



# **The Business Case for Ecosystem Services:**

## **A Decade with the Electric Industry**

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**ACES 2014**

# Why look at Ecosystem Services?

- Federal agency interest
- Stakeholder Engagement
- Sustainability Reporting
- Global developments:  
IFC, IPBES

Using Ecosystem Services To Inform Decisions on U.S. Air Quality Standards (Rea et al, 2012)



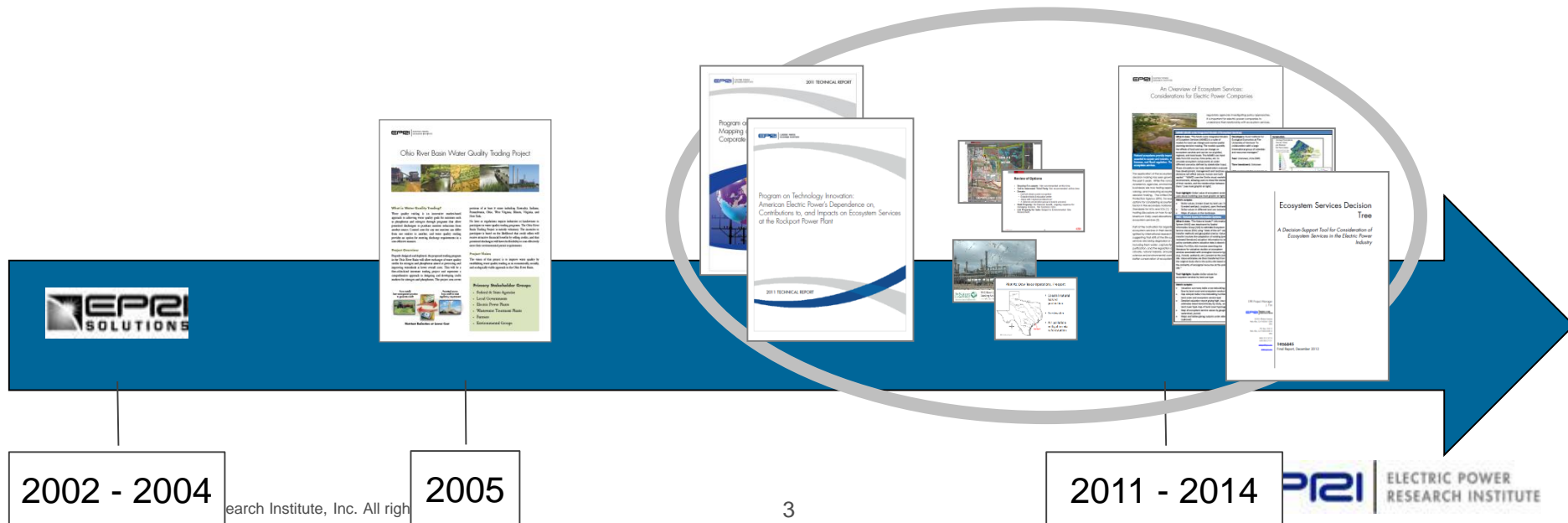
The International Finance Corporation / Equator Principals banks' adoption of performance standards on ecosystem services is considered current best practice and future standard practice by the company.

- Sarah Connick, Chevron, @ ACES 2012 conference



# EPRI Ecosystem Services Research and Projects Overview

- Eco-Asset Projects
- Review and piloting of tools
- Pilot Projects
- Webcast series
- Corporate Decision Tree



# Eco-Asset Projects

- 2002-2004
- 10 projects (+ 8 proposals) with 14 companies
- Allegheny Energy
  - Traditional real estate value: \$16 million
  - Eco-asset value: \$33 million
  - \$5 million in tax savings

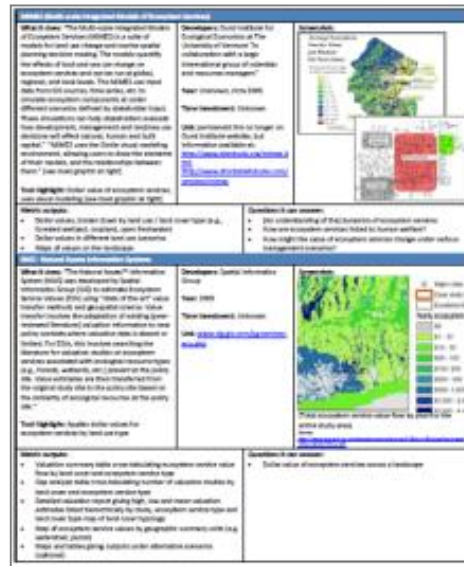
**Your ecological assets could bring you additional income streams, improve stakeholder relations, and provide on-site mitigation opportunities.**



