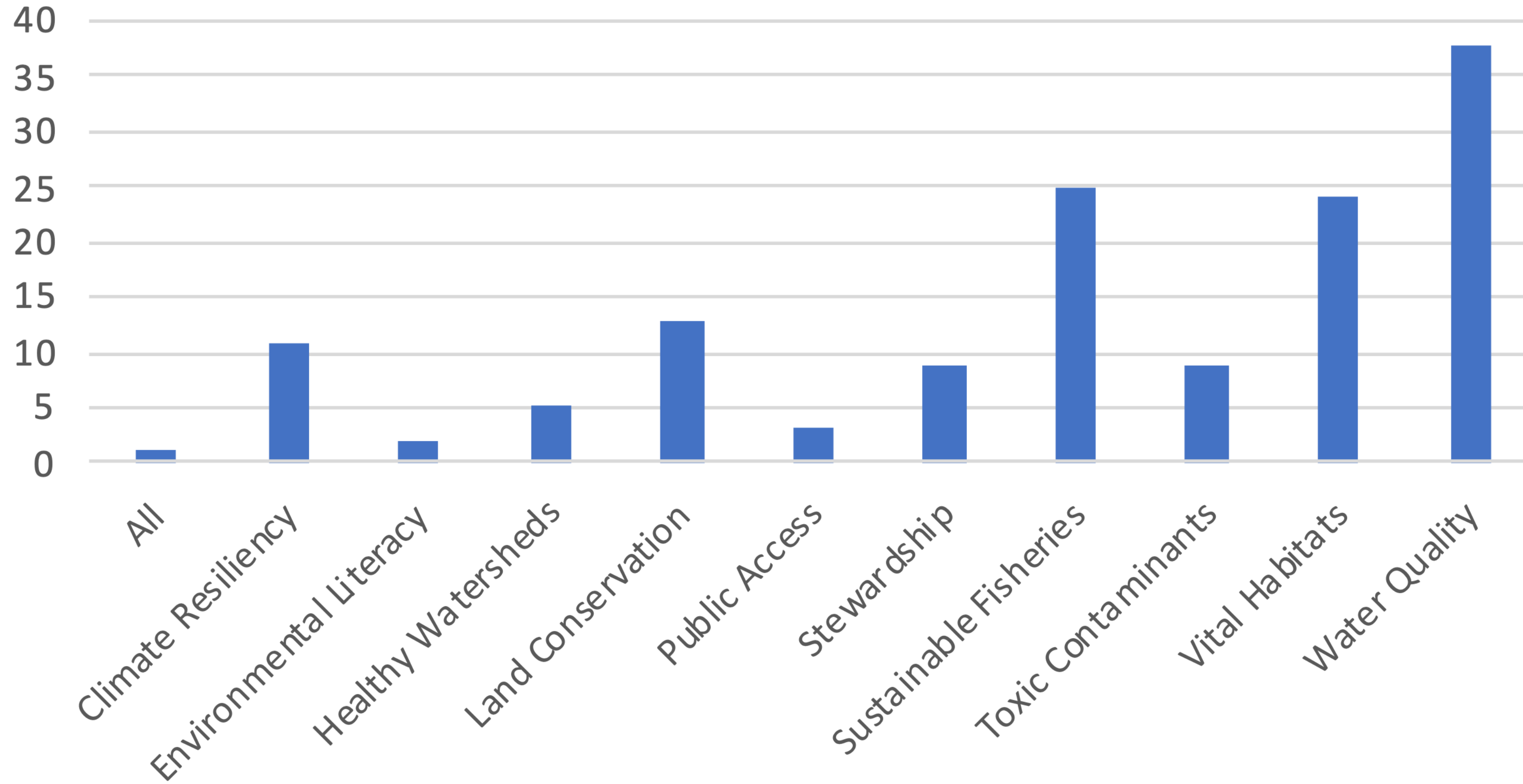


