Progress in General Equilibrium Modeling

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The University *of* Vermont

All Hands
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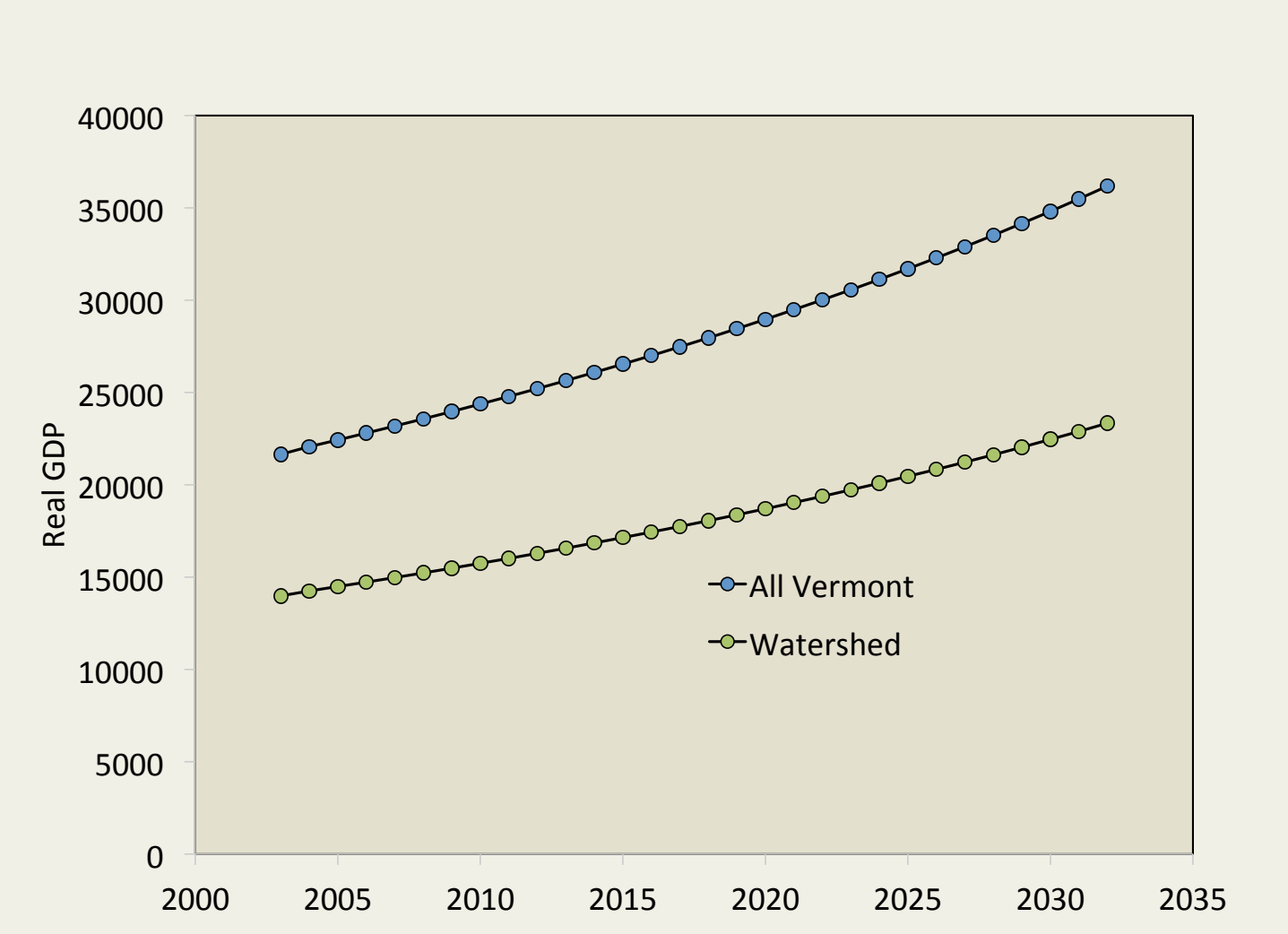
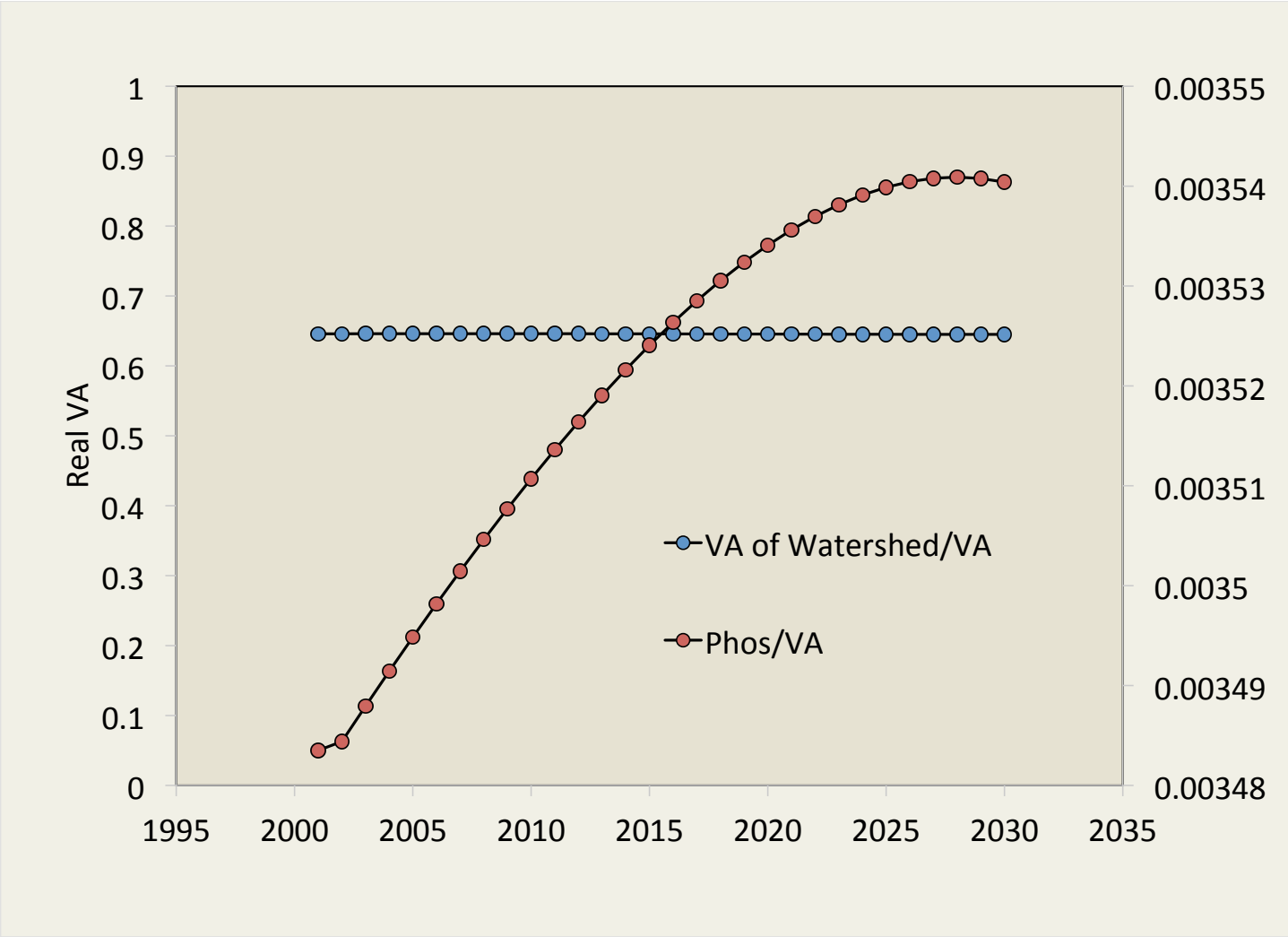
- Pigouvian taxes now built into model

