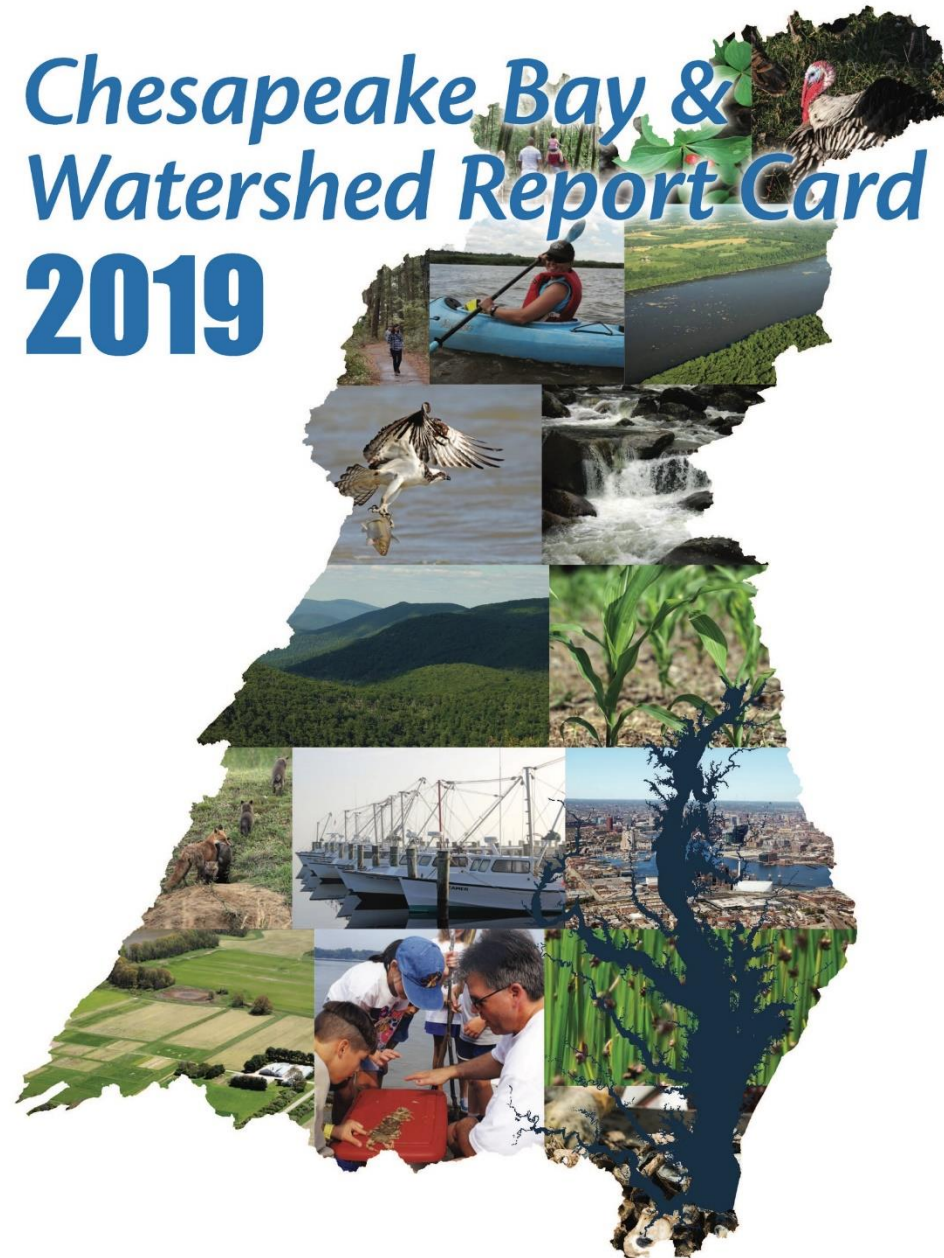


Chesapeake Bay & Watershed Report Card 2019

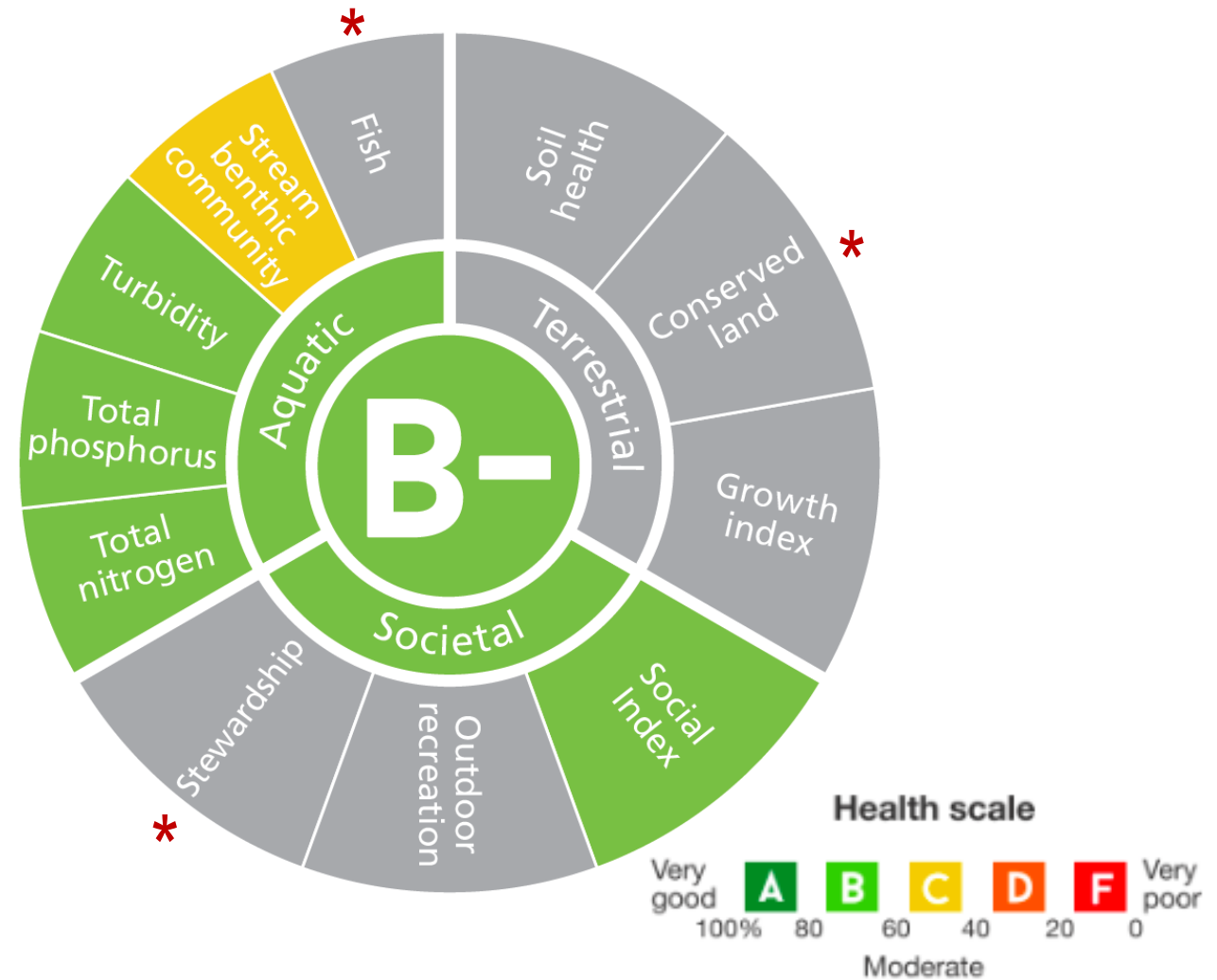


Alexandra Fries
UMCES IAN
STAR Meeting, February 2021

2020 report card indicators

- New Indicators

- Protected lands – complete
- Stewardship Index – almost complete
- Fish community – in process
- Diversity – in process
- Economic indicators – in process