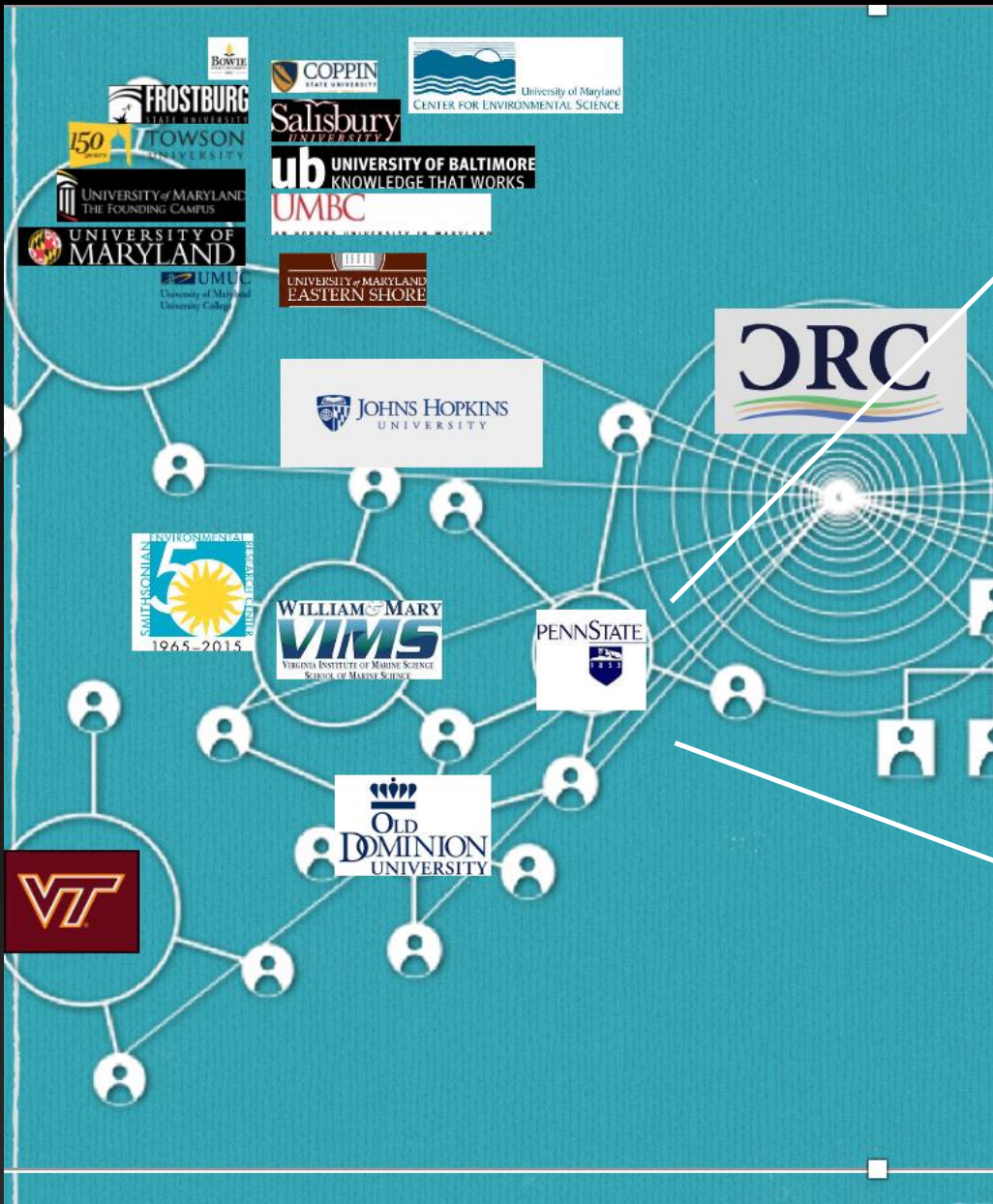
