

# Item 15

## Irrigated Lands Regulatory Program

Summary of Program Compliance  
&  
Water Quality Management Practices

**Central Coast Water Board**

Chris Rose, ILRP Program Manager

Elaine Sahl, Water Board Staff

May 28, 2015

# Summary of Program Compliance

- Updated and provided annually to the Board
- Levels of reporting compliance remain positive and continue to increase
- Staff continues to prioritize follow-up as past due requirements are evaluated

# Summary of Program Compliance

Agricultural Order - Summary of Compliance <sup>1</sup>																
TIER			Agricultural Order R3-2012-0011 Requirement	Reporting Level	2012 <sup>2</sup>				2013 <sup>3</sup>				2014 <sup>4</sup>			
1	2	3			Required to Comply (#)	Failed to Comply (#)	Compliance (%)	Non-Compliance (%)	Required to Comply (#)	Failed to Comply (#)	Compliance (%)	Non-Compliance (%)	Required to Comply (#)	Failed to Comply (#)	Compliance (%)	Non-Compliance (%)
√	√	√	Enroll - Submit eNOI	Farm Acres	435,000	26,128	94%	6%	435,000	15,396	96%	4%	435,000	25,540	94%	6%
√	√	√	Develop/Update Farm Plan.	Operation	1,739	291	83%	17%	1,739	289	83%	17%	1,796	288	84%	16%
√	√	√	Install Backflow Prevention Device	Farm					2,263	120	95%	5%	3,093	104	97%	3%
√	√	√	Update electronic-Notice of Intent	Farm	4,196	1,010	76%	24%	4,277	1,987	54%	46%	4,322	993	77%	23%
√	√	√	Report surface receiving water monitoring ( <i>Cooperative</i> )	Operation	1,695	0	100%	0%	1,693	196	88%	12%	1,775	147	92%	8%
√	√	√	Report surface receiving water monitoring ( <i>Individual</i> )	Operation	44	44	0%	100%	46	46	0%	100%	21	21	0%	100%
√	√	√	Report groundwater monitoring ( <i>Cooperative</i> )	Farm					1,519	0	100%	0%	1,861	<i>Pending Staff Evaluation</i>		
√	√	√	Report groundwater monitoring ( <i>Individual</i> )	Domestic Drinking Water Well					842	444	47%	53%	876	225	74%	26%
				Agriculture Well					1,579	679	57%	43%	1,657	410	75%	25%
	√	√	Submit Annual Compliance Form.	Farm	1,810	460	75%	25%	1,824	428	77%	23%	2,168	245	89%	11%
	√	√	Calculate risk of loading nitrate to groundwater.	Farm									2,168	245	89%	11%
	√	√	Conduct photo-monitoring to document the existing condition	Farm	468	153	67%	33%								
	√	√	Record and report total nitrogen applied	Farm									467	0	100%	0%
		√	Report individual discharge monitoring.	Farm									14	0	100%	0%

<sup>1</sup> Compliance evaluation is based on information reported by growers, results are approximate.

<sup>2</sup> 1,739 total operations enrolled = 4,196 total farms enrolled (as of 12/04/2012)

<sup>3</sup> 1,739 total operations enrolled = 4,277 total farms enrolled (as of 09/25/2013)

<sup>4</sup> 1,796 total operations enrolled = 4,322 total farms enrolled (as of 12/01/2014)

# Annual Compliance Form Purpose

- Provide growers an opportunity to report out on practices they are implementing and assessing
- Provide Water Board staff up-to-date information to assist in evaluation of agricultural waste discharges
- Evaluate progress towards compliance

# Annual Compliance Form Sections

- Primary Source of Irrigation Water
- Groundwater Nitrate Loading Risk
- Discharge Characteristics
- Water Containment Characteristics
- Water Quality Improvement Projects
- Water Quality Management Practices

# Water Quality Management Practices

- Water Quality Management Practices Section has been available to growers since October 2013.
- Staff has one full year (October 2013 and October 2014) of data to assess and will use this data as a baseline in the years ahead.

# Water Quality Management Practices

## Section H: Water Quality

### Nutrient Management -

Identify nutrient management practices implemented on this ranch / farm to protect water quality in the last 12 months, if any.

- None
- Evaluated how irrigation affects nutrient management
- Scheduled fertilizer application
- Measured nitrogen and phosphorus
- Measured soil nitrogen and phosphorus
- Used precision irrigation (fertigation)
- Measured nitrogen and phosphorus
- Measured nitrogen and phosphorus
- Mixed and loaded
- Used urease inhibitor
- Modified crop rotation
- Used treatment
- Other, describe

### Irrigation Management -

Identify irrigation management practices implemented on this ranch / farm to protect water quality in the last 12 months, if any.

