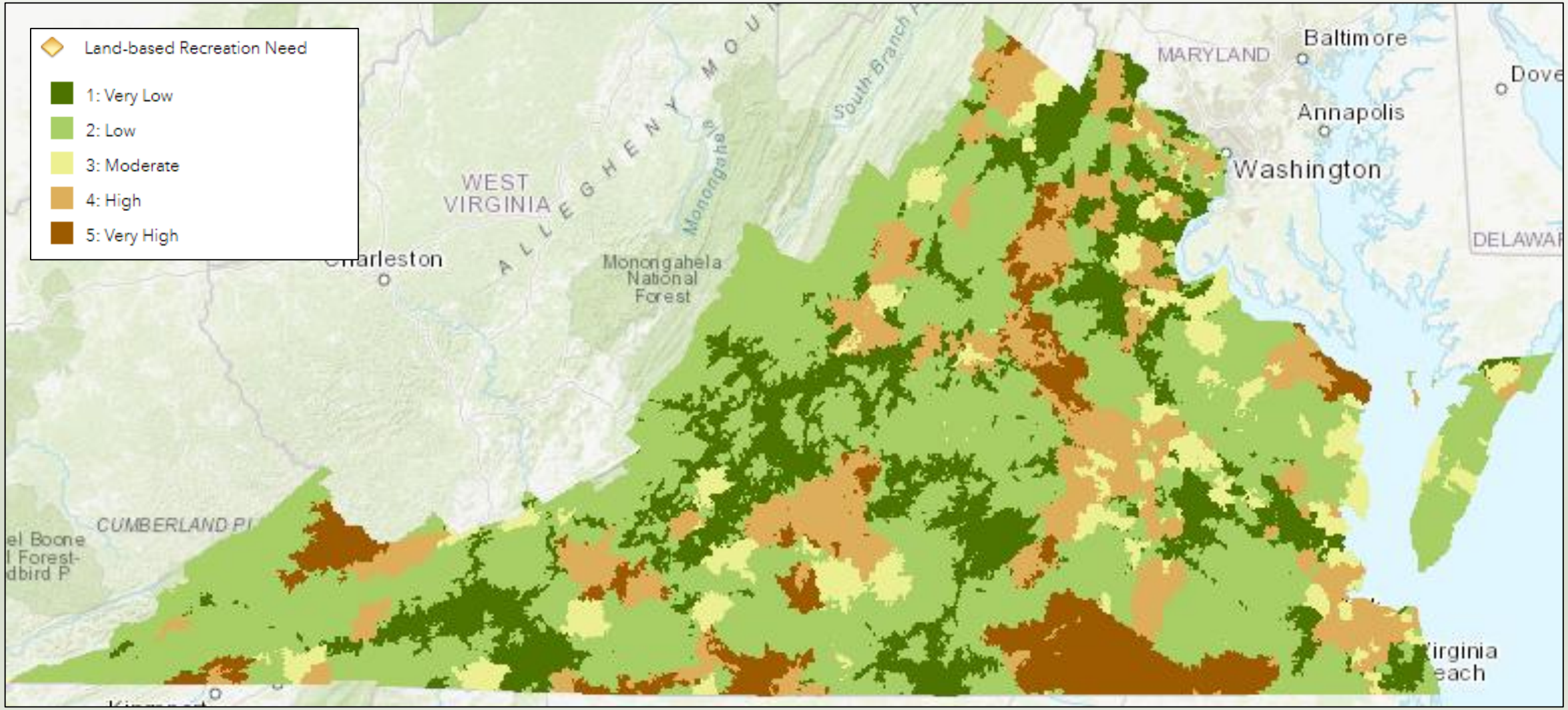


Model Result: Terrestrial Pressure Score

(based on recreation pressure within service catchments for PPAs with ≥ 25 acres available greenspace)