**Gap between investigation and action**

# Review of Tools

- 2011 Technical report
- 2012 Ecosystem Service Tools Overview (Appendix)



“It is difficult to select tools for a specific site or set of conditions since at present there is no guidance on how to match tools with the types of questions that a company is asking, specific application contexts, and available data sets.” (BSR, 2012)



**Cost-benefit**

**What tools?**

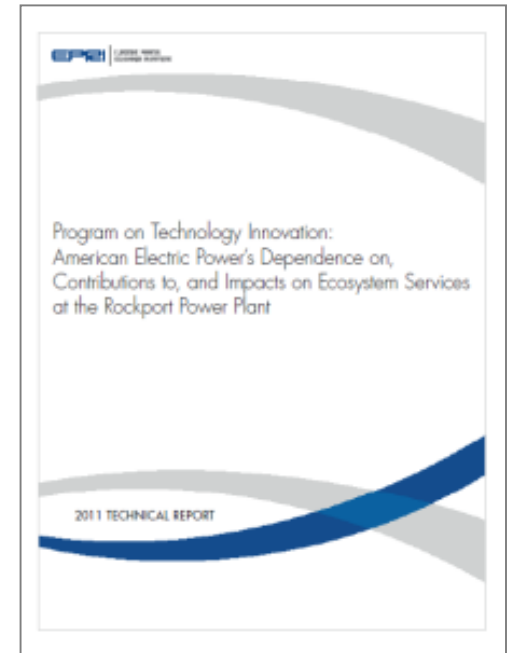
**Metric output**

**Management decisions**

**Does the value of tool outweigh the costs of implementing?**

# Pilot of Tool – WRI ESR Approach

- Corporate Ecosystem Services Review (AEP – Rockport)
  - Piloted WRI Ecosystem Services Review approach
  - Priority ecosystem services: freshwater, regulation of water timing and flows, crops, recreation, and greenhouse gas regulation
  - Recommendations and outcomes



**Similar to environmental impact assessment.**

# Pilot of Tool - InVEST

- InVEST (AEP – ReCreation Lands)
  - To assess impacts to natural resources, ecosystem services
  - To analyze land management scenarios



