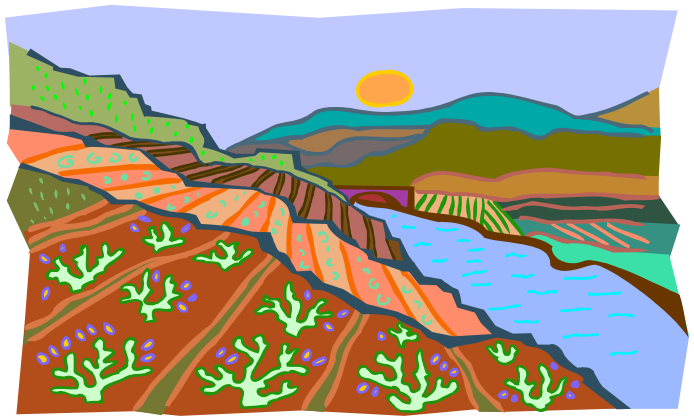


Pilot-Testing Pay-for-Performance Conservation

Jonathan Winsten
Winrock International

WINROCK INTERNATIONAL

What's Needed?

Conservation programs that:

- have clear and appropriate pollution reduction goals
- are focused on environmental outcomes
- get producers interested and motivated to participate
- provide flexibility and incentive to maximize "bang for the buck"

Background

- Agriculture continues to be the primary source of water quality impairments in the U.S.
- Current conservation programs:
  - Spend close to $5 billion per year;
  - Are not focused on environmental outcomes;
  - Have not solved impairments in many regions;
  - Do not motivate some producers
  - Do not incentivize producers to take most cost-effective actions.

Pay-for-Performance Conservation:

- Rewards farmers for achieving specific environmental performance targets;
- Farmers choose how to achieve targets;
- Incentivizes farmers to choose the most cost-effective actions;
- Provides opportunities for additional farm income.

The Economic Justification

- Well-established markets are lacking
- Current incentives tied to specific practices
  - Subset of possible actions
  - Designed to offset cost
  - Effectiveness varies greatly
- Performance-based incentive can serve as a "price" for pollution control
- Environmental performance becomes incorporated into farm business planning

Quantification

How do we quantify environmental performance?

- Measurement vs. Modeling

Measured vs. Modeled Performance

- Measured performance
  - Real data from actual conditions
  - Is measurement practical at the farm-level?
  - Use of proxy variables?
- Modeled performance
  - Allows for scenario analysis – before actions are taken.
  - Is it accurate enough?
    - In a given year?
    - Over the long-term?
  - Is it simple enough to use?
    - Trade-offs between simplicity and accuracy?

Quantification

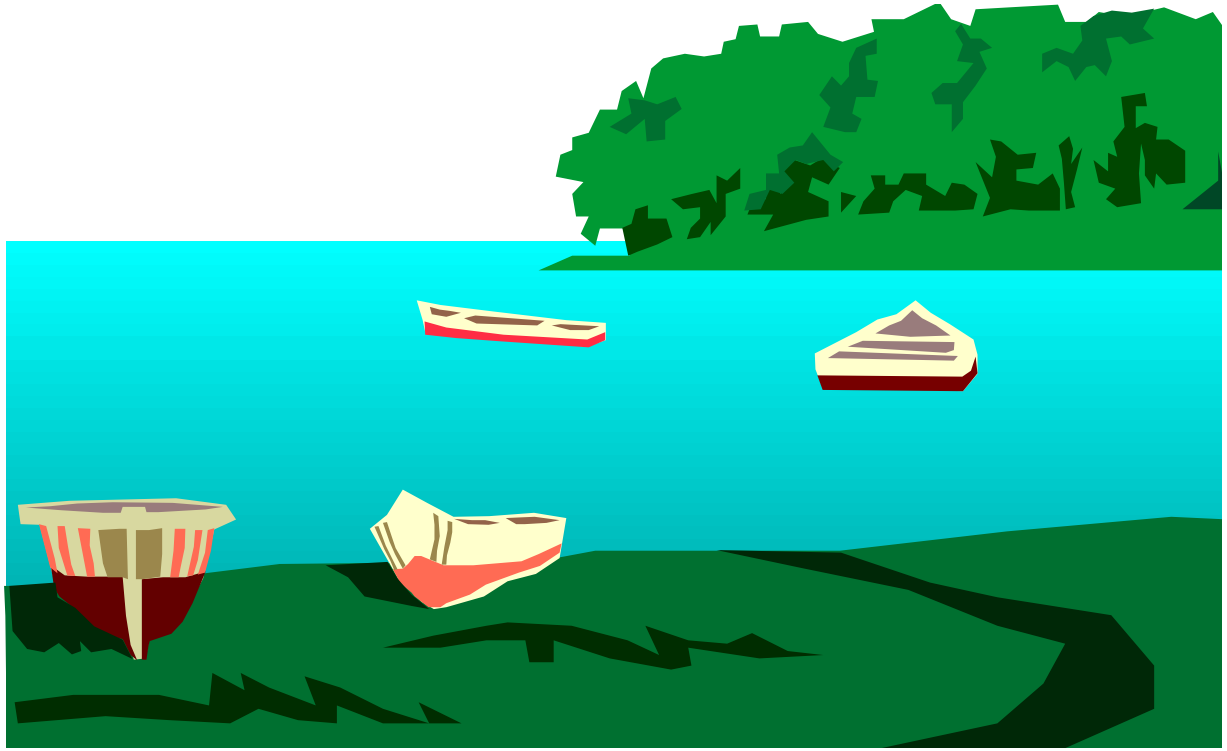
How do we quantify environmental performance?

