

Considering Challenges For Stacking within incentives for landowners & firms

Alex Pfaff, Duke University

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PES: could see stacking ideal ('overpay' low cost)

- costs (direct, opportunity) of supplying services vary
- assume agency buys **just 1** service per parcel
- lower-cost land may supply just one market (P_A)
- higher-cost lands not willing to supply for just P_A
- *yet high-cost lands might enter if getting $P_A + P_B$*
- *all this A & B supply is **above** any firm cleanup !*

Offsets, No Stacking: cost ↓ & service ↑

- agency requires firm cleanup: cost ↑, service ↑
- offset: firm buys A at P_A , **replacing A cleanup!**
- *does lower A cost, but A fixed (force gain in trades?)*
- YET supplying to A market raises the B service
- *these “bonus” or “free” 2nd services are gains !!*
- without stacking, they’re NOT replacing cleanup

Offsets, Stacking: **can lower all services**

- now landowner sells all of the A & B produced:
raises offset supply; lowers P_A & P_B (*& firm cost*)
- an instructive possible scenario is lower supply
as high cost lands drop out if new $P_A + P_B < \text{old } P_A$
(*i.e., farmers/lands exit, the opposite of new entry*)
- **even with entry, all A & B replace cleanup !**
↔ all the bonus (2nd) services are liquidated !!!

Actions Offsets: if impacts vary ... ?? ...

- assume that proxies are traded – **not** services
(Ex: wetlands, grass land cover, high water level)
- assume proxies' A & B impacts vary over space
(Ex: gain from habitat higher nearby more habitat)

→ “replacing” a firm’s action is no longer neutral:

- if gains lower on farm, ‘replacing’ a firm’s action is bad
(which could mean no-stacking offsets lower services)
- if gains higher on farm, ‘replacing’ firm’s action is good
(with high new entry, that could help stacking settings!)

Offsets: services measurement is critical

Incentives Drive & Driven By Measurement Intensity:

- firms do not care if A & B supplies are all false:
will not try hard to measure & may try not to !!
 - state does not want to pay for 'units' not actually supplied
 - firms lower cost any time replacing cleanup with 'offsets':
cheapest is the best & false supply is the cheapest kind!!
- farms may 'free ride' given aggregate measure:
 - better ecological model of land supply improves incentives
 - but the scale of ecological modeling & field measurements
could be larger than land units (e.g., nutrients in the river),
creating incentives to let the neighbors take costly action