



**KENTUCKY ENERGY &
ENVIRONMENT CABINET**

Distillers Grains and EEC

Amanda LeFevre, Deputy Commissioner, KY DEP

Kari Johnson, Environmental Consultant Sr., KY DEP

What we will talk about.....

- Distillers' Grains and the Environment
- A Growing Issues
- A New Path



DEP's Strategic Vision

MISSION STATEMENT

To Protect and Enhance Kentucky's Environment.

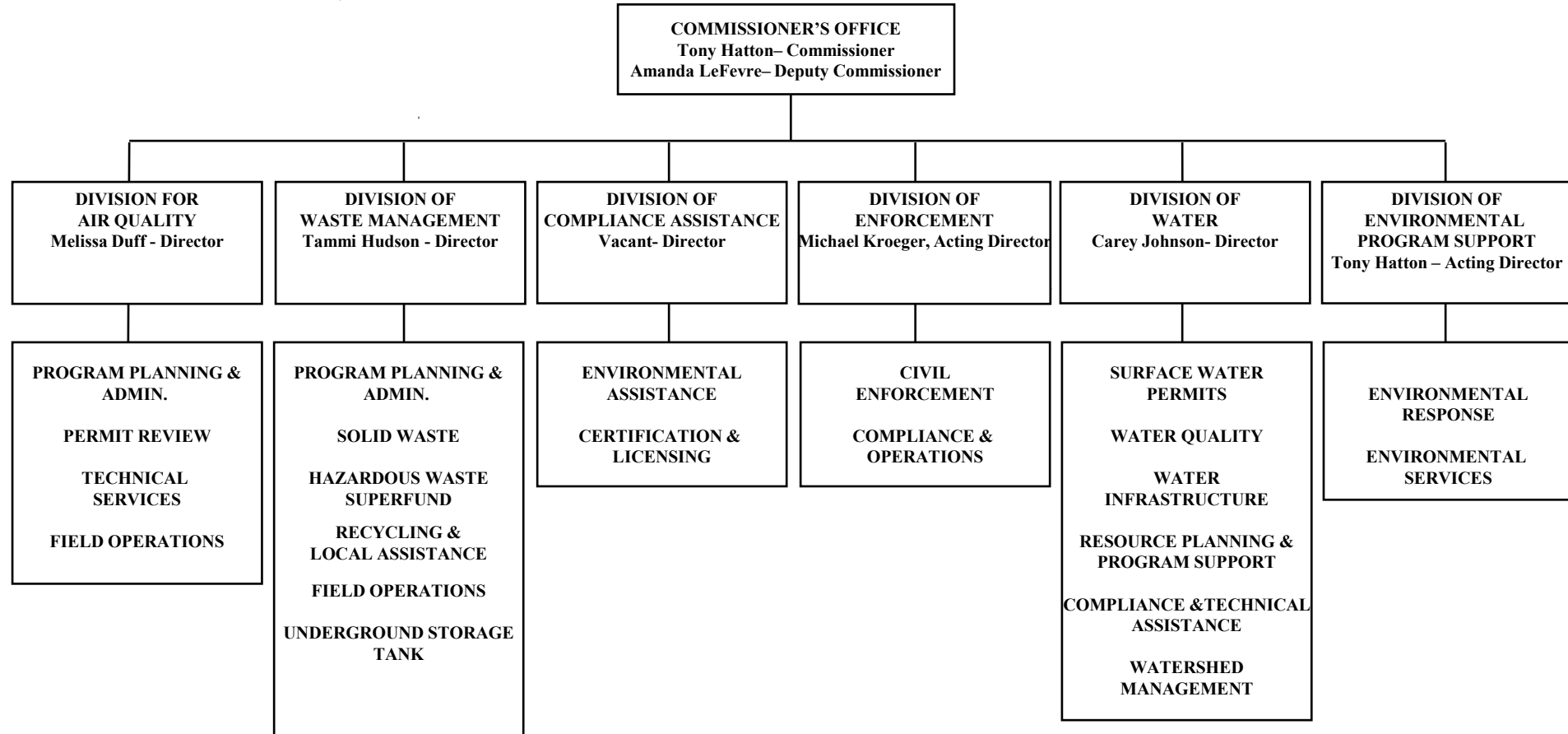
VISION STATEMENT

The Department for Environmental Protection envisions a healthy and productive Commonwealth with balanced stewardship of the land, air and water. We envision a Commonwealth where future generations enjoy an environment as good or better than the present.