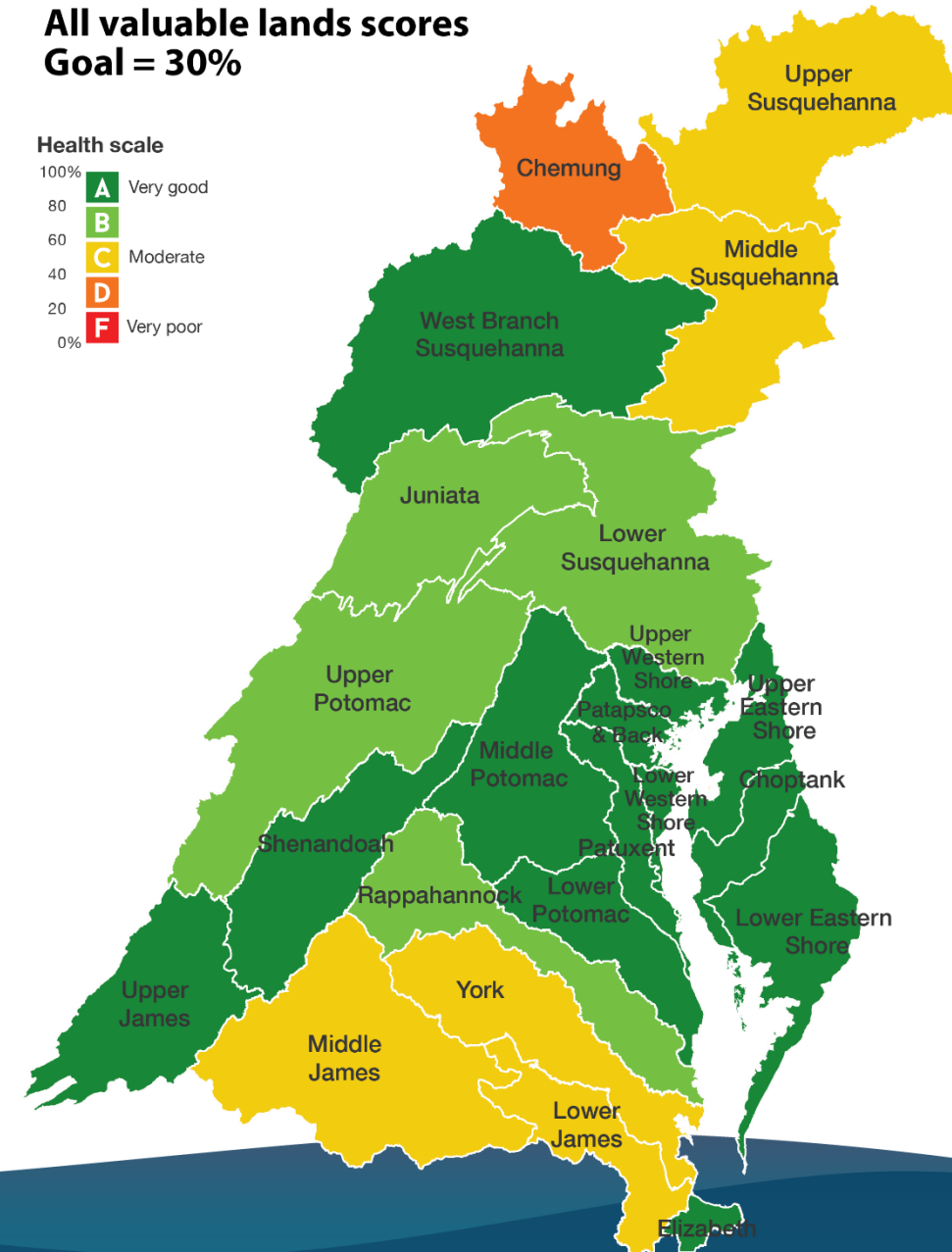


Protected lands

- Protected lands data came from Chesapeake Progress (CBP)
- Data was last updated in 2018
- Contacts: Renee Thompson and Nora Jackson (CBP)
- We also used the CCP dataset showing high value lands and mid value lands that are important to protect
- We overlaid the lands and calculated the percentage of all valuable lands that are protected
- The threshold is based on protection of 30% area, which is the CCP 2030 goal

