

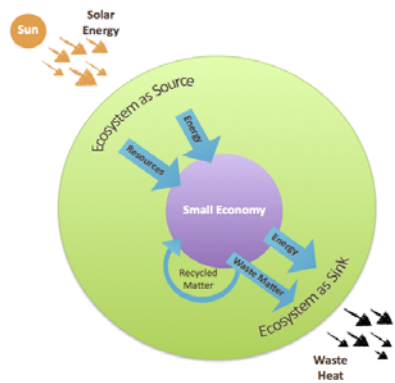
About Earth Economics

- Nonpartisan economic research, education, and consulting for government, corporate, and NGO clients
- Currently working throughout the US and Internationally
- Robust 18-year history - Washington-based 501(c)3



Why a new economic view is needed

Previous 'Empty World' Situation



Natural Capital was Abundant

- Vast pristine continents
- Countless fish in the rivers & oceans
- Boundless forests

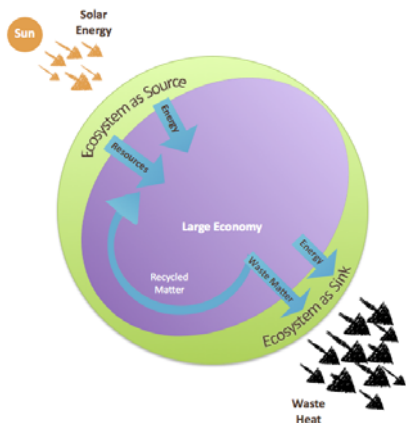
Built Capital was Scarce

- Small cities, roads, and industry
- Few fishing boats
- Few lumber mills



Why a new economic view is needed

Today's Full World Situation



Natural Capital is Scarce

- Fewer natural places/species
- Fewer fish
- Disappearing forests
- Less clean water and air

Built Capital is Abundant

- Large cities, roads and industry
- Many fishing boats
- Many lumber mills
- Many power plants



Ecological Economics is Critical

Standard Economics



Ecological Economics

- **Measures primarily built capital- GDP;**
- **Nature’s economic contributions** (e.g. drinking water, waste treatment and storm protection) are frequently **valued at zero!**
- Multidisciplinary approach, attempts to measure beyond GDP;
- Uses innovative economic methodologies to account for nature;
- Works with the understanding that the **economy and society are fully embedded in and dependent upon the natural environment;**
- Effective planning requires long-term, systems view that brings together human, social, built, and natural capital.

Results in better investments over time!



How We Affect the Regions We Serve

New Economics to Value and Secure Watersheds:

Puget Sound	Mississippi River and Delta
Colorado River Basin	San Francisco Bay Area
Columbia River Basin	St Louis River Basin
Long Island Sound	Mat-Su River Basin

New Economics to Modernize Federal Policy and Standards:

- FEMA Disaster Mitigation Program
- President’s Council of Environmental Quality (CEQ)
- Governmental Accounting and Standards Board (GASB)

New Economics to Shift Investment to True Sustainability:

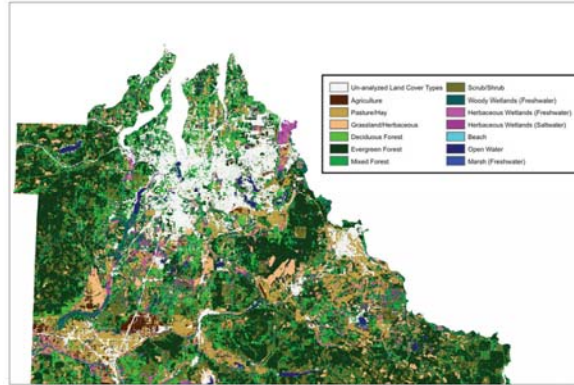
- More resilient communities (100RC)





ES in Thurston County

- 14 landcover types
- 16 ecosystem services

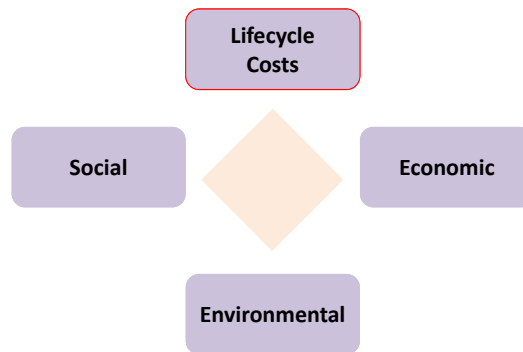


Why Capture Holistic Benefits and Costs?

- More Benefits
- Better Design
- New Stakeholders
- New Partners
- More Funding



Benefit and Cost Categories



Framing Benefit- Cost Analysis

**No Action
(Baseline)**

vs.

Action



'No Action' DOES NOT mean that conditions aren't changing

- Climate
- Infrastructure
- Population
- ...

Holistic BCA Analysis North Winds Weir



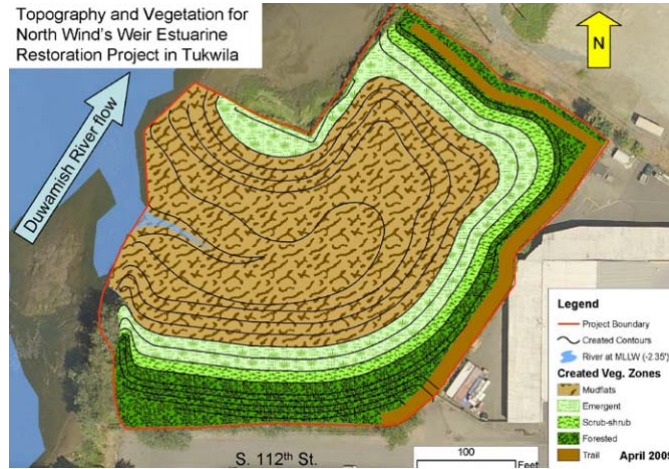
Finding the Costs and Benefits North Winds Weir



Finding the Costs and Benefits

North Winds Weir

Topography and Vegetation for North Wind's Weir Estuarine Restoration Project in Tukwila



Sample Benefit Categories

Project Costs

- Property Acquisition
- Soil Remediation
- Plant Installation and Care
- Site Improvements (paths, etc.)

Avoided Damages

- Commercial Property
- Residential Property
- Infrastructure – Bridges and Roads
- Casualties

Economic

- Neighboring Property Values
- Construction Investment Jobs
- 'Trickle Down' to Local Businesses
- Long-Term Worker Retention

Social

- Volunteer Engagement
- Physical Health
- Mental Health
- Social Equity
- Recreation (Fishing, Birding)
- Cultural Value

Environmental

- Salmon Habitat
- Reduced Soil Erosion
- Carbon Sequestration
- Bird Habitat
- Air Quality
- Tree Cover
- Invasive Control

Thurston Climate Adaptation Plan

Action 4

Restore riparian vegetation along freshwater and marine shorelines to stabilize banks, provide shade and flood storage, and slow and filter polluted runoff.

- Added benefits for riparian vegetation along shorelines
- Benefits of shade provided
- Values for runoff (N & P)
- Values for flood storage

Action 141

Elevate, reinforce or relocate important electrical equipment that is within areas at risk of flooding and/or landslides.

- Not many added environmental or social benefits to highlight

Any questions?

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