



# Regulating Land Application of Manure Regulatory & Technical Assistance Tools to Keep Manure Out of the Water

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## At cow dairy farms:

- ❖ More than half of the issues we see resulting in enforcement are related to land application of manure
- ❖ Compared to challenges at the facility, there are far more variables outside of producers control when dealing with land applications.

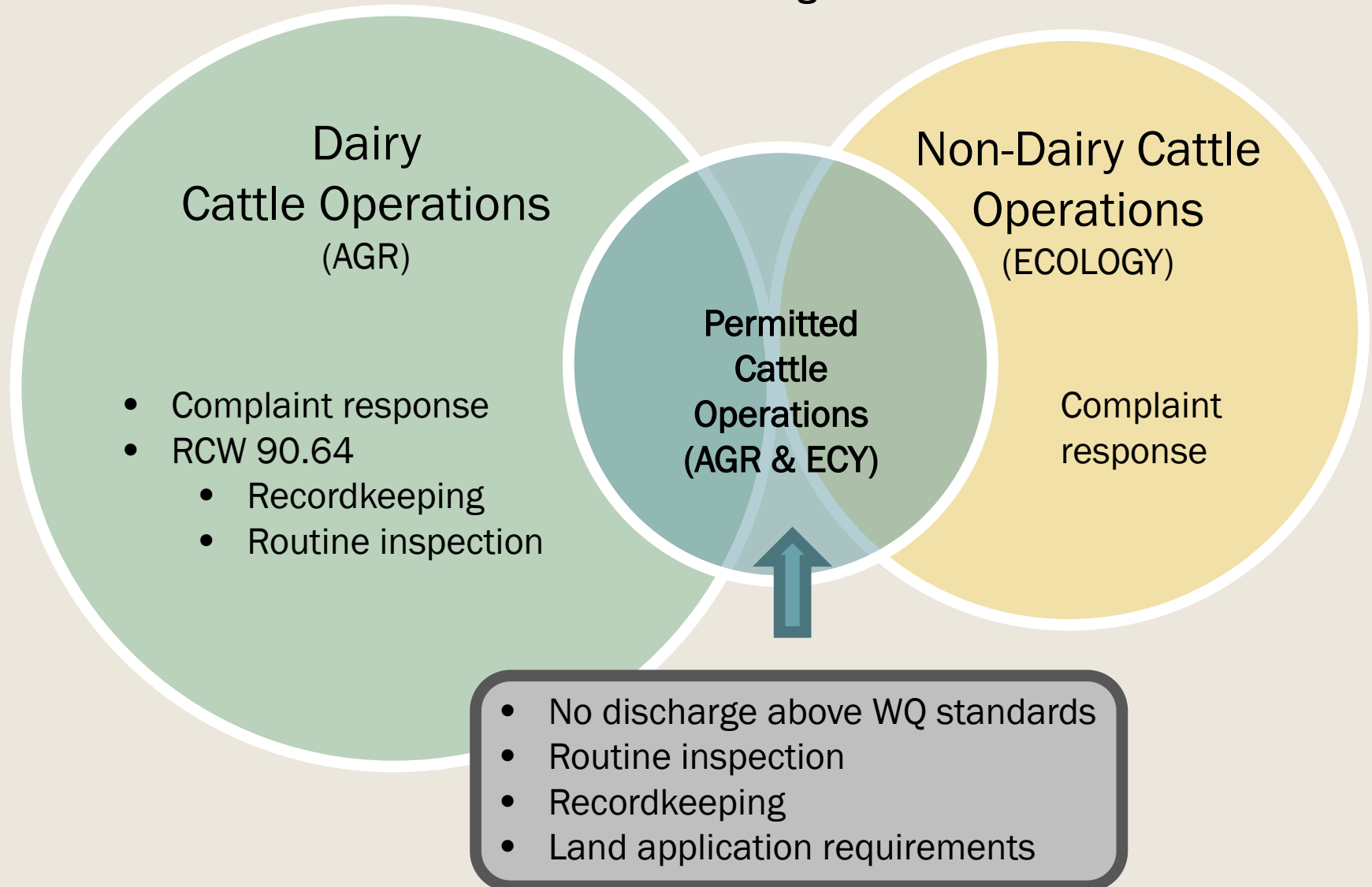
# Outline

- **Authorities Regulating Manure Application in Washington State**
- **Voluntary Guidance and Technical Assistance Resources**
- **Tools used to Evaluate Manure Applications**
- **Challenges**
- **Successes**



