



Chronic Wasting Disease

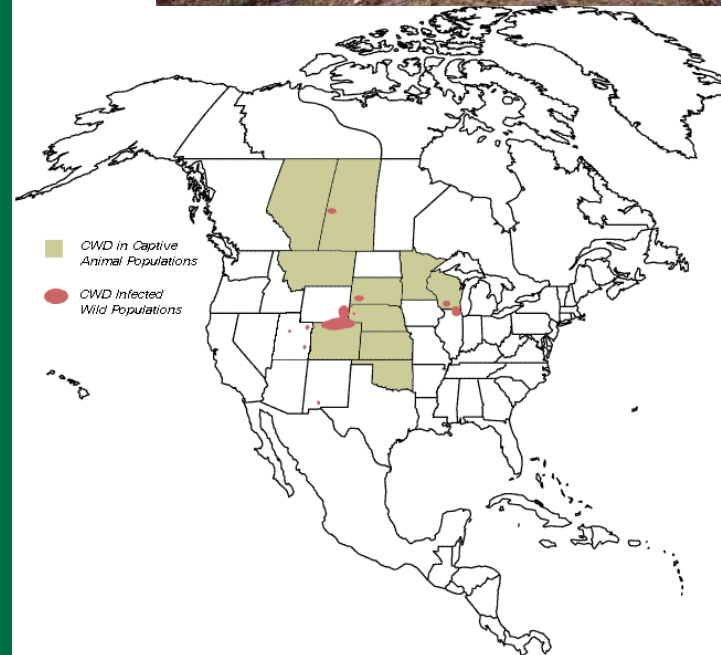
Wildlife Agency Perspective

Leslie Dierauf, V.M.D.

USGS National Wildlife Health Center

CWD – What We Know

- Affecting deer and elk for 40+ years
- Geographic range has expanded
 - Increased size of endemic areas
 - Movement to new areas
- Transmissible and infectious
 - Horizontal transmission
 - Environmental contamination



Potential Impacts of CWD

- Deer and elk
- Other wildlife
- Domestic livestock
- Humans



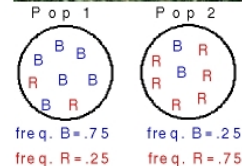
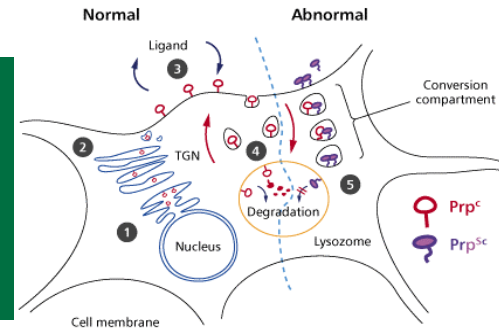
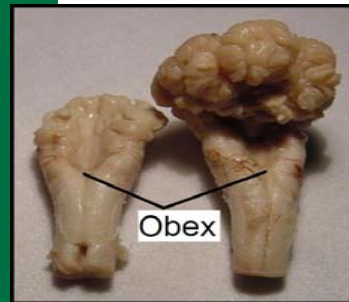
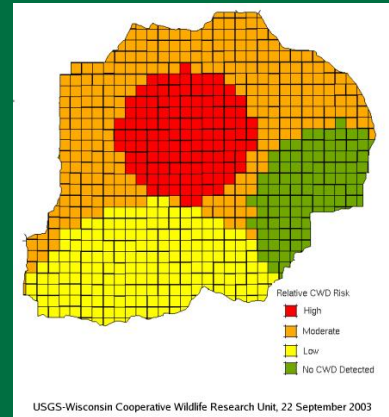
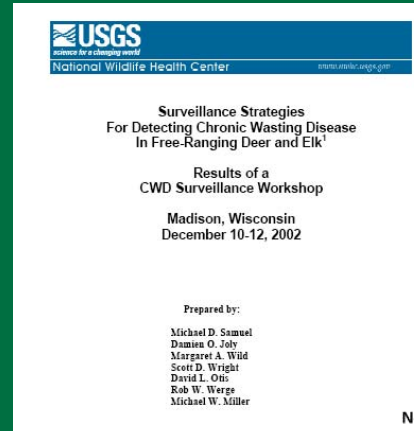
Potential Impacts – Deer & Elk

- Population-level impacts are not yet apparent
 - 30% prevalence in “core” areas
 - Higher prevalence in males than females
 - Higher prevalence in mature males
- Is CWD a decimating factor in wild deer and elk?



Addressing the Impacts - Cervids

- Surveillance
- Spatial Analysis
- Genetic markers
- Epidemiological modeling
- Preclinical biomarkers
- CWD+ tissue bank
- Risk analysis



Potential Impacts – Other Wildlife

- No transmission documented in the wild
 - Moose and ferret in captive studies (oral inoculation)
- Transmission in other TSEs
 - Scrapie or BSE to mink
 - Kuru
 - BSE to cats
 - BSE to humans (vCJD)
- Passaging and the “species barrier”
- Can CWD “jump” to other wildlife?