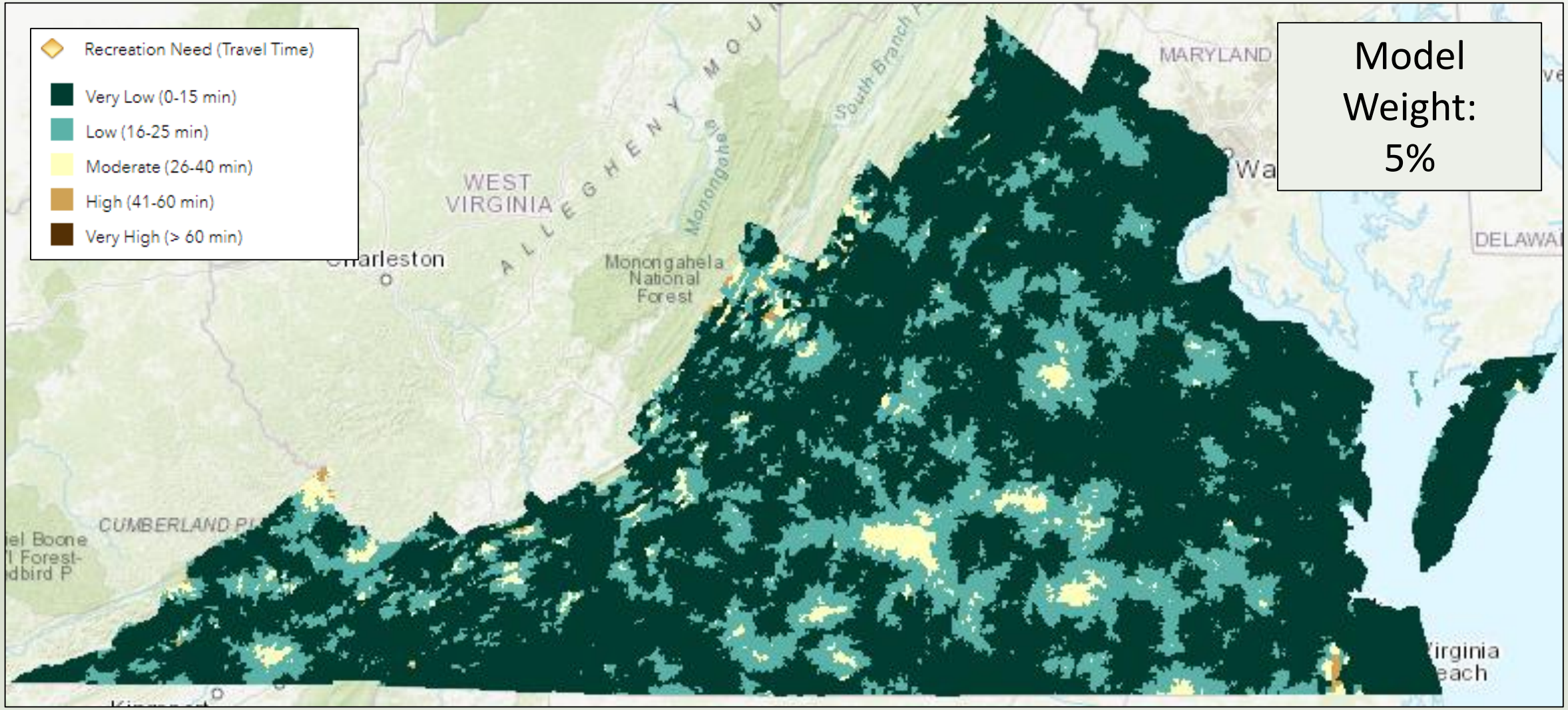


Model Result: Land-based Recreation Need (Composite Score)