About the Department

- The Department for Environmental Protection is responsible for the protection and management of Kentucky's air, water, and land resources.
- The department employs approximately 750 employees.
- Most in Frankfort, but regional offices across the state that serve all 120 counties.
- The department works in partnership with other agencies that have environmental responsibilities.

DEP's Organization



Distilleries- Typical Environmental

- Permitting
 - Air: Registration – Title V
 - Water: KPDES & KNDOP
 - Waste: Land Application
- Sustainability

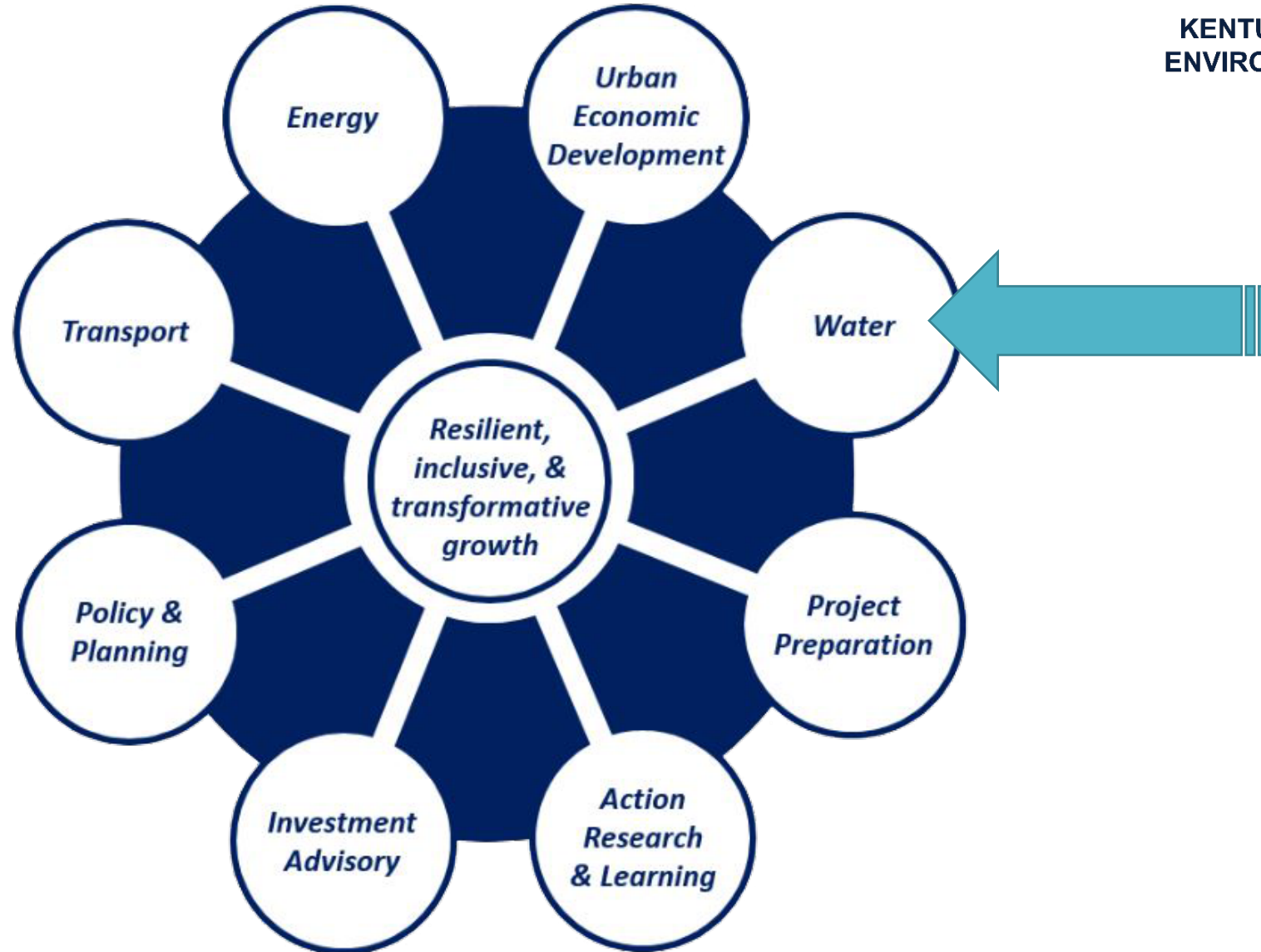
Water for Economic Development



KENTUCKY ENERGY &
ENVIRONMENT CABINET