- Measurement vs. Modeling

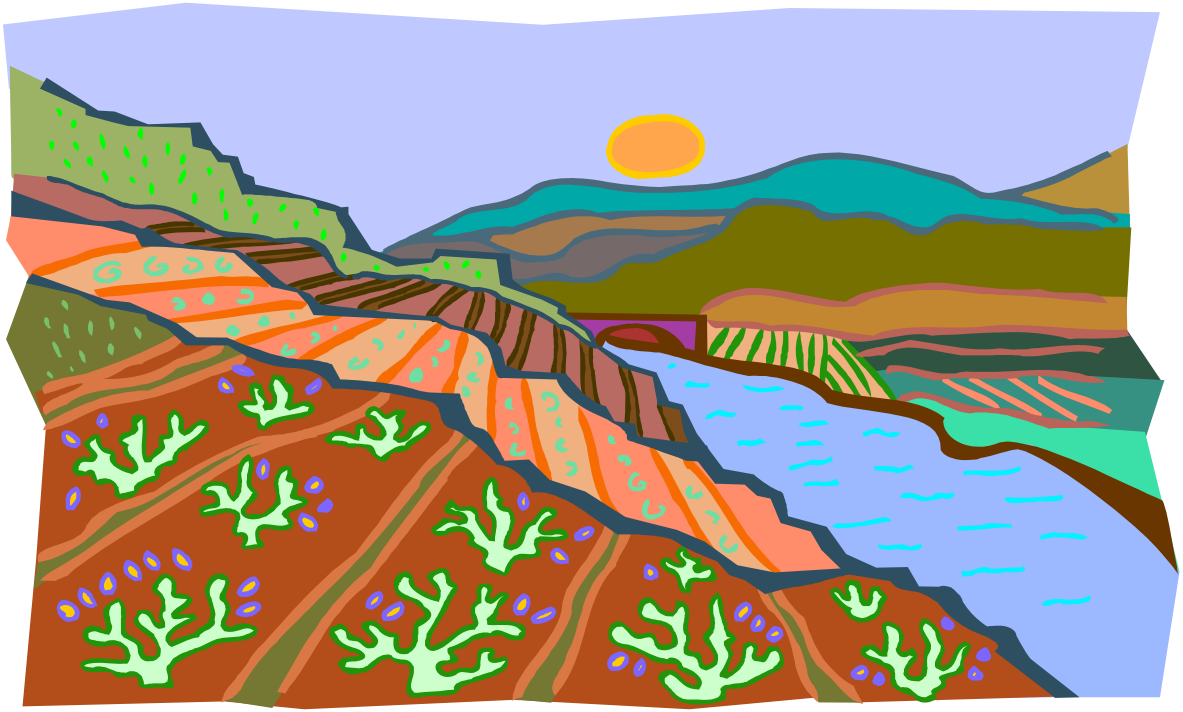
Where do we quantify environmental performance?

Need performance measures that are closely related to ultimate water quality concern **AND** directly influenced by farm management decisions.

Performance Measures – In the Lake, Bay, or Ocean



Performance Measures – In the River



Performance Measures – On the Farm

Model at the Farm – Measure at the Watershed

- Modeling farm performance
  - Allow scenario analysis
  - Only the farmer's actions affect performance
  - Triggers primary incentive payment
  - Incorporate environmental management into farm business decision-making (profit maximization)
- Measuring watershed performance
  - Not prohibitively expensive
  - Provides a real report card
  - Provides a focal point for stakeholders
  - Triggers a secondary incentive payment
  - Farmer-to-farmer peer pressure for participation

Payments and Baselines

What do we pay for?

