



Considerations for Public Land Offsets

Alberta Association for Conservation Offsets

Public Lands Workshop

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Marian Weber, Alberta Innovates

Private/Public Land Tenures

	Private Land/White Area	Public Land/Green Area
Surface	<ul style="list-style-type: none"> - Land title - Transferable - Surface rights unrestricted use subject to - Easements or contracts for offsets - Surface Rights Act 	<ul style="list-style-type: none"> - Multiple Leases and long term tenures (overlapping) - Forest Management Agreements (considered occupants) - Timber Quotas - Grazing leases - Limited transferability - No mechanism to sell credits from avoided disturbance (use it or lose it restrictions) - Restoration?
	<ul style="list-style-type: none"> • Can not restrict sub-surface Access • Compensation for disturbed offsets? 	
Sub-Surface	<ul style="list-style-type: none"> - Surface Rights Act: Compensate land owners and occupants (FMAs and grazing leases) for surface access rights - No mechanism to sell credits e.g. from avoided disturbance or other compensatory action (no surface rights) 	

Offsets on Public Lands

- Environment Canada Framework on Allowances
 - A provincial or regional land-use plan may set aside protected areas ahead of time ... could function as a “habitat bank” from which future allowances could be obtained.
- Under what conditions does this make sense?

Justification for Private Offsets on Public Lands

- Perception:
 - Avoided loss offsets are a back door to de facto protected areas
- Similarity to Water Trusts
 - Water Conservation Trust vs ESRD (AEAB) 2013
- Who decides “best” allocation of land
 - Planning – government sets objectives/limits on behalf of public
 - Decentralized – let market decide
- Information Asymmetry
 - Uncertainty about private benefits of development
 - Uncertainty about private/public benefits of conservation

Temporary vs Permanent

- Institutional Challenges
 - No protection from sub-surface development in non-protected areas
- Ecological Dynamics
 - Shifting Mosaic of vegetation types
 - Subject to large scale disturbances and random humans disturbance
 - Habitat needs shift seasonally, over time
- **Need to consider Dynamics of Temporary Offsets**

Types of Offsets on Public Lands

- **“Avoided Loss”** – contribute to biodiversity by setting aside land in its current condition
- **“reclamation/restoration”** –restore land to suitable habitat for biodiversity

Restoration vs Avoided Loss

- Time lags
 - Difference between management action and when offset benefits are counted
 - E.g. immediately, 5 year time lag, 20 year time lag
 - Risks of offset failure borne by different parties
- Risk
 - Public
 - Offset Provider
 - Company
 - E.g. EPA Water Quality Trading

Restoration vs Avoided Loss

- Curran et al. (2014). Is there any empirical support for biodiversity offset policy? *Ecological Applications* 24:617–632.
- Moreno-Mateos D et al. (2012) Structural and Functional Loss in Restored Wetland Ecosystems. *PLoS Biol* 10(1)
 - Time lags to restoration success (convergence to Old Growth biodiversity)
 - centuries for some indicators?
 - Uncertainty and risk of failure
- Active restoration accelerates convergence
BUT still net loss

Restoration vs Avoided Loss

- Additionality:
 - Reclamation Requirements
 - Accelerated reclamation
 - Avoided loss and Restoration both allowed
 - Net loss (paper parks)
 - Prioritization of Restoration
 - Lose natural habitat, increase risk
 - Time Lags – no incentive to invest in restoration
 - Short vs long doesn't make much difference
 - Discounting
- What is the “yield function” for biodiversity?
 - Weber et al. Environmental Conservation (2015)

Cumulative Effects

- Landscape Level Outcomes vs Projects
- What Footprint to include
 - Eligible
 - Required
 - Baselines
- Future vs current constraints
 - When to meet objectives if over target
 - When objective is binding

Alternative Models

- Cap and Trade
 - Cap Annual Forest Disturbance (ha/yr).
 - Permits (allowances) issued for use in a given year (grandfather/auction)
 - Allowances can be traded or banked for future use
- Development Charges
 - Reduce rate of development
 - What is the right price?
 - How does this translate to restoration?

Option Evaluation Criteria

- Efficiency
 - Is land allocated to highest value use
 - Accommodation of new entrants
 - Efficient risk sharing
- Environmental Outcome
 - What are the risks
- Political Feasibility
 - Impacts on licensees (who pays/benefits)
 - Distribution of Risk
 - Public support/perception of fairness
- Administration
 - Information required to support system

Conclusions

- Permanent vs Temporary
- How much protection
 - Who makes tradeoff decisions on public lands
- Administrative feasibility of restoration vs avoided loss
- Information requirements and risk/liability rules