



Nutrient Management Plans: *Can We Make Them Simpler and Easier to Implement?*

NICHOLE EMBERTSON, PH.D.
SCIENCE AND PLANNING COORDINATOR
WHATCOM CONSERVATION DISTRICT

What Do YOU See?



Asset?

Liability?

What Is Landowner Objective?

NUTRIENT MANAGEMENT =
AGRONOMICS



WASTE MANAGEMENT =
WASTE DISPOSAL



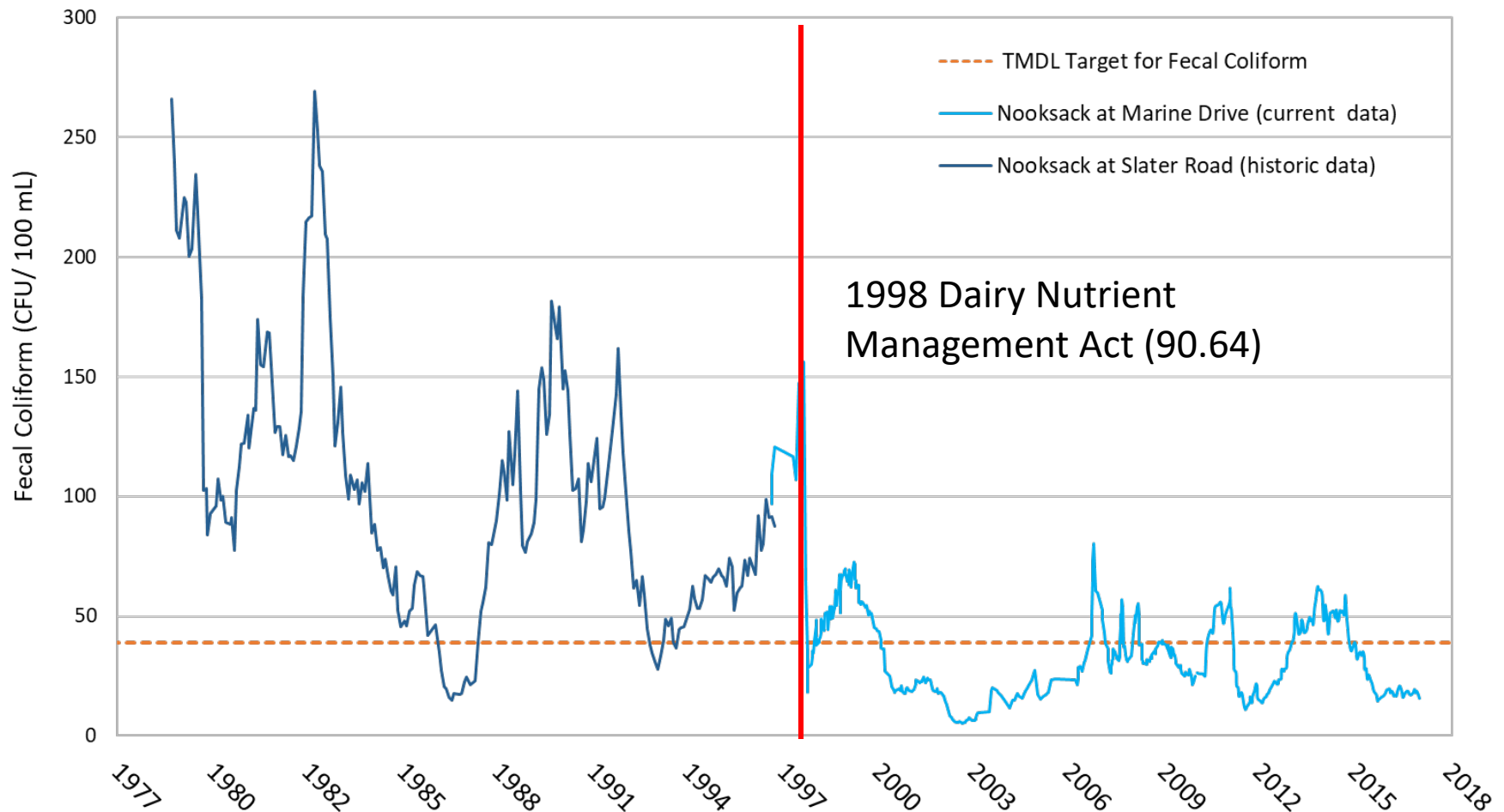
Nutrient Management Plans & Planning

Example: Washington State

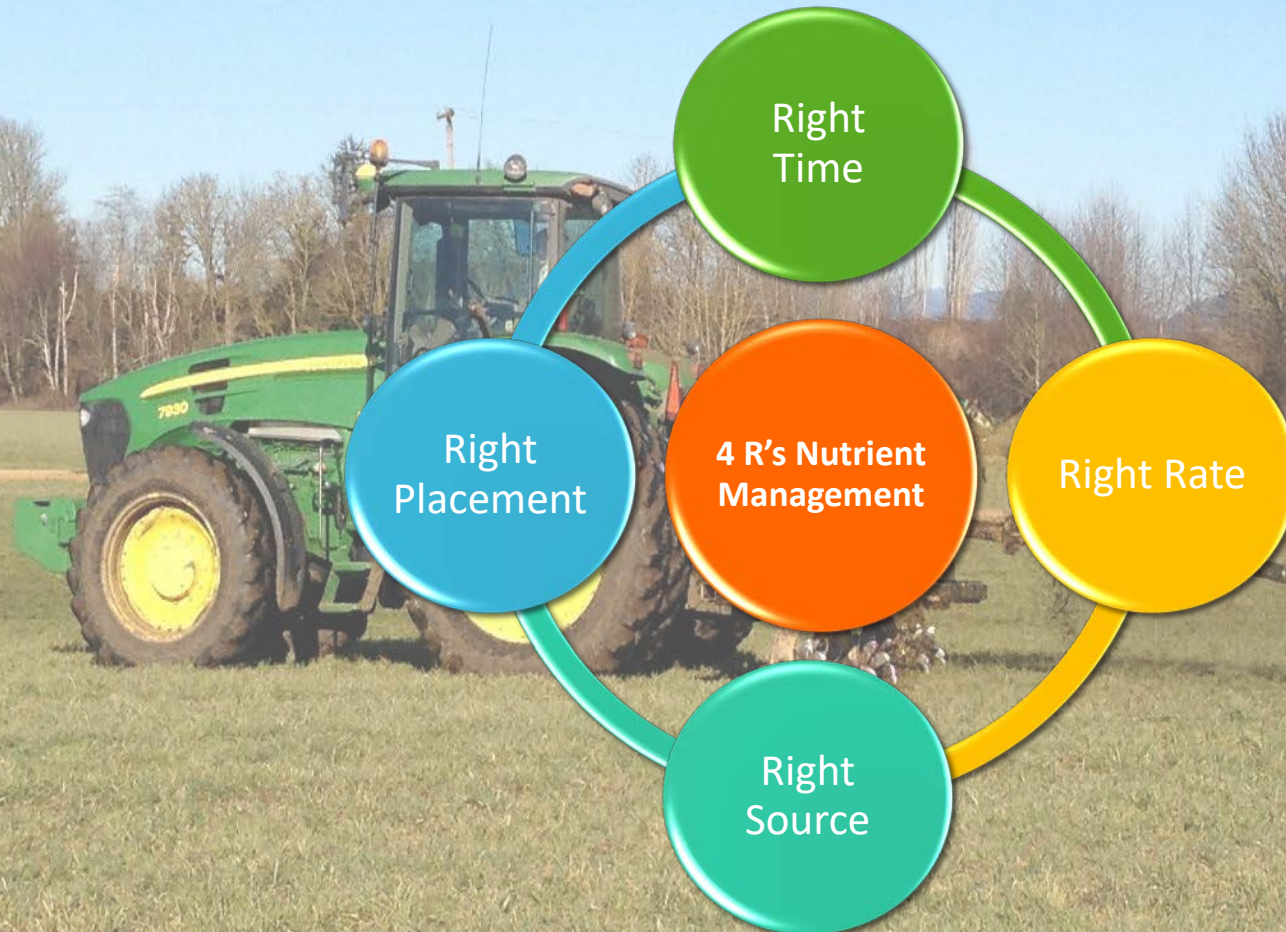


Image: Cutting Through the Crap 2010

Surface Water Quality: Nooksack River, Whatcom County



4 R's of Nutrient Management



Application Risk Management (ARM)

