



STAKEHOLDER ADVISORY MEETING #1

THIRD PARTY PERSPECTIVES ON THE A.C.P. WORK PLAN

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September 28, 2022



OUTLINE

- 1) Scope – Entire suite of 3P Work Plans in Ag Order 4.0, and the short-term 35% ACP Plan
- 2) Why are we here? – Groundwater N impairment and N application in fertilizer
- 3) The A-R equation in Ag Order 4.0 (TNA & INMP reporting; existing targets/limits & timeline)
- 4) A more holistic groundwater protection framework
- 5) Grower attitudes towards compliance and how a good A.C.P. can help



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BIG-PICTURE SCOPE OF THIRD PARTY WORK PLANS

All Work Plans from Ag Order 4.0

- Surface Water Trend Monitoring (due/submitted July 1, 2022)
- 35% Alternative Compliance Pathway (ACP) (due April 15, 2023)
- 70% Alternative Compliance Pathway (ACP) (due 18 months after approval of 35% Plan – Nov '24?)
- 100% Alternative Compliance Pathway (ACP) (due 10 months after approval of 70% Plan – Oct '25?)
- Groundwater Trend Monitoring – Phase 1 (due September 1, 2023)
- Groundwater Trend Monitoring – Phase 2 (due September 1, 2025)
- Groundwater Trend Monitoring – Phase 3 (due September 1, 2027)
- Surface Water Follow-Up Work Plan – High Priority Watersheds (due March 1, 2024)
- Surface Water Follow-Up Work Plan – Medium Priority Watersheds (due March 1, 2026)
- Surface Water Follow-Up Work Plan - Low Priority Watersheds (due March 1, 2028)

Focus for Short-Term (Fall '22 – Winter/Early Spring '23)

- 35% Work Plan on Alternative Compliance Pathway for Groundwater Protection

35% ACP WORK PLAN MUST INCLUDE, AT A MINIMUM:

- Proposed GWP Areas and supporting scientific justification
 - Proposed GWP Formulas, objectives, and supporting scientific justification
 - GWP Value methodology and objectives
 - Actual Values to be proposed in 70% Work Plan
 - GWP Target methodology and objectives
 - Actual Targets to be proposed in 70% Work Plan
 - Assessment and evaluation program outline, methodology, objectives
-
- Follow-up actions and consequences for targets-not-achieved to be proposed in 70% Work Plan (not required in 35% Work Plan)
 - ACF, TNA, and INMP monitoring/reporting requirements continue
 - Ranch-level groundwater discharge monitoring not required of Members