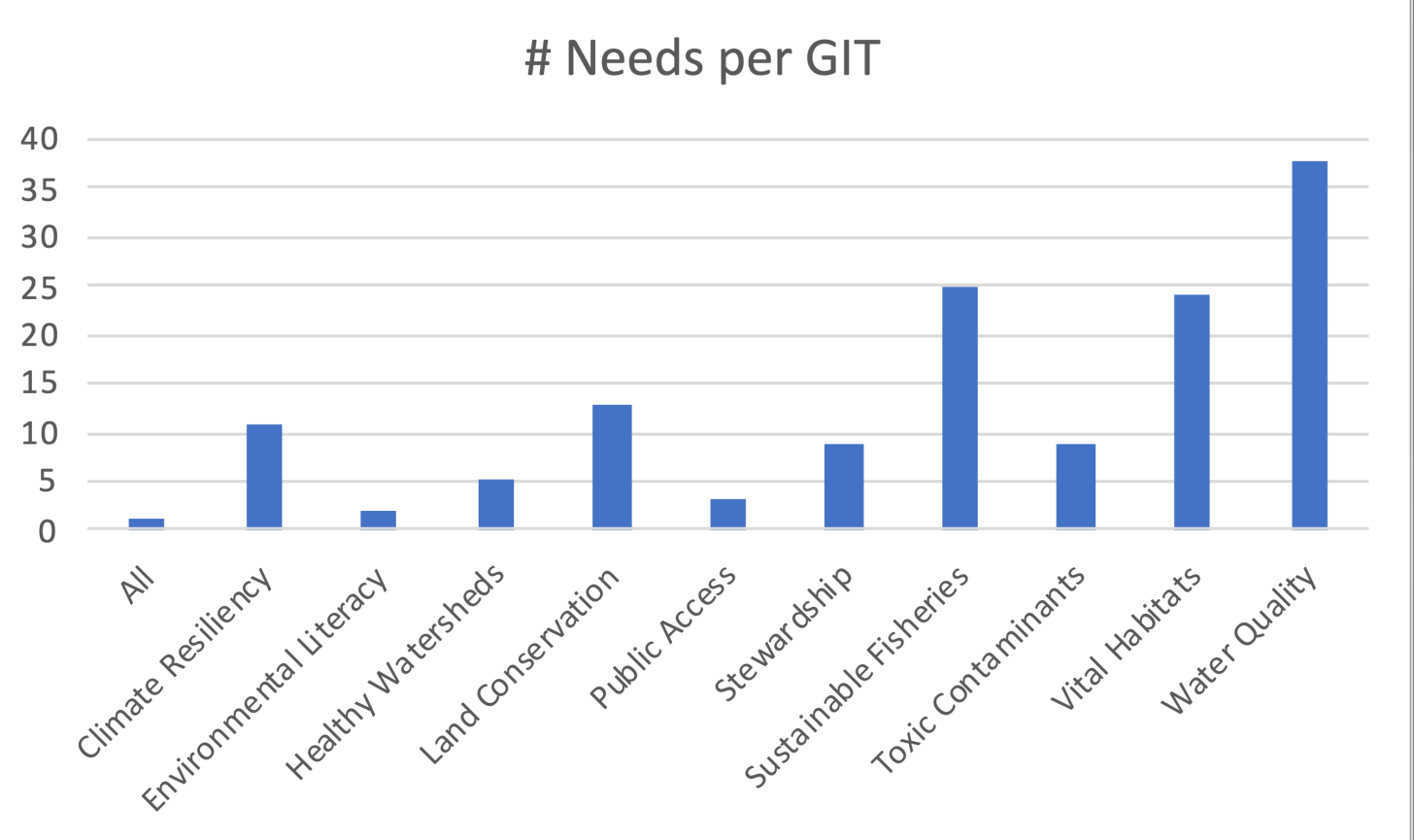
Chesapeake U

