

Food versus Fuel: Adoption and Distribution of Distillers' Grains from Ethanol

Dr. Dennis M. Conley

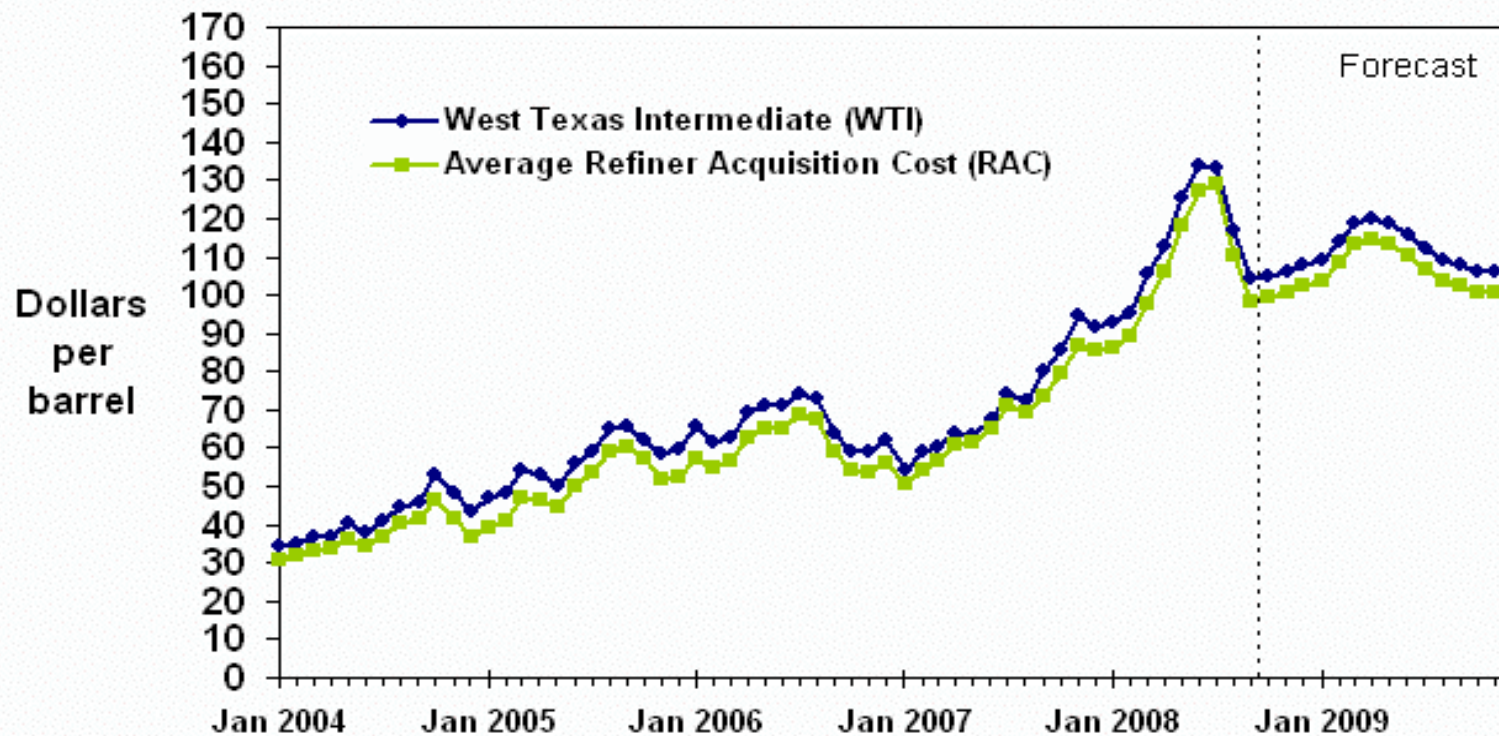
Symposium of the International Food & Agribusiness Management Association, 19th Annual Meeting, Budapest, Hungary

Nebraska Cooperative Council Distinguished Professor and Director, Graduate Program in Agribusiness, University of Nebraska – Lincoln, USA. MBA/Agribusiness students contributing to the research: Ashley Bergthold, Rodney Ensz, Seth George and Matt Weeder.

The objectives of this research are to:

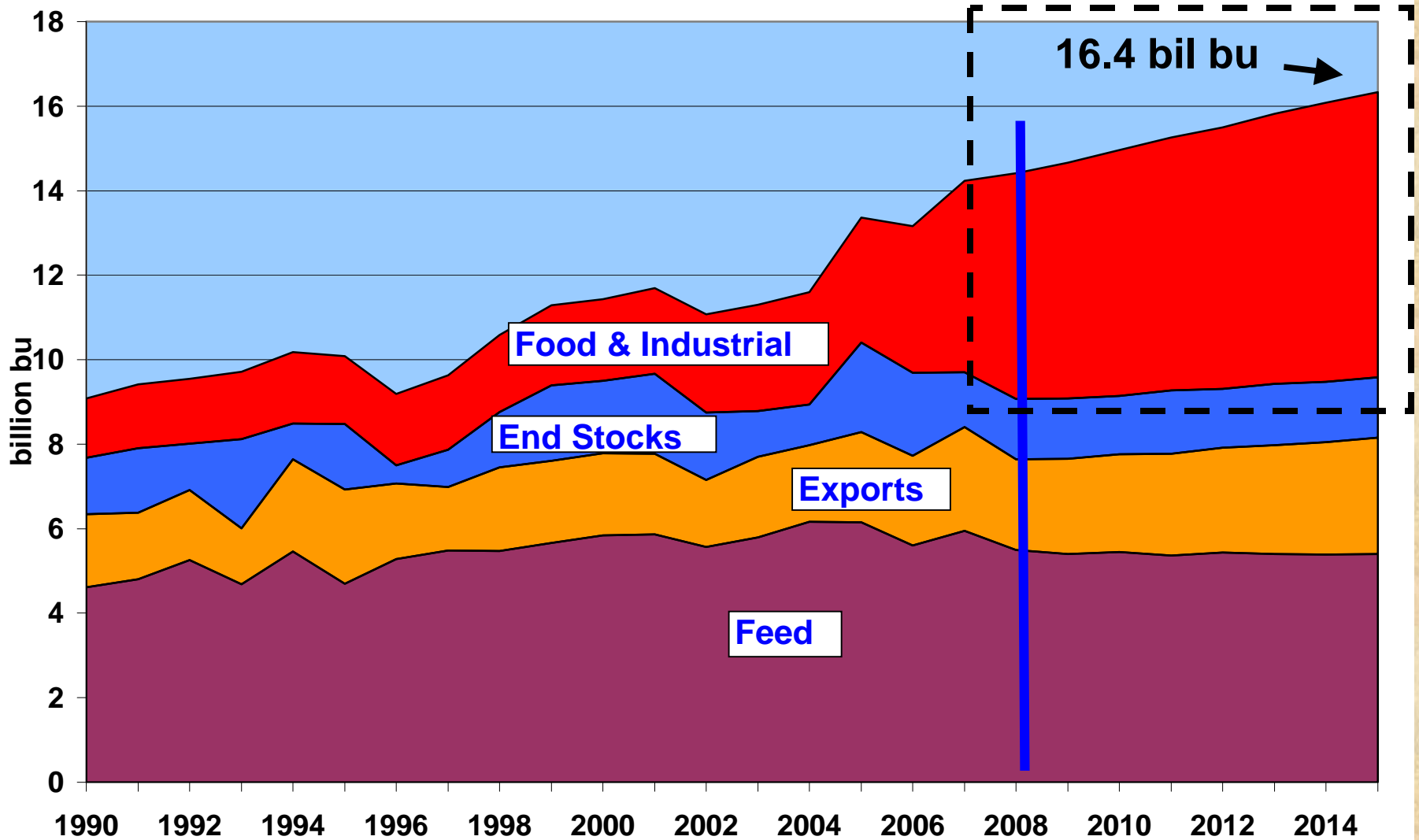
- **Estimate historical supply and use of corn for each state in the U.S.**
- **Use current and projected ethanol production to estimate distillers' grain (DDGs) supply at the state level.**
- **Show expected geographic pattern of DDG movements in the U.S. under changing conditions of ethanol production and livestock feeding.**