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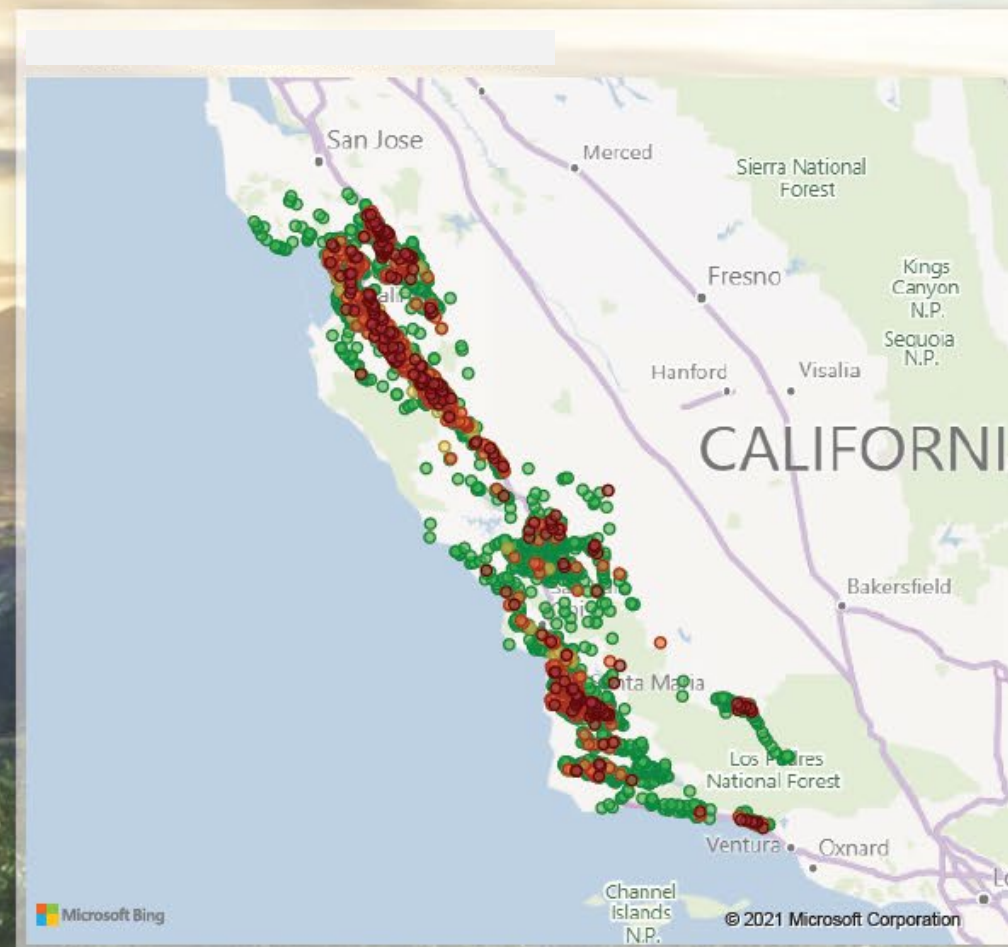
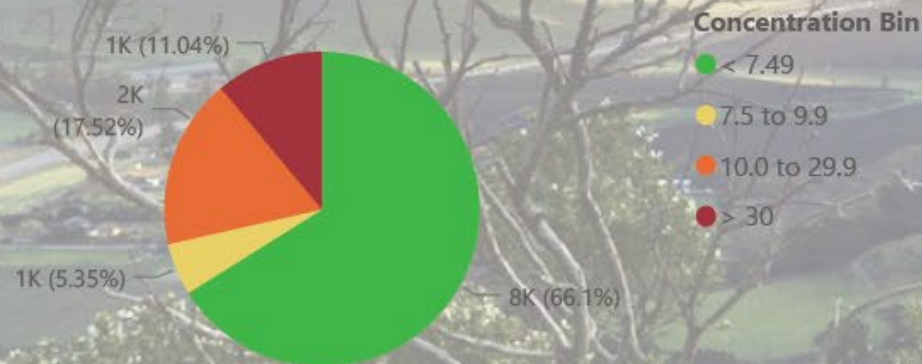
Summary of Nitrate Concentrations

Irrigated Lands Regulatory Program - Central Coast Region

Samples Collected from All Wells

Well Type	Count	# >MCL	% >MCL	Max	Mean
Domestic	4,087	1,135	28%	627.0	11.65
Irrigation	8,050	2,331	29%	627.0	10.50
Total	12,137	3,466	29%	627.0	10.89