Matching Needs and Innovation

27 August 2020 DHW

Needs per GIT





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Updates

Penn State Majors

Penn State offers more than 275 majors, with four-year degrees offered at all 20 of our undergraduate campuses.

HACK THE BAY

CHESAPEAKE BAY WATER QUALITY HACKATHON

Hosted on hack-the-bay.devpost.com

Submissions due September 14, 2020

What is Chesapeake U?

- Chesapeake U connects CRC member institution faculty, students, and staff with STAR/GITs to address science and communication needs through an engaged, collaborative effort. Each project is a facilitated effort, involving interdisciplinary faculty expertise and students, co-led by a CBP partner and a CRC partner, to provide a diverse set of innovations to the restoration effort and advance student learning about the scholarship of environmental restoration.
- Hack-a-thons could attract a large number of students to a focussed project.

Existing Model

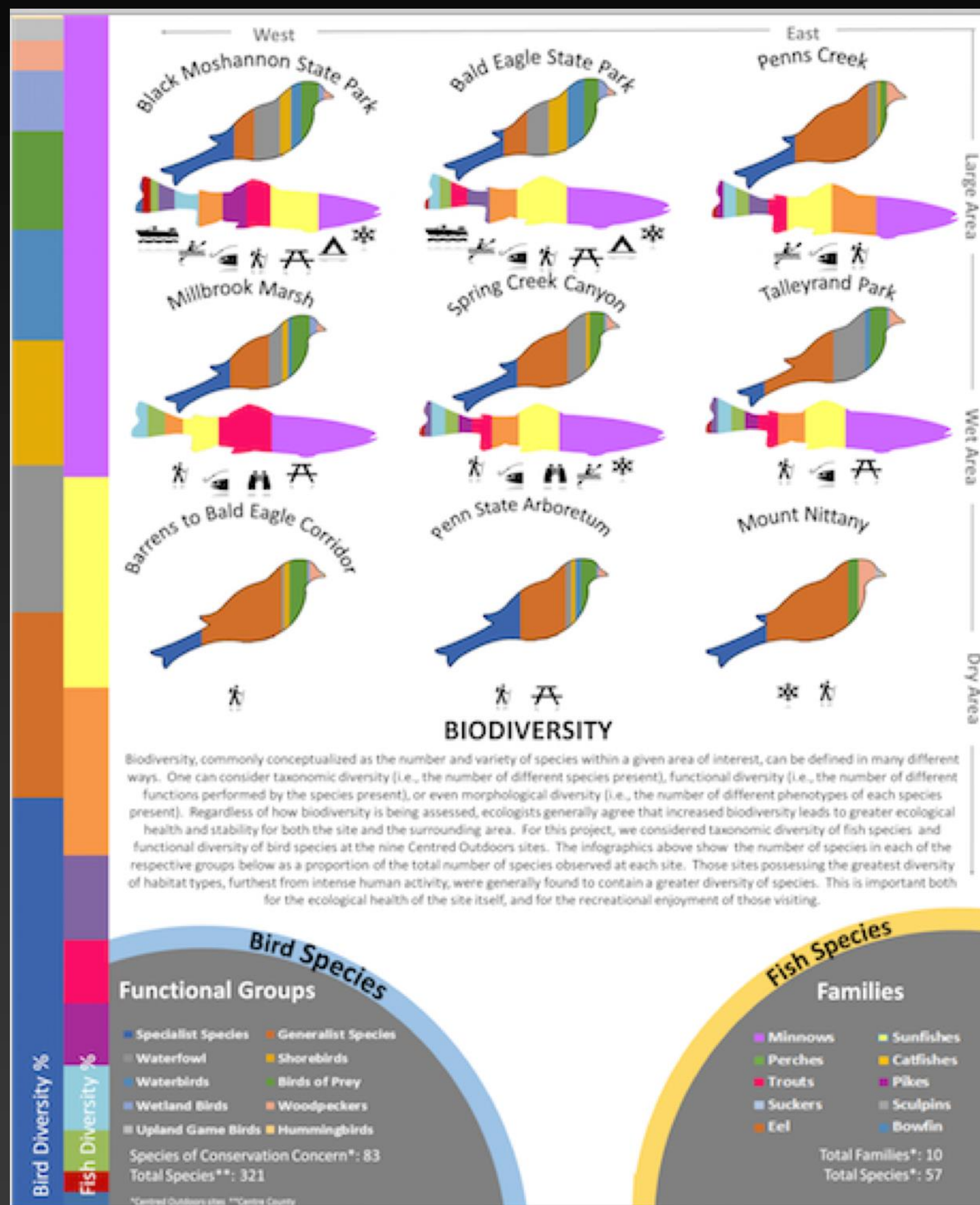
- Matched community sustainability challenges with courses
- Over 30 courses/faculty per year
- Annual expo attracting >300 attendees
- Entire program run by two “matchmakers”
- Plug-in capability for faculty
- Diverse set of solutions



All

Ecosystem Service Identification

- Identify ecosystem services provided by ecosystem functions, work with partners to understand ecosystem services and benefits that are important to them; identify linkages between practices/activities and those ecosystem services; quantify and value the services provided by those practices/activities