Crude Oil Prices

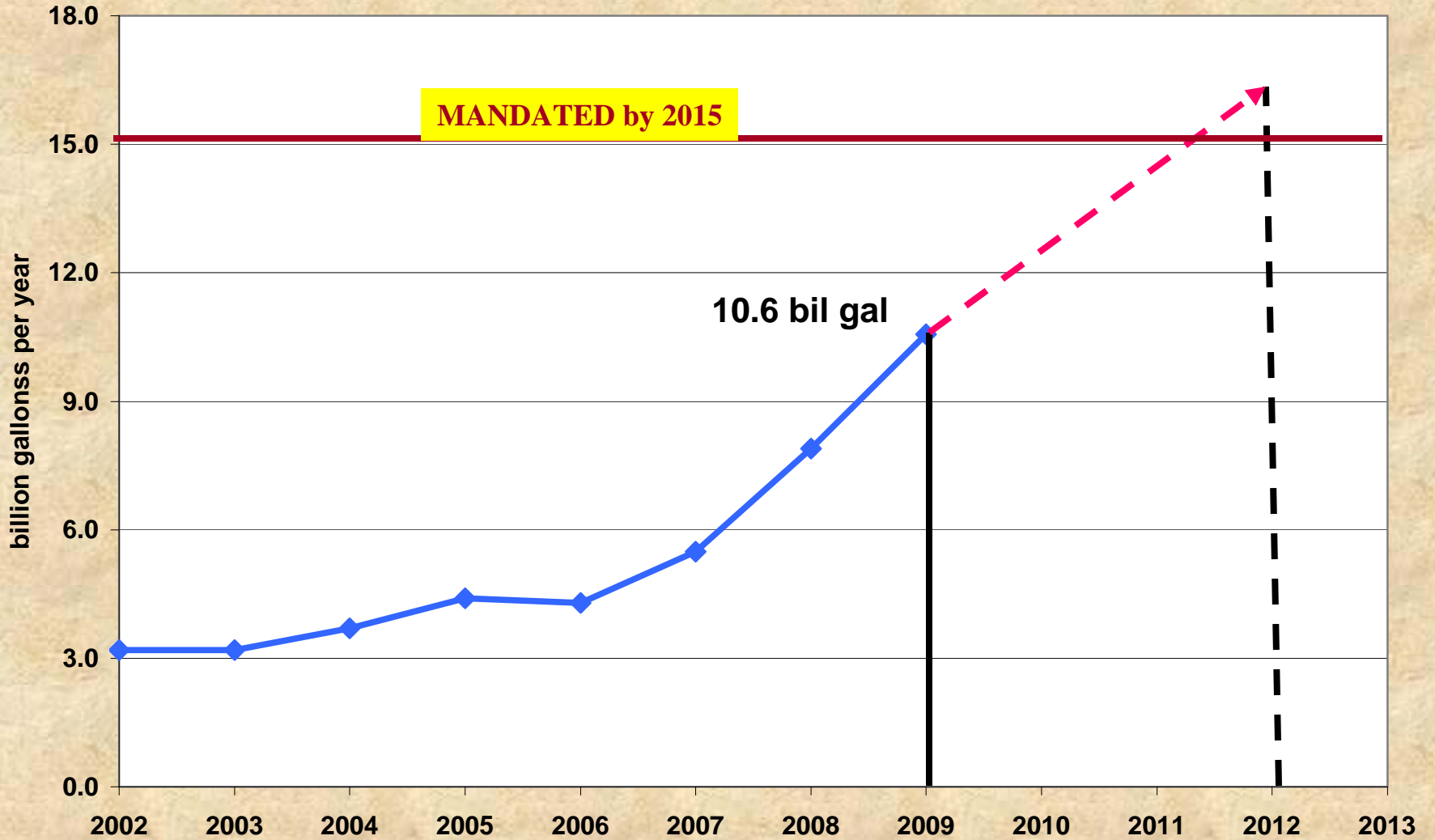


Short-Term Energy Outlook, October 2008

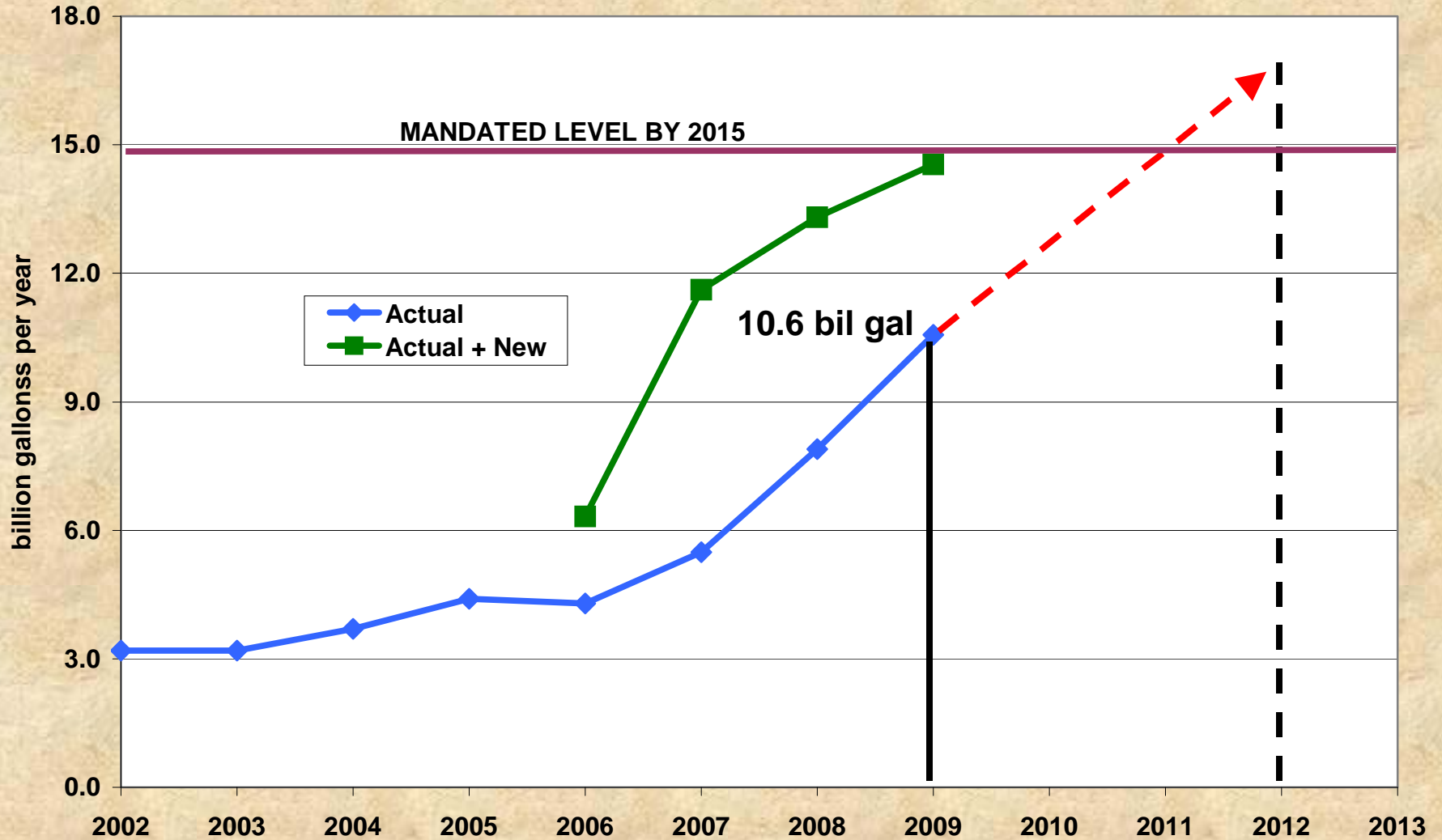
