

# **Sustainability in the Forest Sector: The Role of Environmental Analysis in Forest-Based Economic Development**

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# **Environmental Review (ER)**

## **What is it?**

- **Formal analysis of environmental impacts associated with proposed economic development**
  - **New manufacturing facility**
  - **Facility expansion/modernization**
- **Assists decision-makers by disclosing environmental impacts, their significance, and potential mitigation measures.**
- **Tied to applications for environmental permits**
  - **Air or water discharge; water appropriation permits**

# **ER – How is it Administered?**

- In the United States, state government (not federal) is responsible for administering environmental review programs to evaluate economic development proposals.**
- Federal government's role is to establish permitting standards & framework provide oversight of state activities.**

# **ER – How is it Used in Economic Development?**

- Provides a framework for dealing with certain types of “wicked” problems or subsets of problems.**
- Provides organized process and structure to assess environmental impacts and inform policy decisions.**

# Forms of ER

1. **Limited/brief reviews -- environmental assessment.**
2. **Detailed reviews -- environmental impact statement.**
3. **Alternative reviews -- generic environmental impact statement.**

# **ER / Minnesota Projects**

- **Over the past decade, much greater scrutiny over forest impacts associated with wood-based manufacturing facilities.**
- **Three major forest-based mill expansion proposals in MN.**
  - **Potlatch (OSB)**
  - **Boise Cascade (pulp and paper)**
  - **UPM-Blandin (pulp and paper)**
- **Taking shortcuts doesn't work.**

# What is the problem?

- **Issues that ER is designed to address are not always the issues the public wants addressed:**
  - **Air and water pollution not usually a problem due to modeling and process technology.**
  - **Wildlife habitat IS the problem!**

# **Data: Assessing Forest Impacts**

- **Statewide forest inventory: Tremendous potential for use in ER...**
- **Challenges using inventory data in ER:**
  - **Availability of precise plot location and ownership information.**
  - **Changes in USFS FIA plot design.**
  - **Plot attribute data (e.g., stand size).**
  - **Plot proximity data (e.g., distance to water).**

# Forest Modeling Components

- **Harvest scheduling model with...**
  - **Individual tree based forest stand projection model.**
  - **Silvicultural decision tree.**
  - **Regeneration and succession models.**
  - **Wildlife habitat models.**

# **Forest Resource Modeling**

## **-- Desirable Attributes --**

- **Transparent Approach:**
  - **“Black Box” modeling isn’t credible with public.**
- **Realistic (believable) outcomes in terms of:**
  - **Practices & policies of major forest ownerships.**
  - **Wood procurement zones and policies.**
  - **Harvest (silviculture) decision rules.**
- **Model analysis and output at multiple scales.**  
(e.g., ecoregions, political boundaries, woodsheds)
- **Output useful to other disciplines and planning.**

# **Forest Inventory in ER: Observations**

- Forest inventory data managers are largely unaware of the data's role/importance in ER.**
- Wildlife analysts are largely unaware of forest inventory data & the its potential for modeling wildlife habitat changes.**
- Forest scientists are largely unaware that ER is a major application area for their research.**
- Many scientists in other (than inventory) areas are often not accustomed to large data sets and operational pressures of ER.**

# Modeling in ER: Observations

- **Long-term (e.g., 40-50 year) forest condition projections are far too long.**
  - **Inability to predict / model with precision catastrophic events (e.g., fire, wind, I&D).**
  - **10-20 years is more realistic.**
- **Expectations for data and modeling may exceed capability for detail and accuracy.**
  - **Especially with local area breakdowns**
  - **Especially for wildlife habitat modeling**

# **Wildlife Modeling in ER: Observations**

- **Wildlife habitat information is typically imprecise and/or lacking altogether:**
  - **Inconsistent or inherently biased data collection protocols.**
  - **Inconsistent criteria for describing and evaluating wildlife habitat.**
  - **Inherent potential for error propagation.**
- **Strive for simplicity in model usage.**
- **Avoid over interpretation of results.**

# **Effective ER Team and Process Requires:**

- **Staff expertise**
- **Focus on the scoped issues**
- **Planning & coordination**
- **Research & data *synthesis***
- **Product focus & delivery**
- **Responsiveness to review**
- **Responsiveness to stakeholder interests**

# Conclusions

- **Important to protect environment, yet remain economically competitive globally.**
- **Bio-energy expansion is the next wave of manufacturing investment in forest sector.**
  - **Heightened scrutiny of forest-based impacts.**
- **Policy-makers need to refine ER processes:**
  - **Timely**
  - **Responsive**
  - **Informative**
  - **Predictable**
  - **Credible**

**Questions?**