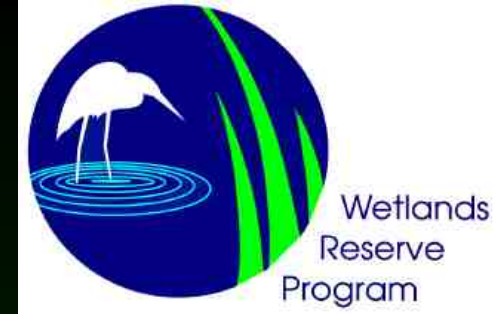


Wetlands Reserve Program: Hydrology Management and Nuisance Animal Prevention

Kevin Nelms
Area Wildlife Biologist
NRCS Area Office
Greenwood, MS



Wetland Complexes



Definition: A variety of wetland types in close proximity that meet all life history requirements for wetland dependent organisms

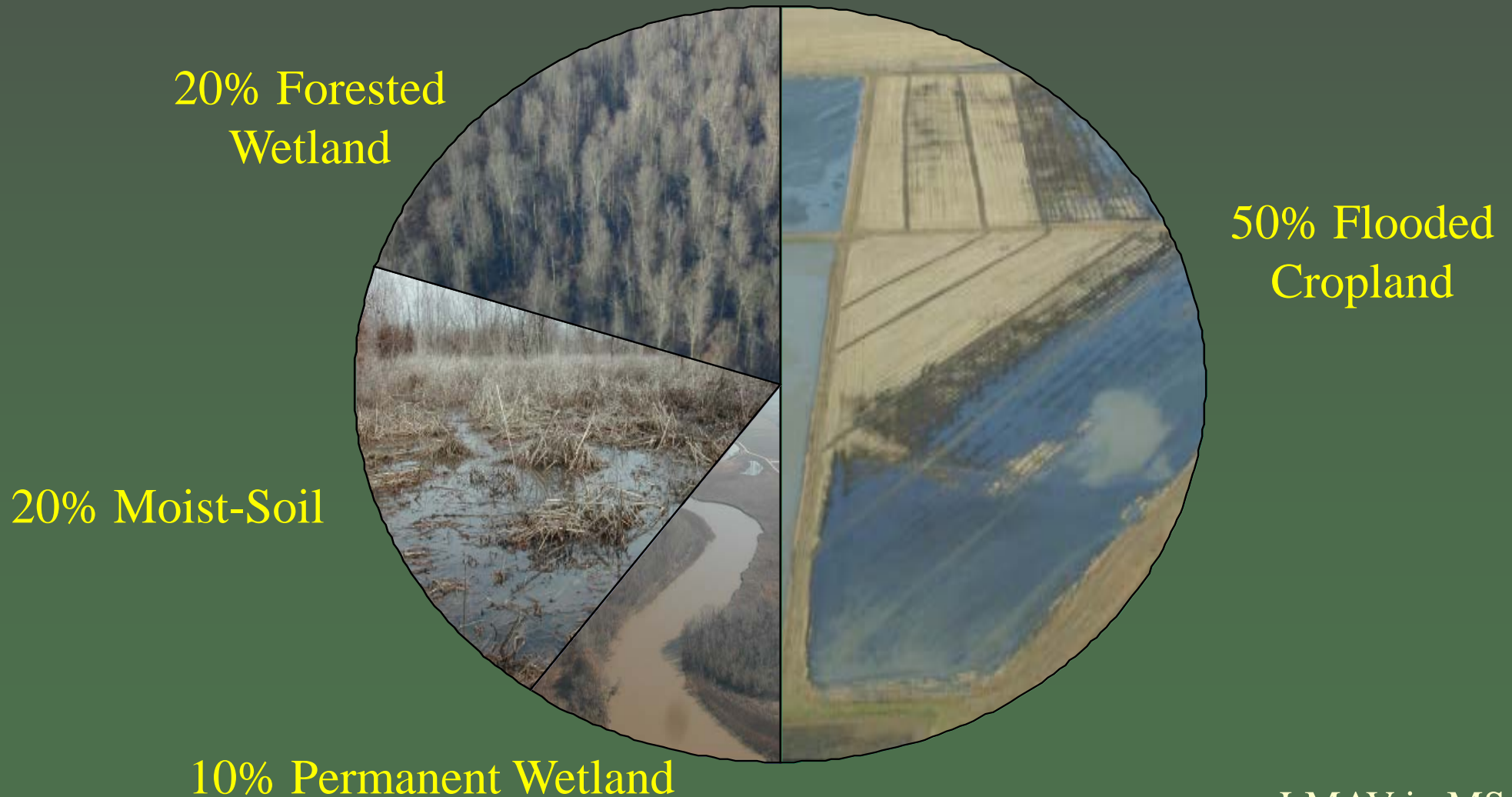
Scale Matters:

On-site – Develop wetland complex on each WRP site?