U.S. Corn Utilization, 1990 - 2015



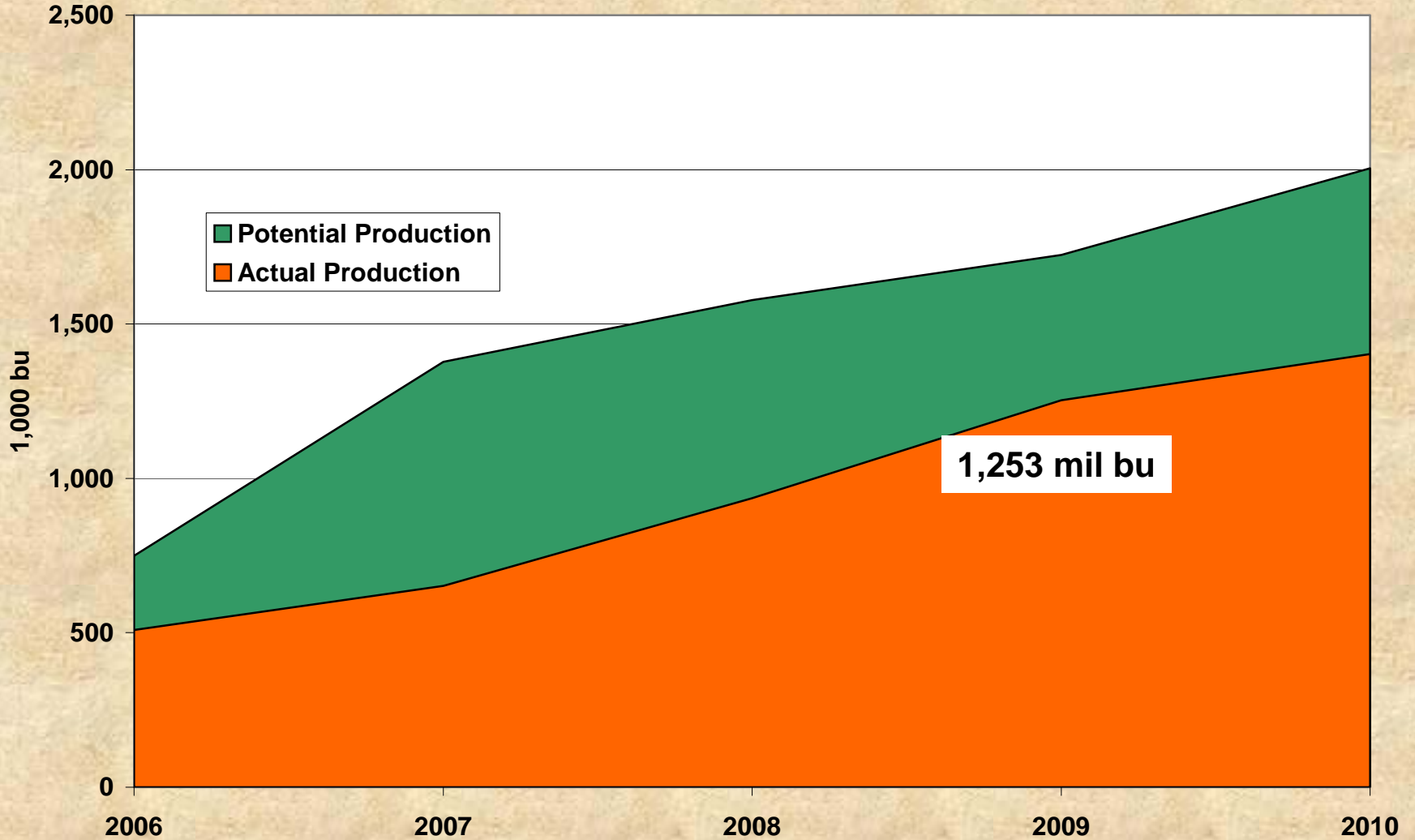
Ethanol Production from Corn, 2002-09 & Projected



