

Designing Environmental Service Programs for the Chesapeake Bay

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Describe the Concept of a **Reward for Environmental Services (RES)** program.

Call for Bay RES demonstration programs to refine the design and assure feasibility of RES



The Northern Everglades Payment for Environmental Services Program

Extensive *working ranch* landscapes, will enter into *fixed term contracts* to provide *documented* water related environmental services and habitat, *above and beyond* *regulatory requirements* creating a new *profit center* for ranch enterprises.

Partners who were FRESP



Participating Florida Ranchers



NRCS Natural Resources Conservation Service





The Chesapeake Bay TMDL was designed to **ensure** that **all** pollution control measures needed to **fully restore** the Bay and its tidal rivers are in place by 2025, with at least 60 percent of the actions completed by 2017. The TMDL **assigns responsibilities** for reducing and then capping sources through waste load and load allocations to regulated and non-regulated sources, respectively. ...

The Bay TMDL is supported by rigorous accountability measures to **ensure** cleanup commitments are met, including short-and long-term benchmarks, a tracking and accounting system for jurisdiction activities, and **federal contingency actions that can be employed if necessary to spur progress**.

Watershed Implementation Plans, which **detail how and when** the six Bay states and the District of Columbia **will meet** pollution allocations, played a central role in shaping the TMDL.

The Chesapeake Bay TMDL is based on a set of models that, while impressively sophisticated, are still just models of the system. As such, there are inherent uncertainties in the output – uncertainties that become significant with increasing resolution of spatially explicit analyses. When these uncertainties are combined with our far-from-perfect understanding of BMP performance, **it is clear that the path to a restored Bay is really more of a direction than a roadmap.** Given that “no action” is an unacceptable alternative in efforts to manage the Bay ecosystem, operating under uncertainty is essential. The Bay Program partnership’s response to the TMDL issue incorporates references to adaptive management as the necessary solution. **Unfortunately it is not yet clear that current planning reflects an effective strategy for learning while doing.**

The WIPs

WIPs: Reality Check and a New RES Program

- Landowners in small watershed catchments cooperatively produce nutrient and sediment reductions that benefit the Bay and estuaries (the TMDL).
- Watershed catchment organizations document load reductions with low cost measurements of water quality change.
- Technical and cost assistance provided to landowners in catchments.
- State-level RES programs recognize these catchment organizations, verify the reported load reductions and provide financial rewards /other recognition to landowners and communities.
- Local watershed improvement benefits realized coincident with Bay-specific water quality improvement outcomes are recognized by the local watershed community, increasing the commitment of landowners and communities to water quality improvement actions that would also serve the Bay load reduction targets.
- The programs could be funded by dedicated fees and general revenues, but would be created and operated outside of any existing agency.

Describe the Concept of a Reward for Environmental Services (RES) program.

Call for Bay demonstration programs to refine the design and assure feasibility of RES

Offsets (a.k.a. trading)