1. Calculate agronomic rate



- Agronomic Rate Calculation

2. Identify optimal fields



- Field Risk Maps

3. Determine when to apply



- Manure Spreading Advisory

4. Assess field conditions



- Application Risk Management (ARM) Worksheet

5. Apply and monitor fields



- Seasonal Manure Setbacks

MSA Alert Text
System

Real-time Runoff
Risk Level

Link to Field Level
Assessment Form

Seasonal Setback
Distance

Current Advisory
Discussion and
Links

Whatcom
CONSERVATION DISTRICT

Home Programs About Us Events News & Highlights

Manure Spreading Advisory

Search Go!

Manure Spreading Advisory (MSA)

Click HERE for MOBILE version

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.

Want To Apply Manure? Answer These Four Simple Questions:

- Does your crop need manure right now?
- Is it safe to apply manure right now?
- Is your field in good condition to apply to?
- What things can you do to minimize risk?

Click your location on the map to access the ARM **Field Risk Assessment Worksheet** to determine if application is okay on your field right now. **If the risk is high, dont apply!**

Click your farm location on the map to get the runoff risk rating for applying manure in your area.

Setback Distances 40 feet
Precipitation Group: 6
Runoff Risk: Low
Advisory Date: 09/28/18
[NOAA Weather Link](#)

Date	1hr Prediction Forecast (inch)	72hr Prediction Forecast (inch)	Risk	ARM Worksheet
09/26/18	0	0	Low	Field Risk Assessment
09/27/18	0	0	Low	Field Risk Assessment
09/28/18	0	0.12	Low	Field Risk Assessment
09/29/18	0.02	N/A	N/A	N/A
09/30/18	0.1	N/A	N/A	N/A

The MSA Forecast

Current Manure Setback Distance

September
40 ft.

*This is for all forms of application

Washington Dairy Plan Framework

Regulatory Framework

- 1998 Dairy Nutrient Management Act
- WSDA Mandatory inspection process
- WSDA Regulatory support
- Regulation of non-dairy farm types by DOE, County
- Working on cross boundary coordination

Technical Support

- NRCS Practice Standards & Planning Process
- NRCS & State (CTD) Dairy Planner Certification & training
- State and partner Support for planners
- Dairy Plan template collaboratively created and updated