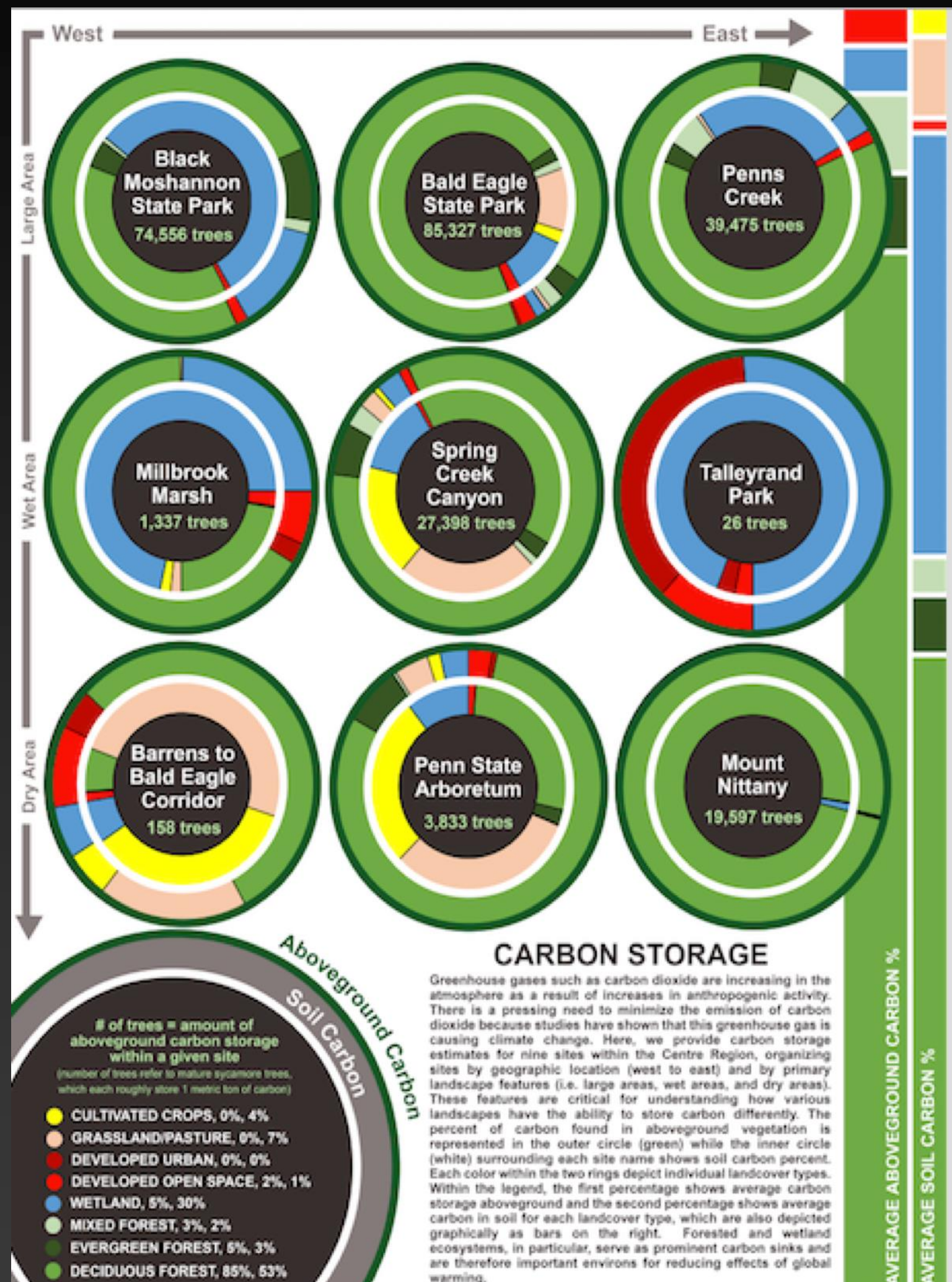


Diversifying Your Options

Wildlife Biodiversity and Recreation Activities

Pennsylvania State University - Created for Centred Outdoors

Tim Gould (Ecology), Josh Wisor (ESM), Travis Young (Geog), Ramzi Tubbeh (Geog), Jesús Ruiz-Plancarte (Meteo), Tara Mazurczyk (Geog), Zheng Lin (Env Engr), Kyle Clark (ESM), Peter Backhaus (Geog)
GEOG 550 - Wetlands Ecology and Management - Robert P. Brooks, Ph.D. Instructor