- None
- Determined irrigation requirements
- Installed more efficient irrigation
- Improved irrigation scheduling
- Scheduled irrigation
- Scheduled irrigation
- Maintained irrigation system
- Selected sprinkler rates
- Installed a variable rate irrigation system
- Recycled or reused irrigation water
- Contained irrigation water
- Other, describe

### Irrigation Management -

Identify methods used to manage irrigation wastes from this ranch / farm in the last 12 months, if any.

- Not Assessed
- Walked the perimeter of the property to verify erosion controls and that sediment doesn't leave the ranch/farm during irrigation events and/or storm events.
- Recorded and analyzed irrigation water quality
- Recorded and analyzed irrigation water quality
- Compared actual irrigation water quality to target
- Estimated/monitored irrigation water quality
- Conducted field or laboratory analysis
- Conducted laboratory analysis
- Modeled or simulated irrigation water quality
- Conducted photo monitoring before and after practice implementation
- Consulted with a qualified professional to assess practice implementation (e.g. CCA, PCA, UCCE Specialist, NRCS, RCD, agronomist or other).
- Other, describe

### Irrigation Management -

Identify outcomes that demonstrate progress towards reducing or eliminating the discharge of wastes off this ranch / farm in the last 12 months, if any.

- None
- Volume of water applied reduced
- Annual volume of water applied reduced
- Number of irrigation events reduced
- Reduction in irrigation water quality
- Elimination of irrigation water quality issues
- Reduction in irrigation water quality
- Reduction in irrigation water quality
- Reduction in irrigation water quality
- Water quality standards achieved
- Other, describe

### Pesticide Management -

Identify pesticide management practices implemented on this ranch / farm to protect water quality in the last 12 months, if any.

- None
- Certified Organic
- Utilized Integrated Pest Management
- Selected lower risk pesticides
- Followed specific pesticide application guidelines
- Avoided pesticide application
- Avoided pesticide application
- Avoided pesticide application
- Eliminated or reduced pesticide application
- Eliminated or reduced pesticide application
- Treated irrigation water
- Used filter strips
- Mixed and loaded
- Other, describe

### Pesticide Management -

Identify methods used to assess the effectiveness of the implemented management measure(s)/practice(s), to reduce or eliminate the discharge of wastes from this ranch / farm in the last 12 months.

- Not Assessed
- Conducted field or laboratory analysis
- Conducted laboratory analysis
- Measured pesticide application
- Measured pesticide application
- Modeled or simulated pesticide application
- Conducted photo monitoring before and after practice implementation
- Consulted with a qualified professional to assess practice implementation (e.g. CCA, PCA, UCCE Specialist, NRCS, RCD, agronomist or other).
- Other, describe

### Pesticide Management -

Identify outcomes that demonstrate progress towards reducing or eliminating the discharge of wastes off this ranch / farm in the last 12 months, if any.

- None
- Annual pesticide application reduced
- Reduction in pesticide application
- Reduction in pesticide application
- Reduction in pesticide application
- Water quality standards achieved
- Other, describe

### Sediment Management - Practice Implementation

Identify sediment management measure(s)/practice(s) implemented on this ranch / farm to protect water quality in the last 12 months, if any.

- None
- Avoided disturbance of soils adjacent to streams, creeks, and other surface water bodies.
- Minimized presence of bare soil in non-cropped areas.
- Minimized presence of bare soil in cropped areas.
- Minimized tillage to protect soil structure and cover soil.
- Used soil amendments to protect soil structure.
- Planted cover crops.
- Aligned rows for proper drainage and to reduce erosion.
- Diverted runoff and concentrated flows to grassed areas.
- Controlled concentrated drainage on roads by grading to reduce erosion or installing culverts, rolling dips, underground outlet pipe(s).
- Installed filter strips, vegetated treatment or other systems to remove sediment and other pollutants from runoff.
- Installed sediment basin(s), pond(s), reservoir(s) or other sediment trapping structures to remove sediments from discharge
- Applied Polyacrylamide (PAM) in irrigation water
- Other, describe in Farm Plan and submit upon request.

### Sediment Management - Practice Assessment

Identify methods used to assess the effectiveness of the implemented management measure(s)/practice(s), to reduce or eliminate the discharge of wastes from this ranch / farm in the last 12 months.

- Not Assessed
- Walked the perimeter of the property to verify erosion controls and that sediment doesn't leave the ranch/farm during irrigation events and/or storm events.
- Conducted laboratory analysis, field quick tests or used handheld meters to measure turbidity in irrigation runoff.
- Estimated sediment load in irrigation and/or stormwater runoff.
- Conducted laboratory analysis, field quick tests or used handheld meters to measure turbidity in stormwater runoff.
- Modeled or studied sediment load in surface water.
- Conducted photo monitoring before and after practice implementation.
- Consulted with a qualified professional to assess practice implementation (e.g. CCA, PCA, UCCE Specialist, NRCS, RCD, agronomist or other).
- Other, describe in Farm Plan and submit upon request.