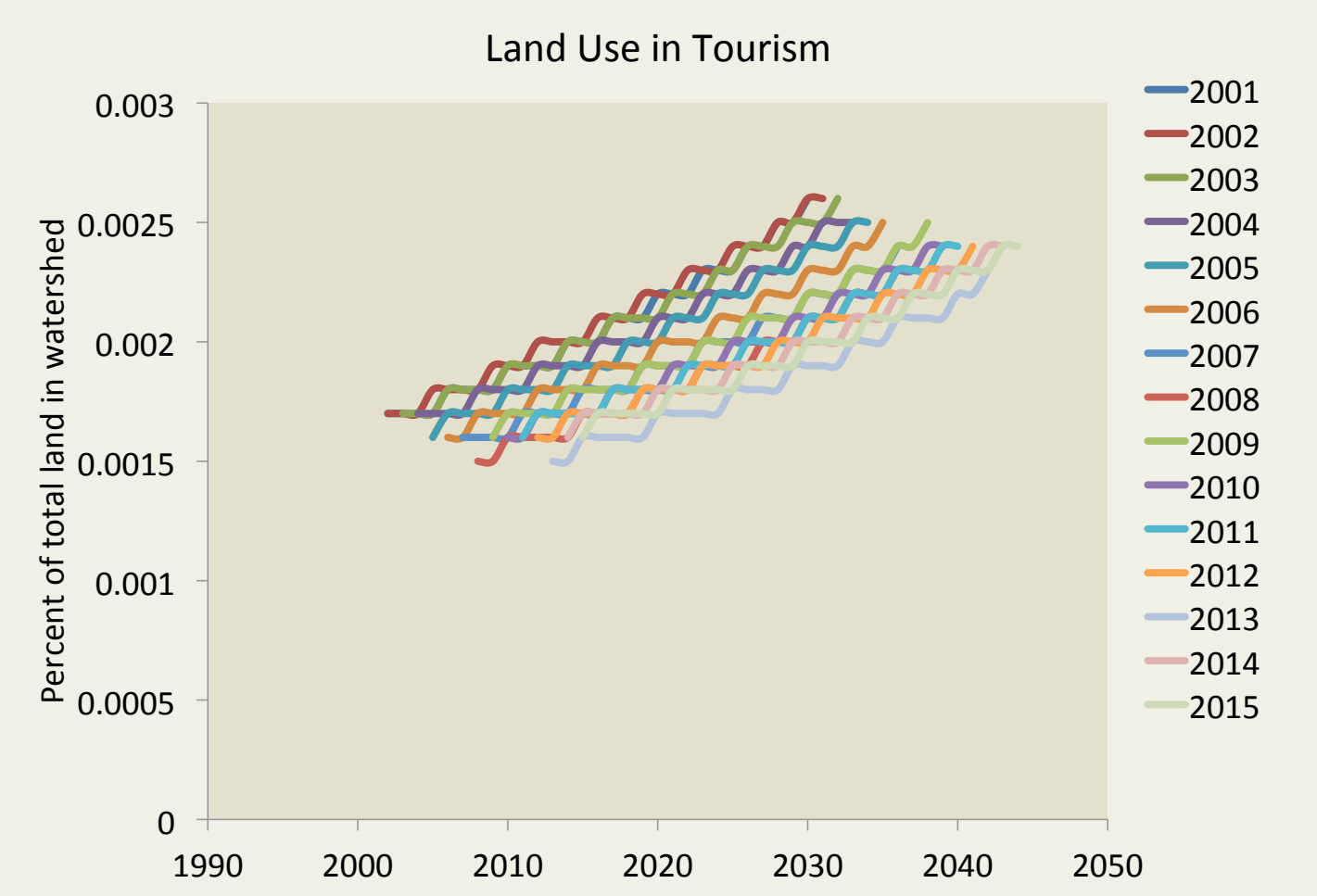
Beneficial to water quality



