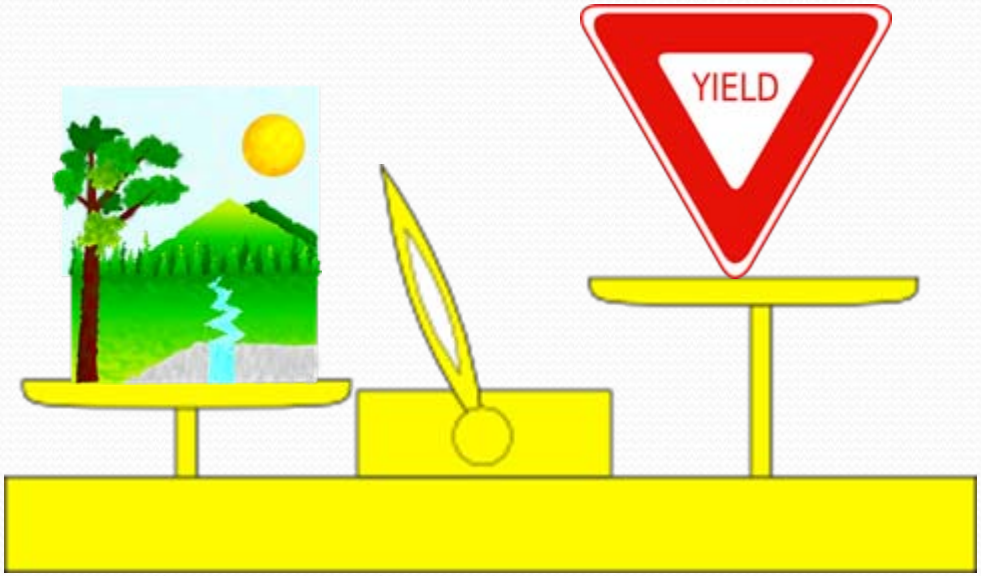
Biomass Energy: Finding the Balance



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A Big Question is……

Are we even speaking the same language?

What is Yield Anyway?

Is it overall yield of biomass?

Or is about maximizing production on a given piece of land?

Agronomist Approach =

- Selection of crop
- Genetic modification of crop
- Planting of crop in monoculture
- Applying lots of pesticides and fertilizers
- Little concern for externalities
- Its all about YEILD- YIELD-YIELD!

Ecological Approach =

- Diverse plantings that mimic natural systems
- Increased stability
- Improved yields (fills all niches)
- Less need for inputs
- Positive co-benefits for wildlife and biodiversity
- No introduction of invasive species

How much high value ecosystem can you convert before…

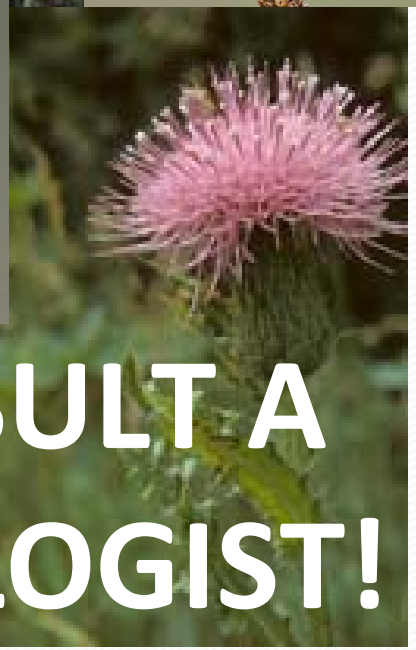
- The public revolts
- You put species in peril
- You become a net emitter of GHGs

Why not choose an easier path?

What do these two pictures have in common?

What do these two pictures have in common?