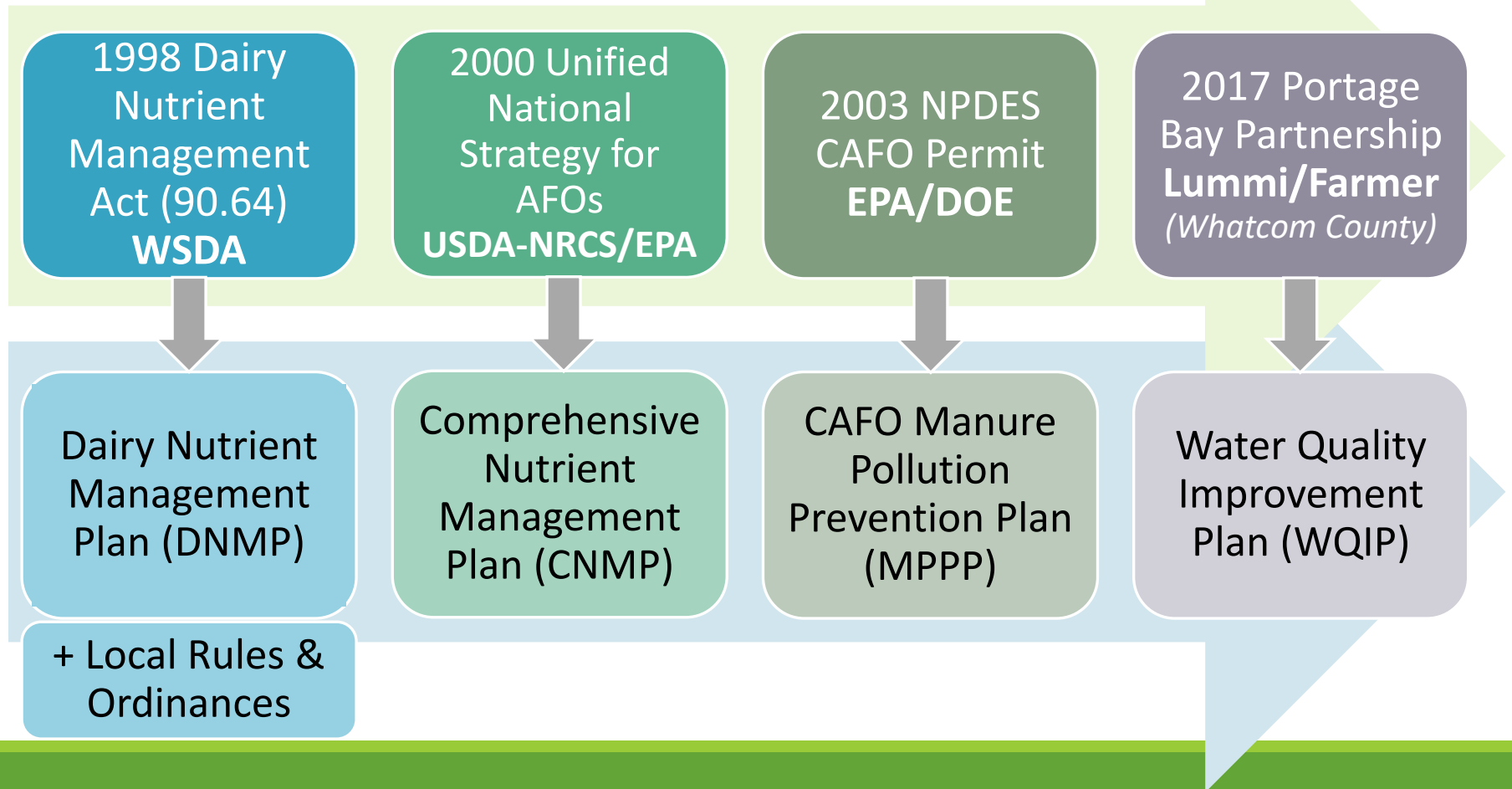
Expertise

- Conservation District dairy planners, nutrient experts, agronomists, scientists, engineers
- Non-regulatory relationships
- Real-time, decision support tools for 4Rs
- Nutrient education and outreach programs
- Share CD staff statewide

Supporting Programs

- Annual Manure Nutrient Training Event
- Local water quality monitoring
- Pollution Identification and Correction program for other farm types
- Coordinated agency communication, data analysis, & education programs

Dairy/CAFO Regulation and Plans



Plans! Plans! Plans!

**Lots of
Plans**



**Lots of
Resource
Protection**

Challenges of Having Multiple Nutrient Management Plans

- Different plans can be duplicative...
- ...or contradictory....but landowner still required to follow
- Typically little coordination between agencies on plan contents
- Producer needs to record a lot of information... but lack of tools (or too many!) to help
- Lack of qualified staff to write different plans
- Can take a long time to write plan(s) (60+hours)

