



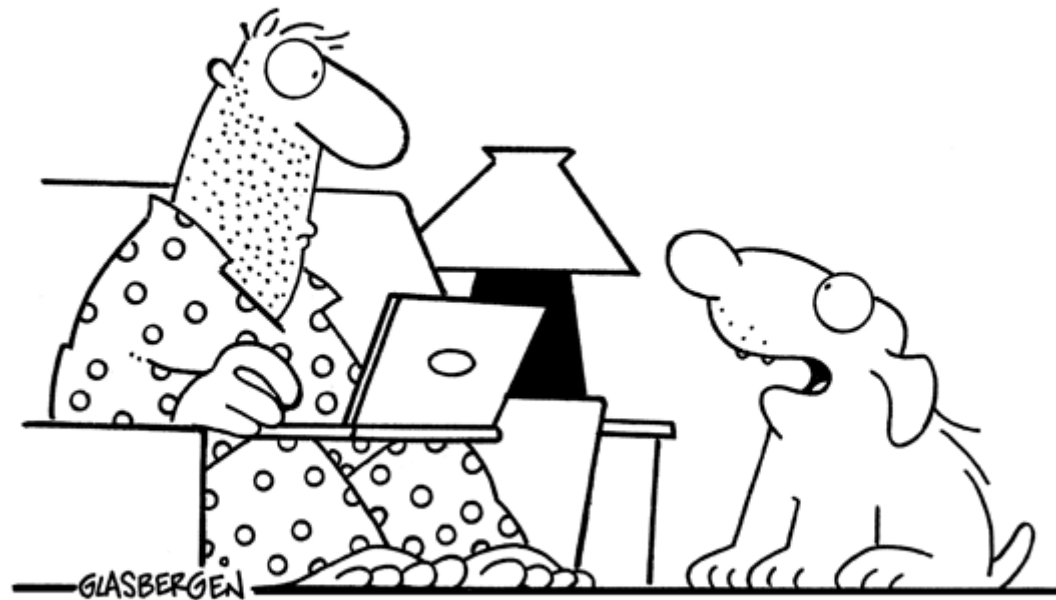
**GOVERNOR'S COUNCIL ON CLIMATE CHANGE
(GC3) - WORKING AND NATURAL LANDS
WORKING GROUP**

**RIVERS SUB-WORKING GROUP
MEETING**

MARCH 25, 2020

WHO'S ON THE LINE?

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**"I work at home too, but you don't see me
sitting around in my pajamas all day!"**

MARCH 7TH GC3 MEETING

Agenda Items

(have Statewide Mitigation, Adaptation and Resiliency Report Outline handy for reference)

- Working Group Spotlight – Equity and Environmental Justice
- Working Group Updates
- Table of Contents Discussion
- Discussion on Integration Between Working Groups and with Other Efforts

