

# Accounting for Ecosystems and their Services

An idea for Ottawa/Outaouais

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# Outline

- What are our ecosystems worth?
- Why GreenSpace Alliance?
- What are ecosystems?
- What are ecosystem services?
- Why account for ecosystems & their services?
- Idea
- Benefits
- What is required?





# What are our ecosystem worth?

- Monetary value
  - \$100,000 fine?
  - \$2.5m real estate?
  - \$500,000 developer profit?
- Ecological value?
  - Corridor
  - Species
  - Flood control, water supply
  - Windbreak
- Cultural value
  - Aesthetics
  - Health, well-being





# Why GreenSpace Alliance?

- You have a good focus on species & spaces of personal and community interest
- Would you support a coherent approach to measuring, classifying and valuing ecosystems?
  - e.g., which species & spaces are more important from an economic, ecological and social perspective?
- We could collaborate (over 1 to 2 years) to develop a common perspective



# What are ecosystems?

“Ecosystems are a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.”<sup>1</sup>

- Could be global or your backyard.
- Working definition: A contiguous land-cover area with similar properties (e.g., a woodlot, a park, a stream, a swamp...)

1. Secretariat of the Convention on Biological Diversity (2003). Convention on Biological Diversity <http://www.cbd.int/convention/text/>



# What are ecosystem services?

“Ecosystem services are the contributions of ecosystems to benefits used in economic and other human activity.”<sup>2</sup>

- Usually divided into:
  - Provisioning (food, materials & bio-energy)
  - Regulating and maintenance (bioremediation, pollination, flood protection, carbon storage...)
  - Cultural (spiritual, aesthetic, recreation)
- **Note: Values are not only economic!**
  - Include assessment of risks and impacts on well-being (e.g., health & safety benefits)

2. UNSD, EEA, WB. (2013). SEEA Experimental Ecosystem Accounting: White Cover Version. [https://unstats.un.org/unsd/envaccounting/eea\\_white\\_cover.pdf](https://unstats.un.org/unsd/envaccounting/eea_white_cover.pdf)

# Why **account** for ecosystems and their services?



- Need to have consistent definitions, methods & data.
  - Integrate information from many sources
  - Link ecological, economic and social perspective
- Answer broad questions such as:
  - What are the ecological, economic and social trade-offs of development, restoration and conservation?
  - Who benefits & who loses from development?



## Idea (not quite a proposal yet)

- Collaborate across Ottawa to compile & integrate existing information
  - Bird Survey
  - UNFS: Urban Natural Features Strategy
  - Tree Inventory
  - Ottawa Neighbourhood Study (wildlife indicators)
  - Others (land cover, population, ownership)
- Additional field work if necessary (e.g., species inventory, ecosystem condition, soil, etc.)
- Develop inventory and assessment of ecological, economic and social values of Ottawa's ecosystems





## Benefits

- Document & integrate what we have now
- Create a coherent database
  - Doesn't need to be complete
- Use consistent methods (e.g., of assigning values, assessing quality, classifying ecosystems)
- Apply a rational means of selecting priority areas
- Develop means of assigning long-term economic, ecological and social values to local ecosystems



# What is required?

- Discussion on priorities, stakeholders & data
  - Scope (woodlots, all green space?)
  - Engage other projects & groups? (Ecology Ottawa, uOttawa...)
- Assessment of capacity to conduct study
  - Training and data collection
- Plan of work
  - Start this year?



Thank you!  
Questions?