Results by Concentration Bin

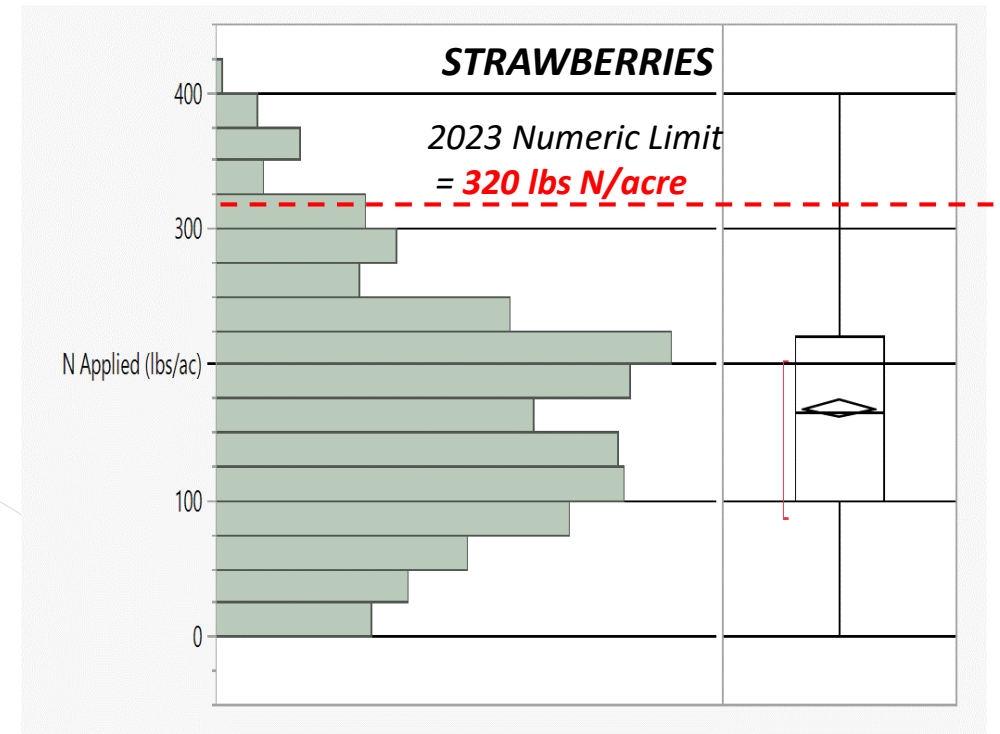
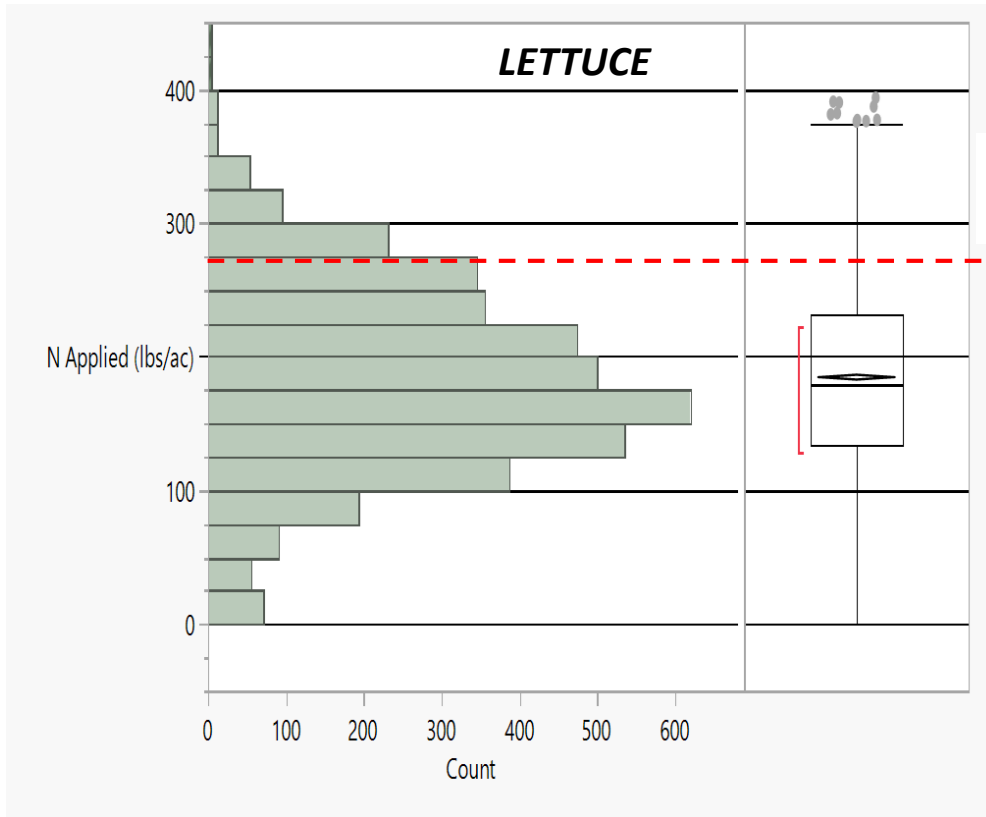