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OBJECTIVE

SOMETHING TOWARD WHICH EFFORT IS DIRECTED



OUTCOMES

**SOMETHING THAT FOLLOWS AS A RESULT OR
CONSEQUENCE**

STRATEGY

A CAREFUL PLAN OR METHOD



IMPLEMENTATION ACTIONS

THESE SHOULD BE

SPECIFIC

MEASURABLE

ATTAINABLE

RELEVANT

TIMELY

ECOSYSTEM SERVICES: REGULATING SERVICES

THE BENEFITS OBTAINED FROM THE REGULATION OF ECOSYSTEM PROCESSES

- **CLIMATE REGULATION** - ECOSYSTEMS INFLUENCE CLIMATE BOTH LOCALLY AND GLOBALLY. FOR EXAMPLE, AT A LOCAL SCALE, CHANGES IN LAND COVER CAN AFFECT BOTH TEMPERATURE AND PRECIPITATION. AT THE GLOBAL SCALE, ECOSYSTEMS PLAY AN IMPORTANT ROLE IN CLIMATE BY EITHER SEQUESTERING OR EMITTING GREENHOUSE GASES.
- **WATER REGULATION** - THE TIMING AND MAGNITUDE OF RUNOFF, FLOODING, AND AQUIFER RECHARGE CAN BE STRONGLY INFLUENCED BY CHANGES IN LAND COVER, INCLUDING, IN PARTICULAR, ALTERATIONS THAT CHANGE THE WATER STORAGE POTENTIAL OF THE SYSTEM, SUCH AS THE CONVERSION OF WETLANDS OR THE REPLACEMENT OF FORESTS WITH CROPLANDS OR CROPLANDS WITH URBAN AREAS.
- **EROSION CONTROL** - VEGETATIVE COVER PLAYS AN IMPORTANT ROLE IN SOIL RETENTION AND THE PREVENTION OF LANDSLIDES.
- **WATER PURIFICATION AND WASTE TREATMENT** - ECOSYSTEMS CAN BE A SOURCE OF IMPURITIES IN FRESH WATER BUT ALSO CAN HELP TO FILTER OUT AND DECOMPOSE ORGANIC WASTES INTRODUCED INTO INLAND WATERS AND COASTAL AND MARINE ECOSYSTEMS.
- **BIOLOGICAL CONTROL** - ECOSYSTEM CHANGES AFFECT THE PREVALENCE OF CROP AND LIVESTOCK PESTS AND DISEASES.
- **STORM PROTECTION** - THE PRESENCE OF COASTAL ECOSYSTEMS SUCH AS MANGROVES AND CORAL REEFS CAN DRAMATICALLY REDUCE THE DAMAGE CAUSED BY HURRICANES OR LARGE WAVES.

ECOSYSTEM SERVICES: PROVISIONING SERVICES

THE NONMATERIAL BENEFITS PEOPLE OBTAIN FROM ECOSYSTEMS THROUGH SPIRITUAL ENRICHMENT, COGNITIVE DEVELOPMENT, REFLECTION, RECREATION, AND AESTHETIC EXPERIENCES

- **FRESH WATER** - FRESH WATER IS ANOTHER EXAMPLE OF LINKAGES BETWEEN CATEGORIES—IN THIS CASE, BETWEEN PROVISIONING AND REGULATING SERVICES.
- **FUEL** - WOOD, DUNG, AND OTHER BIOLOGICAL MATERIALS SERVE AS SOURCES OF ENERGY. HYDROPOWER AND COOLING APPLICATIONS ARE MOST SPECIFIC TO WATER RESOURCES.
- **FOOD AND FIBER** - THIS INCLUDES THE VAST RANGE OF FOOD PRODUCTS DERIVED FROM PLANTS, ANIMALS, AND MICROBES, AS WELL AS MATERIALS SUCH AS WOOD, JUTE, HEMP, SILK, AND MANY OTHER PRODUCTS DERIVED FROM ECOSYSTEMS.
- **BIOCHEMICALS, NATURAL MEDICINES, AND PHARMACEUTICALS** - MANY MEDICINES, BIOCIDES, FOOD ADDITIVES SUCH AS ALGINATES, AND BIOLOGICAL MATERIALS ARE DERIVED FROM ECOSYSTEMS.

ECOSYSTEM SERVICES: CULTURAL SERVICES

THE NONMATERIAL BENEFITS PEOPLE OBTAIN FROM ECOSYSTEMS THROUGH SPIRITUAL ENRICHMENT, COGNITIVE DEVELOPMENT, REFLECTION, RECREATION, AND AESTHETIC EXPERIENCES