All valuable lands scores
Goal = 30%

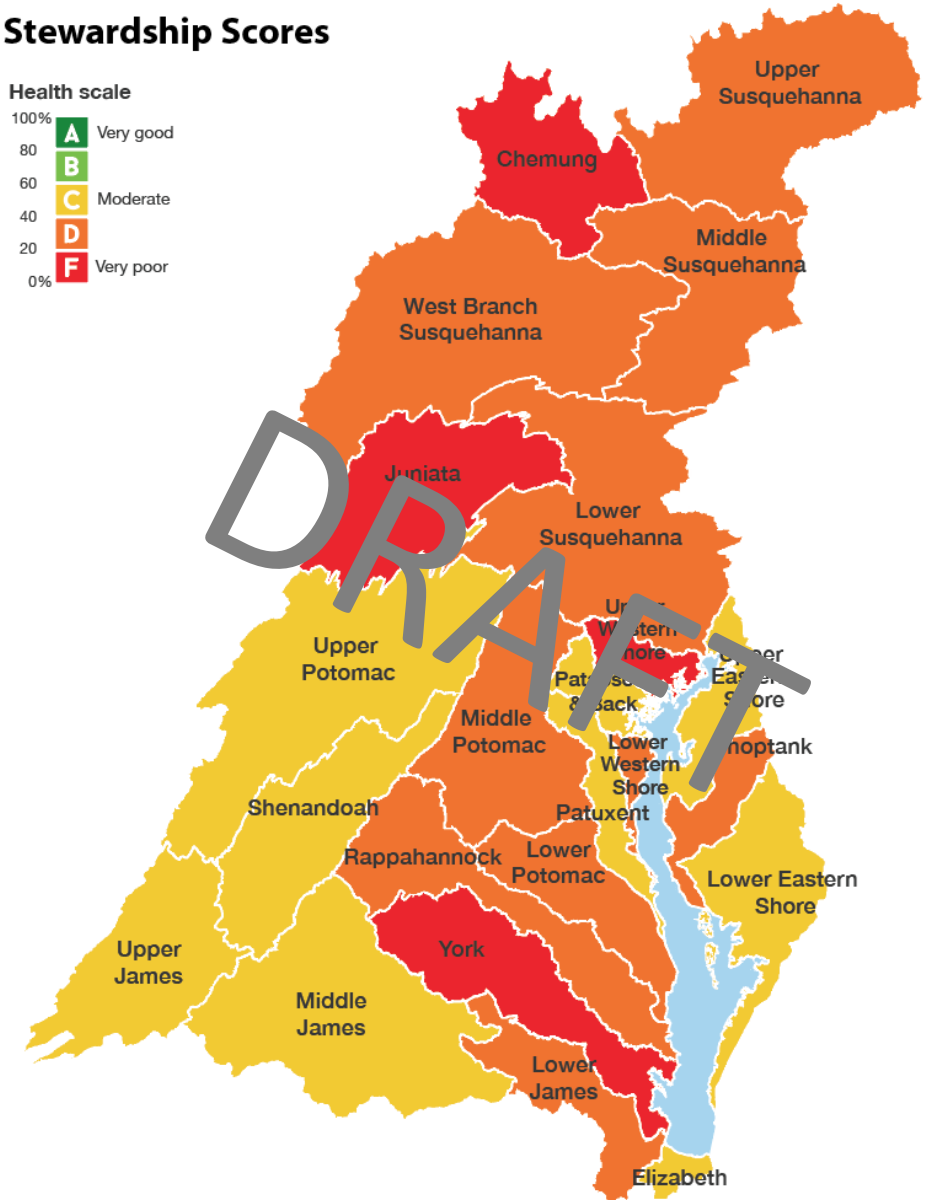
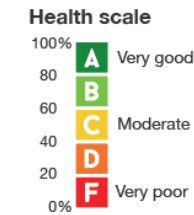
Health scale



Stewardship indicator

- Stewardship Working Group and OpinionWorks
- 2017 Baseline Citizen Stewardship Indicator survey
 - ❖ Link:
<https://www.chesapeakeprogress.com/engaged-communities/citizen-stewardship>
- The index uses three categories; Behavior, Volunteerism, Civic Engagement
- We used the survey results to calculate regional scores, based on respondent ZIP codes, duplicating the Working Group's existing methods

Stewardship Scores



Fish community

- Collected and organized state agency and local county data
- We calculated the Simpson's Diversity Index by reporting region
- 2014-2019 data
- Data shows all A's (scores range from 80%–96%)
- Also calculated richness (ranges from 28–97 species)

Region	2014-2019 Fish Score	2014-2019 Richness
Chemung	89	49
Choptank	88	35
Juniata	94	46
Lower Eastern Shore	92	46
Lower James	90	26
Lower Potomac	93	45
Lower Susquehanna	94	75
Lower Western Shore	80	28
Middle James	96	78
Middle Potomac	94	97
Middle Susquehanna	91	55
Patapsco Back	93	56
Patuxent	85	56
Rappahannock	94	56
Shenandoah	93	47
Upper Eastern Shore	94	55
Upper James	94	67
Upper Potomac	90	60
Upper Susquehanna	92	55
Upper Western Shore	87	48
West Branch Susquehanna	92	57
York	93	58