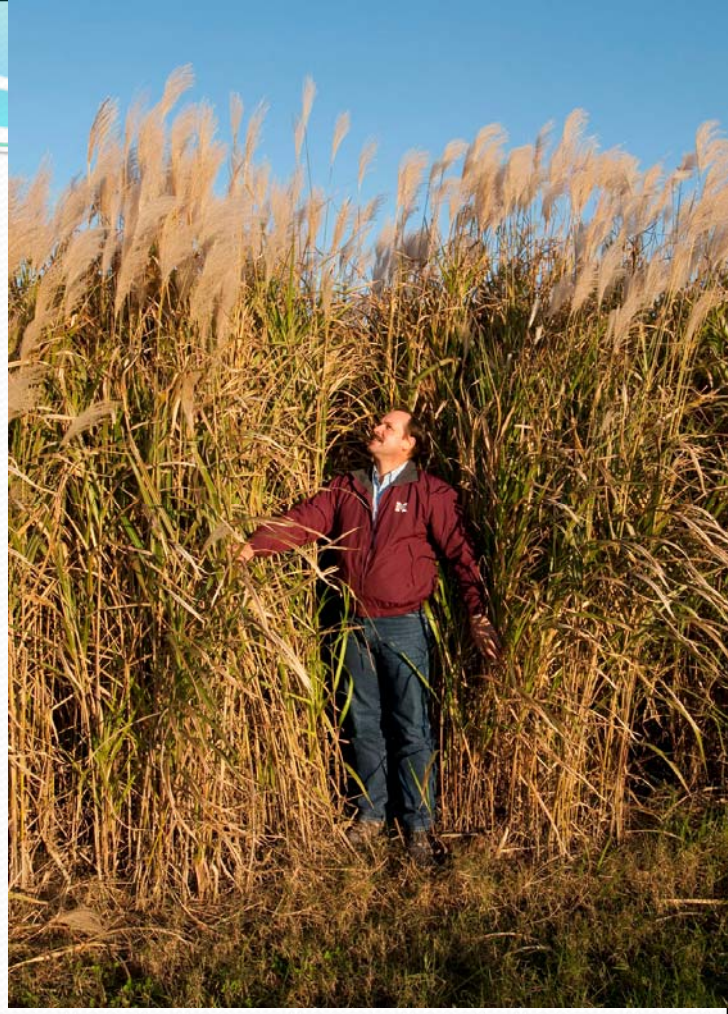
“Marginal Lands”??



PLEASE CONSULT A WILDLIFE BIOLOGIST!

“But we are planting perennials!”

How Does High Yield Impact Sustainability?



- Water
  - Quality
  - Quantity
- Soil Quality/Productivity
- Wildlife/Biodiversity
  - habitat destruction/direct mortality
  - Indirect impacts from chemicals
  - Invasive species

When Does High Yield Support Sustainability?

- **When done in appropriate locations:**
  - Land already in high intensity use, AND
  - Land can support high intensity use
- **When full life cycle GHG emissions are much improved over conventional fuels:**
  - Including emissions from all inputs/irrigation
  - Including indirect land use change emissions
- **When conservation practices mitigate harm to soil, water and wildlife.**

Federal Issues to Watch

Definition of Renewable Biomass

- Proposals to weaken – or virtually eliminate conditions on what lands can be converted to biomass cropping for purposes of federal mandates
- Conversion of high carbon ecosystems will skew GHG impacts of bioenergy produced on those lands
- Conversion of high value ecosystems will erode public support for industry