- **RECREATION AND ECOTOURISM** - PEOPLE OFTEN CHOOSE WHERE TO SPEND THEIR LEISURE TIME BASED IN PART ON THE CHARACTERISTICS OF THE NATURAL OR CULTIVATED LANDSCAPES IN A PARTICULAR AREA.
- **EDUCATIONAL VALUES** - ECOSYSTEMS AND THEIR COMPONENTS AND PROCESSES PROVIDE THE BASIS FOR BOTH FORMAL AND INFORMAL EDUCATION IN MANY SOCIETIES.
- **INSPIRATION** - ECOSYSTEMS PROVIDE A RICH SOURCE OF INSPIRATION FOR ART, FOLKLORE, NATIONAL SYMBOLS, ARCHITECTURE, AND ADVERTISING.
- **AESTHETIC VALUES** - MANY PEOPLE FIND BEAUTY OR AESTHETIC VALUE IN VARIOUS ASPECTS OF ECOSYSTEMS, AS REFLECTED IN THE SUPPORT FOR PARKS, “SCENIC DRIVES,” AND THE SELECTION OF HOUSING LOCATIONS.
- **SOCIAL RELATIONS** - ECOSYSTEMS INFLUENCE THE TYPES OF SOCIAL RELATIONS THAT ARE ESTABLISHED IN PARTICULAR CULTURES. FISHING SOCIETIES, FOR EXAMPLE, DIFFER IN MANY RESPECTS IN THEIR SOCIAL RELATIONS FROM NOMADIC HERDING OR AGRICULTURAL SOCIETIES.
- **SENSE OF PLACE** - MANY PEOPLE VALUE THE “SENSE OF PLACE” THAT IS ASSOCIATED WITH RECOGNIZED FEATURES OF THEIR ENVIRONMENT, INCLUDING ASPECTS OF THE ECOSYSTEM.
- **CULTURAL HERITAGE VALUES** - MANY SOCIETIES PLACE HIGH VALUE ON THE MAINTENANCE OF EITHER HISTORICALLY IMPORTANT LANDSCAPES (“CULTURAL LANDSCAPES”) OR CULTURALLY SIGNIFICANT SPECIES.

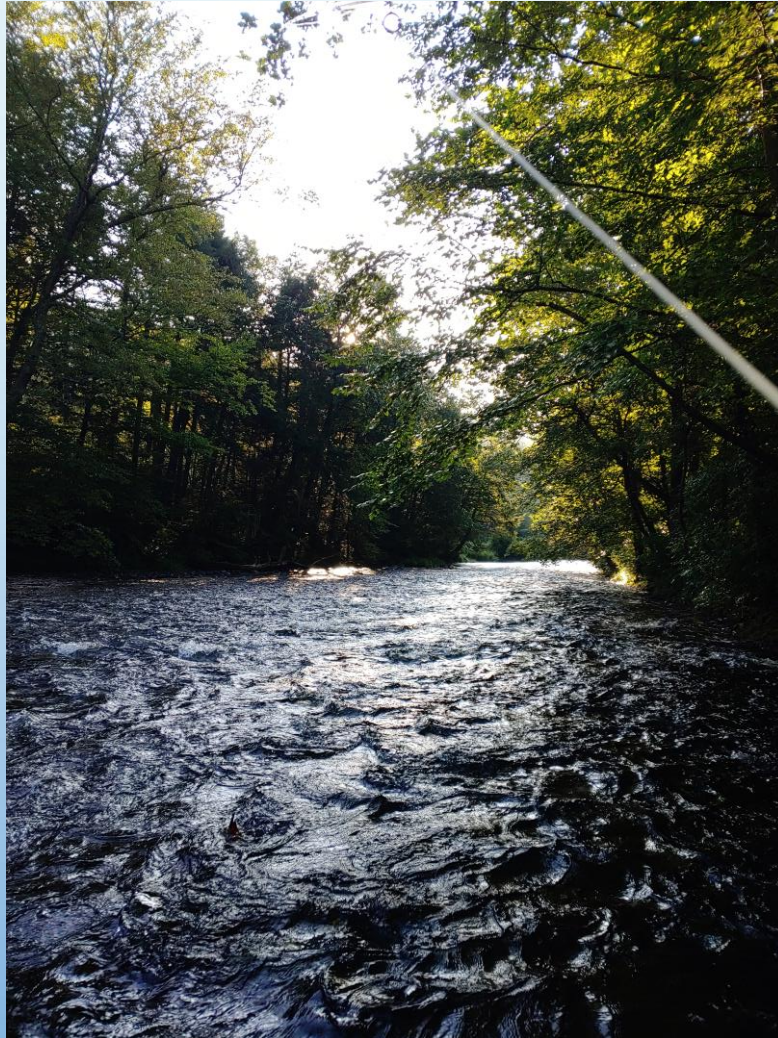
ECOSYSTEM SERVICES: SUPPORTING SERVICES

SUPPORTING SERVICES ARE THOSE THAT ARE NECESSARY FOR THE PRODUCTION OF ALL OTHER ECOSYSTEM SERVICES. THEY DIFFER FROM PROVISIONING, REGULATING, AND CULTURAL SERVICES IN THAT THEIR IMPACTS ON PEOPLE ARE EITHER INDIRECT OR OCCUR OVER A VERY LONG TIME, WHEREAS CHANGES IN THE OTHER CATEGORIES HAVE RELATIVELY DIRECT AND SHORT-TERM IMPACTS ON PEOPLE.