To be viable,
communities must
invest in water.

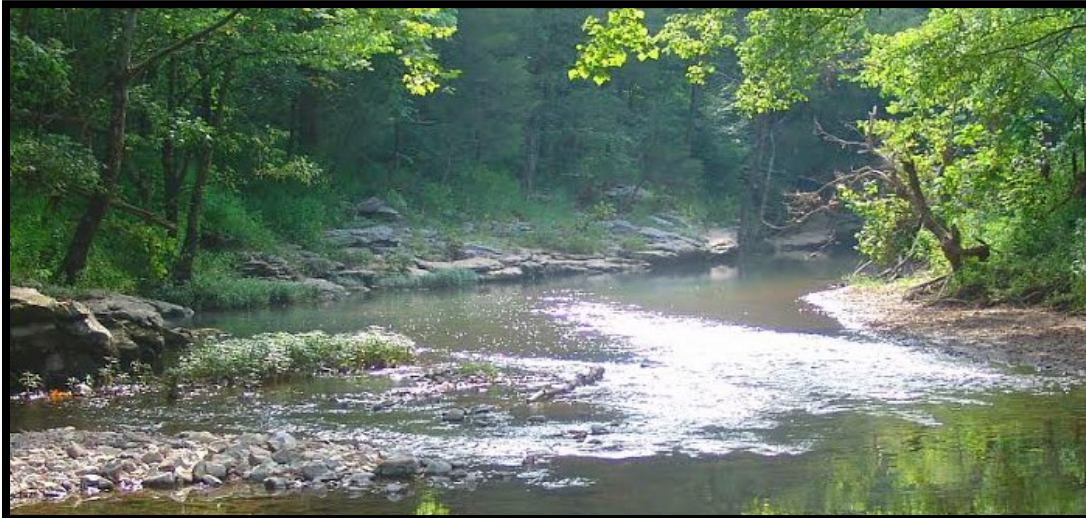
- Clean Water
- Abundant Water



Water in the Distilling Industry



**KENTUCKY ENERGY &
ENVIRONMENT CABINET**



Water: Ours to use & protect



KENTUCKY ENERGY &
ENVIRONMENT CABINET

Permit for water use:

- Water Withdrawal

DOW Permits that protect Kentucky's waterways:

- Kentucky Pollutant Discharge Elimination System (KPDES)
 - ✓ Stormwater Construction
 - ✓ Stormwater Industrial
 - ✓ Wastewater (process and/or sanitary)

Water Withdrawal



KENTUCKY ENERGY &
ENVIRONMENT CABINET

KRS 151 and 401 KAR 4:010 – permit/authorization required for withdrawals $\geq 10,000$ gallons per day.

