Virtual workshop series: Water quality impacts of livestock operations and grazing management

Natural Resources PFT

Kansas Center for Agricultural Resources and the Environment (KCARE)

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Water quality impacts of livestock operations and grazing management

- Offered as a Professional Development Event in PEARS for county extension agents
- Date/Time: May 5 to May 13, 8:30 am to 9:30 am
- **Zoom Meeting ID: 952 6066 1935**

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Schedule

- Day 3: Extending the grazing season
  - Friday, 5/8, 8:30-9:30 a.m.
  - Presenter: Jeff Davidson, KCARE watershed specialist
- Day 4: Livestock watering systems
  - Tuesday, 5/12, 8:30-9:30 a.m.
  - Presenters: KCARE watershed specialists Herschel George and Will Boyer
- Day 5: Electric fence systems
  - Wednesday, 5/13, 8:30-9:30 a.m.
  - Presenter: Rod Schaub, Frontier Extension District Agent

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Today's format

- If you haven't already, **please mute** your microphones.
- Speakers will present for 30-40 minutes
- Panelists will join the discussion at the end
- Please ask questions through the **chat** function (located at the lower part of your screen).
- Although our "end time" is posted for 9:30 a.m., participants are welcome to remain longer if they want to discuss the topic further.

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Water quality impacts of livestock operations and grazing management

Raising your Water IQ – Stacie Minson

Extending the grazing season – Jeff Davidson

Friday, May 8

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Speakers

Jeff Davidson
KCARE Watershed Specialist for the Flint Hills

Stacie Minson
KCARE Watershed Specialist, Big Creek Middle Smoky Hill River Watershed – Kanopolis Reservoir

Panelists

Dale Helwig, Cherokee County Extension Agent;
Jody Holthaus, Meadowlark Extension District Agent;
Keith Harmoney, Agricultural Research Center, Hays;
Jaymelynn Farney, Southeast Research and Extension Center

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Raising your Water IQ

Stacie Minson, KSU Watershed Specialist

Big Creek Middle Smoky Hill River Watersheds – Kanopolis Reservoir

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Raising your Water IQ

- **Non-Point Source Pollution (NPS)**
  - Hard to Trace Point of Origin
  - Runoff from precipitation that travels across the ground; picks up and carries pollutants into water sources
- **Total Maximum Daily Load (TMDL)**
  - the amount of a pollutant that a body of water can have at any given time and still meet it's designated use
- **TMDLs set for**
  - Total Nitrogen (TN)
  - Total Phosphorus (TP)
  - Total Suspended Solids (TSS)
  - E.*coli* bacteria (fecal coliform)

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Pollutants & Sources

- **Total Nitrogen (TN)**
  - Human & Animal Waste, Fertilizer
- **Total Phosphorus (TP)**
  - Human & Animal Waste, Fertilizer

- **Total Suspended Solids (TSS)**
  - Erosion (overgrazing, overutilization, bare landscapes, crop fields, streambanks, construction, etc.)
- **E.*coli* bacteria**
  - Human & Animal Waste

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Pollutant Concerns

- **Total Nitrogen (TN) & Total Phosphorus (TP)**
  - Groundwater pollution
  - Algae blooms
  - Foul taste and odor in drinking water sources
  - Depleted oxygen in water bodies can create fish kills

- **Total Suspended Solids (TSS)**
  - Erosion
  - Sedimentation

- **E.*coli* bacteria**
  - **Human health concerns**

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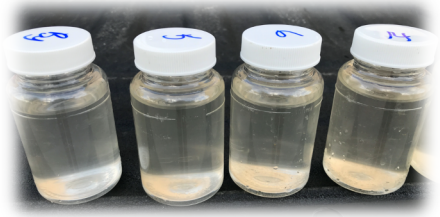
Pollutant Management

Approved EPA/KDHE WRAPS & TMDL Plans

- **Total Nitrogen (TN) & Total Phosphorus (TP)**
  - Clean sites regularly during the season & during off-season
  - Adequate buffers for infiltration of nutrients



- **Total Suspended Solids (TSS)**
  - Uniform use of site to reduce erosion
  - Maintain grass density including quality and quantity of grass species
  - Underutilize the area; Maintain consistent crop residue or cover crops
- **E.*coli* bacteria**
  - Clean sites regularly during the season & during off-season

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Extension Outreach & Technical Assistance – Kansas State University

Approved EPA/KDHE WRAPS & TMDL Plans

- Educate agricultural producers on sediment, nutrient, and pasture management.
- Educate livestock producers on livestock waste management, land applied manure applications, and nutrient management planning.
- Provide technical assistance on livestock waste management systems and nutrient management planning.
- Provide technical assistance on buffer strip design and minimizing cropland runoff.
- Encourage annual soil testing to determine capacity of field to hold phosphorus.
- Educate residents, landowners, and watershed stakeholders about nonpoint source pollution.
- Promote and utilize Big Creek – Middle Smoky Hill WRAPS efforts at pollution prevention, runoff control and resource management.

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Raising your Water IQ Reference Sources

- Protecting Water Quality from Agricultural Runoff https://www.epa.gov/sites/production/files/2015-09/documents/ag_runoff_fact_sheet.pdf
- Kansas TMDL Web Map https://maps.kdhe.state.ks.us/kstmdl/
- Kansas Approved WRAPS Plans http://www.kswraps.org/kdhe-approved-nine-element-watershed-plans

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