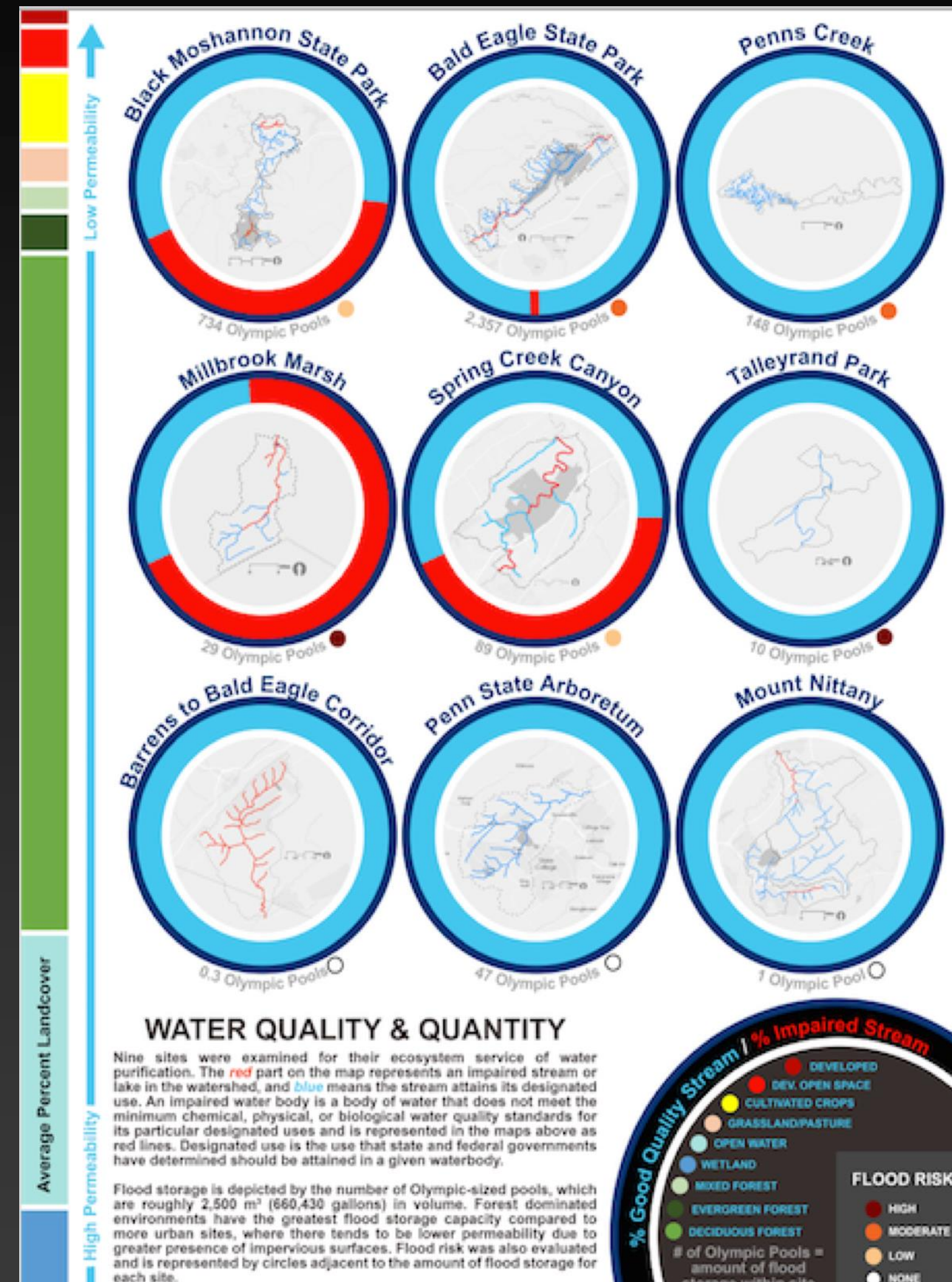


A BREATH OF FRESH AIR

How Different Landscapes Reduce Carbon Dioxide by Storing Carbon

Pennsylvania State University - Created for Centred Outdoors

Tara Mazurczyk (Geog), Jesús Ruiz-Plancarte (Meteo), Peter Backhaus (Geog), Kyle Clark (ESM), Tim Gould (Ecology), Zheng Lin (Env Engr), Ramzi Tubbeh (Geog), Josh Wisor (ESM), Travis Young (Geog)
GEOG 550 - Wetlands Ecology and Management - Robert P. Brooks, Ph.D. Instructor



WATER BENEFITS

Water Purification, Stream Impairment & Flood Storage

Pennsylvania State University - Created for Centred Outdoors

Ramzi Tubbeh (Geog), Zheng Lin (Env Engr), Tara Mazurczyk (Geog), Kyle Clark (ESM), Peter Backhaus (Geog), Travis Young (Geog), Tim Gould (Ecology), Josh Wisor (ESM), Jesús Ruiz-Plancarte (Meteo)
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Sustainable Fisheries

Oysters/Blue Crab

- Gauging public perceptions and commercial fishery stakeholder views on key Bay resources. In order to gain support for restoration efforts, increase public investments, better understand public opinions, and develop tools to be responsive.
- Develop communication materials on the benefits of oyster reefs; this is well-documented in research, so taking that research and making it digestible for different stakeholders (managers, funders, public)
- Hack-a-thon: Development of a blue crab data hub pulling in data from multiple surveys, housed by different partners around the region.
- Hack-a-thon (could be a follow-up/second part from the one above): take blue crab data and deduce new estimates that remove sex-specific biases?