- Water Withdrawal Applications 4 to 6 months prior to proposed withdrawal, with exception of emergencies.
- Permit/Authorization for withdrawals require:
 - ✓ Monthly recording and reporting requirements
 - ✓ Monitoring Results Submittal and
 - ✓ Water Withdrawal Report Forms

KPDES Permits

- Stormwater Construction - ≥ 1 acre disturbance; requires BMPs to minimize impacts
- Stormwater Industrial – Controls stormwater runoff from an established facility (* point source discharge)
- Industrial Kentucky No Discharge Permit – for storage lagoons that are not used for manure or stormwater
- KPDES – for discharges associated with wastewater or process water
- Groundwater Protection Plans



KENTUCKY ENERGY &
ENVIRONMENT CABINET



Sustainability

- Priority for the industry
- Sustainable Spirits
- Office of Energy Policy- Energy Star



Sustainable Spirits Initiative



2011



- Annual Sustainable Spirits Summit
- Reference and Resource Materials



- Webinars
- Energy assessment through our partnership with KPPC



Stillage- The Sticking Point

- Approx. 10 gallons of stillage for each gallon of bourbon
- High BOD
- Low PH

Where does stillage go?

- Depends on where you are, how big you are, your footprint
- Pressing and drying
- Landfilling
- No discharge lagoons
- Discharge to a wastewater plant after pretreatment
- Traditional agricultural uses

Reuse on farms- Beneficial for all

- Low cost feed amendment
- Reduces costs for farmers
- Plentiful supply for farms
- Reduces energy use and operating costs at distilleries

A Tale of Two Industry

- As bourbon has boomed
- Dairy industry has struggled
- Beef industry wants to grow but there are constraints

Transportation Issues



Stillage Feeding Issues





Excess stillage into lagoon.



**KENTUCKY ENERGY &
ENVIRONMENT CABINET**

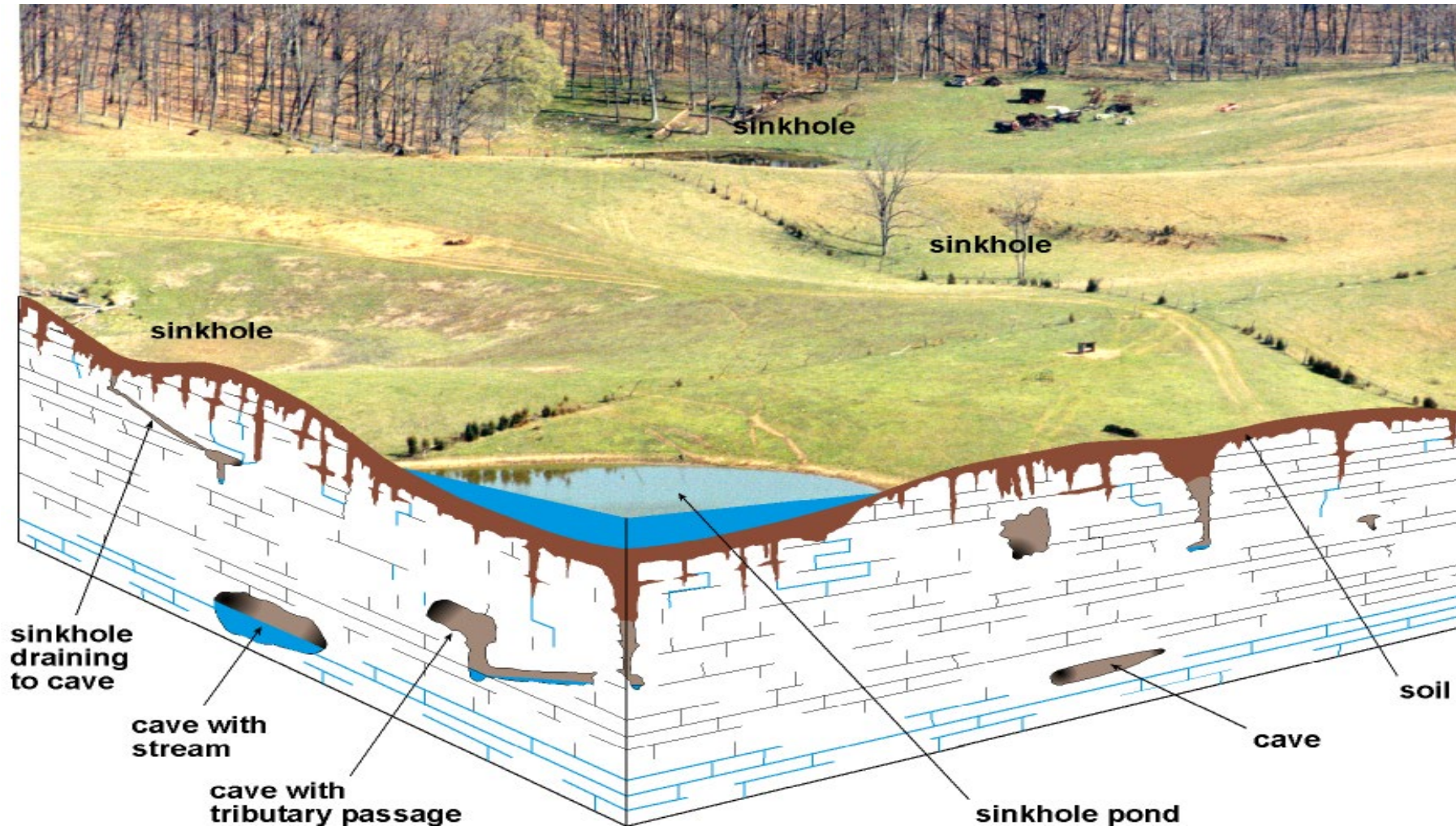
Overflows result in stream degradation.