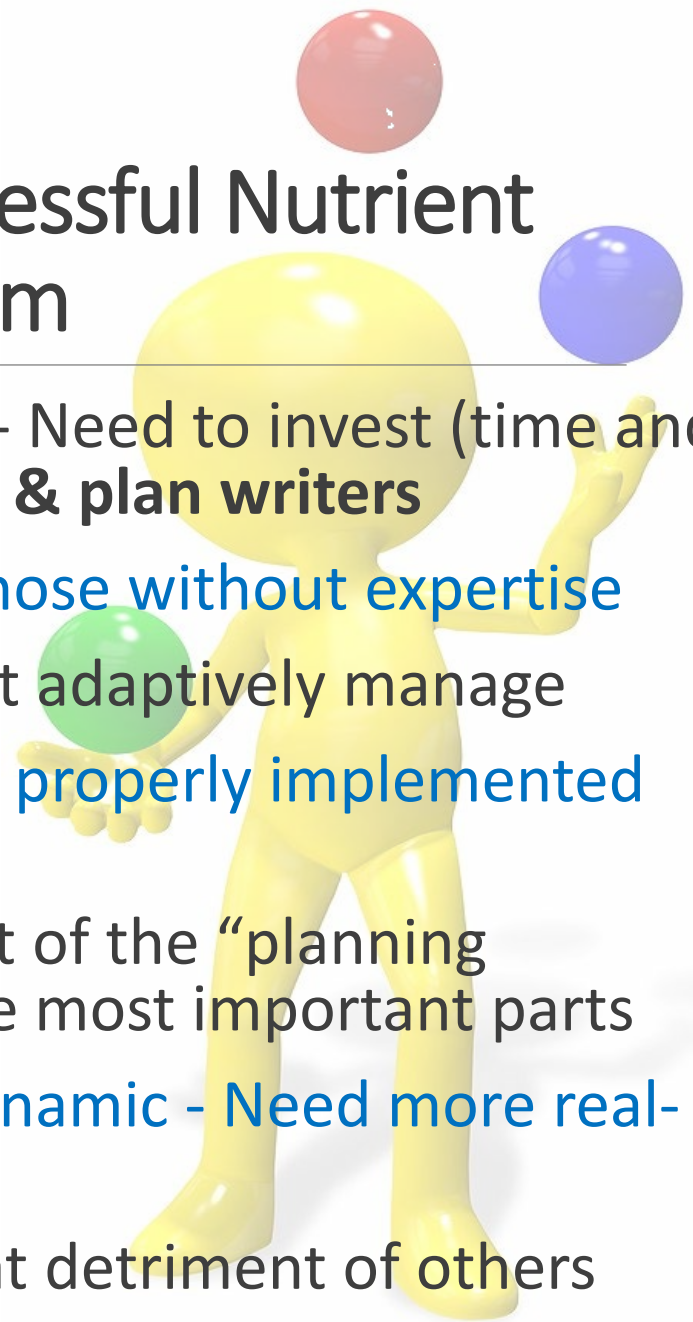
Does the Plan Achieve the Goal?