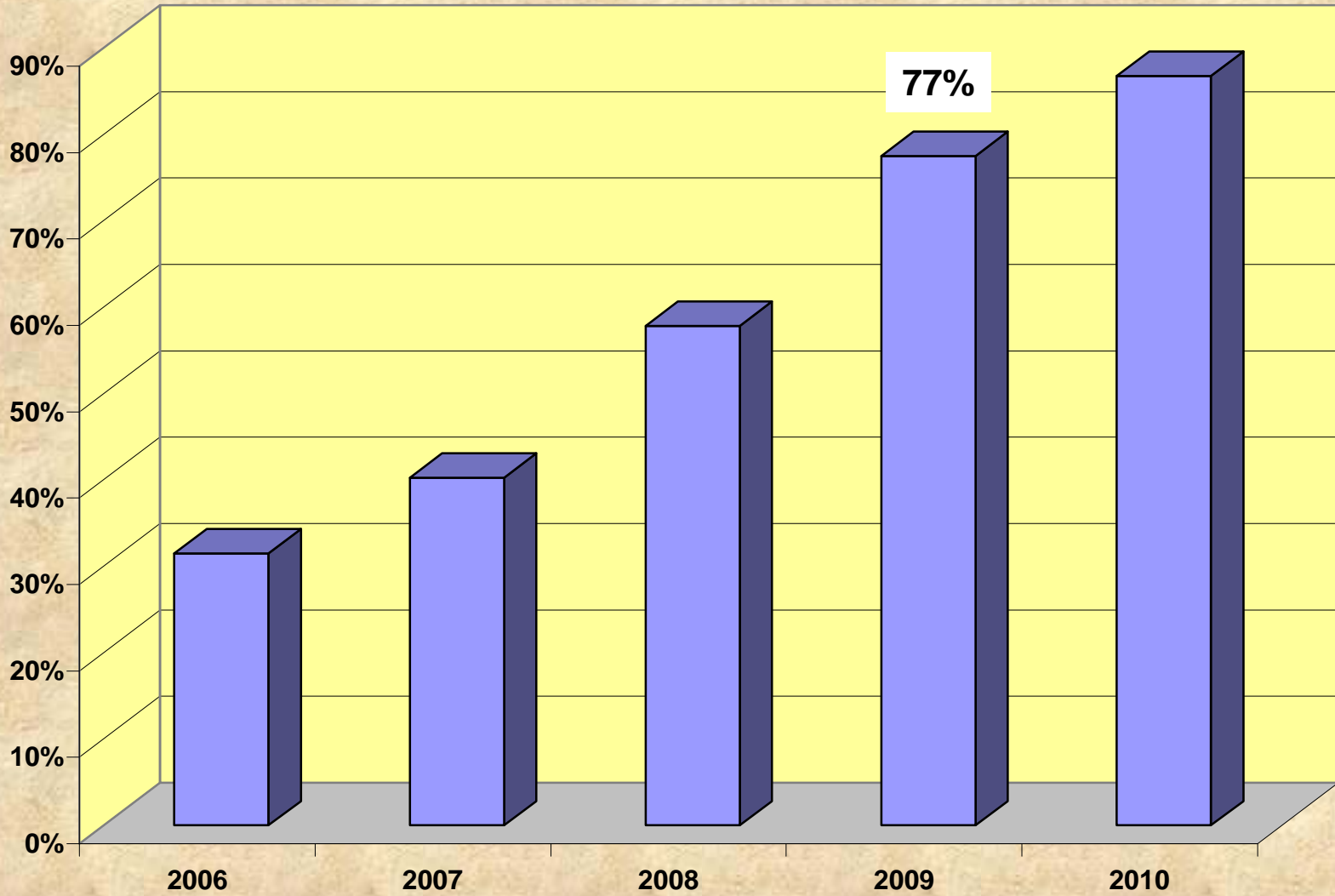
Ethanol Production from Corn, 2002-09 & Projected



Dilstillers' Dried Grain Actual & Potential Production



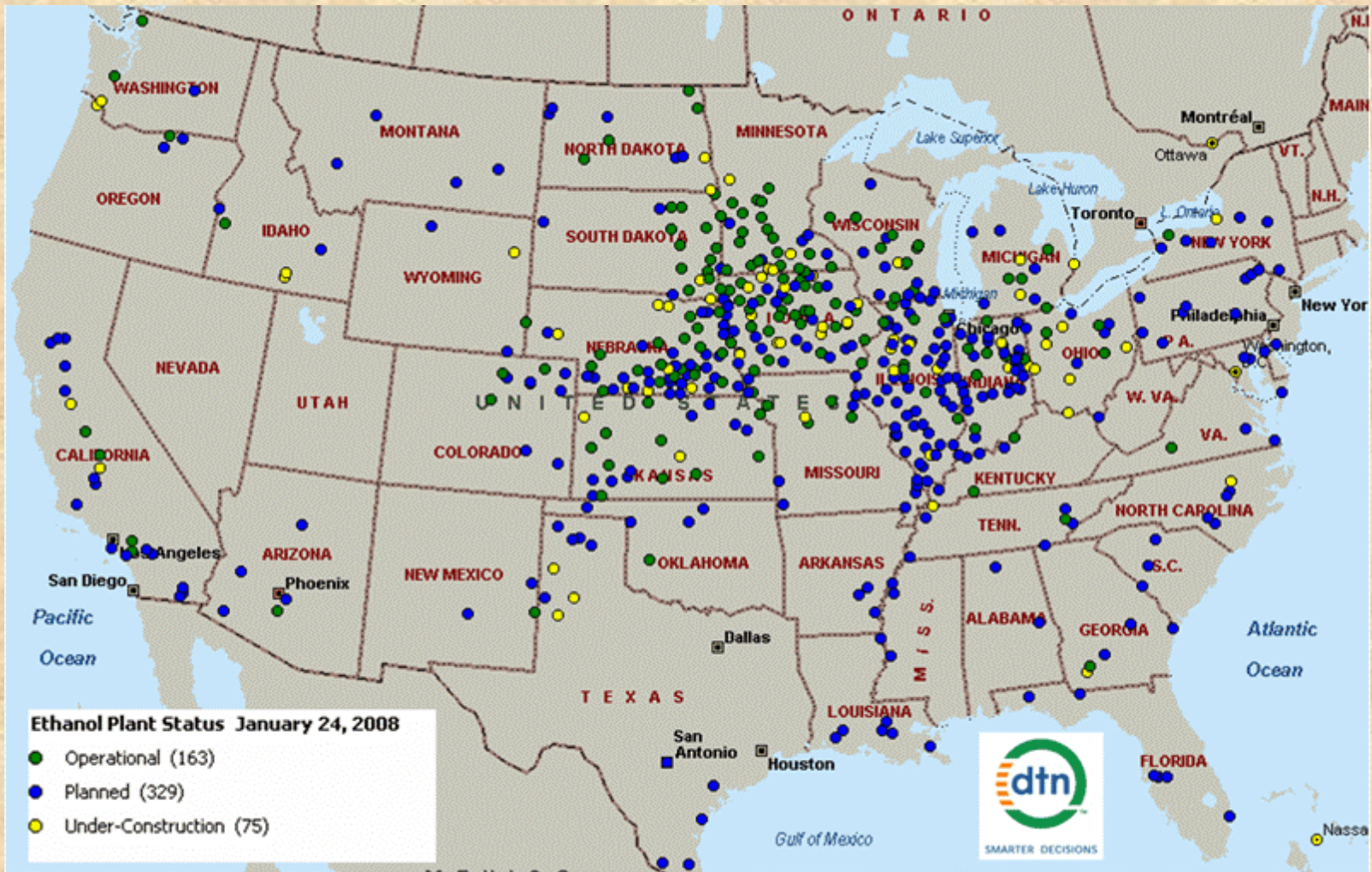
Implied Adoption of Distillers' Dried Grains