TNA Limits in Ag Order 4.0

Crop	90 th Percentile AFER =	Compliance Date	85 th Percentile AFER =	Compliance Date
Broccoli	295	12/31/2023	280	12/31/2025
Cauliflower	310		285	
Celery	360		330	
Lettuce	275		255	
Spinach	245	12/31/2025	230	
Strawberry	320		295	
All Other Crops	500		480	

PRIOR YEAR TNA DATA



These histograms show distributions of “nitrogen-applied” data reported by growers in recent-year TNA Reports



INMP = IRRIGATION & NUTRIENT MANAGEMENT PLAN (REPORTING)

TNA = TOTAL NITROGEN APPLIED (REPORTING)

INMP reporting = TNA reporting + Yield (i.e. Nitrogen removed in harvest)
(A) (R)



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INMP/TNA REPORTING

We
Are
Here

Table MRP-2. Monitoring and Reporting Schedule for Irrigation and Nutrient Management

Ranches	TNA ¹ Monitoring Period ²	TNA Report Due March 1	Annual INMP ³ Monitoring Period ²	Annual INMP Summary Report Due March 1
Required per Ag Order 3.0	2021 2022	2022 2023	-	-
Groundwater Phase Area 1 ⁴	-	-	Beginning 2023	Beginning 2024
Groundwater Phase Area 2	2023 2024	2024 2025	Beginning 2025	Beginning 2026
Groundwater Phase Area 3	2023 2024 2025 2026	2024 2025 2026 2027	Beginning 2027	Beginning 2028

¹ Only the primary irrigation well must be monitored for TNA monitoring and reporting.

² Monitoring period = calendar year (Jan. 1 – Dec. 31).

³ All irrigation wells must be monitored for INMP monitoring and INMP Summary reporting.



IRRIGATION & NUTRIENT MANAGEMENT OBJECTIVES IN AG ORDER 4.0

Simplified Equations:

1) $A - R = \text{Limit}$

[N applied in Fertilizer] + [N in Irrigation Water] – [N removed in Harvested Yield] = Limit

2) $A = R$

[N applied in Fertilizer] = [N removed in Harvested Yield]
(assumes Irrigation Water N is used as fertilizer)

3) $A - R = \text{Reduced Limit}$

[N applied in Fertilizer] – [N removed in Harvested Yield] = Reduced Limit
(assumes Irrigation Water N is used as fertilizer)

Table C.1-3. Compliance Dates for Nitrogen Discharge Targets and Limits

	Compliance Date		
	Target	500	12/31/2023
Target	400	12/31/2025	
Limit	300	12/31/2027	
Limit	200	12/31/2031	
Limit	150	12/31/2036	
Limit	100	12/31/2041	
Limit	50	12/31/2051	
OR			
	Compliance Date		
	Target	A = R	12/31/2023
Target	A = R	12/31/2025	
Limit	A = R	12/31/2027	
Limit	A = R	12/31/2031	
Limit	A = R	12/31/2036	
Limit	A = R	12/31/2041	
Limit	A = R	12/31/2051	
OR			
	Compliance Date		
	Target	300	12/31/2023
Target	200	12/31/2025	
Limit	100	12/31/2027	
Limit	0	12/31/2031	
Limit	-50	12/31/2036	
Limit	-100	12/31/2041	
Limit	-150	12/31/2051	

“The initial N discharge limits will be re-evaluated based on the reported N-applied and N-removed data, new science, and management practice implementation and assessment before becoming effective.”