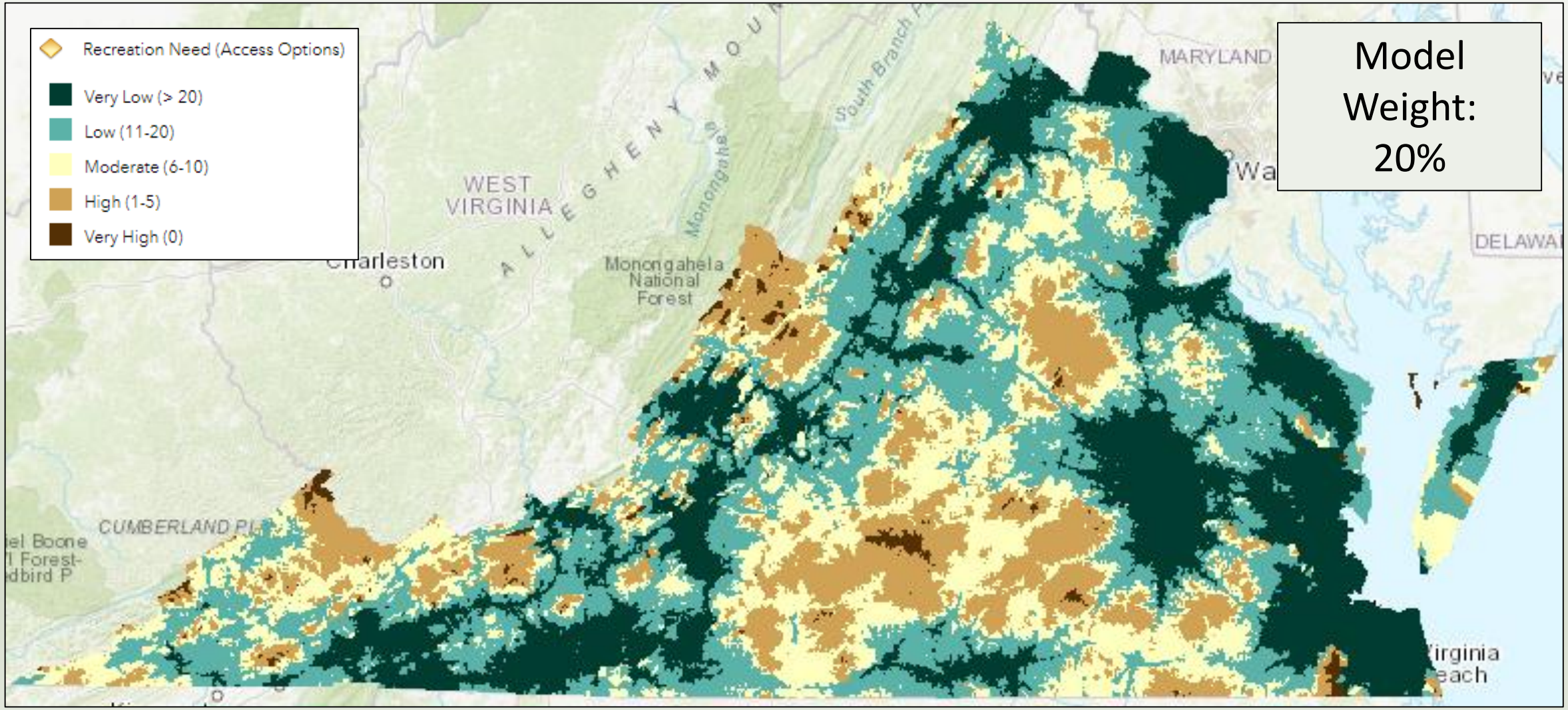
Model Result: Aquatic Proximity Score

(based on travel time to nearest water access point)