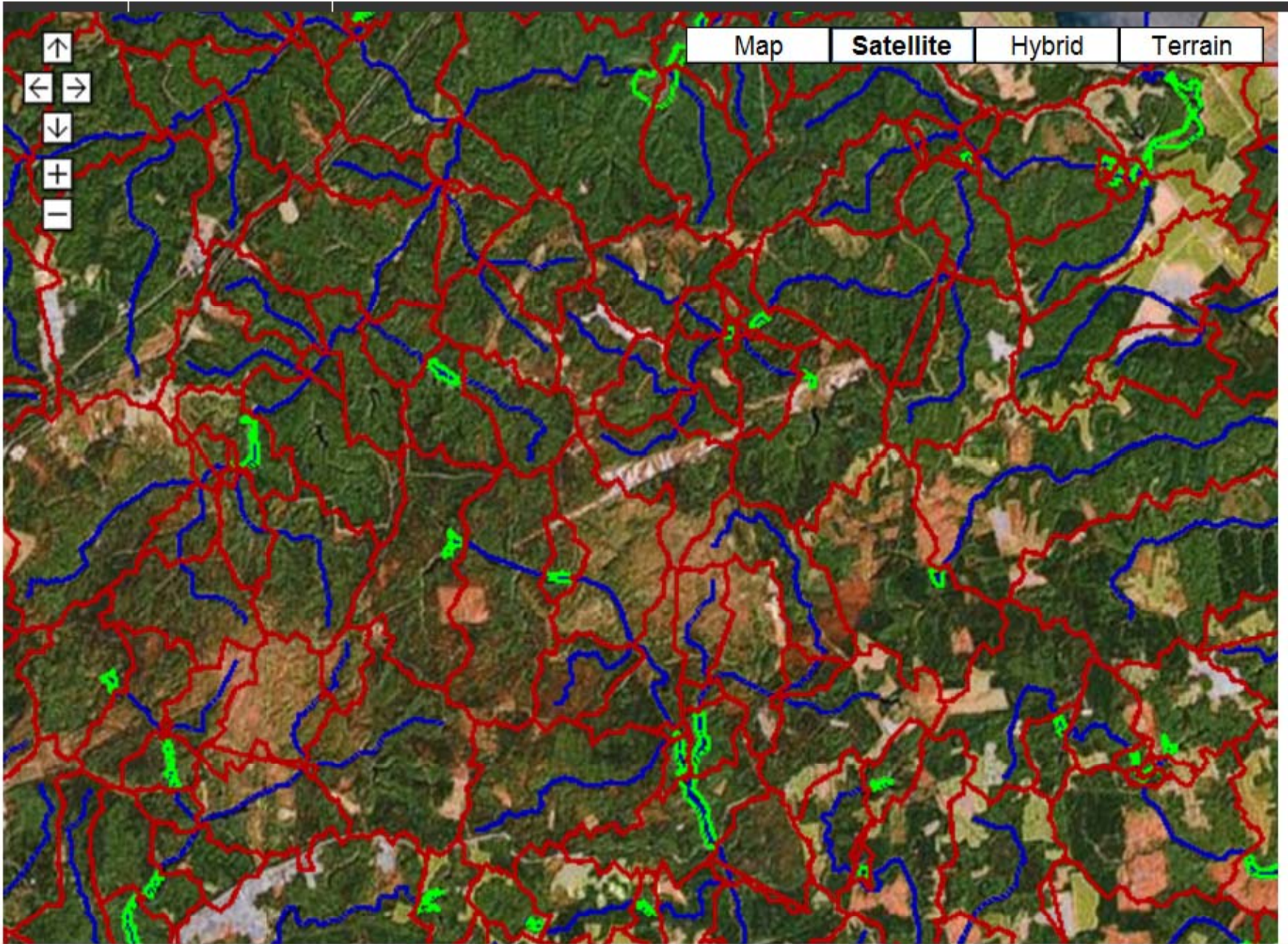
“Innovation” with limited
potential

From PES to RES

- Principles
- Similarities
- Differences

Catchments and RES

- What is a catchment (mini watershed)
- Program effectiveness, though the ability to measure results
- Program effectiveness, through the ability to build commitment and manage transaction costs



Windows taskbar showing several open applications: Internet Explorer, Firefox, a folder icon, a document icon, a calendar icon, a search icon, and a taskbar search icon. The taskbar contains the following application titles: "View update history", "Community PES", "Shabman, Leonard - ...", "Re: RTI paper - Win...", and "LocalMeasures.net - ...".

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Bay demonstration programs to refine the design and assure feasibility of RES

FRESP Lessons



Participating Florida Ranchers



NRCS Natural Resources Conservation Service



What to address in a demonstration?