# Authority

No Pollution Discharge RCW 90.48



# Authority

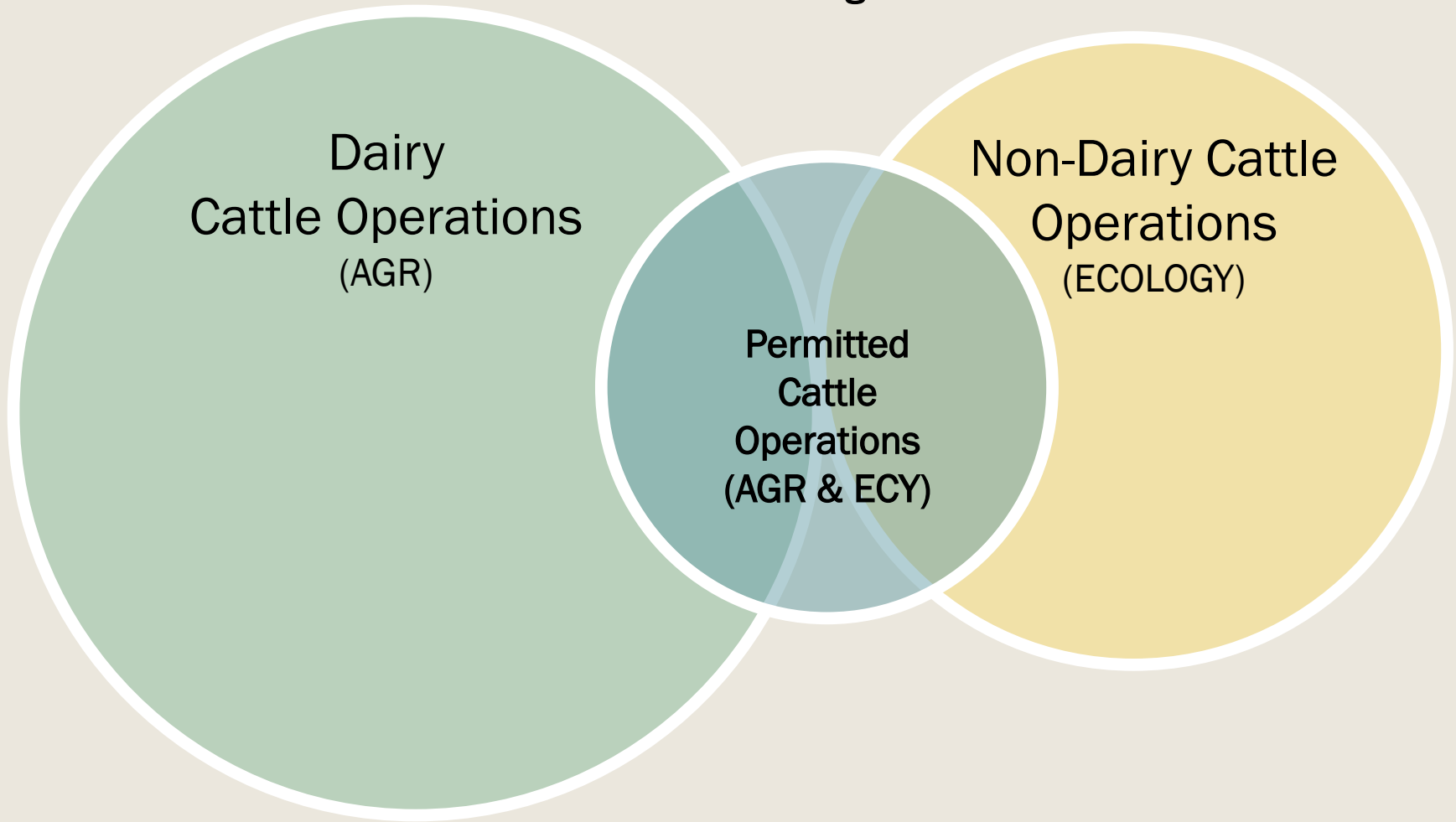
## Permit Land Application Requirements:

- Nutrient Budget – adaptive mgmt.
- Application rates based on budget
- Restrictions
  - Equipment calibration
  - Frozen, snow-covered or saturated soil
  - Bare soil if not being planted
- Edge of field mgmt. practices
  - 100 ft setback from waterways OR
  - Compliance alternative
    - 35 ft vegetated buffer
    - Edge of field berm
    - Approved alternative practice

Permitted  
Cattle  
Operations  
(AGR & ECY)

# Authority

No Pollution Discharge RCW 90.48



# Voluntary Guidance

- Manure Spreading Advisory
- Application Risk Management
- Variable Application Setbacks
- Technical Review
- Nutrient Management Training

## MANURE SPREADING ADVISORY (MSA)

The following Manure Spreading Advisory (MSA) should be used in conjunction with your Nutrient Management Plan and application guidance to help you determine when applying manure is advisable. It is your responsibility to use this information appropriately, and in conjunction with other risk management practices to avoid a runoff event. **If the risk is high, don't apply!**

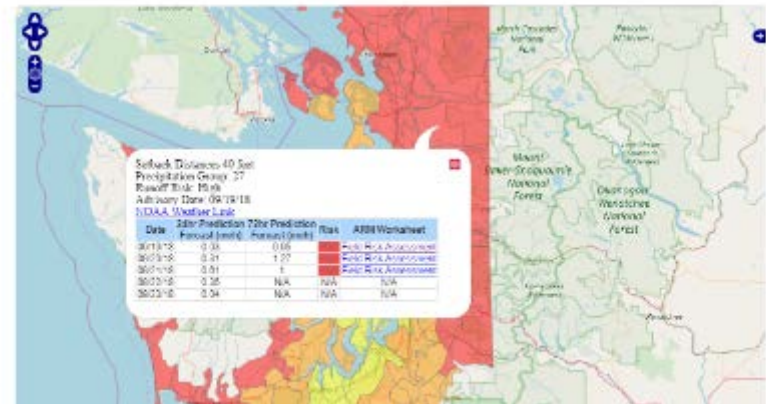
Consider these questions before you apply manure:



Click on your farm location on the map below to receive the runoff risk rating for your specific area and access the Field Risk Assessment Worksheet.

[Click here if accessing map from a MOBILE device](#)

[Click here for a LARGER map](#)



<https://www.wadairyplan.org/MSA>

- Interactive map
- continually updated with local weather

# Voluntary Guidance

- Manure Spreading Advisory
- **Application Risk Management**
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24 hour Precipitation ( inches )

Link to MSA precipitation

Risk Rating: Low-Med ✓

72 hour Precipitation ( inches )

Link to MSA precipitation

Stop: The risk of runoff associated with more than 0.5 inches of rain after application is too high. Do not apply at this time. ✗

Risk Rating: Extreme

Soil Type

Enter the general soil type you want to apply to. If you don't type, make your selection under "Don't know". Soil type can farm plan map.

- Sandy/Gravelly (Course Textured Soil - A)
- Silt (Medium Textured Soil - B)
- Clay (Fine Textured Soil - C/D)
- Peat/Muck (Organic Soil)
- Don't know

<https://www.wadairyplan.org/ARM>

- Comprehensive worksheet
- Individual field evaluation
- Hands on



# Voluntary Guidance

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- **Variable Application Setbacks**
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Variable setbacks are encouraged to:

- Account for conditions and provide sufficient protection of surface water
- Supply beneficial fertilizer to edges of field when appropriate

Manure application setback distance (Feet)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
80 <sup>4</sup>	80 <sup>4</sup>	40	40	40/10 <sup>1,2</sup>	10 <sup>2</sup>	10 <sup>2</sup>	10 <sup>2</sup>	40	80	80 <sup>3,4</sup>	80 <sup>3,4</sup>

<sup>1</sup>This is a floating date and should be evaluated based on current weather and forecast information.

<sup>2</sup>A big gun applicator should NEVER be closer than 40 feet at any time of the year due to drift.

<sup>3</sup>Application during November and December is typically not necessary and must be shown to be agronomic before manure is applied.

<sup>4</sup>Any manure application made from November-February must have a winter spreading plan in place. Contact your CD planner to add this to your DNMP.

***\*These guidelines apply equally to both liquid and solid manures\****

# Voluntary Guidance

- Manure Spreading Advisory
- Application Risk Management
- Variable Application Setbacks
- **Technical Review**
- Nutrient Management Training

- We encourage producers to ask questions and request a review of their application plan.
- We refer producers to technical service providers who are experts in the field.