What are the geographic dimensions of:

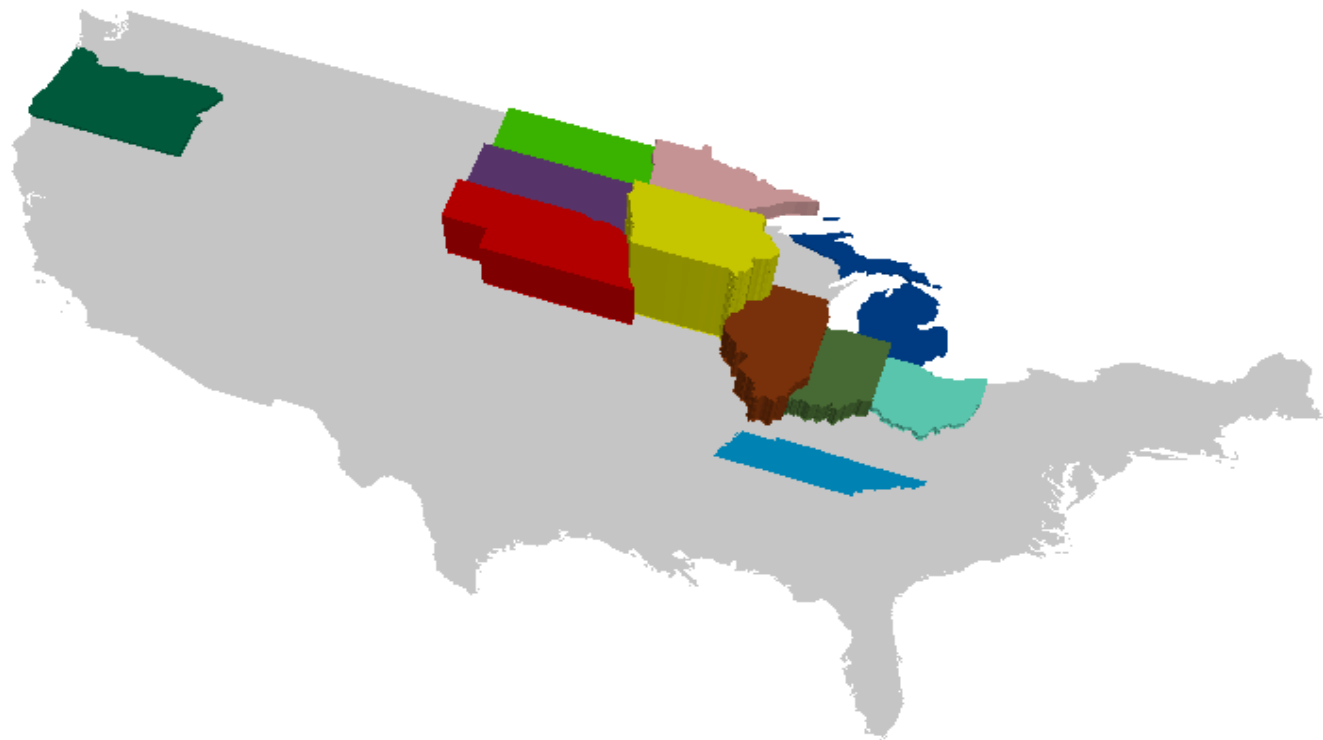
- **Increasing ethanol production**
- **Increasing DDG production relative to potential use**
- **Expected movements of DDGs from state-to-state**

Ethanol Plants



*Alaska has one ethanol plant in the planning stage
*Hawaii has two ethanol plants in the planning stage