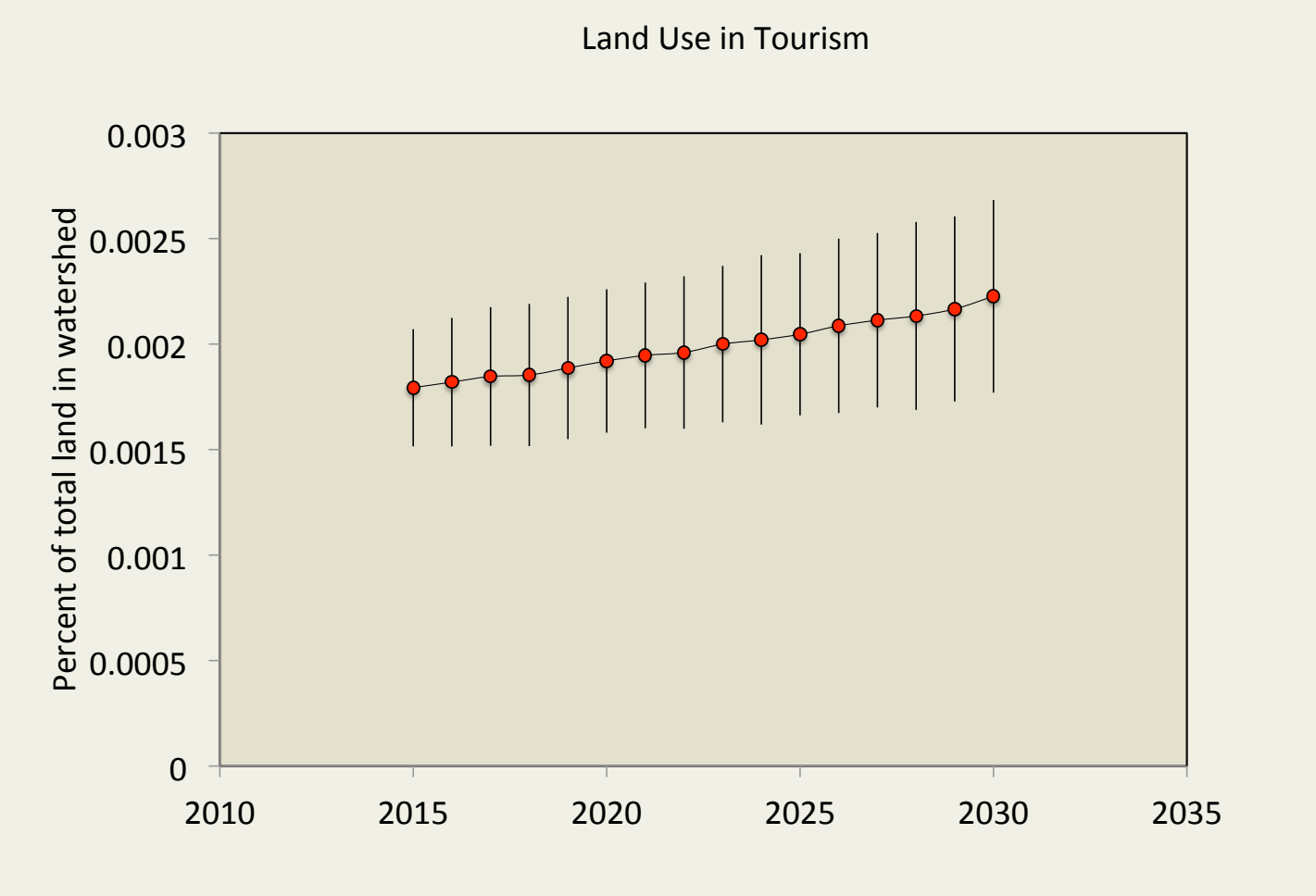
Economy will become less intensive in phosphorous