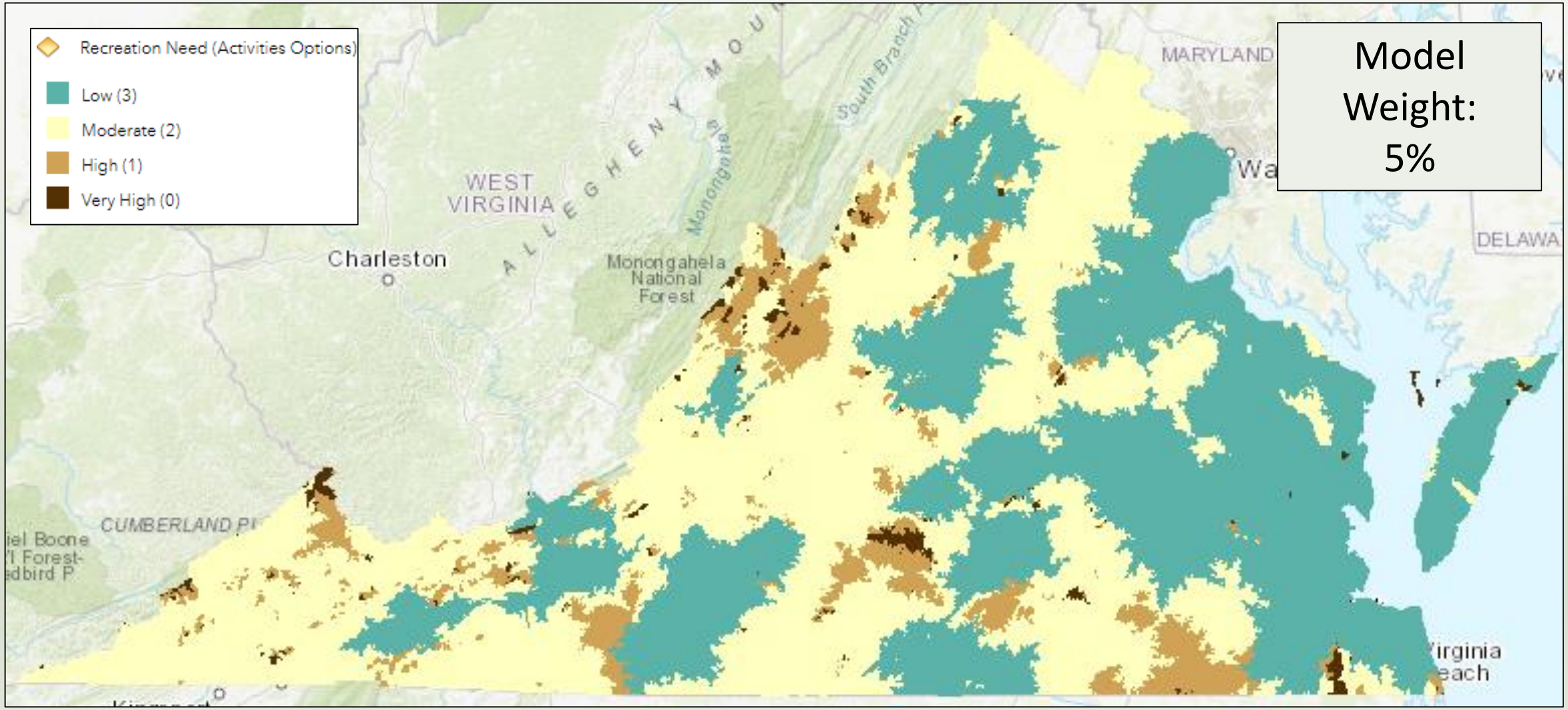
Model Result: Aquatic Access Options Score

(based on number of water access points within 30-min drive)