Local – Use WRP to develop wetland types missing in local landscape

Broader – What is WRP restoration potential and objective for landscape scale (JV)

Wetland Complex, ≥100 ducks (Pearse 2007)



Determining Objectives

Species Driven:

Migratory Birds

Wetland Dependent Wildlife

T&E Species



Wetland Type:

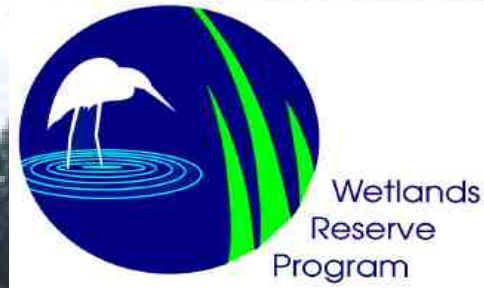
Depends on Location (Geomorphology)

Depends on Missing or Lacking Habitat Components

Management Capability:

Passive

Active



NRCS is traditionally a technical support agency, not a land management agency

Solution: Landowners are encouraged to manage easements according to NRCS plans

Passive Management

Definition: Minimal to no hydrologic management, infrequent soil disturbance, and lack of control for undesirable plants thus allowing wetland succession to occur.



Passive Management



Pros:

Easy for landowners

Economical

Can provide lacking component of wetland complex

Cons:

Lack of wetland types diversity in complex

Decrease in wetland flora and fauna over time

Can limit available habitat and life history requirements

Active Management

Definition: Management of plant succession through seasonal hydrological manipulation, regular soil disturbance, and control of undesirable plants to meet management objectives.



Active Management

*Requires Compatible Use Authorization



Pros:

Provides quality habitat to meet life history requirements

Increased fauna species diversity and use

Improved recreation and economic potential

Can mimic lost wetland functions

Cons:

Requires landowner time and equipment

Increased cost inputs

Can limit wetland types and diversity

MSU WRP Management Research Project

Active management resulted in greater winter duck response than passive management

Fleming, K.S. et al., 2012. Vegetative forage quality and moist-soil management on Wetlands Reserve Program lands in Mississippi. *Wetlands* 32:919-929
<http://link.springer.com/article/10.1007%2Fs13157-012-0325-5#>

Hydrology Management

Passive:

“All or nothing”

Active:

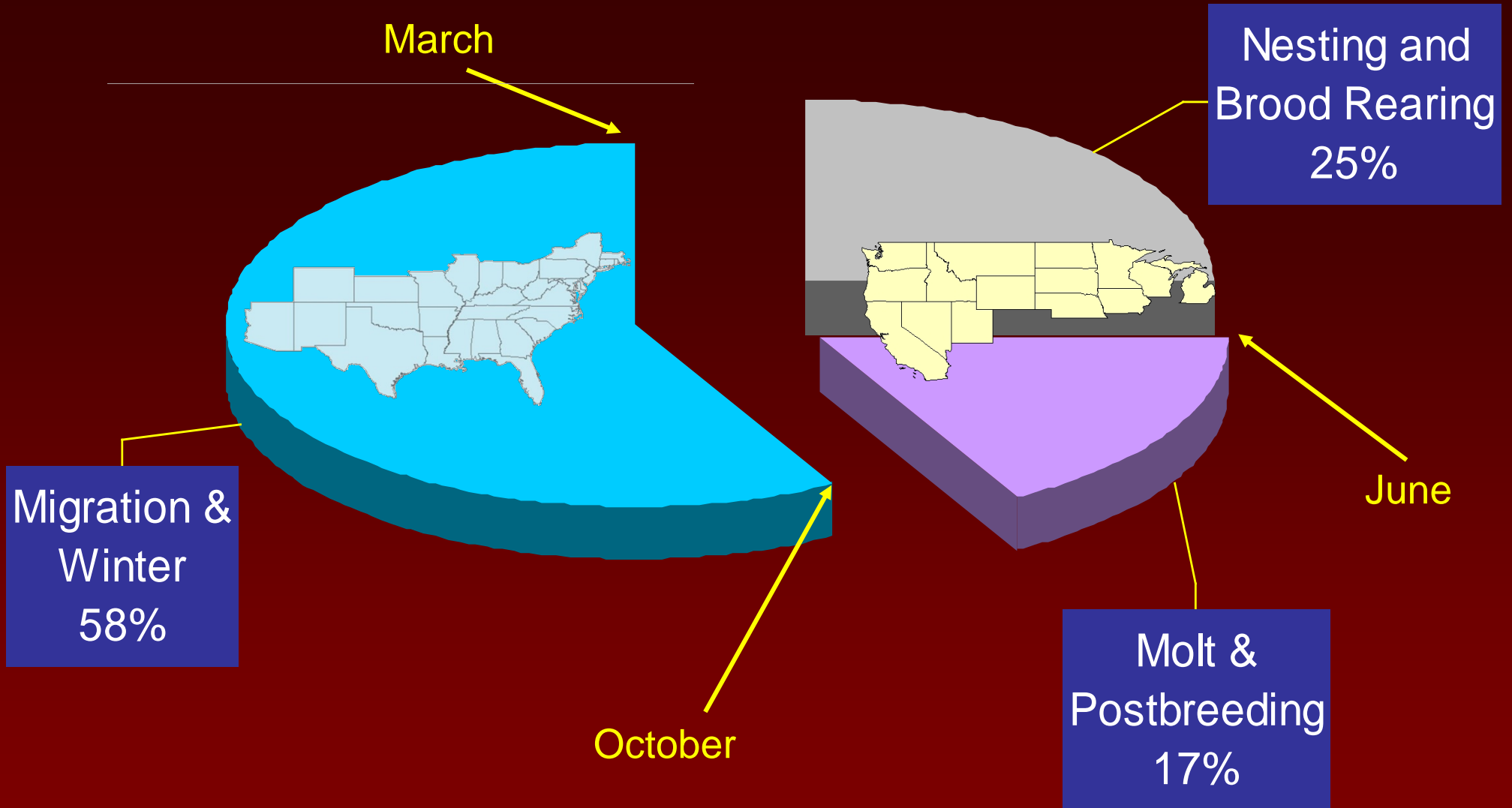
Requires structure with water level management capabilities

Requires regular manipulation of structure

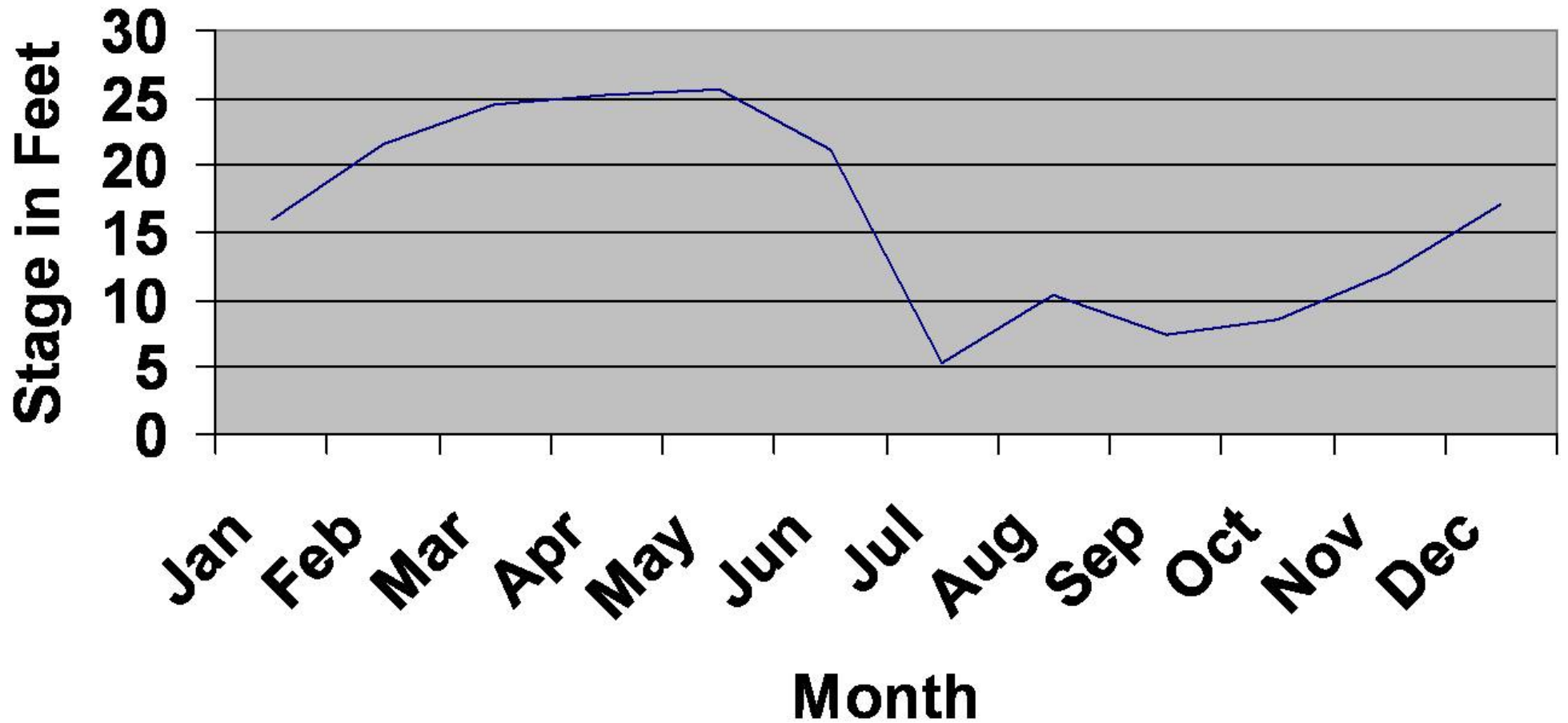
Managing depth, duration, and timing of hydrology to meet objectives