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A MORE COMPREHENSIVE GROUNDWATER PROTECTION FRAMEWORK

- “A-R by Ranch” approach
 - Indicator of N-leaching risk
 - Fits within a more comprehensive groundwater protection framework by drawing focus to a major source of N-loading
 - Does not account for
 - Post root-zone (vadose zone) processes
 - Regional hydrologic processes (e.g. recharge)
 - Full-aquifer conditions

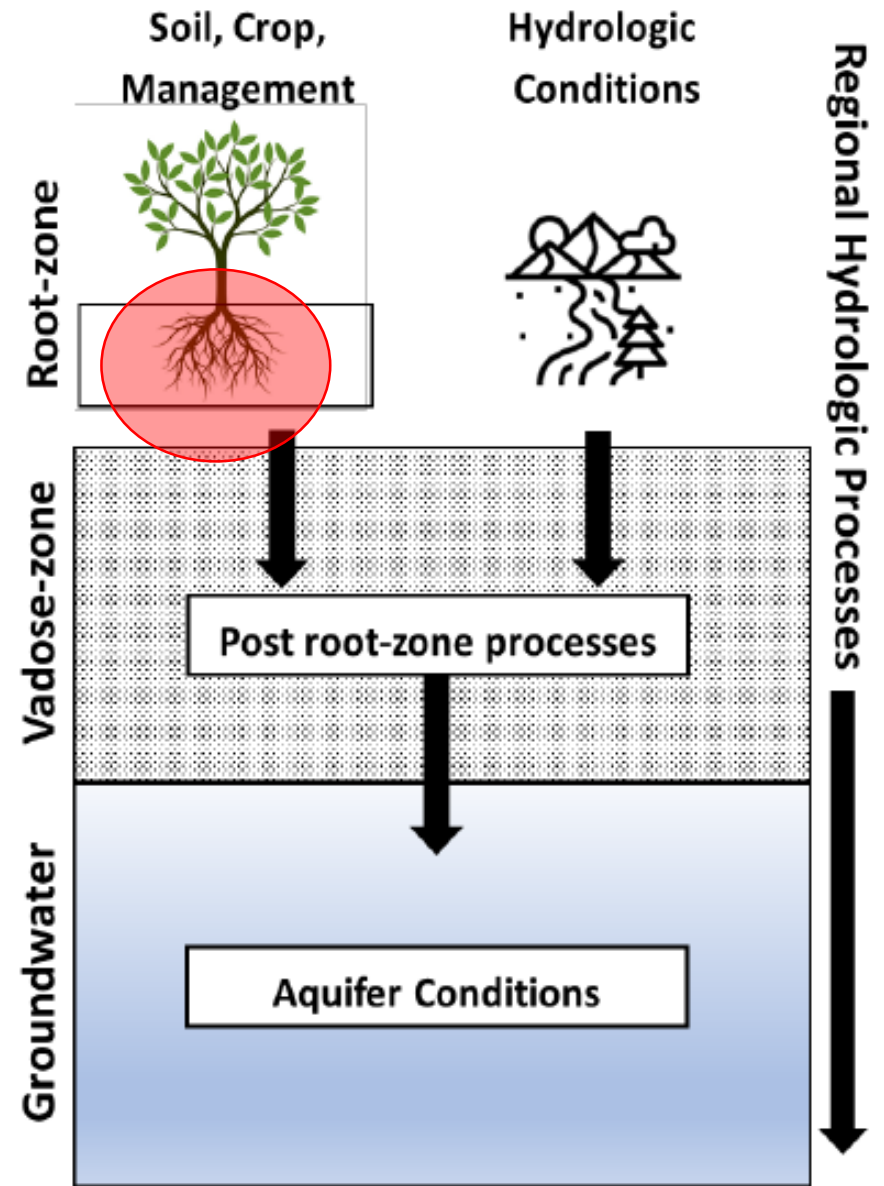


Figure 1. Overview of the Comprehensive Groundwater Protection Framework



AN IDEAL “GWP FORMULA” ...