Toxic Contaminants

Toxics Research

- Generate further information on mercury in the watershed (water, sediment, fish tissue). Create a story map to summarize impairments due to mercury and communicate ongoing studies of mercury and fish in the watershed.

Land Conservation

Protected Lands, Healthy Watersheds

- Filling the Cultural and Scenic Landscapes Documentation Guide. Filling gap in documenting scenic and cultural landscapes. Building on existing Flickr database.
- Improve understanding of indigenous cultural landscapes. Assemble existing work, create composite approach for ICL documentation and use two landscapes- one in Va and one in Md as test beds for how the protection of ICLs can integrate with and expand upon ongoing habitat conservation and restoration efforts throughout the region.

Climate Resiliency

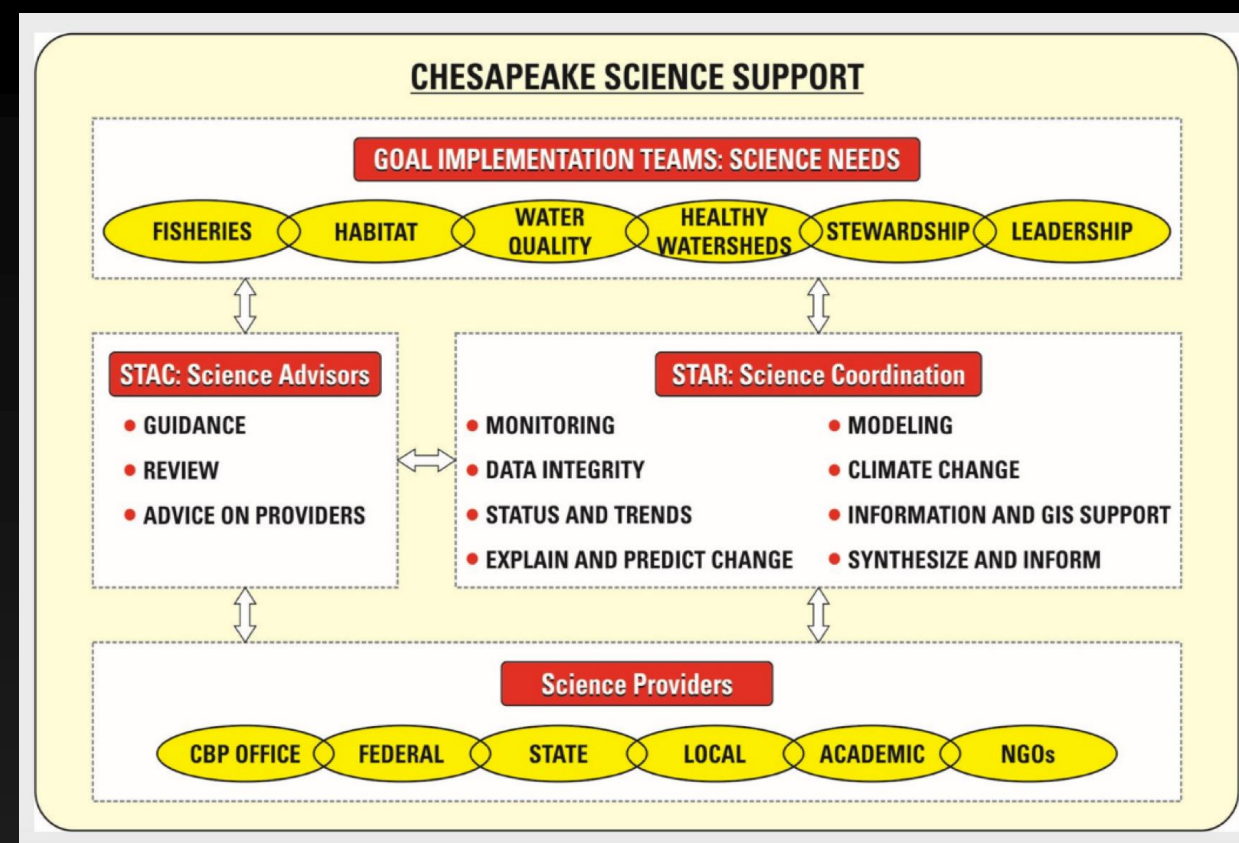
Adaptation

- Social science- human behavior- implications of the human response (positive and negative) to climate change, flooding, sea level rise, as well as motivation and needs of communications to adapt.