# Voluntary Guidance

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- Application Risk Management
- Variable Application Setbacks
- Technical Review
- **Nutrient Management Training**

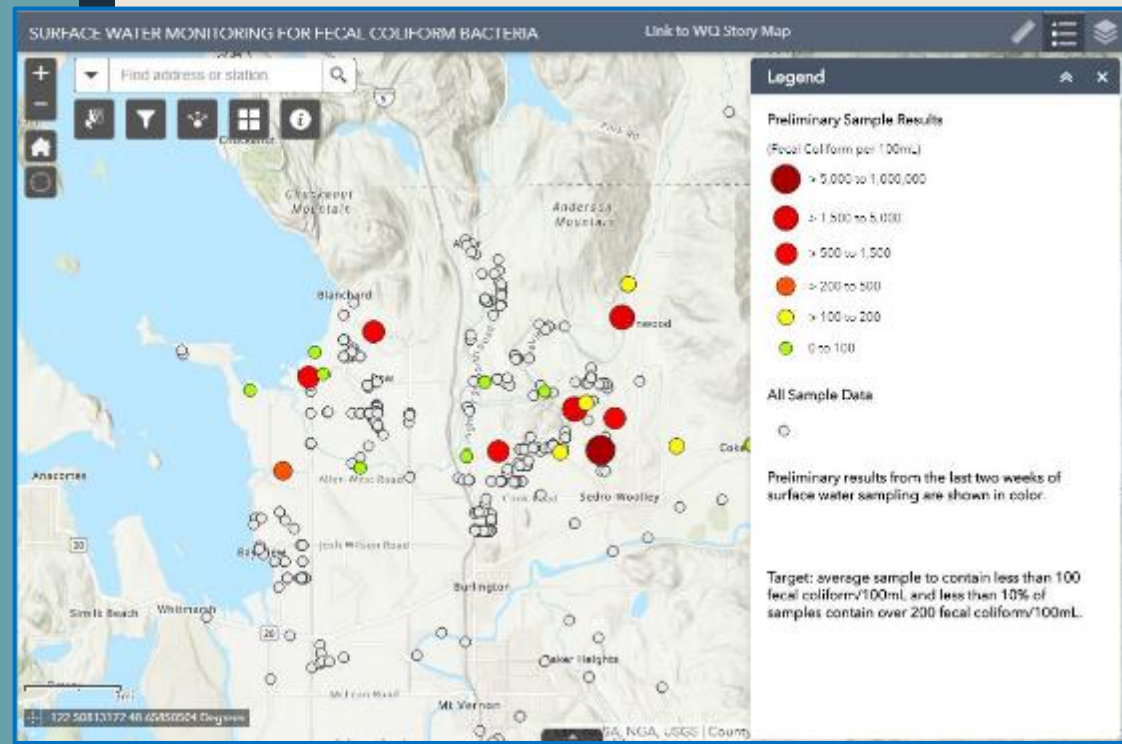
We sponsor Nutrient Management Training events to support broad use of the technical resources that exist.



# Tools to evaluate land applications

- **Water Quality Monitoring**
- Windshield Surveys
- Aerial Surveys
- “Nutrient Tracker”
- Recordkeeping Compliance
- Investigative Sampling

- Where do we focus our efforts?
- What does current data say about water quality?



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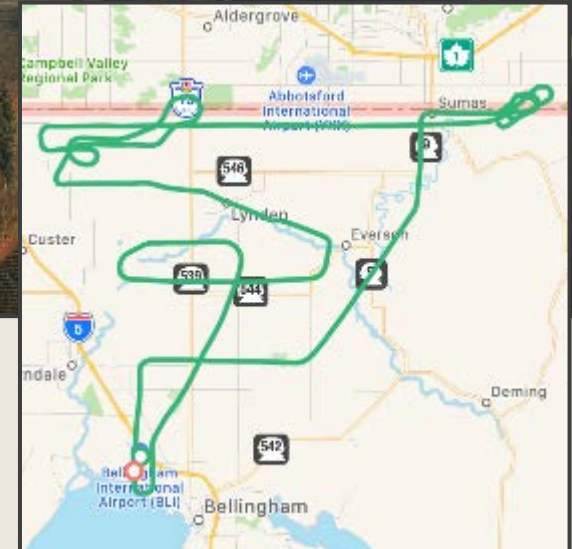
- Spend time driving and observing practices
- Planned routes during application season
- Unplanned trips to and from inspections