- ...will be protective of groundwater quality, and also
 - factor in the complexity of N-cycling in the commercial agricultural setting
 - factor in post root-zone and regional hydrologic processes
 - place “the ranch” in the context of a much broader, hydrologically-defined area
 - have broad buy-in from growers and an inclusive community of stakeholders

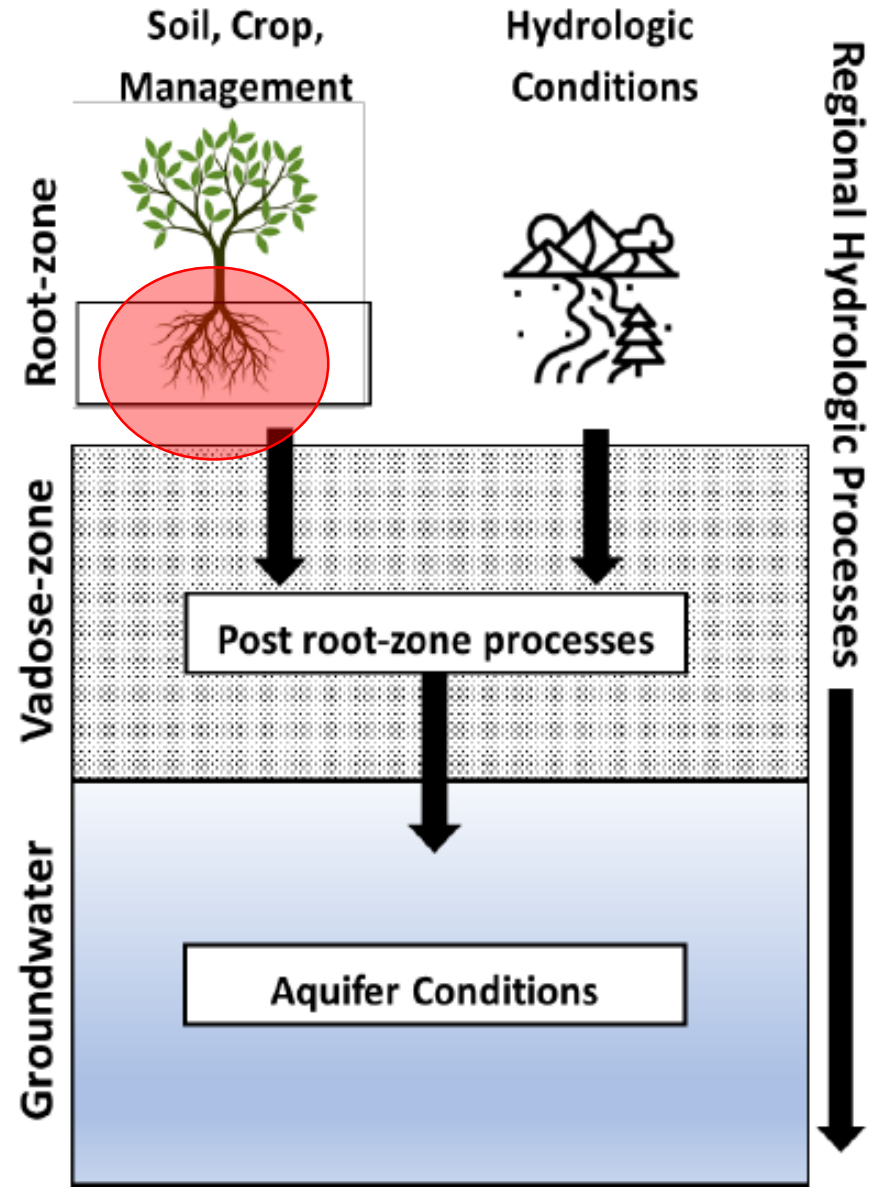


Figure 1. Overview of the Comprehensive Groundwater Protection Framework