# InVEST Project Background and Goals

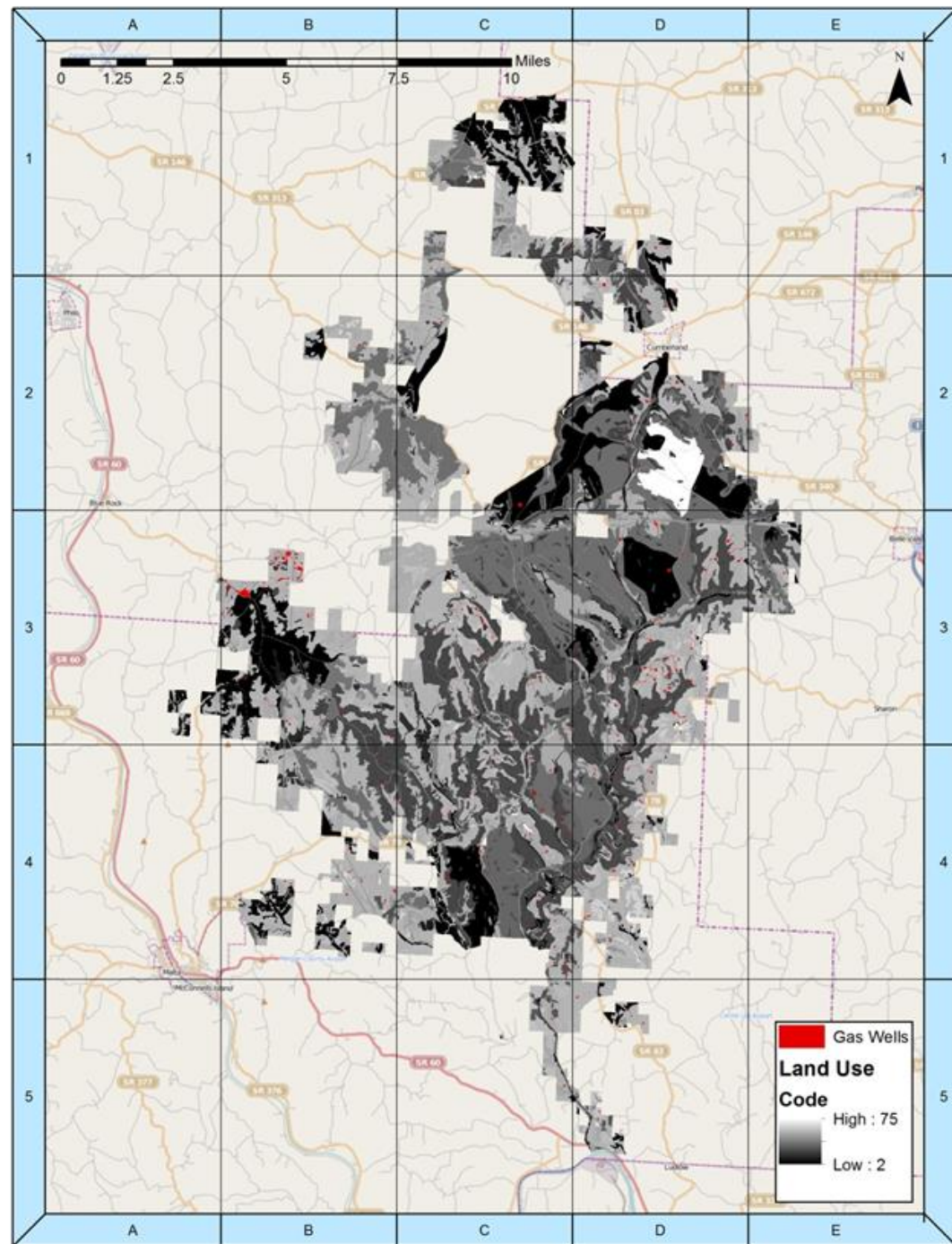
- AEP is interested in rapid, cost-effective, and comprehensive assessment of land management decisions that take into account impacts & benefits to natural resources and ecosystem services.
- A user-friendly and easily scalable GIS-based tool is needed. EPRI's assessment suggests that InVEST may be a reasonable tool for AEP and others to apply.

## This project will:

Develop **InVEST** to evaluate ecosystem service impacts of land management decisions on AEP **ReCreation Lands**, as a **test case** of both the tool and the application to larger corporate AEP assessments.

# Proposed Well Sites

- Currently evaluating over 200 locations distributed through project site
- Footprint is small given the size of the overall study area
- Distributed on a variety of land uses with different ecosystem service values



# Models Run

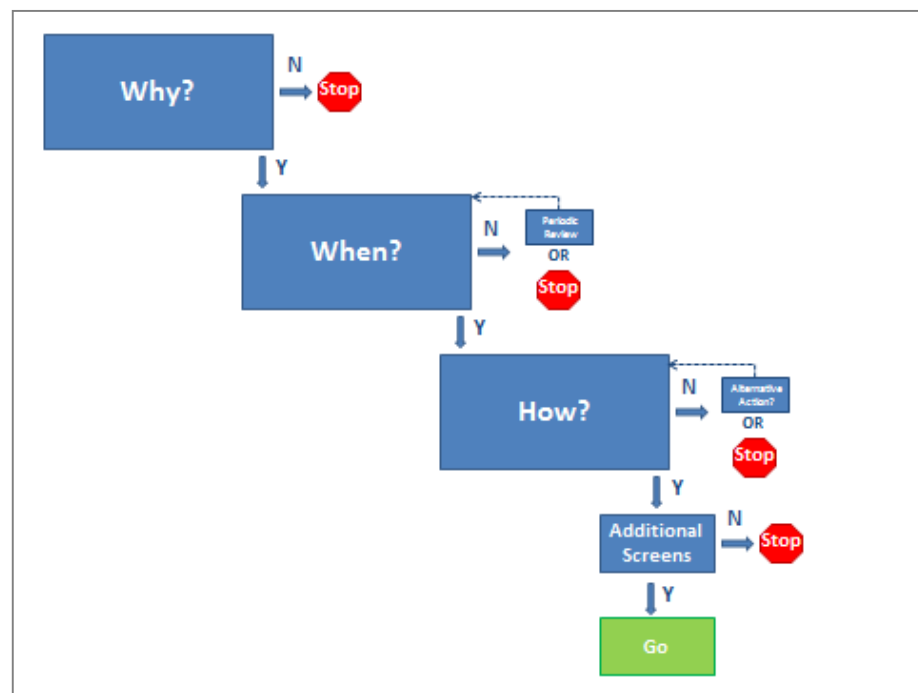
**InVEST Model (version 2.2) uses GIS and land use specific information to evaluate ecosystem services:**

