



# Sustainable Funding for Watershed Health

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# Outline

- ▶ Sustainable funding and non-profit stewardship groups
- ▶ What is sustainable funding?
  - ▶ watershed restoration
  - ▶ watershed function
- ▶ Environmental protection: are we getting enough?
- ▶ Ways to create markets in watershed values



# Defining 'sustainable funding'

- ▶ Sustainable funding would support the goals of watershed stewardship over a time frame that reflected goals
  - ▶ Ten year minimum investment (Reeve, 2005)
- ▶ Sustainable funding would be investment in watershed issues at a level that
  - ▶ Is adequate to ensure that the quality, quantity, flow of water and health of watersheds does not degrade over time
  - ▶ reflects the value and contribution of watersheds to quality of life, human health and safety, and property value and the environment




# Watershed health

- ▶ Freshwater quality, quantity and ecological health are not being sustained
- ▶ Indicators:
  - ▶ Fish health and abundance
  - ▶ Nutrient and pollution levels
  - ▶ Hydroelectric development impacts
- ▶ Regulatory protections have been reduced or abandoned
  - ▶ Federal protected waters, federal fisheries enforcement
  - ▶ Provincial monitoring reductions
  - ▶ Provincial regulatory approach that requires management by objective but does not monitor performance or oversee performance monitoring



# Roles and responsibilities

- ▶ Government: Provincial and federal roles reduced, staffing reduced, budgets are tight
- ▶ Industry: required to self-regulate, self-monitor, self-enforce
- ▶ Non-profit groups:
- ▶ Able to pursue a range of social and environmental objectives at lower cost



# How are non-profit groups funded for environmental work?

- Donations
- Grants
  - Government
  - Private foundations
  - Industry sector groups
- Fee for service / social enterprise
  
- How do non-profit groups develop and maintain sustainable and secure funding to address long term monitoring, restoration projects, and achieve goals?





# Grant funded organizations

- Issues and pitfalls:
- Grant funding: priorities of granting organizations, may not be same as local priorities
- Seldom fund projects of more than 1 year duration
- High demand / high levels of competition
- Grantors may seek to distribute funds over a region more than reach performance goals
  
- Increasingly, need more than one grant at a time



Rural problem:

Columbia Basin, common to other rural areas

- ▶ Low base population in a large area, lots of watershed area
- ▶ Inter-group competition in a limited resource environment
- ▶ Reluctance to enlarge scope of acceptable partners based on some – not all – shared interests
- ▶ Intermittent and unpredictable relationships with large grantors






# What funding is needed for good watershed stewardship?

- Watershed assessment, values identification, 'mapping' - involvement
- Identifying conflicts between proposed values and or uses - involvement
- Research necessary in risk, mitigation, support for biodiversity
- Set **priorities** and gain agreement with all parties and partners
- Invest in restoration, source protection, use mitigations, and/or
- Fund watershed reserves where necessary

# Watersheds and their functions are typically treated as a public good

- Public good: a good 'owned by everyone' where if any one individual gains unequal benefit or suffers unequal harm, there is no recourse

	Cost of stewardship	Benefit of stewardship
Public (province)	Marginal cost to resource revenues	Small and/or not attributed to watershed
Resource sector	High: professionals, studies, roads, consultation	Low, past shareholder horizon
Community watershed	Can be excluded, so low	High, human health and safety
Local government	Can be excluded, so low	High, tax base, revenues

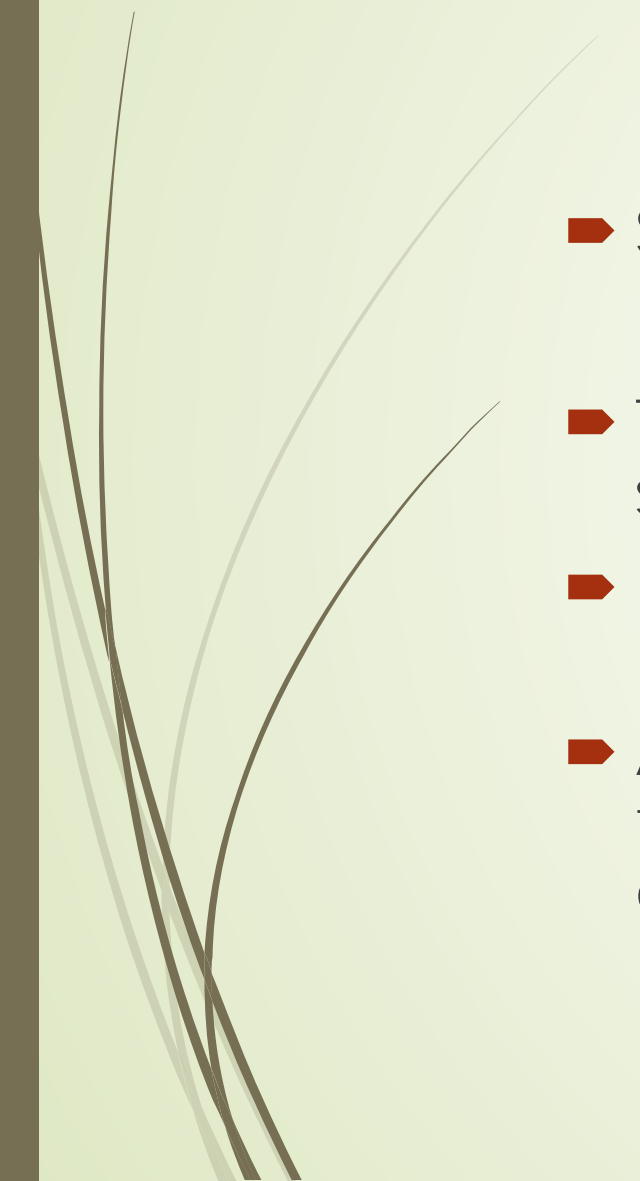


# Watershed Stewardship: are we getting enough?


- ▶ Economists do not typically like public goods, because they do not promote 'socially efficient' decision making
  - ▶ Under-investment in watershed stewardship
  - ▶ Over-investment in ways to privately capture the otherwise 'public' good
    - ▶ Over investment in resource development
- ▶ We lack ways to **choose** to protect watersheds through the market
- ▶ One approach is to create 'markets' for the 'goods'
- ▶ How do we 'market' watersheds to attract funds?



