

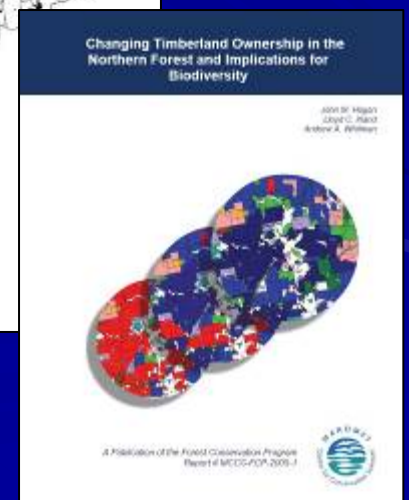
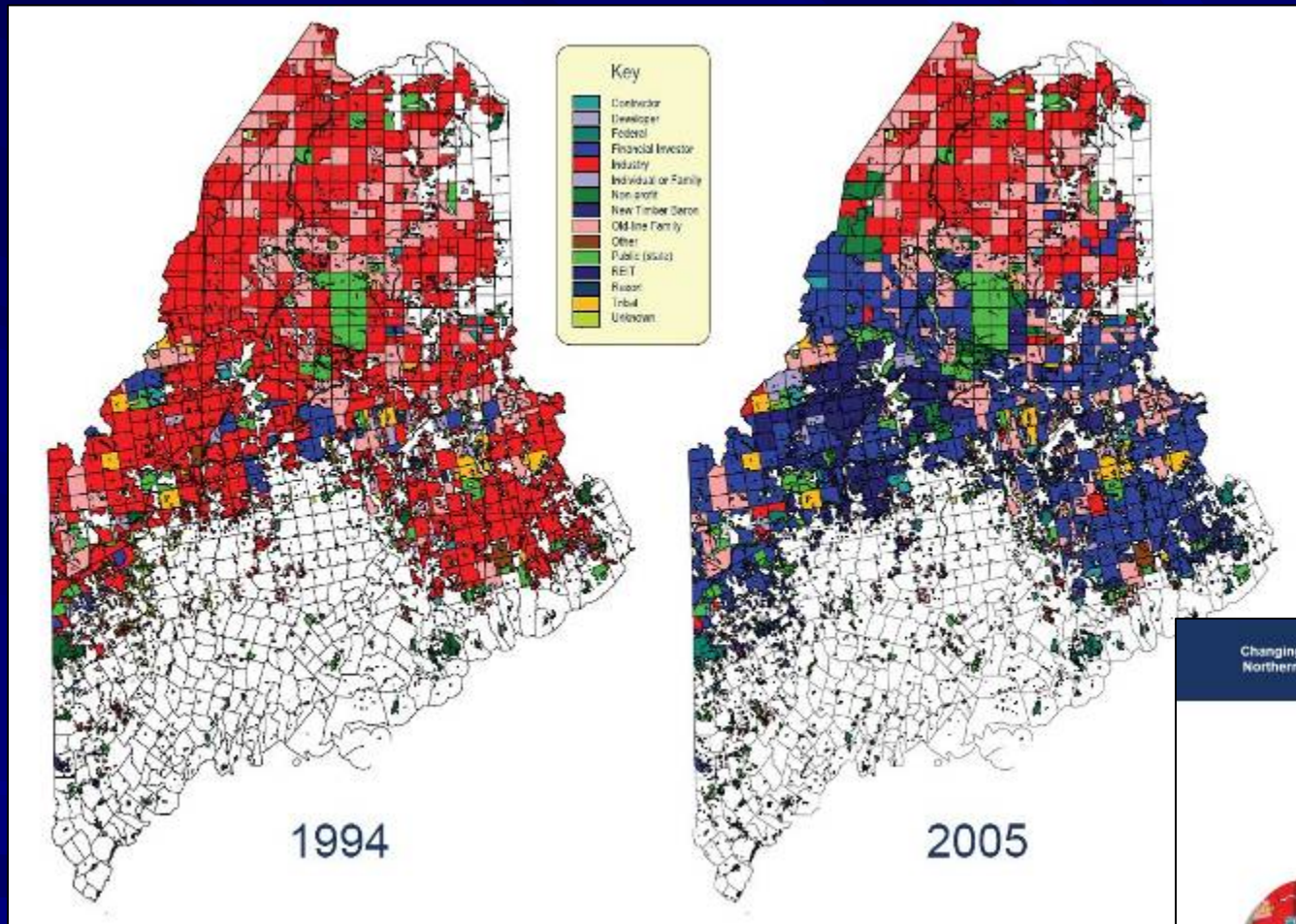
Product	Source	Processing	Use
GMOs	<i>High</i>	<i>Low</i>	<i>Medium</i>
Fluoridation	<i>Low</i>	<i>Low</i>	<i>High</i>
Irradiated Foods	<i>Medium</i>	<i>Medium</i>	<i>High</i>
Nuclear Power	<i>High</i>	<i>High</i>	<i>Low</i>
Hydro Power	<i>High</i>	<i>High</i>	<i>Low</i>
Wind Power	<i>High</i>	<i>High</i>	<i>Low</i>
BioEnergy	<i>High??</i>	<i>Medium??</i>	<i>Low</i>
BioProducts	<i>High??</i>	<i>Medium??</i>	<i>Low</i>