Federal Issues to Watch

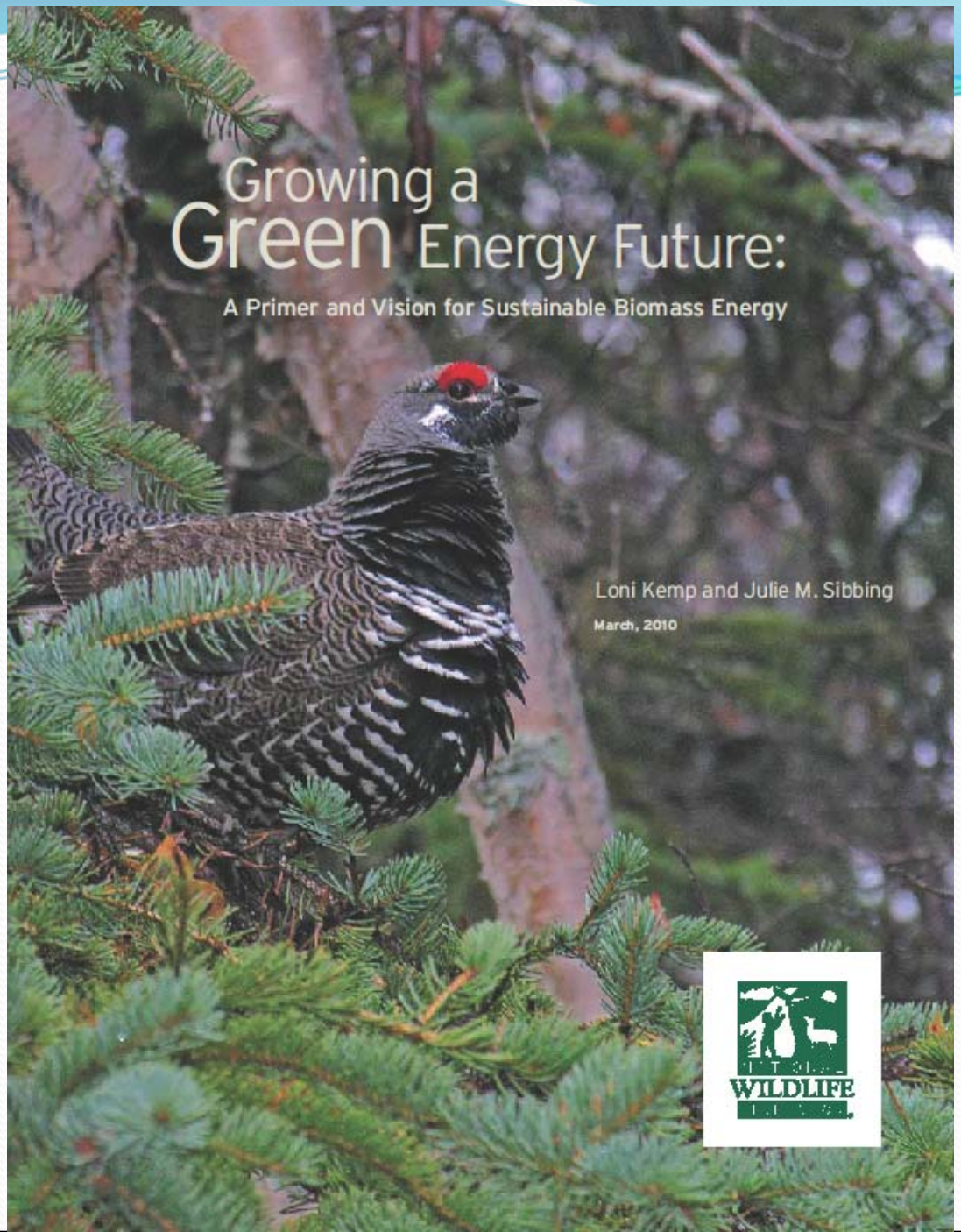
Biomass Crop Assistance Program rules out for comment

- Overemphasis on Collection/Harvest/Storage/ Transportation payments (and NO sustainability req's)
- Late start to establishment/annual payments

Federal Issues to Watch

Farm Bill – Funding is tight and tightening

- Cuts in baseline spending for Conservation currently proposed in Senate
- No baseline for energy title staring next Farm Bill
- No baseline for several conservation programs in next bill


Growing a
Green Energy Future:
A Primer and Vision for Sustainable Biomass Energy
Loni Kemp and Julie M. Sibbing
March, 2010
WILDLIFE

The Way Forward

- Promote a real transition to next generation, more sustainable bioenergy sources
- Establish minimum standards for all bioenergy sources to ensure sustainability and greenhouse gas performance.
- Establish graduated incentives that offer the greatest rewards to the best performers.

Can we learn from the mistakes of the past?

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