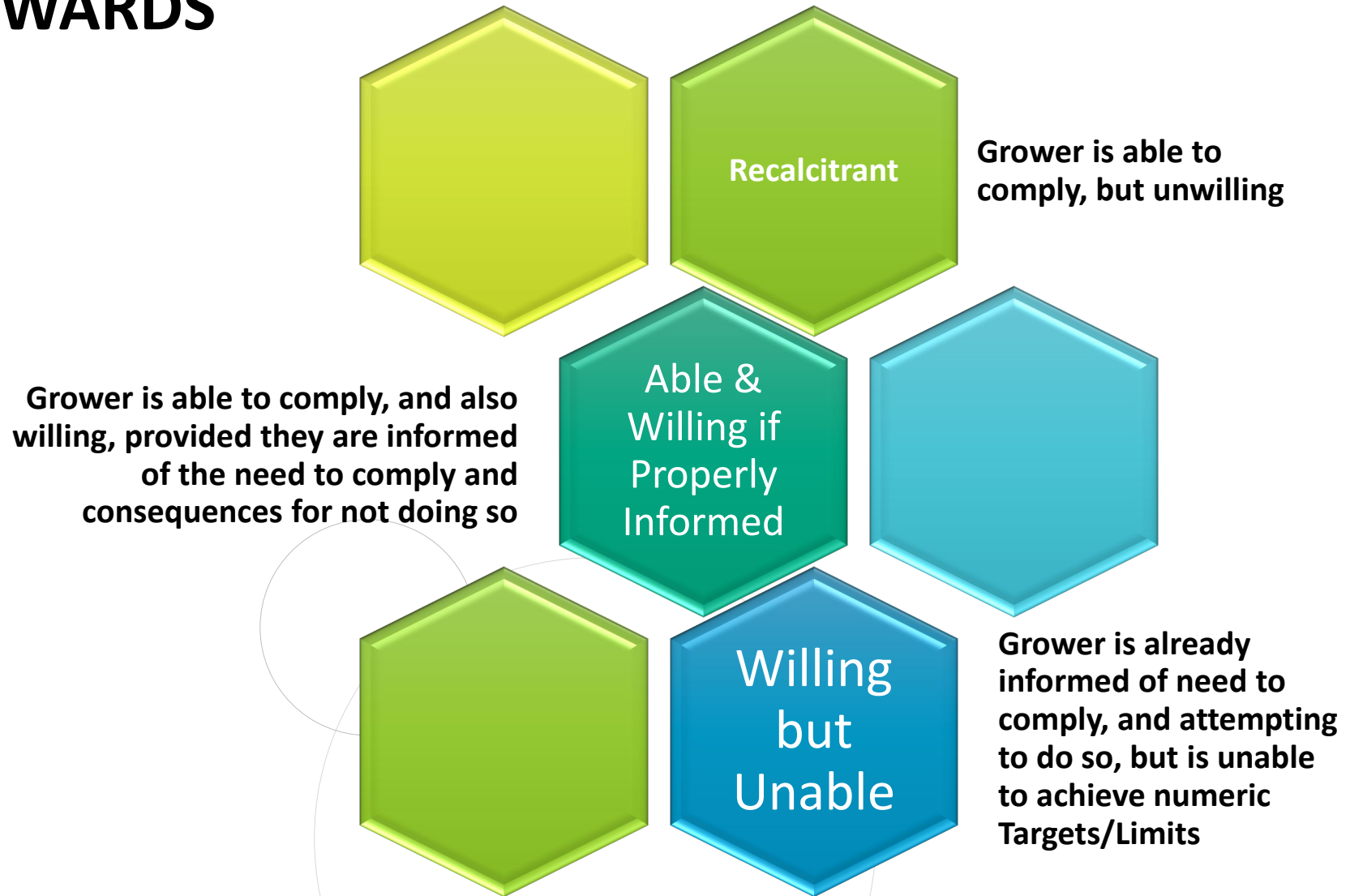


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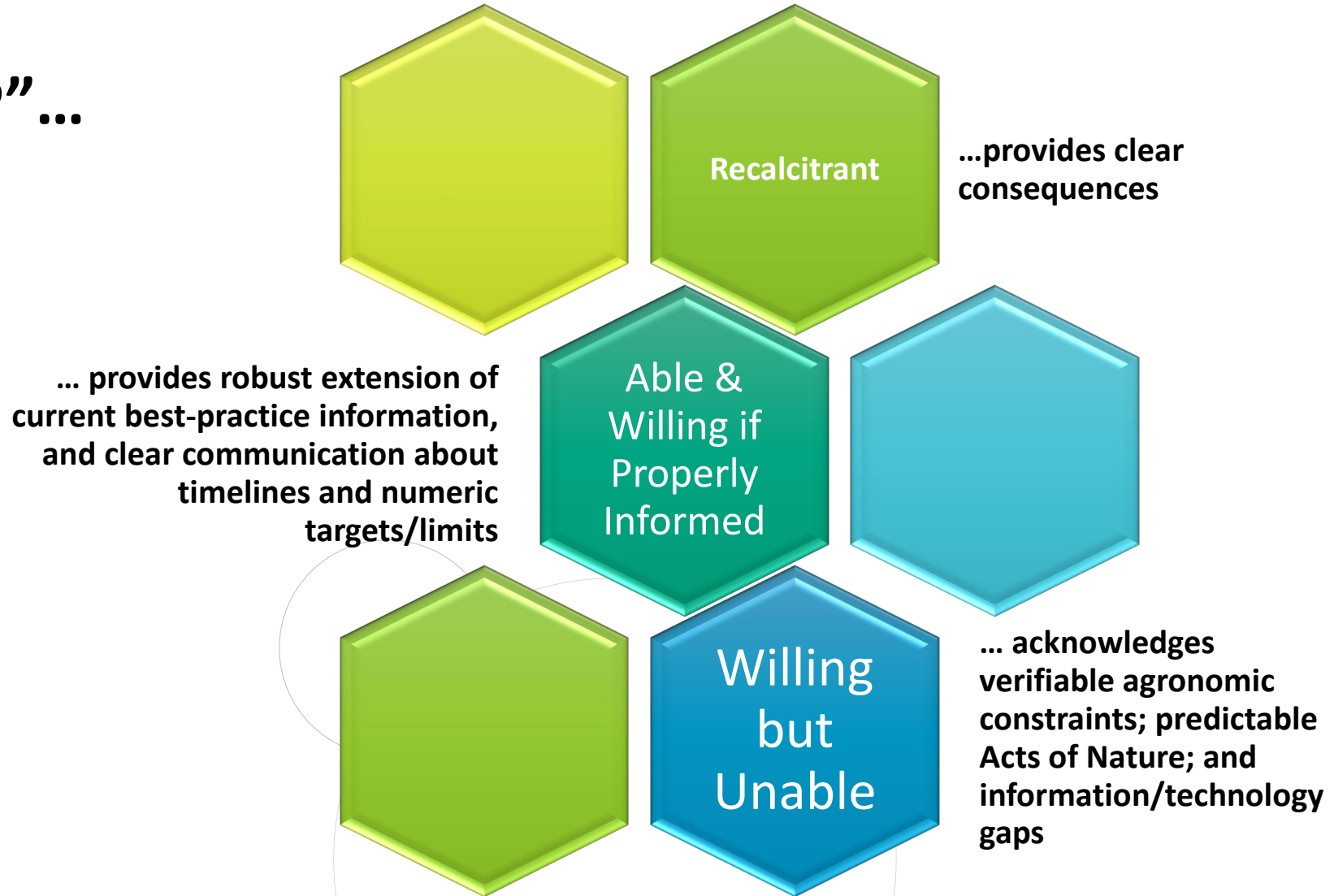


ATTITUDES TOWARDS COMPLIANCE





A GOOD “ACP” ...





THANK YOU!