### Sediment Management - Practice Outcome(s)

Identify outcomes that demonstrate progress towards reducing or eliminating the discharge of wastes off this ranch / farm in the last 12 months, if any.

- None
- Soil coverage increased and amount of bare soil reduced.
- Reduction in turbidity or sediment load in irrigation runoff.
- Reduction in turbidity or sediment load in stormwater runoff.
- Reduction in turbidity or sediment load in surface receiving water.
- Reduction in stormwater flow and/or volume.
- Water quality standards achieved.
- Other, describe in Farm Plan and submit upon request.

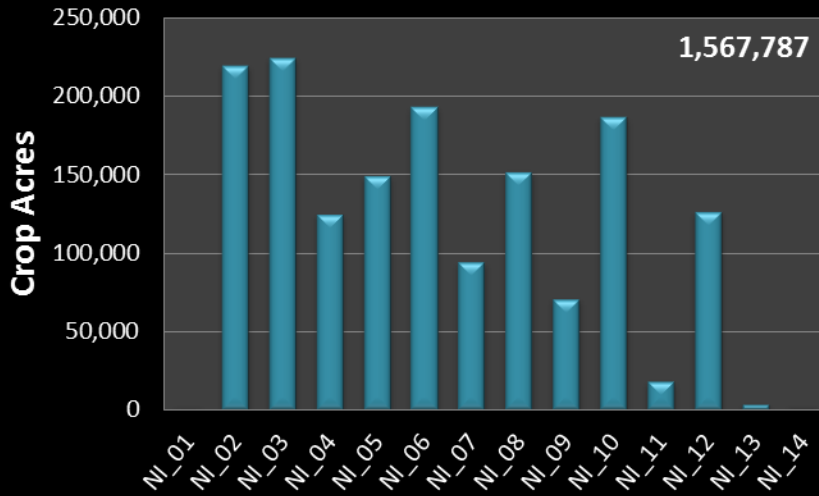
### Nutrient Management -

Identify outcomes that demonstrate progress towards reducing or eliminating the discharge of wastes off this ranch / farm in the last 12 months, if any.

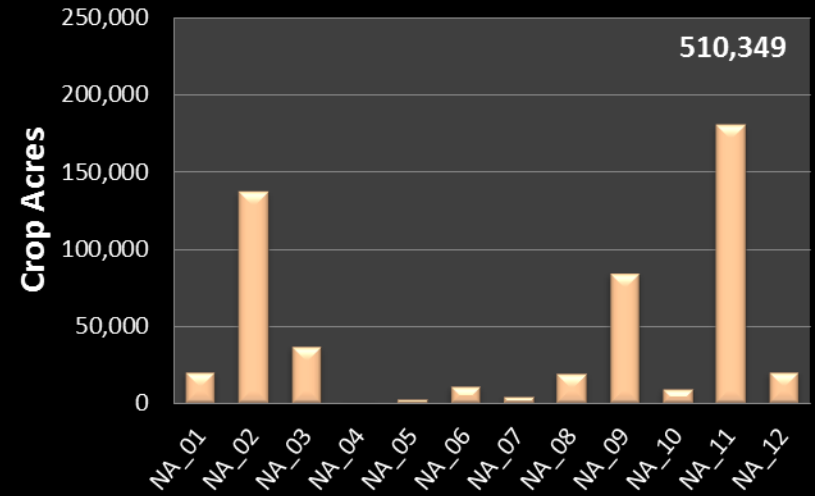
- None
- Annual fertilizer application reduced
- Total nitrogen and phosphorus application reduced
- Reduction in nitrogen and phosphorus application
- Reduction in nitrogen and phosphorus application
- Reduction in nitrogen and phosphorus application
- Water quality standards achieved
- Other, describe