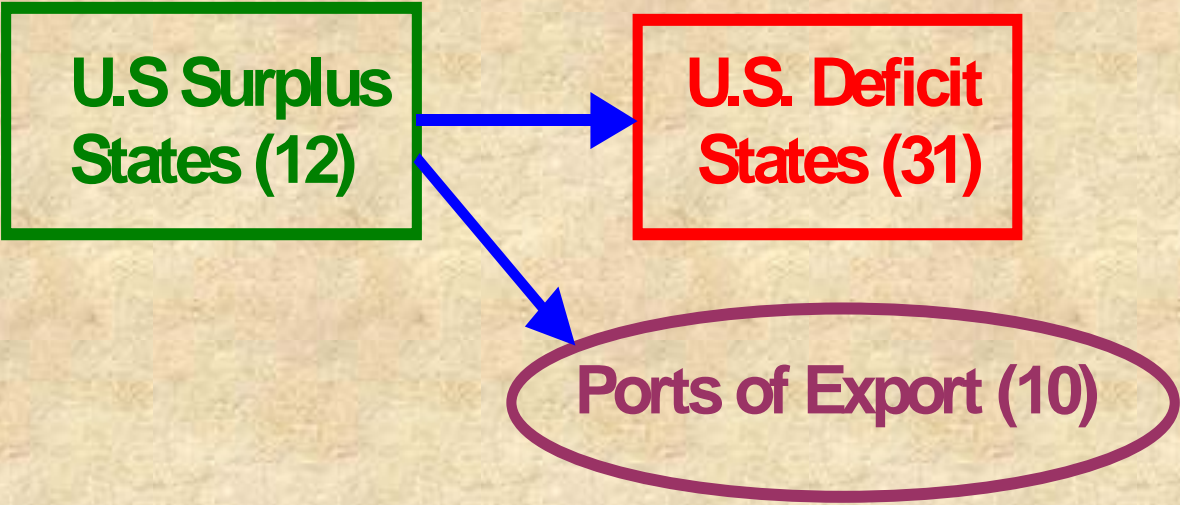
Net Surplus States for Distillers Grains, 2008-09



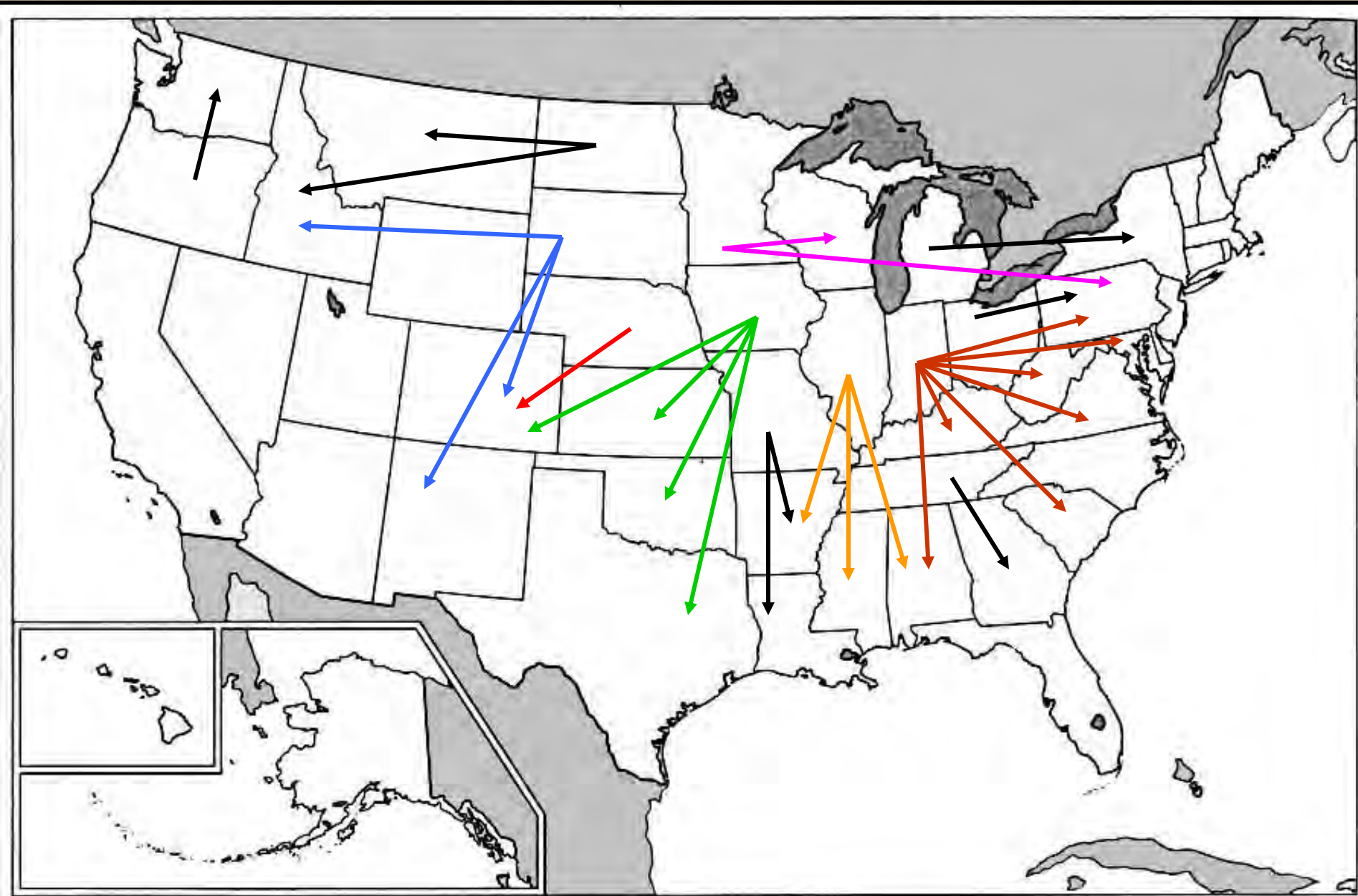
Net Deficit States for Distillers Grains, 2008-09