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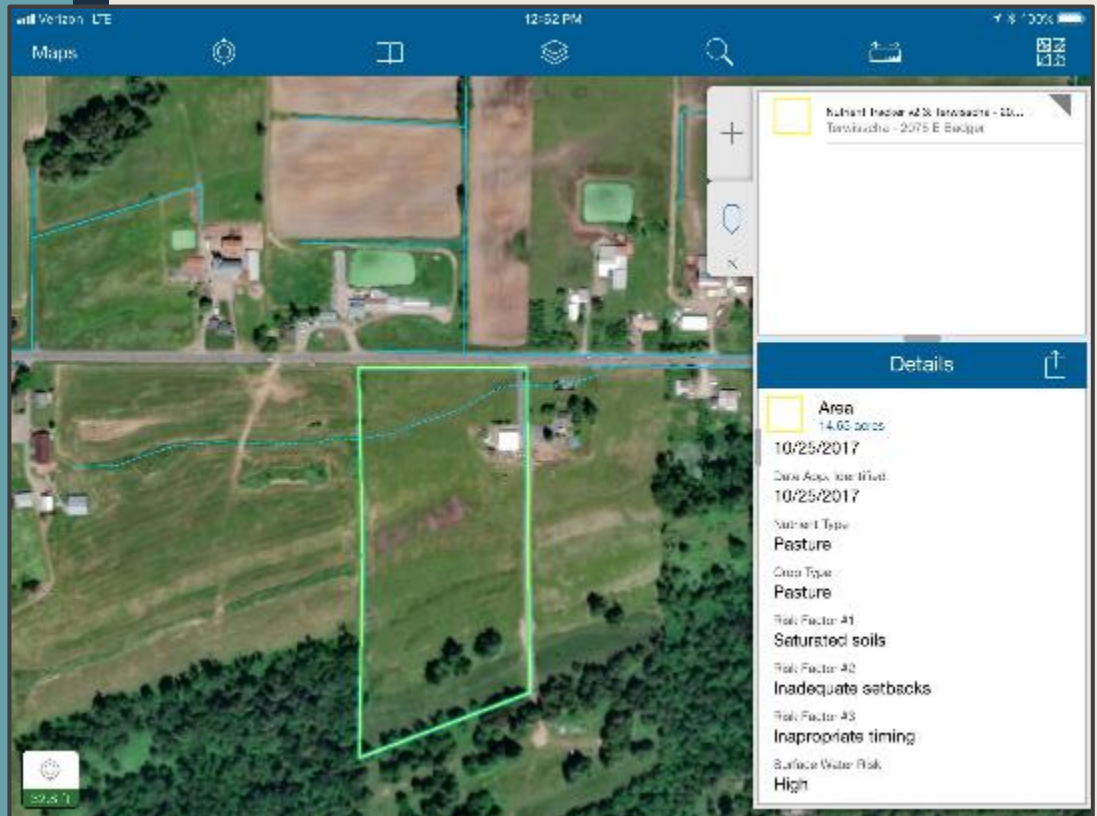
- Improve coverage
- See through the trees



# Tools to evaluate land applications

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- Collect manure application data
- Evaluate characteristics of application
  - Timing
  - Placement
  - Source
  - Rate