- Reduced losses vs Stewardship levels

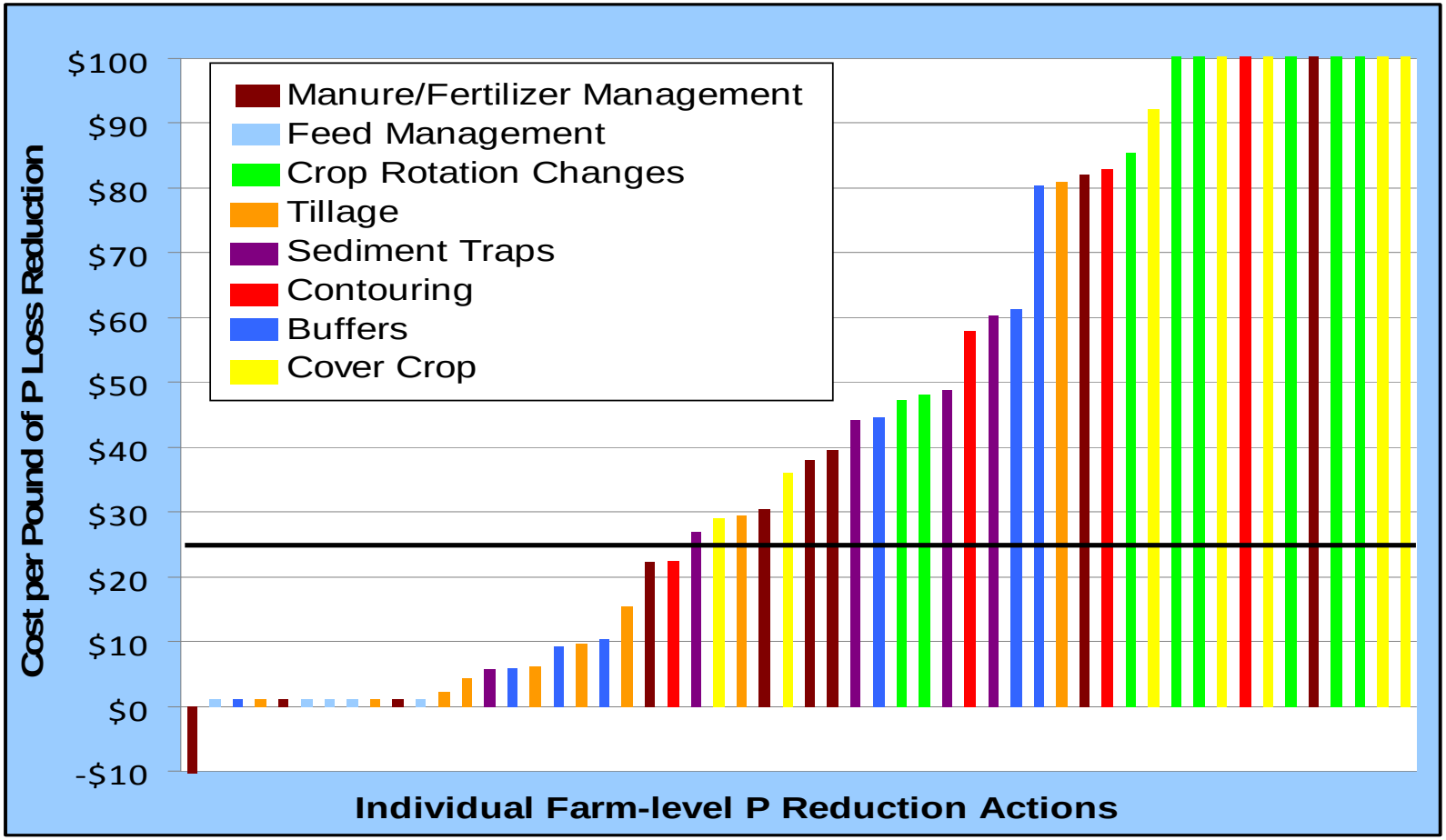
How much do we pay?

- Societal value or enough to get the job done?

Where will the funding come from?