**KENTUCKY ENERGY &
ENVIRONMENT CABINET**



Stillage and Sinkholes



Stillage and Sinkholes



Land Application



What do we do? Outreach??

- Started to see an uptick in these issues
- DCA offered outreach and education on DG 2017 to both distillers and agricultural representatives and farmers
- Hard to reach audiences
- Continued to see problems

What do we do? Permitting?

- Worked on a joint water and waste application- a solution for no one.
- Solution is out there but a few years away.
- Education and correction continue.

What do we do? Find a new solution?

- Proactive conversations
- Make sure we consider all avenues
- Realizing there will likely not be one magic solution but a network of different solutions

Identify Partners

- KDA
- Agricultural Groups
- Economic Development
- Universities and Extension
- Environmental Groups

Distillers Grains Forum- December 2020

- Virtual Event
- Invite identified stakeholders
- Start a broader conversation
- Determine intermittent steps forward to get us further down the road
- Identify resources and mechanisms to help deal with excess stillage

Forum Results

- Helped understand the various industries and their goals going forward
- Helped start conversations between new partners
- Spin off conversations
- Solidified a working relationships between EEC and partners like J.B. Bean Institute at UK, The Distillers Grains Technology Council and Economic Development
- Truly a joint effort

Follow-Up and Workgroups

- Helped gain better understanding of dewatering issues at various size distilleries
- Series of three events in March
- Report out by UK
- Article submitted to Artisan Spirit Magazine

Next Step- New eyes on the problem

- Reverse Pitch suggested and sponsored by Team Kentucky
- Goal: new ideas for consideration
- Brought in our partners
- To be held at the Distillers Grains Technology Council Annual Symposium
- Sponsored by KDA

What is it and what will you see at 3:15?

- Call for ideas
- Opened in July and ran through August 30th
- Panel of judges weeded down applications to 6 participants
- Those 6 will pitch to you live this afternoon
- Short presentation
- Winner will be chosen by judges with knowledge of the industry

Thanks!!

BROUGHT TO YOU BY



KENTUCKY ENERGY &
ENVIRONMENT CABINET





**KENTUCKY ENERGY &
ENVIRONMENT CABINET**

Questions?