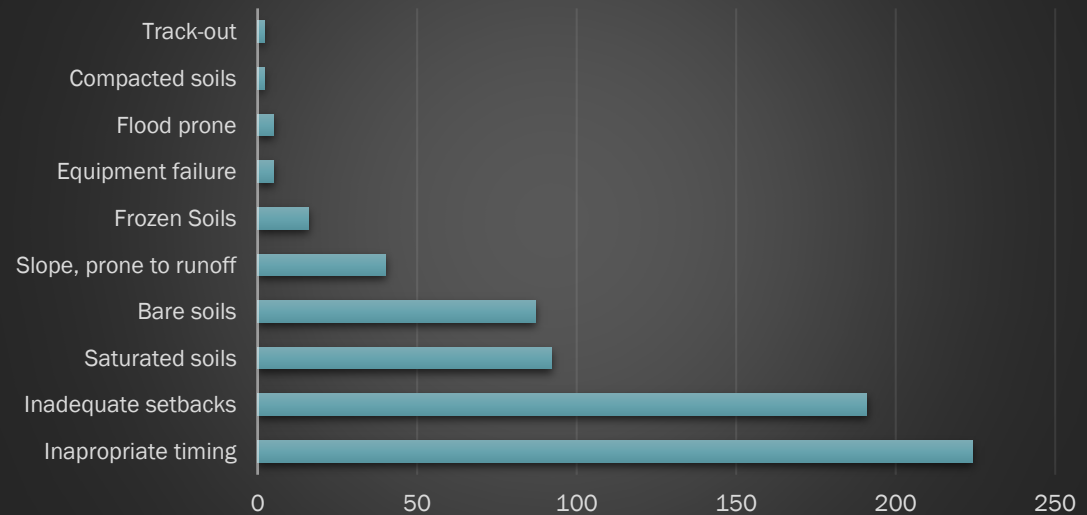


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Risk Factor (All data)



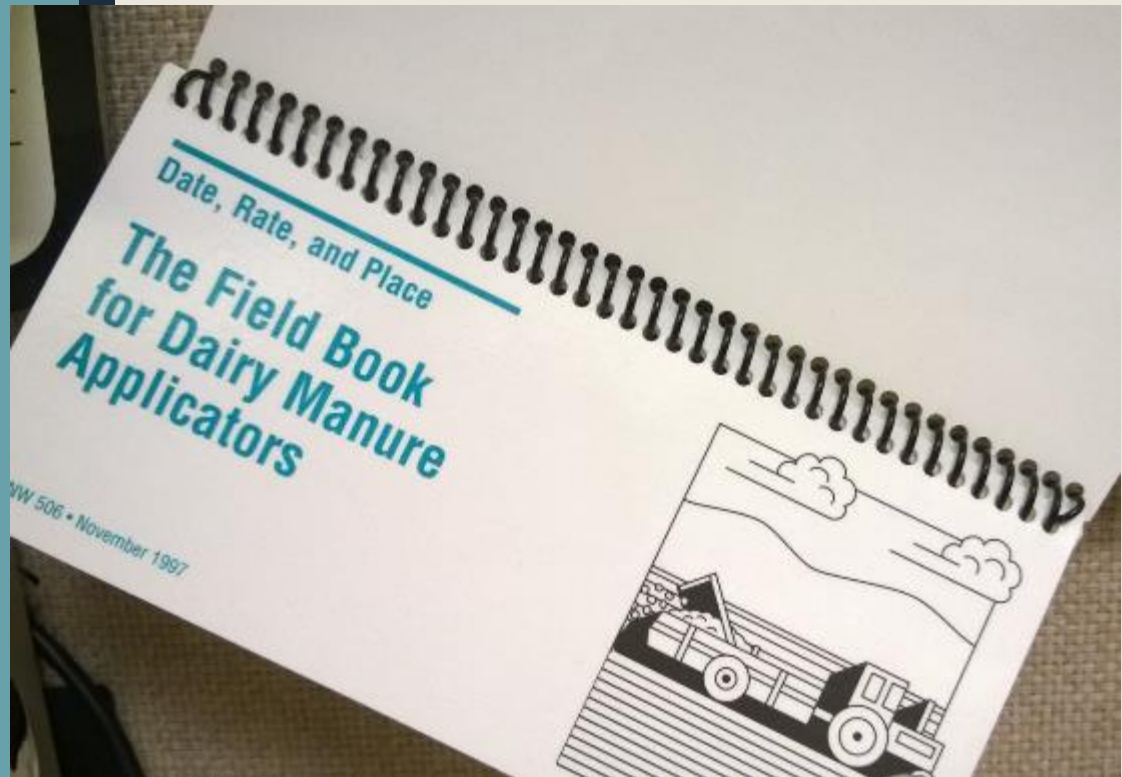
- Consider risk factors
- Prioritize follow-up based on risk



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- Incomplete or unclear records may indicate poor agronomy
- Cross check producer records with what we see on the ground.



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When a surface water discharge is suspected, we collect samples for fecal coliform analysis.



# Challenges

- Resource intensive approach
- Different rulebooks
- Equitable enforcement across the state



# Successes

- Data!
- Improving practices!
- Deeper understanding of conditions that cause discharge
- Adaptive approach



# Questions?

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