Perfect Plan  Resource
Implementation Protection

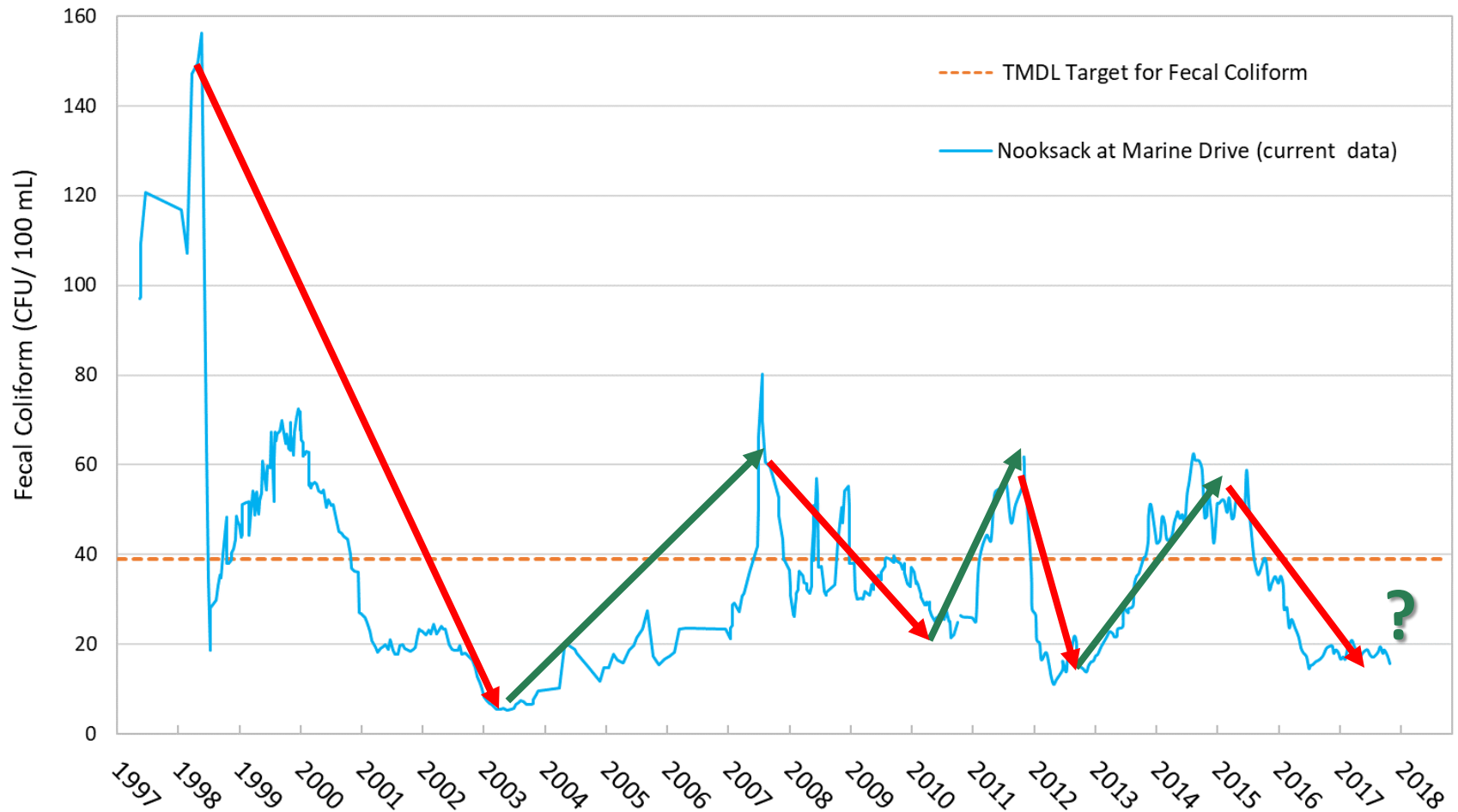
- ✓ Education & Information to landowners
 - ✓ Technical Assistance and Support
- ✓ Good State/local agency relationships and program coordination
- ✓ Strong, helpful, consistent regulatory enforcement

Common Barriers to Successful Nutrient Management Plan Program

- Lack of available staff/expertise - Need to invest (time and \$) in training planners (2 years+) **& plan writers**
- Plans too rigid or designed by those without expertise
- Have funds to write plan, but not adaptively manage
- A perfect plan is worthless if not properly implemented and effectively enforced
- Outreach and education not part of the “planning process”, even though one of the most important parts
- Plan is static, but operation is dynamic - Need more real-time decision support tools
- Focus on one “obvious” source at detriment of others



Surface Water Quality: Nooksack River, Whatcom County



The Success of Nutrient Management Plans Going Forward...

- The implementation of the plan is in the hands of the landowner...how do you support that?
- Need a singular, “building block” plan
- Regulations and plans vary between Agencies and States ... need coordinated effort
- Agriculture is dynamic industry - Need flexible, site specific plan, annual planning, real-time tools
- Support planners/writers and technical assistance
- Education is imperative!
- Need good, regional science to support plan criteria

Thank Mooou!

Nichole M. Embertson, Ph.D.

Science and Planning Coordinator

Nutrient Management Specialist

Whatcom Conservation District

O: (360) 526-2381 x 126

E: nmembertson@whatcomcd.org

www.WADairyPlan.org

Disclaimer: The reproduction or use of any of the images or content within this document is not allowed without prior approval from the creator.