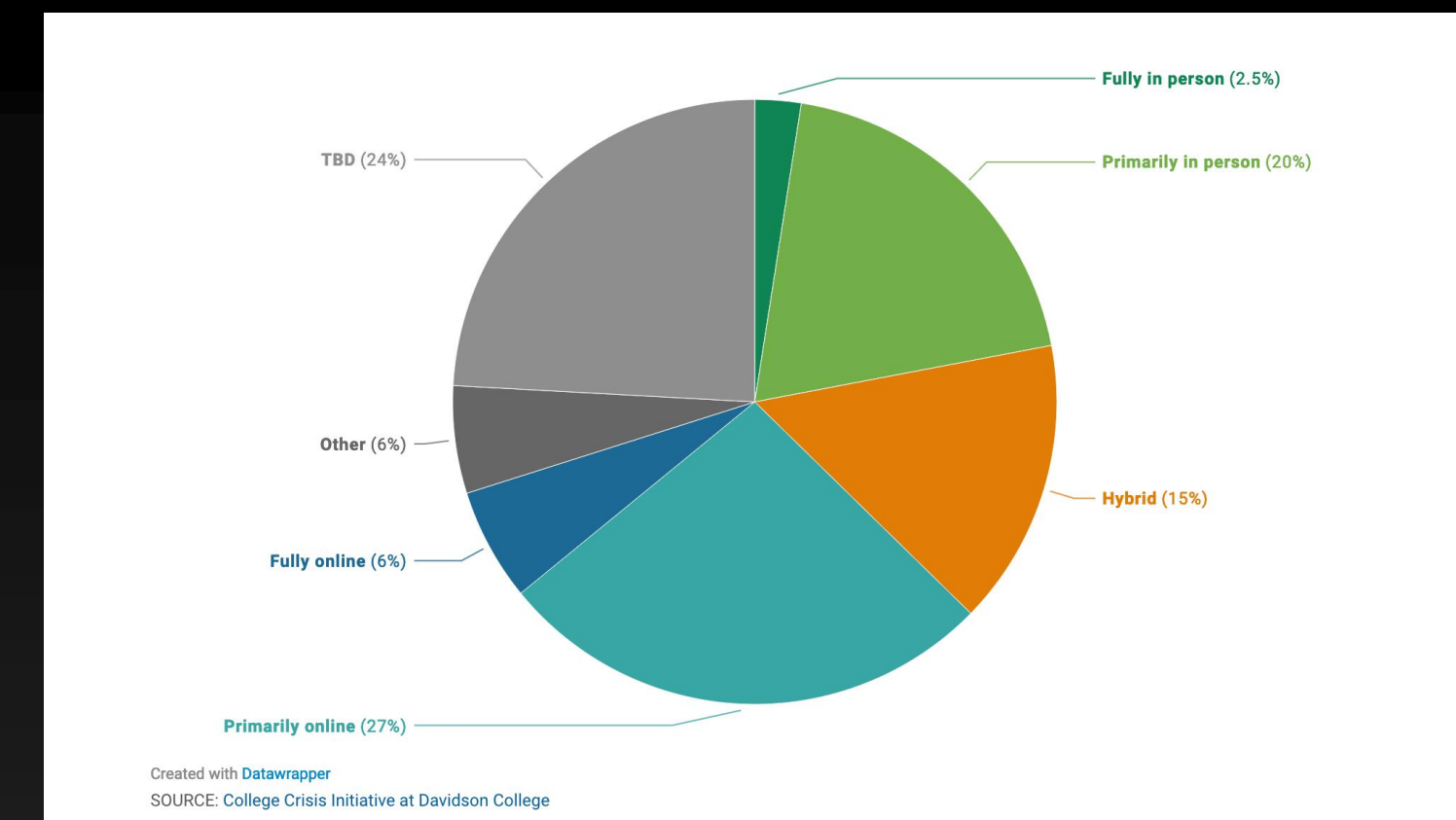
Water Quality

WIPs

- Hack-a-thon Data from managers, restoration projects, monitoring, literature review-
 - identify relationships between water quality stressors and stream recovery



Benefits



- Contribution of diverse ideas for existing challenges
- Impact of engaged scholarship experience for students is proven to be large
- Engaged scholarship opportunities “level the playing field” for under-served student populations
- Develops recruitment pipeline
- Expands science provisioning ecosystem to include additional faculty

What is needed?

- An articulation of STAR/GIT needs in 5-7 project ideas
- Requires a matchmaker on either side
- A standard agreement re: product format and delivery
- Identification of metrics for assessment
- Requesting STAR to do a pilot of 1-3 course projects for Fall/Spring semester plus 1 Hack-a-Thon