- Already spending $5 billion/year

Vermont Farms – Rock River
Cost per Pound of P Loss Reduced



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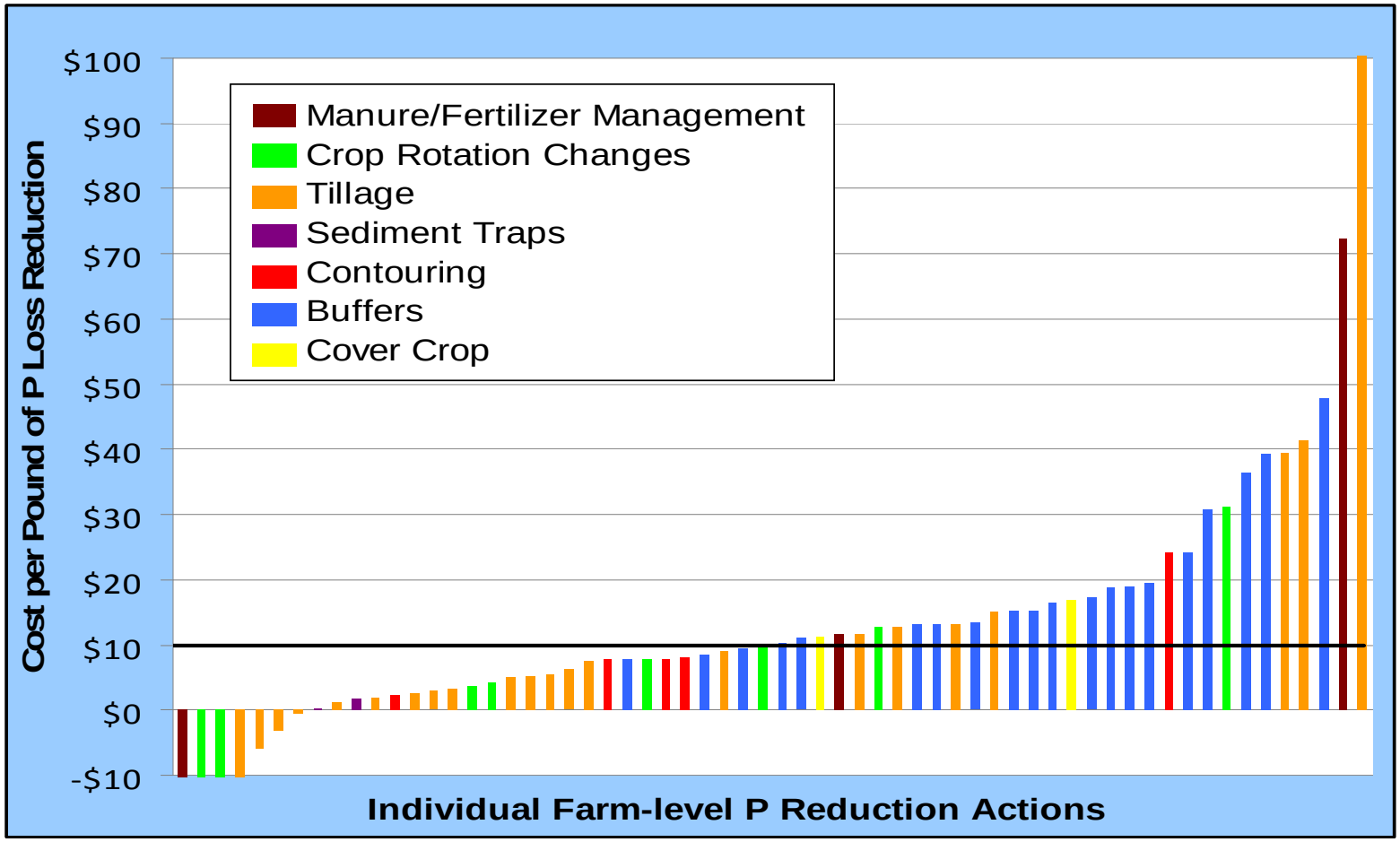
Iowa Farms – Coffee Creek
Cost per Pound of P Loss Reduced



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Cumulative Results

State	P Loss Reduced (lbs/acre/yr)	Farm Cost ($/lb P)	Farm Profit ($/lb P)	Sediment Loss Reduced (tons/acre/yr)
Iowa	**0.88**	**-$0.61**	**$10.61**	**1.58**
Vermont	**0.26**	**$4.86**	**$20.14**	**1.01**

Relevance to Other Initiatives

TMDLs

- How do we move efficiently upstream?

Agricultural Certainty

- Based on performance not practices?

Water Quality Credit Trading

- Buyers need to know what they're buying

For More Information:

Visit the Project Website:
www.flexincentives.com

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