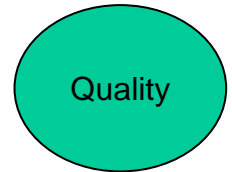
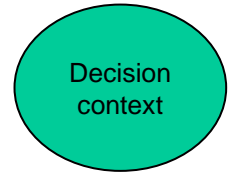
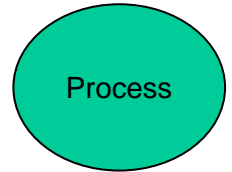
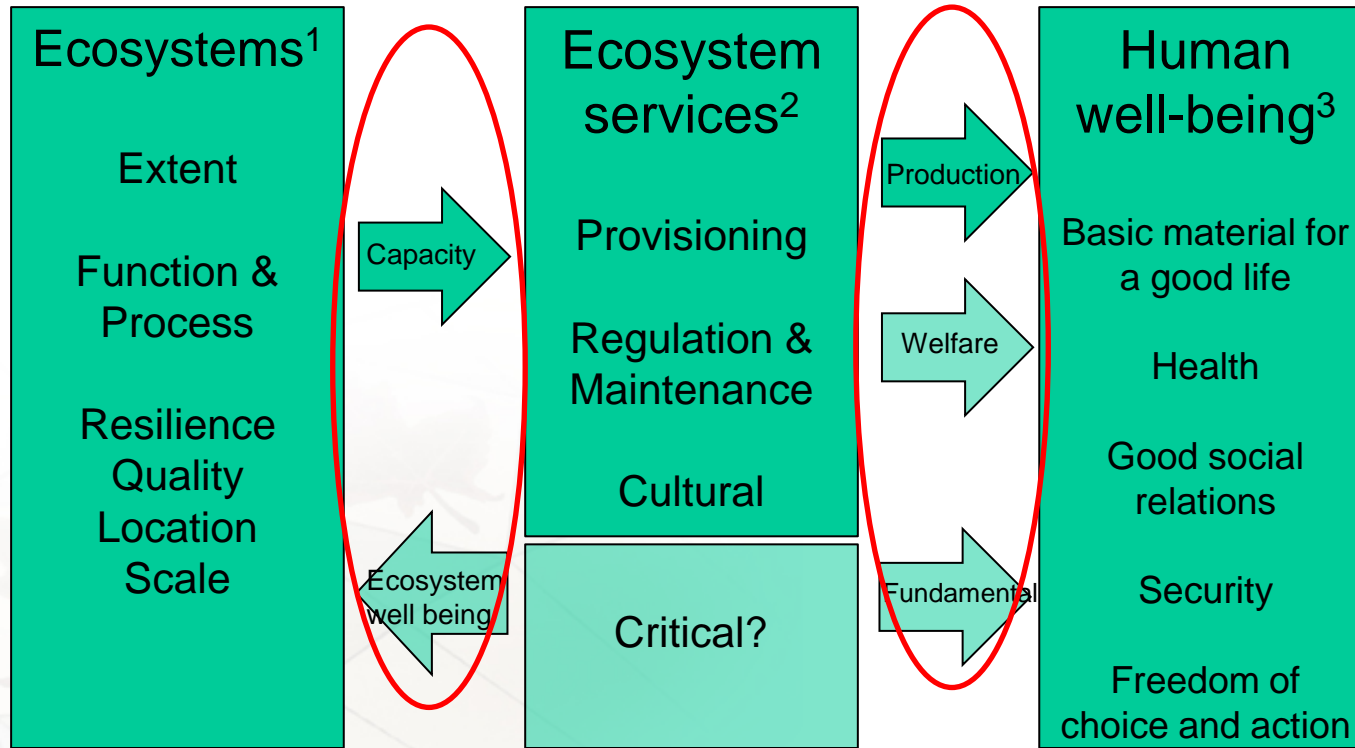
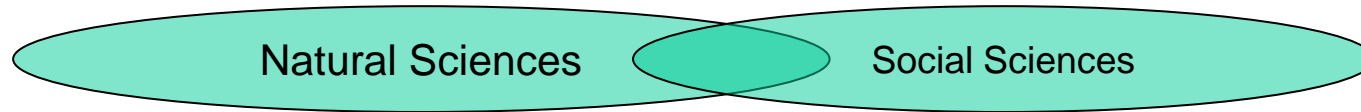
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# What is ecosystem accounting?



**Initial aggregation**

**Final aggregation → Decision**

Sources: (1) SEEA-EEA, (2) CICES, (3) MA, 2005.