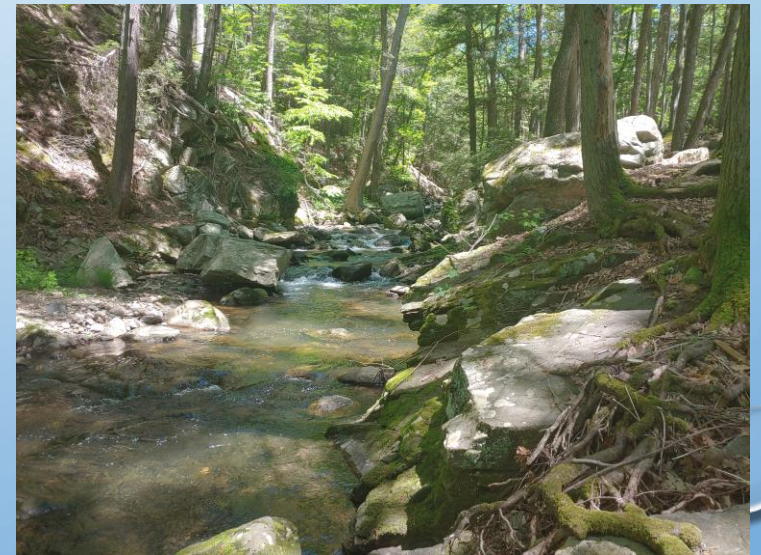
- **PRIMARY PRODUCTION** - THE SYNTHESIS OF ORGANIC COMPOUNDS FROM ATMOSPHERIC OR AQUEOUS CARBON DIOXIDE
- **PRODUCTION OF ATMOSPHERIC OXYGEN**
- **SOIL FORMATION AND RETENTION**
- **NUTRIENT CYCLING**
- **WATER CYCLING**
- **PROVISIONING OF HABITAT**

Category	Service	Trends that exacerbate vulnerability to Climate change	Objective	Outcomes and Strategies	Implementation Action
Regulating	Carbon Sequestration	Change in land use patterns	Preserve Core Forest and Open Space Protect Riparian Zones		
	Erosion Regulation	Changing Precipitation Patterns	Promote Better Stormwater Mangement		
		Change in land use patterns	Protect Riparian Zones		
	Flood Control	Changing Precipitation Patterns	Promote Better Stormwater Mangement		
Changing Land use Patterns		Protect Riparian Zones			
Provisioning	Drinking Water & Sanitation	Changing Precipitation Patterns			
		Aging Infrastructure			
	Production (general)	Changing Precipitation Patterns			
		Aging Infrastructure			
Energy	Changing Precipitation Patterns				
	Aging Infrastructure				
Irrigation	Changing Precipitation Patterns				
	Aging Infrastructure				
Supporting	Water Purification	Changing Precipitation Patterns	Promote Better Stormwater Mangement		
		Change in land use patterns	Protect Core Forests and Open Space Protect Riparian Zones		
	Water Regulation	Decision bias for out of stream uses for	Evaluate regulatory scheme		

5 MINUTE BREAK



WATER
IS A
PUBLIC
TRUST



The background is a light blue gradient with several realistic water droplets of various sizes scattered in the corners. The droplets have highlights and shadows, giving them a three-dimensional appearance.

CATEGORY ASSIGNMENTS

REGULATING
PROVISIONING
CULTURAL
SUPPORTING

PUBLIC COMMENT

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NEXT STEPS AND ADJOURN

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THANK YOU AND BE WELL!