Anticipating Change...

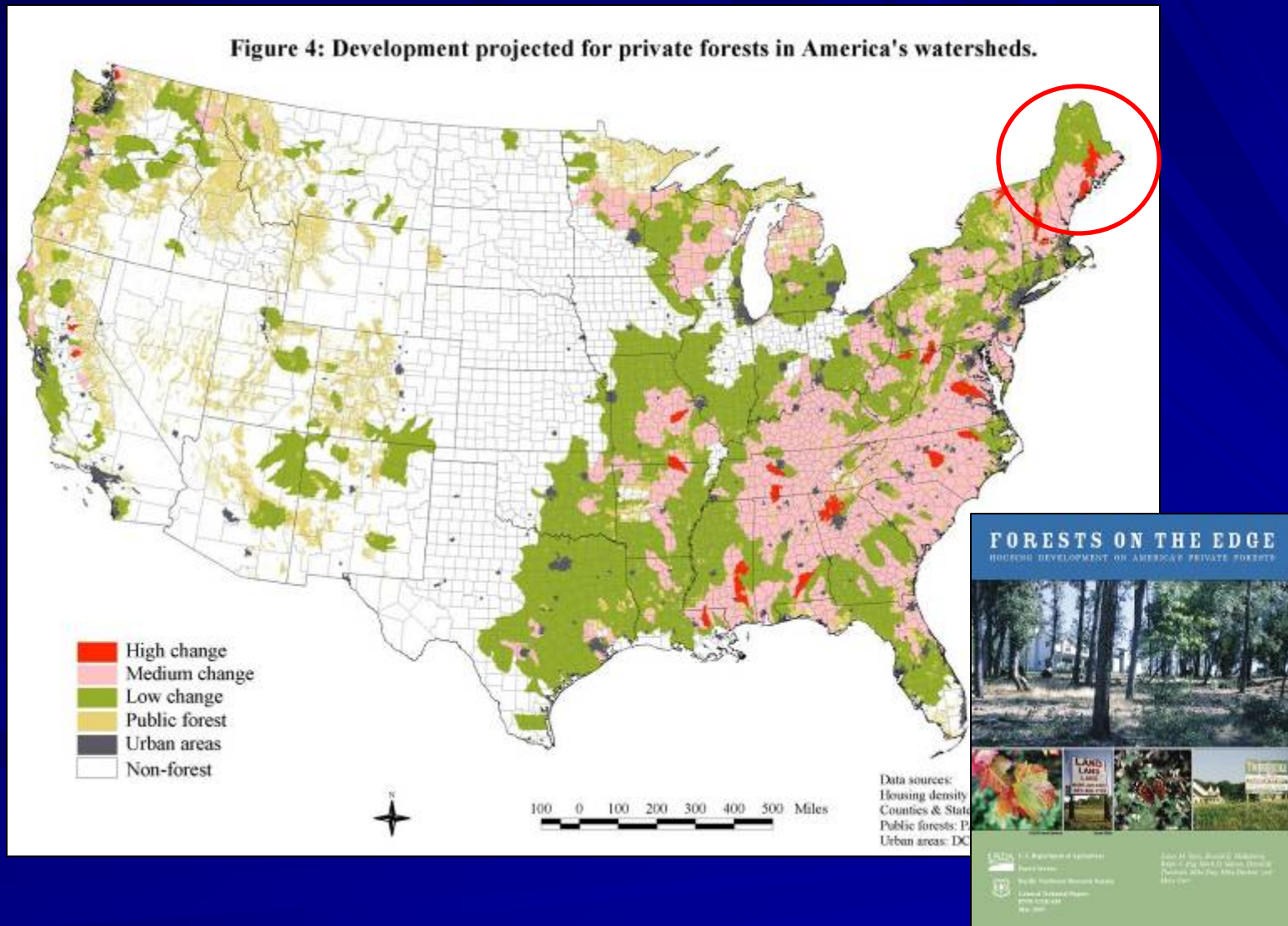
- Maine's forestlands are experiencing extraordinary changes in ownership & development pressures...