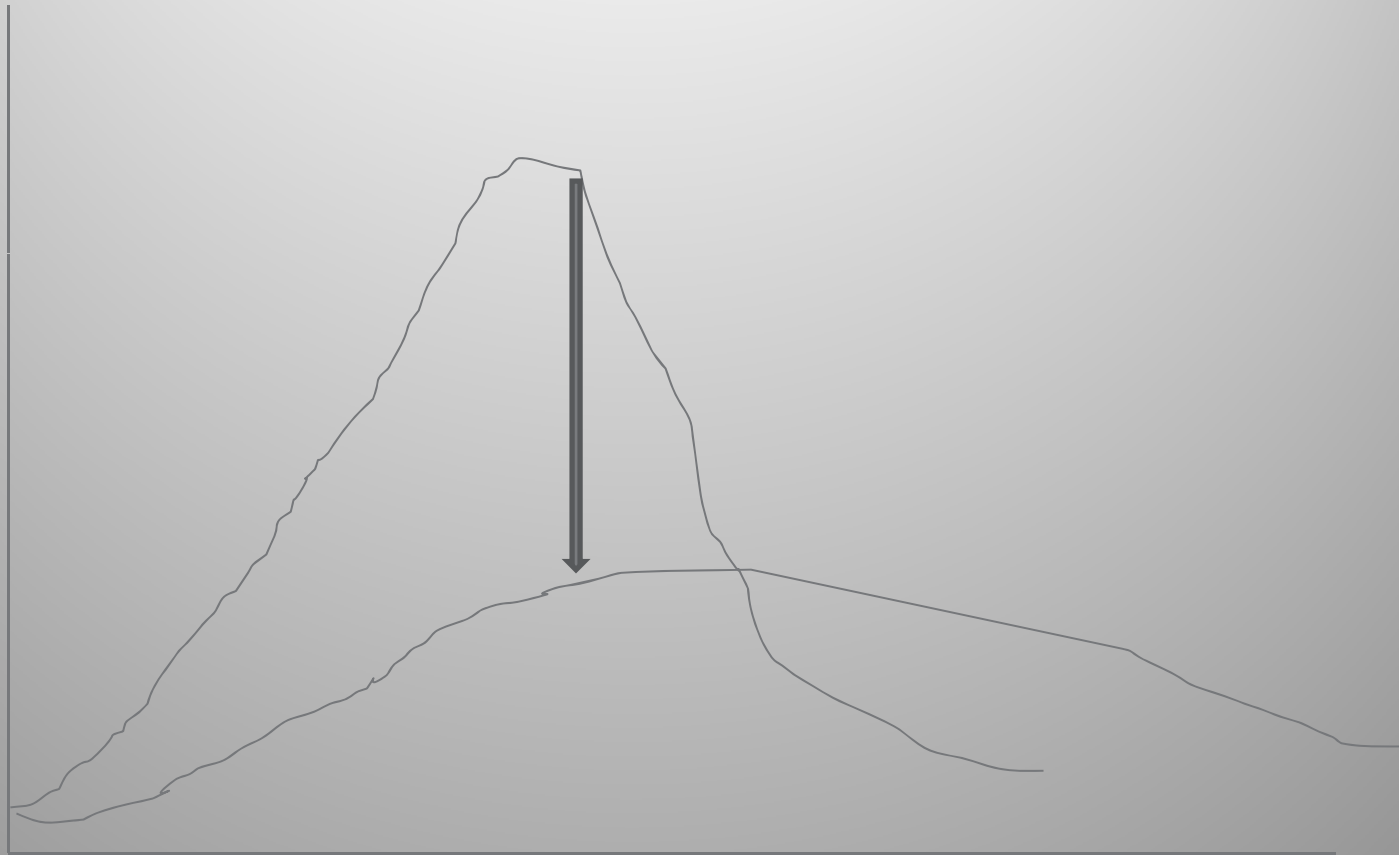
- Approaches to document performance
- Reward and recognition processes (“contracts”)
- Secure long term reliable agency commitment and funding

Approaches to document performance

What to measure: why and how

| | <u>Bay clarity</u> | <u>N load to Bay and estuaries</u> | <u>P load to Bay and estuaries</u> | Odor | Contact recreation | Aesthetics | Fish in nearby waters (ex. Fletchers) | Swim in nearby waters |
|-------------|--------------------|------------------------------------|------------------------------------|-------------|---------------------------|-------------------|--|------------------------------|
| Temperature | N | N | N | Y | N | N | Y | N |
| Nitrate | Y | Y | N | N | N | N | N | N |
| Turbidity | Y | N | Y | Y | Y | Y | Y | Y |

Hydrograph



Making a Demonstration Successful

- Secure financial support for demonstration project
- Select Demonstration Communities
- Commit to a Collaborative Process for RES Program Design

A Final Thought