- **Biodiversity:** Habitat quality and degradation
- **Carbon:** Sequestration and valuation
- **Nutrient Retention:** Nitrogen and phosphorus retained by soils under different land uses
- **Sediment Retention:** Avoided dredging and water quality impacts
- **Managed Timber Production:** Valuation
- **Crop Pollination:** Valuation

**Optimize siting of 22 wells (out of 200)**

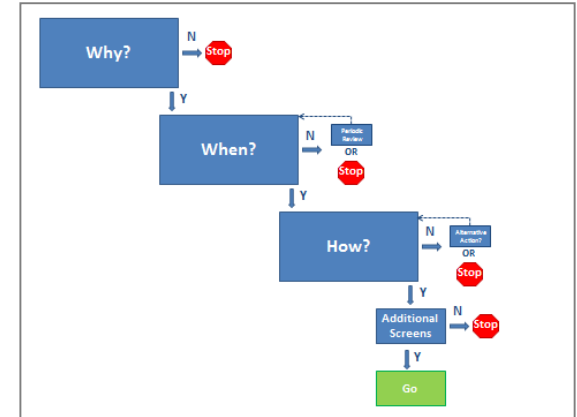
# Decision Tree

- **Ecosystem Services Decision Tree:** A Decision-Support Tool for Consideration of Ecosystem Services in the Electric Power Industry
- A structured approach to help power companies determine:
  - WHY,
  - WHEN (e.g., at what strategic decision points),
  - and HOW (e.g., what actions could be taken)



# Decision Tree – Why We Developed It

- Observed gap between investigation and action
- Observation that few business case motivations lead to action
- Observation of catalysts for considering ecosystem services
- Intended to:
  - provide a clear and logical case for an executive decision-maker
  - simplify the process
  - tailor guidance to the electric power industry



# Ohio River Basin WQT Project

Farm installs  
best management practice  
to generate credit

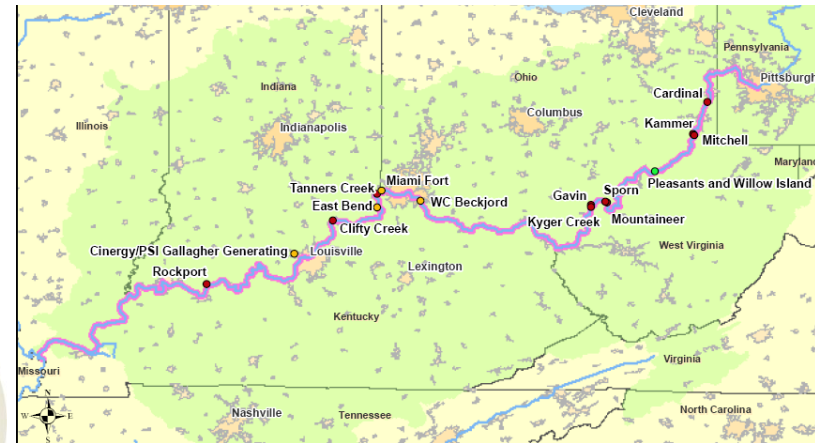


Permitted source  
buys credit to meet  
regulatory requirement



## Nutrient Reduction at Lower Cost

- Enhance Ecosystem Services:
  - carbon sequestration,
  - native plants,
  - habitat, etc.



# Summary

- Utilities are dependent on ecosystem services.
- It is difficult to integrate ES into day-to-day decisions.
- Current Tools are NOT business friendly.
- Without a regulatory driver, most biz benefits are focused on corporate stewardship/sustainability.
- Regulators, business and public place a value on ES.
- Some companies have realized benefits in the form of stakeholder relations, sustainability reporting, and reputation.

# Together...Shaping the Future of Electricity

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