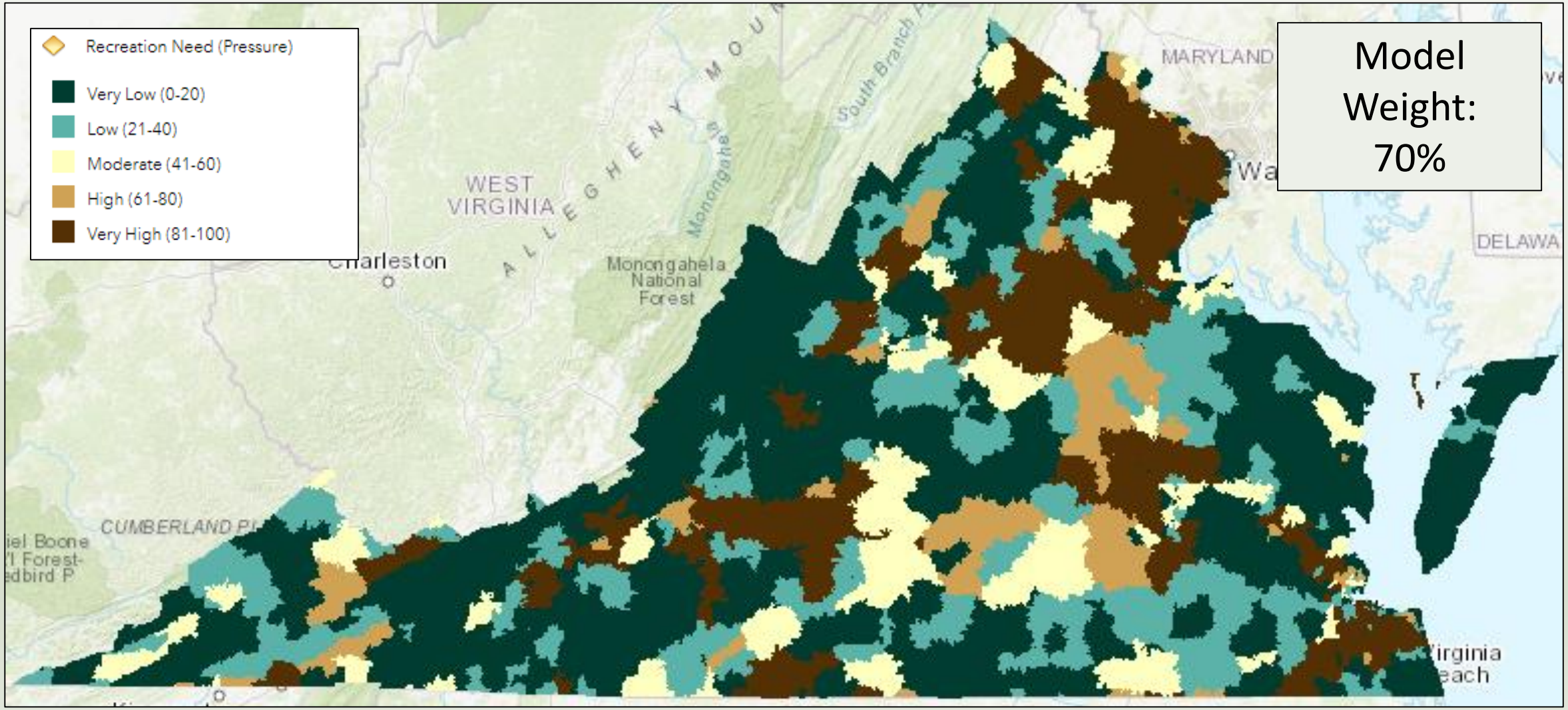
Model Result: Aquatic Activities Options Score

(based on number of water-based activities within 30-min drive)