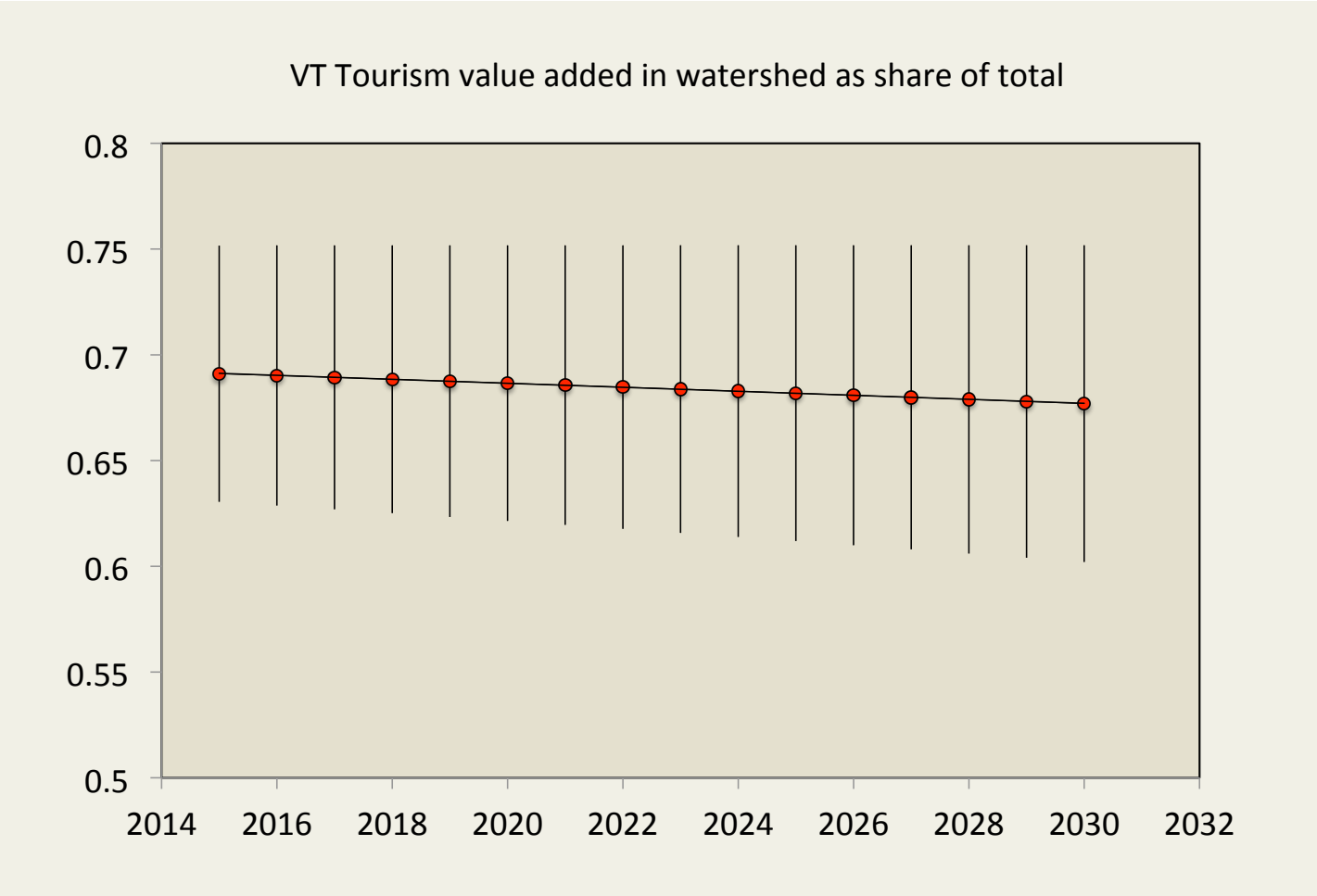
Tourism land use in watershed estimation