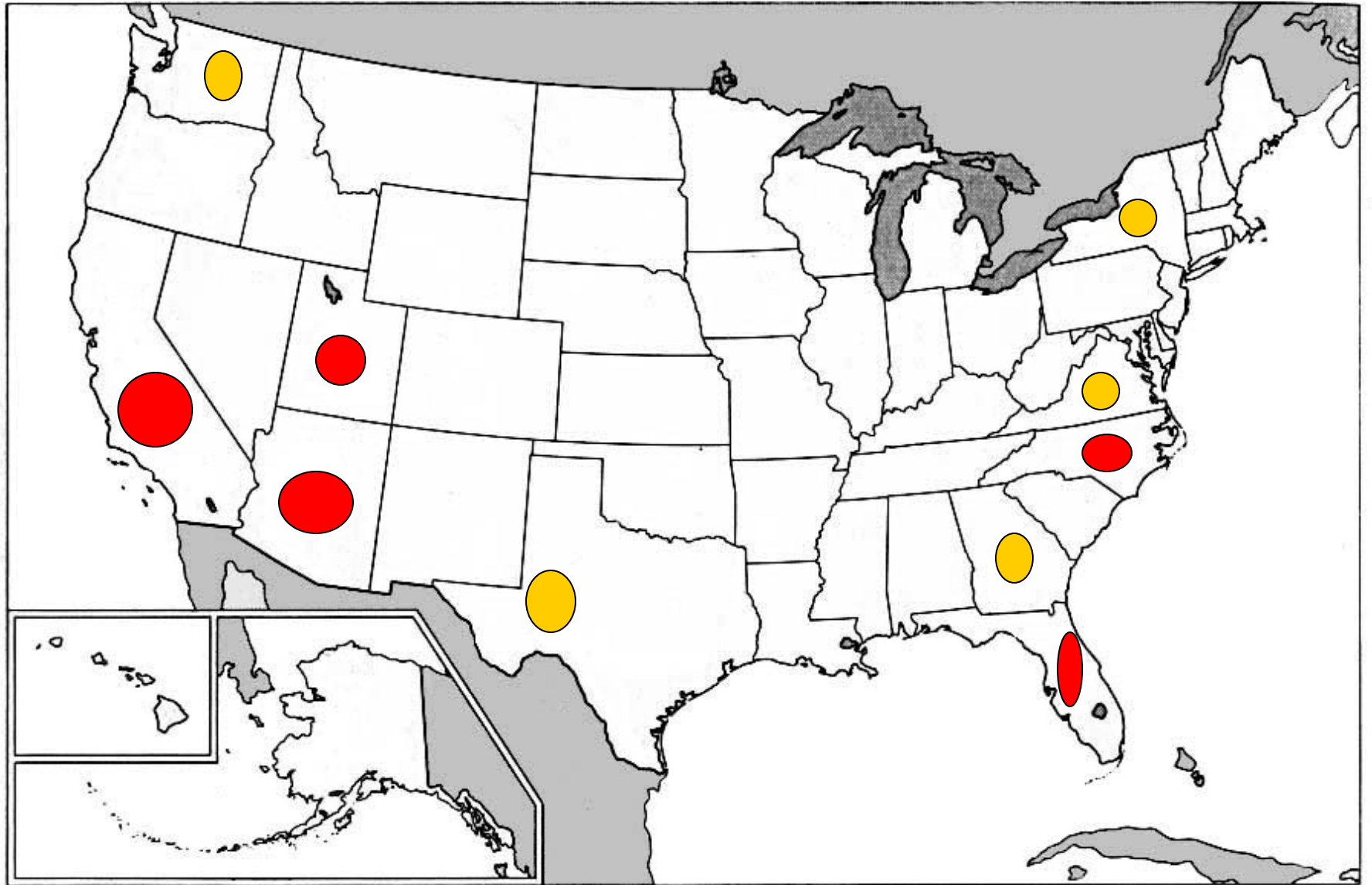
Distillers Grain Transportation Model



Estimated DDG Movements with Actual Production, 2009



Major States with Unmet Needs for DDGs



CONCLUSIONS

- **Structural changes in the bio-fuels and feed grain-livestock sectors will significantly alter traditional sources of corn and compel the adoption of DDGs for feed use.**
- **Managers will need to make adjustments in the marketing of corn and how corn will be replaced by DDGs.**
- **Livestock feeders, shippers and carriers will further develop capabilities to transport DDGs over long distances.**