Annual Events in Mallard Life Cycle



Mean River Levels



— Mean River Level

Disturbance & Vegetation Treatments

Why is Disturbance needed?

To set back succession to meet desired objectives

Frequency of Disturbance?

Depends on objectives and location (trigger)

Amount of Disturbance?

Depends on current conditions and objectives

Disturbance & Vegetation Treatments

- Disking
- Mowing
- Plowing
- Burning
- Drying
- Grazing
- Liming/Fertilization
- Stress Flooding
- Drawdown Timing
- Drawdown Length
- Herbicide

Wetland management is an art – not a science

Management depends on:

- Objectives
- Location
- Site
- Conditions

Be adaptable and keep records!

Nuisance Wetland Mammal



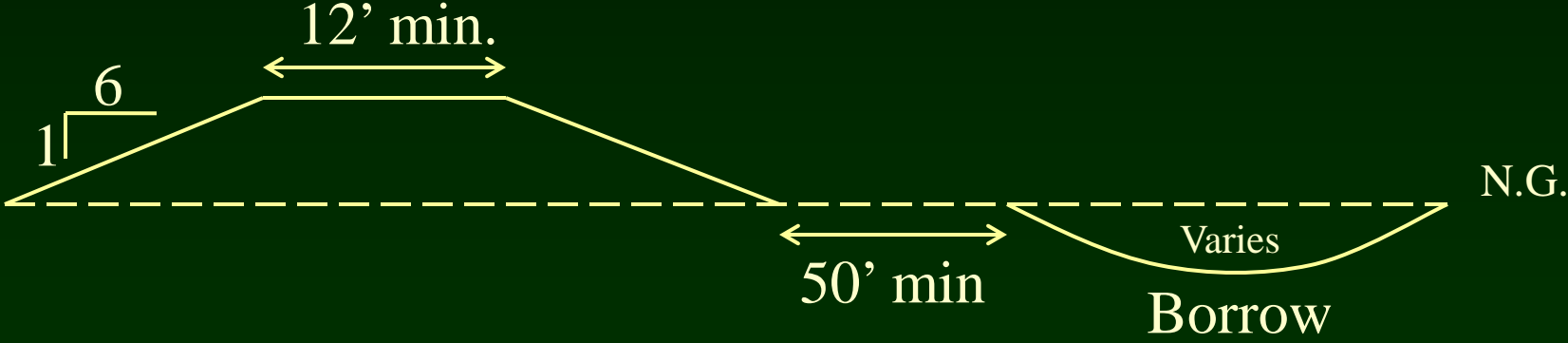
We built a wetland, expect wetland species to be there!

These species become a nuisance when they cause damage to restoration and/or infrastructure or impede management activities

Major offenders include – beaver, muskrat, nutria, feral hogs



Dike Construction



Water Level







Full-Round Flashboard Risers









10/06/2009



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Kevin Nelms
(662) 453-2762 ext 25
kevin.nelms@ms.usda.gov

