**PES Program Design & Experience: VT PES WEBINAR 11/1/2019, 1:30-2:30**

**Presenter:** Jim Salzman

**Background on Presenter:**

Professor of Environmental Protection and Law at UCSD. He spent the last 22 years around the world helping governments and professionals design PES programs, was part of an NGO called “ForestTrends” that tracked PES transactions around the world, and was the primary author on “The Global Status and Trends of Payment for Ecosystem Services” in Nature Sustainability. (Article link: https://www.nature.com/articles/s41893-018-0033-0)

**Key Takeaways:**

* PES has worked in a variety of systems in the past
  + There are over **550 active programs** around the globe – most **publicly funded and pay-for practice**. Other options are possible but inherently more complicated
    - Successful privately funded practices tend to only have one funding source, e.g. a single hydropower utility company or a single bottled-water bottler, paying for practices that will increase their bottom line.
  + Examples: NYC taxpayers paid for conservation in the Catskills to reduce their costs for water purification systems. The “BushTender program in Australia operated under a “reverse auction” where farmers “bid” on how much money it would take for them to implement certain practices. Perrier Vitel (bottled water) bought land in their watershed, leased it to farmers, and paid them for conservation practices.
* **Keep it SIMPLE.** “Perfect is a terrible idea.” The more complex of a system you create, the more expensive and complicated to implement and less long-term sustainable it becomes.
  + **Pay-for-practice**, single funding source is simplest
  + Alternatively, focus on one or two **specific outcomes** you want and can measure
    - It is possible to have an “umbrella” service that captures other non-primary sources. E.g. pay for exclusion fences improves water quality, also improves habitat but you focus on the water quality in messaging and payment.
* Most successful is to “**Reverse-engineer**” the system
  + focus on desired outcomes first, then determine scale of change necessary for outcomes, then how to get farmers to implement that at that scale and pay accordingly
  + this way you will be more apt to achieve successful outcomes, and also maximize your initial chances of funding success from legislators etc.
  + Most successful PES systems start small and simple as a pilot project paying farmers for X service and then tweak from there.
* If publicly funded, weigh **priorities/goals that will be acceptable to the legislature/constituents**
  + “you only get one bite at the apple” with state funding, so make sure you have a compelling (and therefore straightforward) case for what results your PES will provide
  + In choosing who to pay and how much (eg equity issues, change or baseline issues) often the decision will be somewhat political and that’s ok.
    - E.g. PES may not be “worth it” from a water quality perspective, but have additional benefits of economic assistance to rural communities
    - E.g. only rewarding improvement is probably the most economically efficient use of funds, but you need to be aware of the message that sends

**Background on PES:**

Definition of Ecosystem services: “The conditions and processes through which natural ecosystems, and the species that make them up, sustain and fulfil human life” –Daly 1997

Subcategories include: Translocation (e.g. pollination), stabilizing (e.g. erosion prevention), cycling and filtration (e.g. water purification).

**Key Questions:**

* Is PES even the best option in your system?
  + “5 P’s”: Prescriptive regulation, Penalties, Property, Persuasion, and Payment.
  + PES only the solution if service provision is best addressed by voluntary land management
* What service is being provided?
  + Need to be able to track/measure provision of this service
* What level of service is needed?
  + Does it need to be targeted? Who is going to provide the services?
* Who is providing the service and who benefits?
  + Lots of beneficiaries makes it hard to get buyer together: easier with a single buyer
  + If there are different providers – who to pay?
* Pay who, for what, how often, based on what evidence?
  + Pay the “good guy” or the “bad guy?”
    - More efficient to pay the “bad guy”, but what is fair?
    - What message are you sending with each technique?
  + Model or Measurement?
    - Most past PES programs have been based on modelling for simplicity
  + Who bears the risk of innocent loss e.g. natural disaster?
  + Pay for Input (practice) or Output (Performance)
    - Most pay for Input because costs are upfront, reduces risk on farmers
    - Could pay for Output but farmer assumes risk that the model is accurate
      * only for carbon sequestration, because it’s easy to model
  + How often do you pay?
    - Front-loaded, back-loaded, or evenly spaced?
  + Are we getting value for money, and how would we know?
  + Market tends to choose the answer to all these questions
* Who will pay, and for how long?
  + Generally the public. If so, political implications abound
    - How to convince legislature? (simplicity, value for money, results, alignment with broader political goals)
    - Are you changing behavior, or is it just an ag subsidy? (either ok, if intentional)
    - State legislatures budget year-to-year. Outcomes better if you contract for longer, but that might not be possible based on political reality.
  + If private, essentially always a single corporation
    - Cap and trade only possible with regulations to trade credits under, eg TMDLs
    - Carbon credit trading is currently very limited and mostly philanthropic
    - Markets fluctuate, and PES with too many buyers is likely to fail.