# Example: Donations for conservation

- Solicit donations to fund protection and conservation
  - Typically works best for 'charismatic' environments and species with aesthetic or cultural appeal
  - Examples include Jumbo, Valhalla Wilderness, Great Bear Rainforest
  - An organization provides a way for a contributor to pay to express their preference for protection or conservation
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Value	Who shares this value?	Market for value	Mechanism: How do groups get \$\$
Protection / aesthetic / spiritual	Environmental 'ists'	Donation opportunity to share in advocacy	Grants, volunteer
Water quality / aquatic health	Drinkers, fisherfolk, scientists	Volunteer opportunity, donation, engagement	Grants, volunteer
Quality of life	Residents	Vote for tax	Grants
Drinking water	Water users	Lower treatment cost, protect quality & property value	Tax/fee, contract, service grant
Fish and wildlife	Hunters, fisherfolk, people that like biodiversity	Fish and wildlife user fees, volunteer, licenses	Fish and wildlife grants
Safety from flood / fire	Citizens/ Improvement District / Local or Provincial Government / Insurers	Health and safety, property value, lower insurance cost (avoided costs)	Tax or toll, agreement
Recreational use	Ecotourism, Chambers of Commerce, accomms	Higher value experience	User fee, tax or toll, contribution or tip



# New approaches to funding watershed stewardship


- ▶ 1. **Utilities** are paying for forestry/grazing best practices in upstream watersheds to lower costs in drinking water, water treatment and flood control
- ▶ 2. **Local governments**
  - ▶ 'green infrastructure' investments in forests, riparian areas, wetlands to slow runoff, clean water, and even treat water
    - ▶ Sometimes called ecosystem services
  - ▶ 'eco-asset' accounting for natural capital role in producing 'income' for quality of life, economic development, and property values
- ▶ 4. Stewardship groups are organizing 'payments for ecosystem services' between donors or beneficiaries of conservation program
- ▶ 5. Private corporations are partnering with foundations to purchase 'water offsets' to protect and restore watersheds





# Green infrastructure vs Grey infrastructure

- ▶ Definition: water protection, treatment, and flood control done using natural environment instead of concrete and pipe
- ▶ Not as yet eligible for all federal infrastructure funding, but:
- ▶ Water users pay for conservation practices instead of treatment costs
- ▶ Across the United States, several water utilities bill customers for the costs of upstream conservation management
- ▶ In some cases, there are sufficient consumers to pay for complete protection, as in the New York City drinking water watershed.
- ▶ In others, the water utilities are willing to pay for upstream best practices to improve 'green infrastructure' to avoid having to increase investment in 'grey infrastructure' or capital plants



# Eco-asset

- ▶ Definition: Natural capital, or 'fixed asset producing stream of income benefits' from nature
- ▶ For example: **River or lake** that is a fixed asset for income from ecotourism, fishing and hunting, hiking, kayaking, accommodations and restaurant activity
- ▶ Maintain asset to preserve income stream
- ▶ Silverton, Gibson's, others, currently working on identifying and funding 'eco-assets'
- ▶ Can calculate the value of the environment to the community, may be able to set an 'income limit' that the asset can provide
- ▶ To create a market: Provide a mechanism for users and consumers of a resource to contribute to conservation and stewardship activities
- ▶ Examples: EcoTourism Ireland, Center for Responsible Travel, Fish and Game license fees



# Ecosystem services



- ▶ Ecosystem services: That set of services that natural environments provide
  - ▶ Lael Parrott, UBC, currently studying **relative** ecosystem services provided by different natural settings to inform development plans (which area would be least costly to develop?)
  - ▶ SFU Study of ecosystem services provided by Columbia Wetlands
- ▶ A way of thinking about what values are being provided, and
- ▶ A way of applying \$\$ values to them: how much would it cost to do this otherwise
- ▶ Cleaning and filtering water for drinking, through riparian areas and wetlands
- ▶ Slowing runoff, retaining soil protecting safety, through healthy forest and good land use



# Markets for Watershed Goods: \$\$ for better Watersheds

- ▶ In the US there are two markets produced for watersheds through regulation, both are intended to slow or halt degradation
  - ▶ Wetland mitigation banking, and
  - ▶ Water quality restoration under the Clean Water Act (TMDL provision)
- ▶ Also voluntary corporate markets for environmental protection
  - ▶ Bonneville Environment Foundation has over time developed
  - ▶ Watershed Restoration Certificates
  - ▶ 'match' program or project to a private actor that would like to help water
  - ▶ Share some issues with grants programs



# Future directions

- ▶ Practical examples in watershed partnering
- ▶ Working with local governments as partners, contractors, and on values engagement
- ▶ Grantor to non-profit relationship building
- ▶ Reduce organizational cost of granting
  
- ▶ Create high quality, high trust and low cost opportunities to bring more dollars on shared interests