Diversity indicators

- Presented to the Diversity workgroup in fall 2020
- Exploring several indicators
- Using several data sources
 - EJScreen: <https://www.epa.gov/ejscreen>
 - Enviroatlas: <https://enviroatlas.epa.gov/enviroatlas/interactivemap/>
 - National Equity Atlas: https://nationalequityatlas.org/indicators/Diversity_index#/
 - NMFS NOAA Social indicators: <https://www.st.nmfs.noaa.gov/data-and-tools/social-indicators/>
 - Chesapeake Bay Environmental Justice and Equity Dashboard:
<https://chesbay.maps.arcgis.com/apps/MapSeries/index.html?appid=df4f2fc9284b430087270b9a4f16af93>

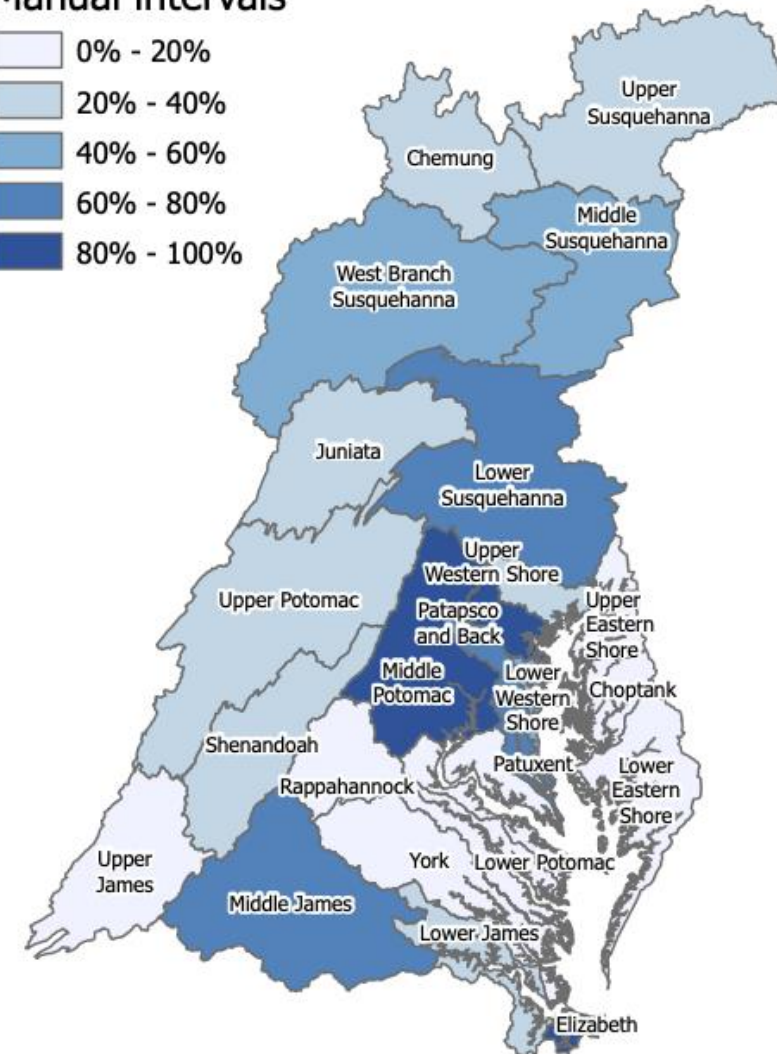
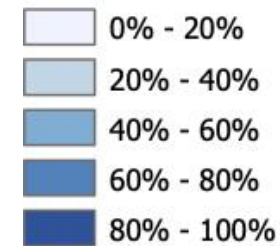


Diversity - walkability

- Walkability
 - Developed by The Trust for Public Land
 - 10 minute walk to a park
 - <https://www.tpl.org/parkscore>
 - Includes two measures
 - Total population that can walk to a park in 10 minutes
 - Diverse groups population that can walk to a park in 10 minutes (Black, Asian, Native American, Hispanic, Pacific Islander, 2 or more races, other races)
 - Still need to review methods and refine the indicator