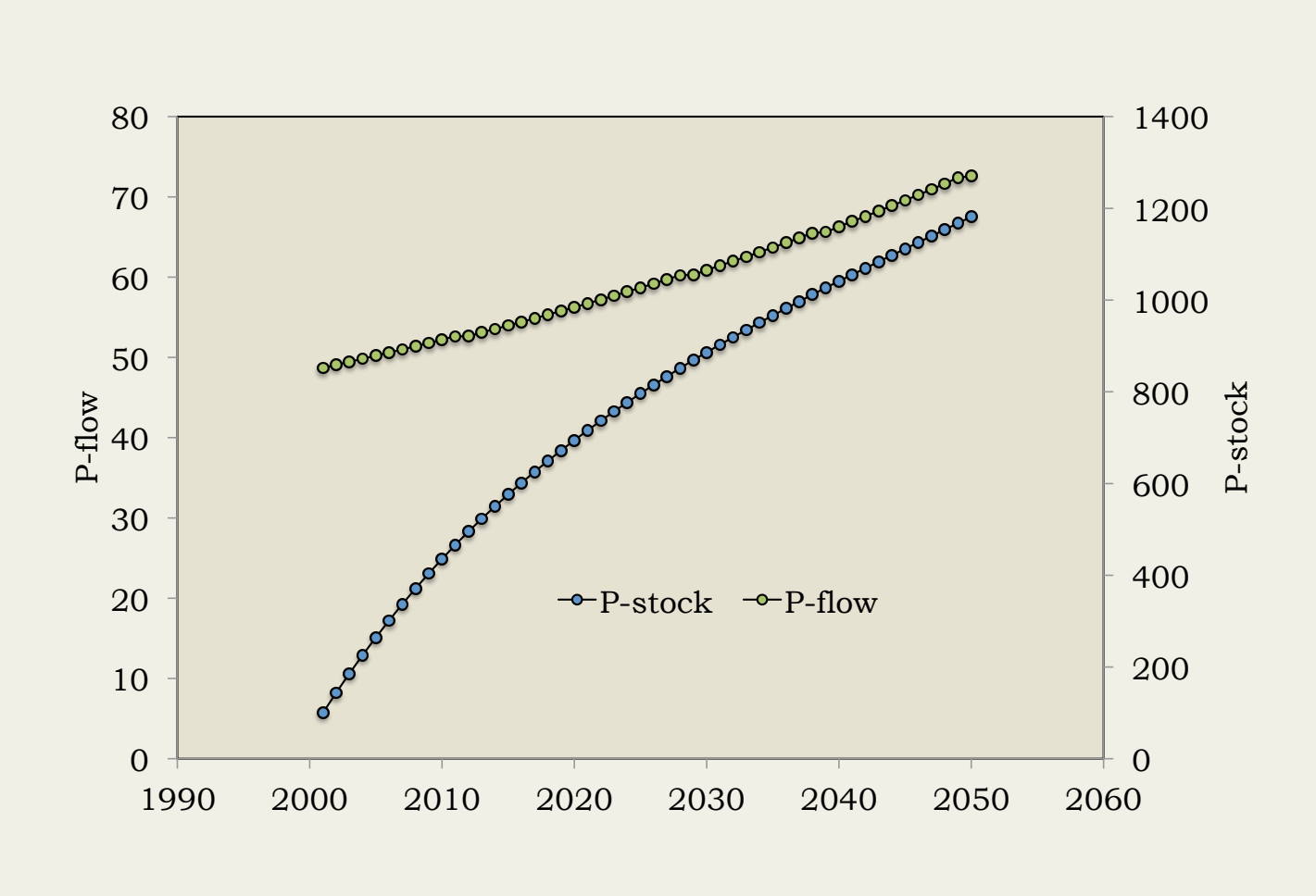
Tourism land use in watershed growing



Share of value added in watershed *falling*