Addressing Impacts – Other Wildlife

- Transmission studies
 - Mice & voles
 - Ferrets
 - Predators
- Carrion consumers
 - Carcass consumption study
 - Testing of scavengers



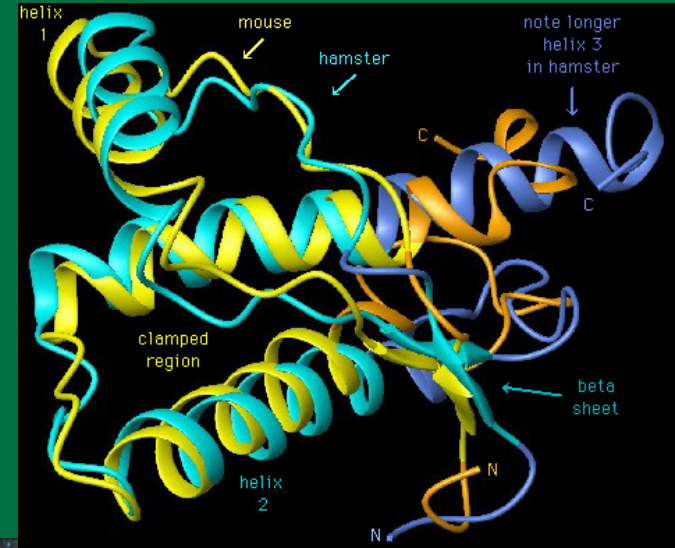
Potential Impacts - Livestock

- No detected transmission to livestock
- Cattle and CWD+ deer commingled
 - No transmission
- CWD intracerebrally inoculated into cattle
 - Transmission can occur
- Captive cervid industry



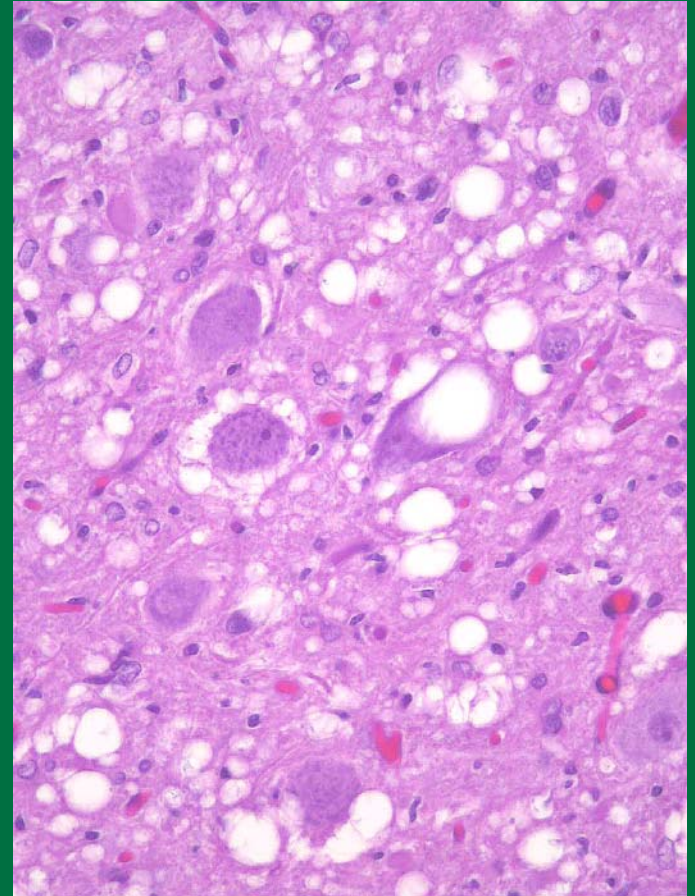
Potential Impacts - Humans

- **Human health**
 - No indication that transmission has occurred
 - Laboratory studies show that conversion to human disease form is possible – but at a very low rate
- **Economics**
 - Big Game hunting - \$10 billion annually in U.S.
 - Majority to rural communities
- **Hunting heritage**
 - 11 million participants
 - 150 million hunting days per year



The Costs of CWD

- National CWD Plan in the U.S.
- Projected cost to implement National Plan
 - \$108 million over initial 3 years
- FY 2003 spending
 - DOI \$3.3 million
 - USDA \$18.2 million
 - States \$15.3 million
 - Federal Aid \$2.7 million



Research & Management - Partnerships



Seamless Solutions to Partnering and Stewardship

Individuals → Engagement/Cooperators → Community

START

MANAGE THE DRIFT

STEWARDSHIP

Communication

Find Time

Gather Funds

Generate Info

Build Trust

Support Efforts

Share Information

Engender Cooperation

Embrace

On-the-Ground &

Hands-On Efforts

INVOLVE → → → CONNECT → → → CONTRIBUTE → → → EMBRACE