The Beginning of a Trend?

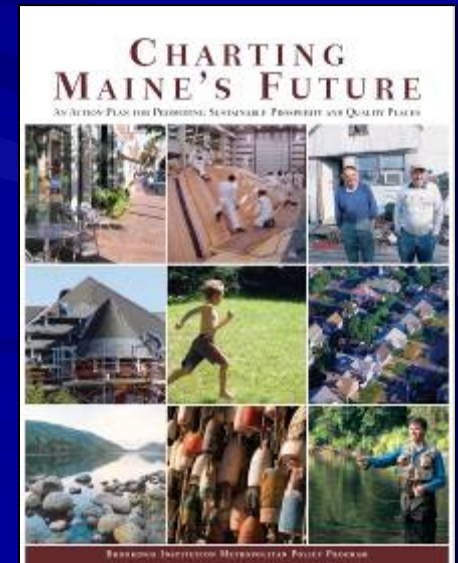


USFS's Forests on the Edge (2005)



Sprawling Development

- During the 1990s, Maine converted 10 rural acres to non-rural use for every housing unit constructed...
 - *Ranked 2nd after Virginia in acres lost*
 - *Ranked 3rd after Vermont & West Virginia in acres/housing unit*



The Emerging BioEconomy

■ BioPhysical Considerations

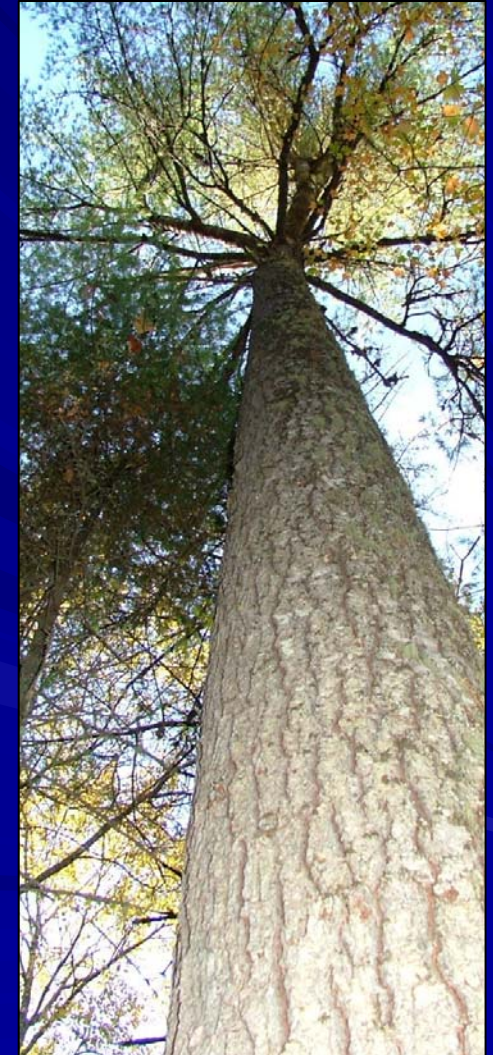
- *Nearing Hubble's Peak*
- *Ecosystem sustainability*

