Final Ecosystem Goods and Services Classification System
FEGS-CS

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- Purpose and nature of the classification

- Scope and coverage of the classification

- Principles used in constructing the classification

- Concepts of "ecosystem services" used in the classification

- Structure of the classification

- Applicability for ecosystem accounting

Purpose and Nature of the Classification

The purpose of the FEGS-CS is to provide a defined and comprehensive ecosystem services classification system that can be used to identify "where" ecosystem services originate and "who" the potential beneficiaries are anywhere on the face of the earth. It is envisioned that by quantifying the FEGS with the addition of "yet-to-be-defined" metrics and indicators, practitioners will be able to define quantities of "stocks" of FEGS.

Practitioners focused on valuation efforts or on linking to National Economic Accounts may benefit from using the National Ecosystem Services Classification System. Environmental metrics informed by use of the FEGS-CS can help to populate quantities of "flows" defined by the NESCS.

What Is The Scope And Coverage Of The Classification?

- Coverage is global made up of 3 <u>Environmental Classes</u>:

  Aquatic, Terrestrial and Atmospheric and...

  - 15 <u>Environmental Sub-Classes</u>,

- There are also 10 <u>Beneficiary Categories</u> and

  -38 <u>Beneficiary sub-categories </u>- at present

FEGS-CS : pp 12 and 43

Principles Used in Constructing the Classification

Guiding Questions – FEGS-CS p. 15, Text Box 4 (n=3)

1. For a given Sub-Class, which Beneficiary Sub-Categories are Present?

2. What are the FEGS for a given Beneficiary in a Sub-Class?

3. What is the importance of this (set of) FEGS to the Beneficiary (i.e. Use)?

FEGS Boundary Principles – FEGS-CS p. 22 (n=7)

1. Distinguishing intermediate from final ecosystem goods and services.

2. Distinguishing FEGS (from nature) from other things (connections to lithosphere, hydrosphere and atmosphere.)

3. Policy endpoints (i.e. regulations) do not create FEGS

4. Distinguishing between "ecosystem" things and human made or heavily human influenced things (roads, marinas; crops, some stocked fish, Astro-turf, orchards, etc.)

5. Incidental non-market environmental by-products can be FEGS (agriculture and silviculture viewscapes, pheasants and deer dependent on agroecosystems)

6. Increased property value or a sense of human happiness. (human constructs, not from Env.)

7. The environment itself can be a FEGS (marina owner, farmer, zip line operator, tour guide, etc.)

Concept Used

"components of nature, directly enjoyed, consumed, or used to yield human well-being" (Boyd & Banzhaf 2007)

Environmental Class + Beneficiary → FEGS

Estuaries and Near Shore Marine
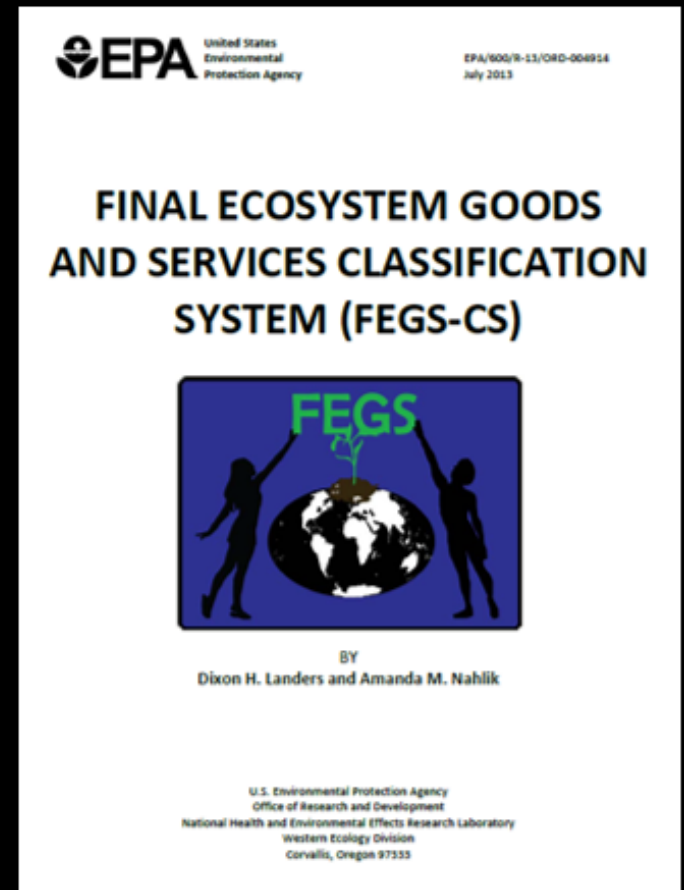
Recreational Food Pickers and Gatherers

Flora and fauna, such as mussels, seaweed, crabs, etc.

Structure and Classification

FEGS Classification System

- By using the FEGS approach, an infinite list of ecosystem services was pared down to 338 FEGS

- FEGS-CS is an operational framework that standardizes identification of FEGS at multiple, hierarchical, spatial scales

- Published EPA Report
  - *EPA/600/R-13/ORD-004914*

- Interactive FEGS-CS website at **http://gispub4.epa.gov/FEGS**
  - *Create and download custom checklists of potential FEGS*
  - *Link (eventually) with EnviroAtlas, mapping and models, metrics and indicators*

EPA — United States Environmental Protection Agency — EPA/600/R-13/ORD-004914 — July 2013

FINAL ECOSYSTEM GOODS AND SERVICES CLASSIFICATION SYSTEM (FEGS-CS)

FEGS

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Applicability for Ecosystem Accounting

- Ecosystem accounting ≠ ecosystem service accounting

- FEGS and/or other ecosystem services, when defined and classified, do not necessarily support ecosystem accounting.

- Ecosystem accounting (SEEA) appears to be focused on ecosystem attributes such as: extent, condition, capacity, resilience, and sustainability. These attributes are vastly different than ecosystem service endpoints.

- It is aspirational to think that we could perform such measurements (i.e. for specific ecosystems) with any rigor (i.e., known replicability, precision, and/or accuracy) across diverse landscapes encompassing large spatial areas. [Maybe this is the component of ecosystem services that will not be achieved for decades, similar to the national economic accounts.]

- However, if one is interested in developing ecosystem service accounting, this can be directly achievable by implementing the FEGS-CS linked with NESCS, resulting in stocks of FEGS and flows of FES.