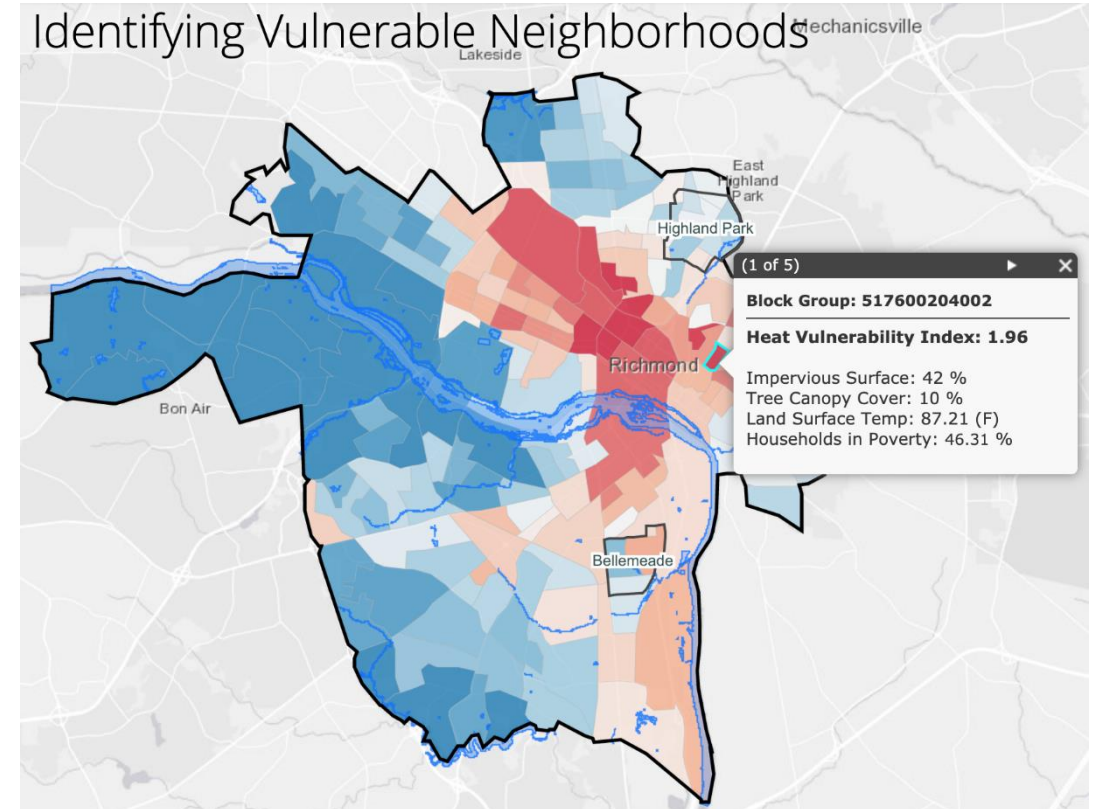
Watershed pop within 10-min walk to a park

Manual intervals



Diversity – Heat vulnerability

- Heat Vulnerability Index
 - Developed by NASA and Groundworks
 - Climate safe neighborhoods project
 - Includes tree canopy, impervious surface, land surface temperature, and % households in poverty
 - Data at census block level
 - <https://groundworkusa.org/climate-justice-for-a-hotter-wetter-segregated-world-introducing-groundwork-usas-climate-safe-neighborhoods-partnership/>
 - <https://gwmke.maps.arcgis.com/apps/Cascade/index.html?appid=9b784d9e79324d1f97210b25afe1b91d>



Economic indicators

- CouncilFire, LLC
- Stakeholder workshop in September 2020
- Index of Local Economy Strength
- Includes five items:
 - Economic Activity – Total household income
 - Equality – Distance between average income and median income
 - Local Ownership – Percent of jobs in public/nonprofits OR non-large (<500 employee) private
 - Diversification – Deviation of 2-digit NAICS categories locally from the national average
 - Entrepreneurship – Job growth rate
- Each measure contains two components:
 - Performance relative to the nation as a whole.
 - Performance relative to the previous year.
- Data from American Community Survey (Census) and YourEconomy by county
- Will be reviewed by economic experts



Questions

Contact:

Alexandra Fries

afries@umces.edu

703-371-4165



Agricultural indicators

- CAST (Chesapeake Assessment Scenario Tool)
 - BMP data, by HUC12 (and other units)
 - This data is measured BMP practices, like conservation tillage, high residue tillage, low residue tillage, cover crop, cover crop with fall nutrients, commodity cover crop, pasture alternative watering, prescribed grazing, horse pasture management, forest buffers, etc.
 - Mostly acres
 - 2019 data
- Contacts: Olivia Devereux and Jeff Sweeney
- Indicator at beginning stages



Recreation indicator

- Hunting and Fishing Licenses – Data & Scoring – not representative enough
- Looking at other sources of recreation data that we can use at a finer scale
- Examine EnviroAtlas
 - Bird watching recreation
 - Hunting and fishing demand (trips per year)
- Visitation Data from National Parks (2019 data)