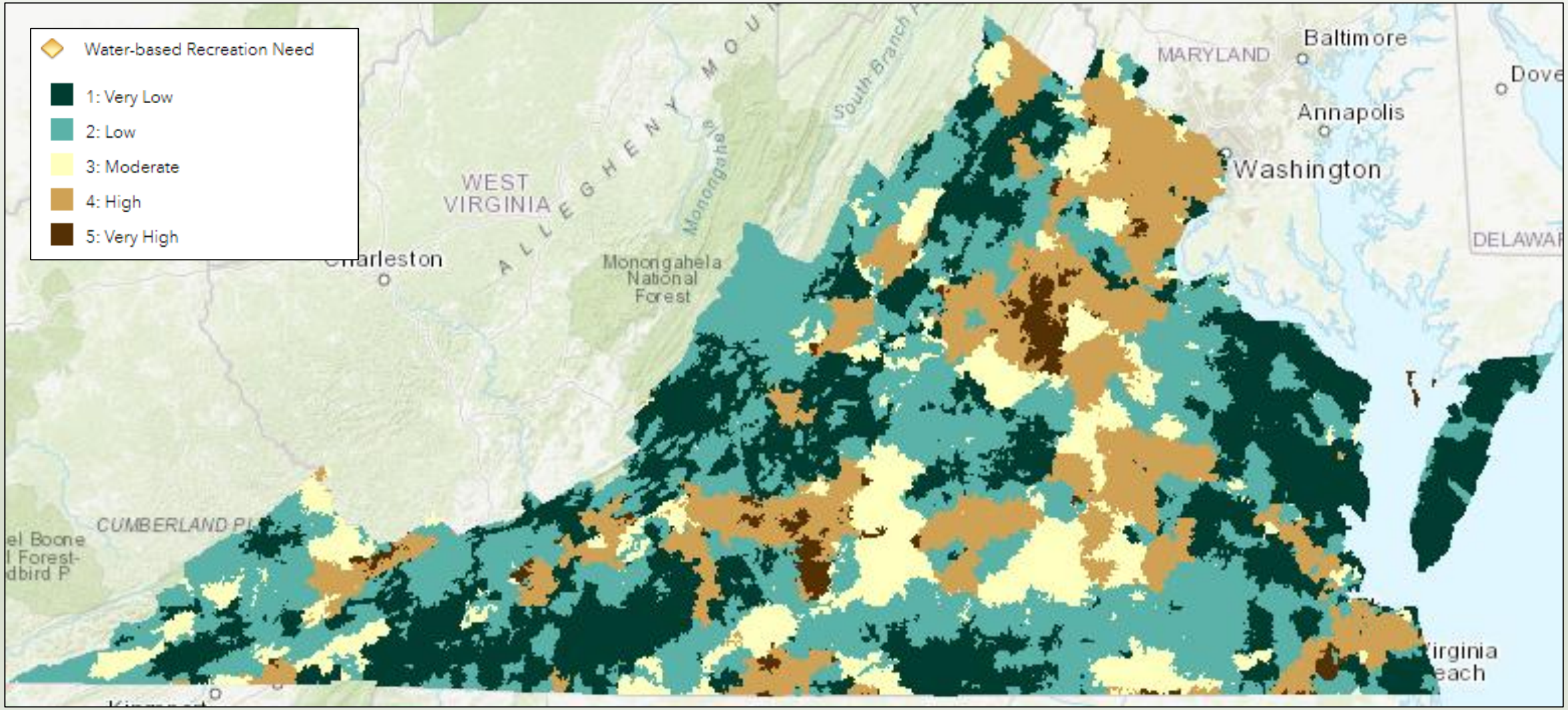


Model Result: Aquatic Pressure Score

(based on recreation pressure within service catchments for water access points)