■ Economic Considerations

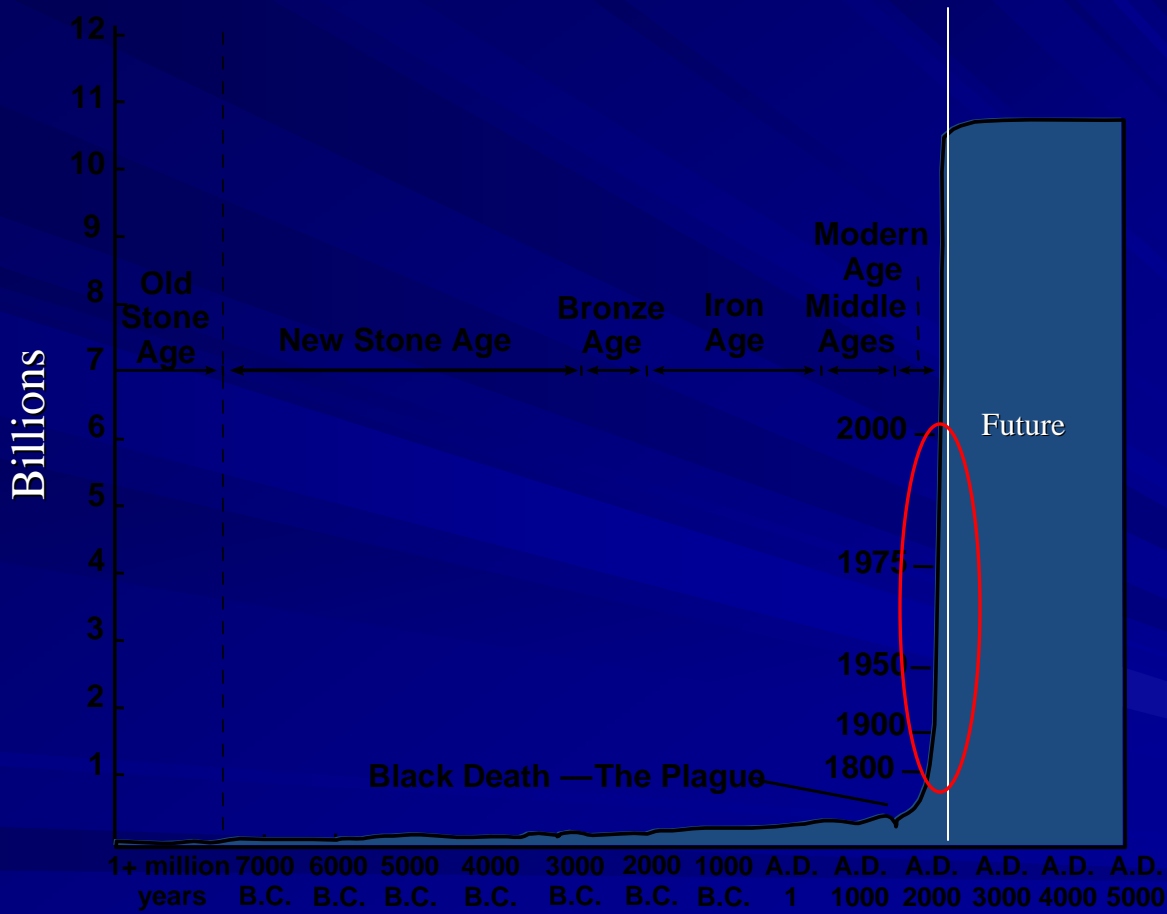
- *Falling dollar, rising debt*
- *Increased resource demand...*

