April 7, 2022

1:00 – 3:00 pm

Commission Room / Zoom

Centennial Campus, Raleigh

Welcome/Open Meeting

- Roll Call
  - Margo Minkler
- Introduction to Chronic Wasting Disease (CWD)
  - Moriah Boggess
- Current Status of Testing and Testing Protocols
  - Sarah Van de Berg
- CWD Response Plan
  - Establishment of Primary and Secondary Surveillance Areas
    - Jason Smith
  - Fawn Rehabilitation
    - Brad Howard
  - Deer Secretions (SL 2021-176)
    - Brad Howard
  - CWD Testing for 2022
    - Brad Howard
  - Carcass Transportation and Disposal
    - Brad Howard
  - Feeding and Baiting
    - Brad Howard
- CWD Rule Development
  - Carrie Ruhlman
- Next Steps
  - Brad Howard

Additional Topics

Adjourn
Why Does CWD Matter?

- CWD is a slow permanent disease
- CWD prevalence will increase
- Infected deer have limited lifespans
- Reproductive output will decline
CWD is **Very Different** from Hemorrhagic Disease (HD)

**HD (EHD and Blue Tongue)**
- Endemic to the Southeast
- Some deer survive
- Surviving deer carry immunity
- Populations rebound quickly

**CWD**
- Spreading across country
- **100%** mortality rate
- CWD elicits no immune response
- Populations slowly decline
CWD Prions: The Causative Agent

A  Recombinant PrP

B  PrP\textsuperscript{Sc} model

Healthy

Infected

C. Govaerts

Bob Dittmar, TPWD
Population Effects

- Average fawn recruitment rate ~50%
- It takes 2 years for a doe to replace herself
- CWD will decrease lifespans to 16-24 months
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How Do We Combat CWD?

- 1st step, know where it is
  - Test, test, test

- Don’t give it a ride!
  - Live deer
  - Dead deer

- Slow transmission rates
  - Avoid unnecessary congregation of deer
CWD Collection, Submission, and Testing Timeline

- Deer Harvested
- Sample Collected
- Data Entered into PAWS
- Sample Submitted to Lab
- Lab Received Sample
- Report Finalized
- Report Emailed
- Results Entered into PAWS
- Results Live on Harvest Report
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Immunohistochemistry (IHC)

Immunohistochemistry

The process of identifying selected proteins (antigens) in cellular tissue by exploiting the way certain antibodies attach to those proteins. Using dyes to make those attachment points visible under a microscope.
From Lymph Node to Test Result

Tissue sample is unpacked, catalogued, NCWRC notified of accession.

Tissue is cut into a block, embedded in paraffin wax, sliced into microtomes, and set on slides. Slides are baked, washed repeatedly, wax is dissolved, antibodies added, stain and counter stain added.

Histopathologist reads slide, looking for the staining. If positive, sample number is confirmed, the process is repeated.

If positive, tissues are sent to secondary, independent lab for confirmation. They run this process twice. Final report follows via email.
Each sample takes a minimum of 3 days to prepare on a slide.

Wisconsin (WVDL): accession to final report in under 30 days. Typical turnaround time is 15 days.

National Veterinary Services Lab (NVSL- confirmatory testing): 10-day turnaround time.
7249 Sample submissions, 1462 samples outstanding
NCWRC Districts

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NCWRC District 7

Outstanding Samples
Alexander: 12
Alleghany: 7
Ashe: 19
Davie: 11
Forsythe: 19
Iredell: 32
Stokes: 9
Surrey: 9
Watauga: 9
Wilkes: 15
Yadkin: 4

Total samples submitted: 1285
89% reported results
Proposed CWD Surveillance Areas (Primary and Secondary)

Jason Smith
District 7 Wildlife Biologist
20 miles to Patrick Co, VA
62 miles to Johnson Co, TN
82 miles to York Co, SC
CWD Surveillance Zones

**Primary CWD Surveillance Area (PSA)-**

- Approximate 5 mile radius around the CWD harvest location
- Average yearling male dispersal distance

**Secondary CWD Surveillance Area (SSA)-**

- Approximate 5-30 mile radius surrounding the CWD harvest location
- Maximum yearling male dispersal distance
Acreage and land use delineated from aerial photography

**Spatial information reliable but not guaranteed**

Data Prepared By: Jason Smith, NC WRC

- Preliminary PSA - 50,808 acres
- Preliminary SSA - 1,697,569 acres