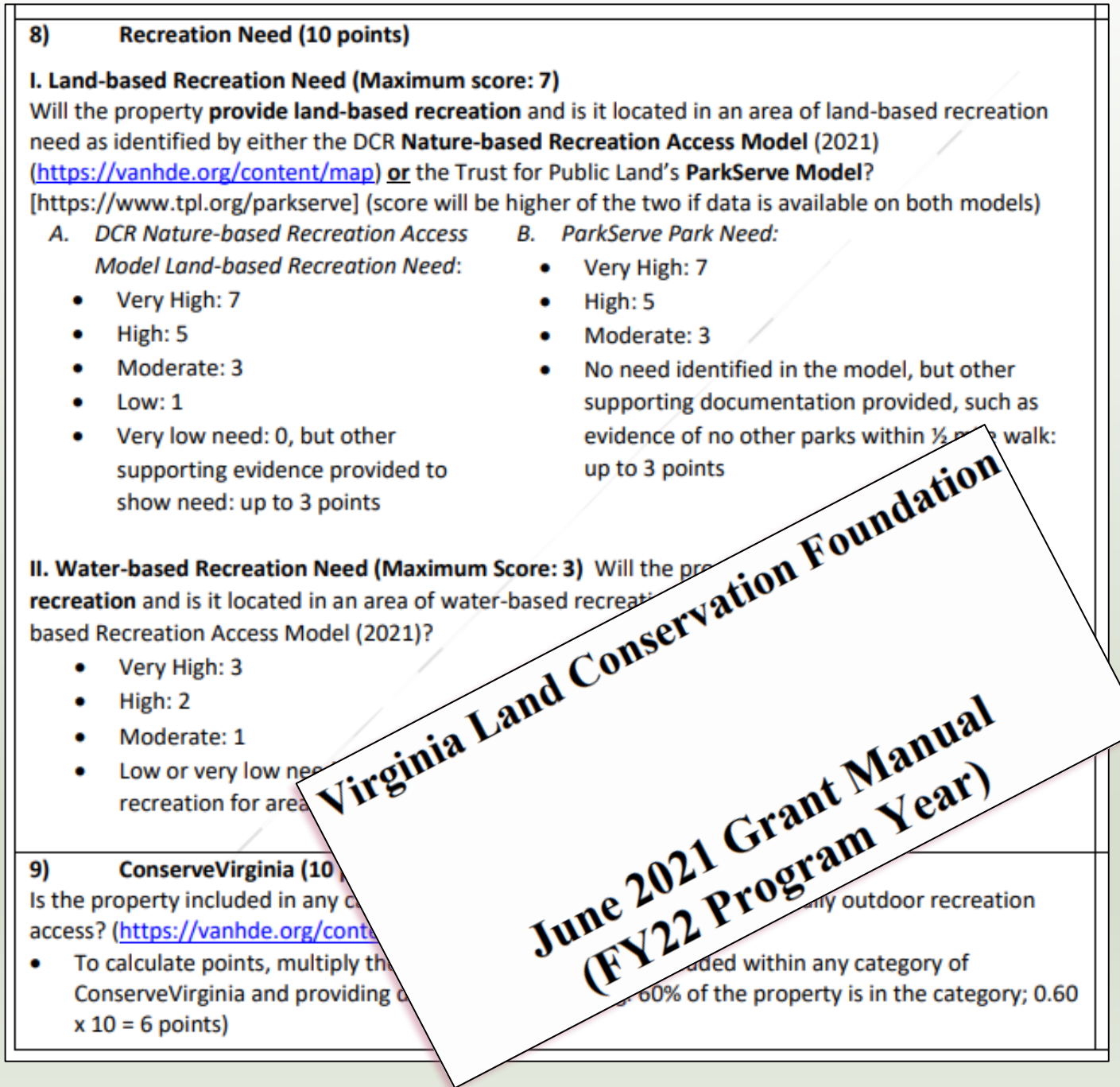


Model Result: Water-based Recreation Need (Composite Score)



Model Applications

- Conservation and recreation planning at regional and statewide scales
- Scoring grant applications for conservation and recreation projects
- Incorporation in Virginia Outdoors Plan
- Complement to ConserveVirginia



8) Recreation Need (10 points)

I. Land-based Recreation Need (Maximum score: 7)
Will the property **provide land-based recreation** and is it located in an area of land-based recreation need as identified by either the DCR **Nature-based Recreation Access Model** (2021) (https://vanhde.org/content/map) **or** the Trust for Public Land's **ParkServe Model**? [https://www.tpl.org/parkserve] (score will be higher of the two if data is available on both models)

A. *DCR Nature-based Recreation Access Model Land-based Recreation Need*:
- Very High: 7
- High: 5
- Moderate: 3
- Low: 1
- Very low need: 0, but other supporting evidence provided to show need: up to 3 points

B. *ParkServe Park Need:*
- Very High: 7
- High: 5
- Moderate: 3
- No need identified in the model, but other supporting documentation provided, such as evidence of no other parks within ½ [illegible] walk: up to 3 points

II. Water-based Recreation Need (Maximum Score: 3) Will the pr[illegible] **recreation** and is it located in an area of water-based recreati[illegible] based Recreation Access Model (2021)?
- Very High: 3
- High: 2
- Moderate: 1
- Low or very low nee[illegible] recreation for area[illegible]

9) ConserveVirginia (10 [illegible]
Is the property included in any c[illegible] [illegible]ny outdoor recreation access? (https://vanhde.org/conte[illegible]
- To calculate points, multiply th[illegible] [illegible]ded within any category of ConserveVirginia and providing c[illegible] [illegible]60% of the property is in the category; 0.60 x 10 = 6 points)

Virginia Land Conservation Foundation

June 2021 Grant Manual (FY22 Program Year)