■ Social Considerations

- *6 billion & counting...*



Global Population



The Emerging BioEconomy

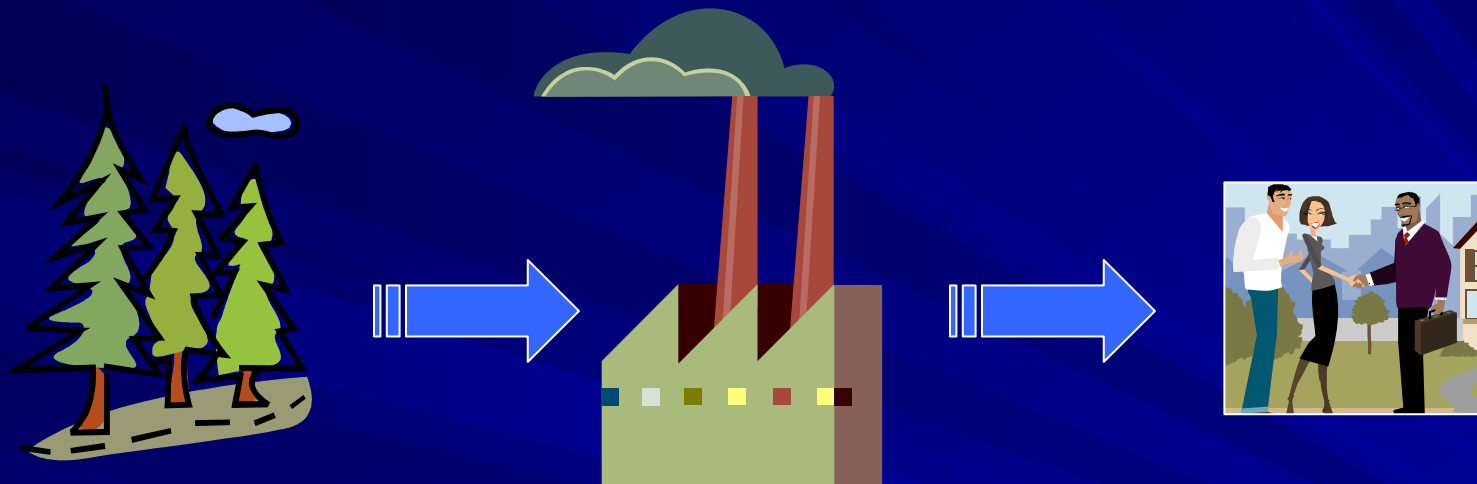
■ Are we facing a “*Flat World*”
of unbridled opportunity...

... or the onset of a “*Long Emergency*”

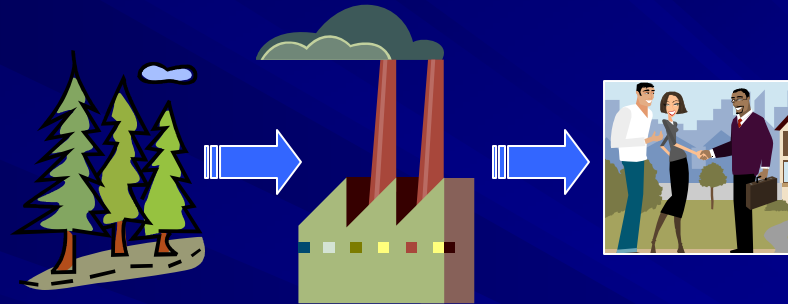
■ UC-Berkeley’s \$500 Million
“*Moon Shot*”



From Linear Process...



To Closing the Loop

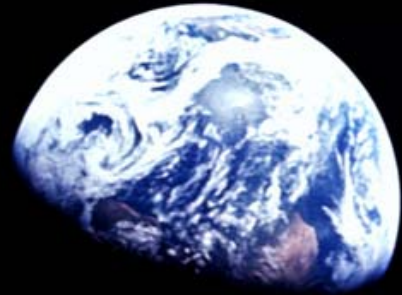


The Emerging BioEconomy...

- *We end, I think, at what might be called the standard paradox of the 20th Century: our tools are better than we are, and grow better faster than we do. They suffice to crack the atom, to command the tides. But they do not suffice for the oldest task in human history: to live on a piece of land without spoiling it.”*

Aldo Leopold, Forester
1938





We are here

Thank You!



Thank You!