Legacy P is the real issue



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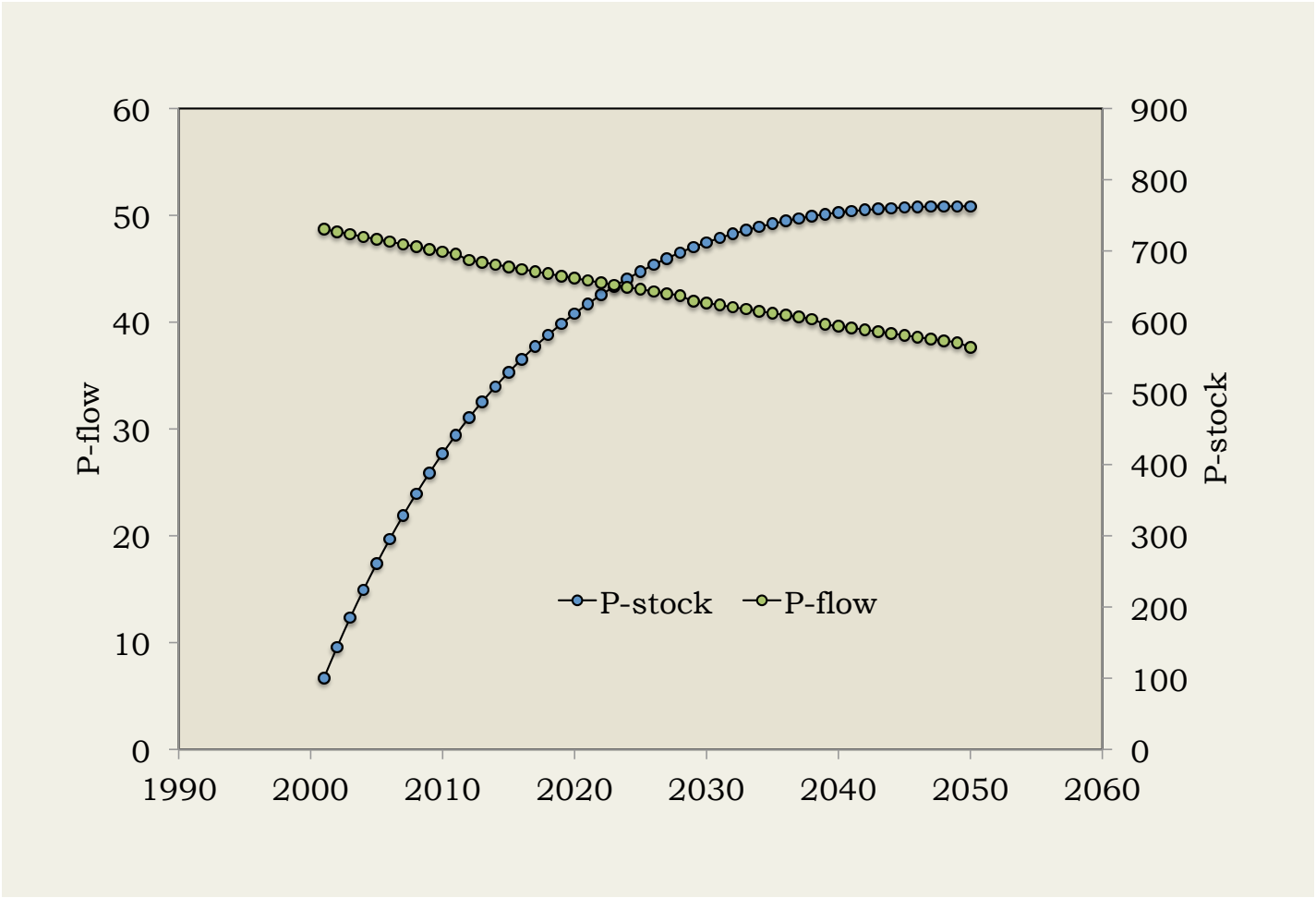

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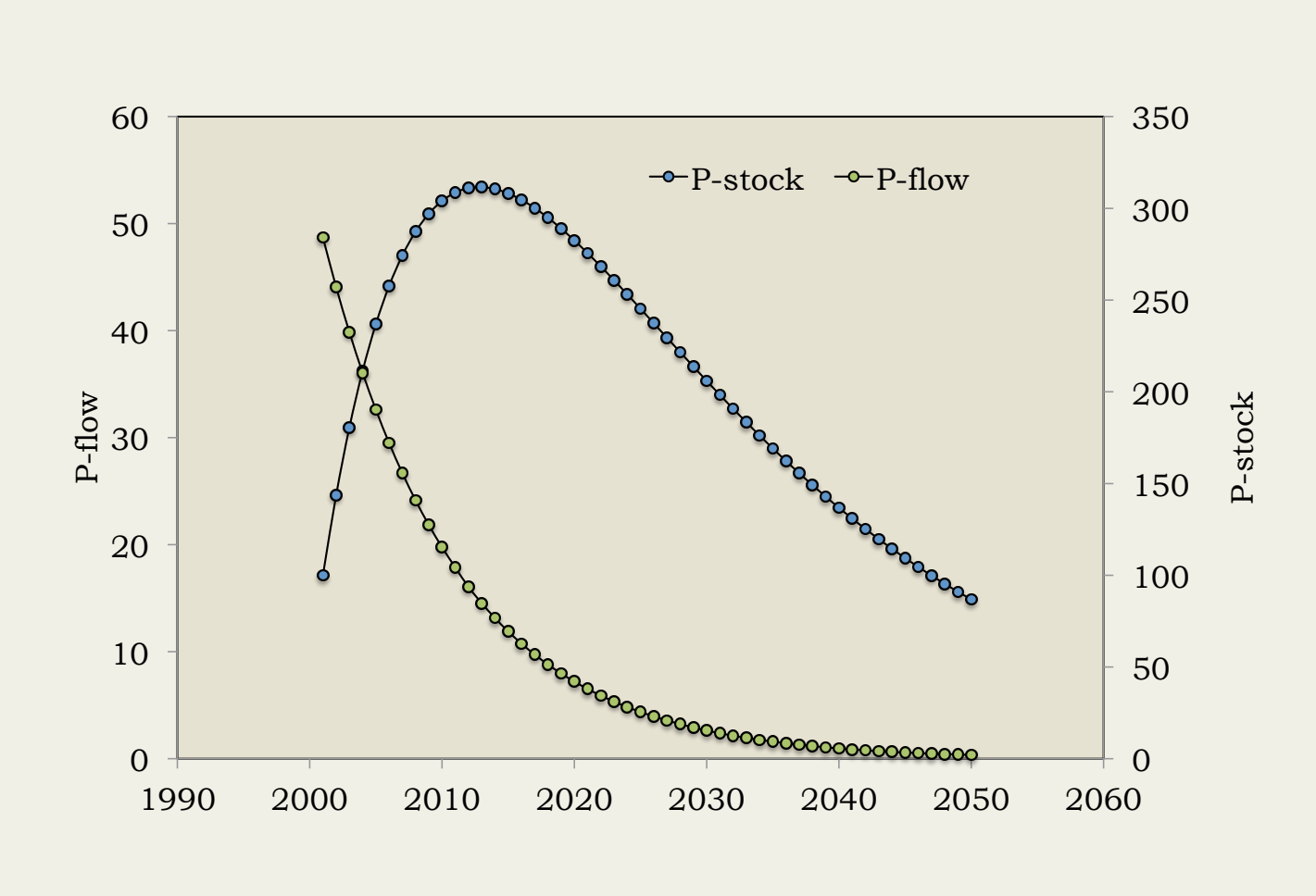

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- Can examine the change in demand when BMPs are introduced

Example of how the GEAM models BMPs

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- Why does this happen?

- Because P is tied to intermediate goods and if locally produced, they add to the P loading in the model.

BMP can increase P loading

- Have to assume that P loading coefficient ρ falls significantly

Table: Change in mean P^1 loading and GDP

ρ^2	Mean P	GDP
0	0	-0.01
10	-0.67	-0.01
25	-1.67	-0.01
50	-3.36	-0.01

Notes: 1. Percent. All improvements fall over time. 2. $\rho = P$ per unit of land.

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- Raise taxes on use of inputs to internalize the externality

Pigouvian taxes on agricultural imports

Table: Change in mean P^1 loading and GDP

Tax	Mean P	GDP
1	-0.00002	0
3	-0.00006	0
25	-0.00460	0
100	-0.01780	0

Notes: 1. Percent. All improvements fall over time.

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- Next step: measure the upper bound on the size of the externality.

- No simple economic solution to the P-loading problem