# Nutrient Management

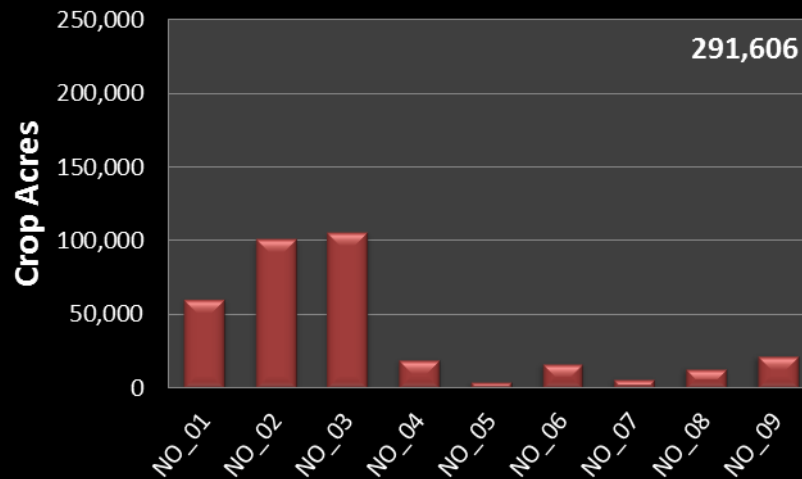
## Implementation



## Assessment



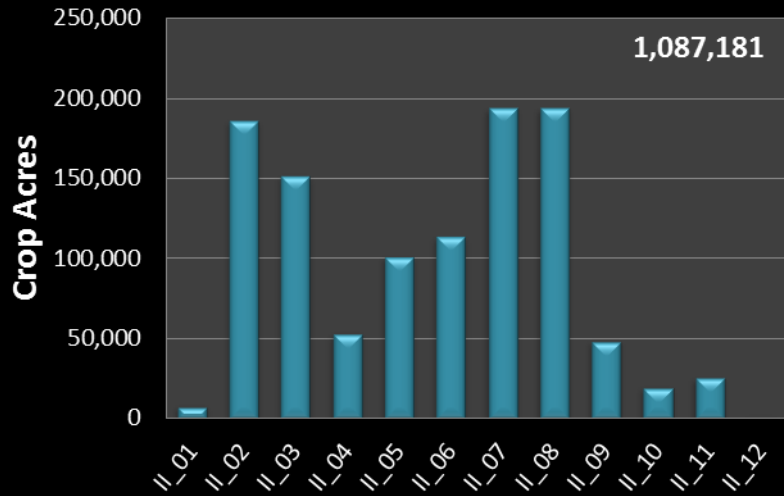
## Outcome(s)



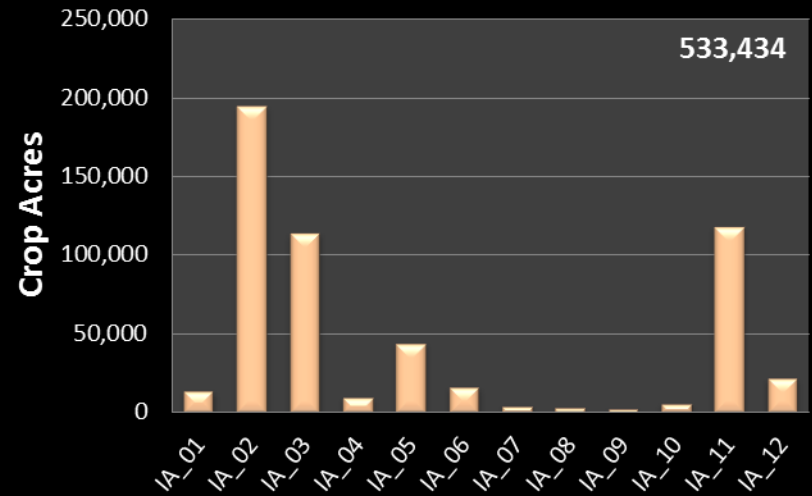


# Irrigation Management

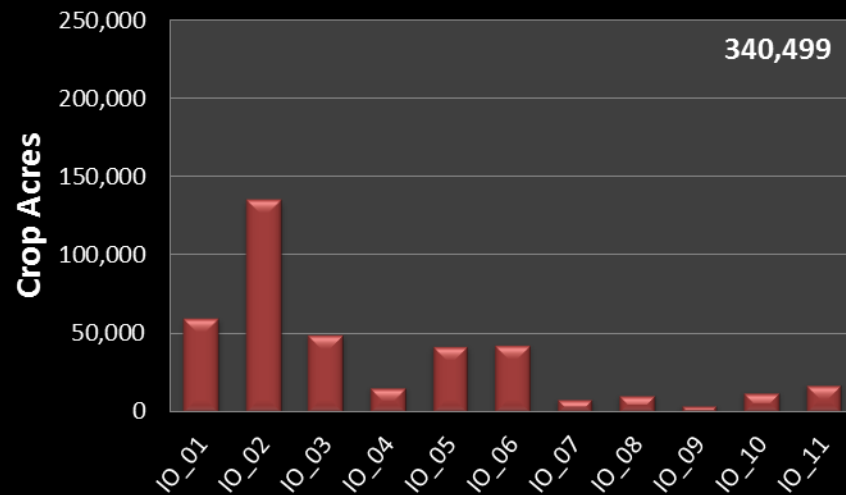
## Implementation



## Assessment

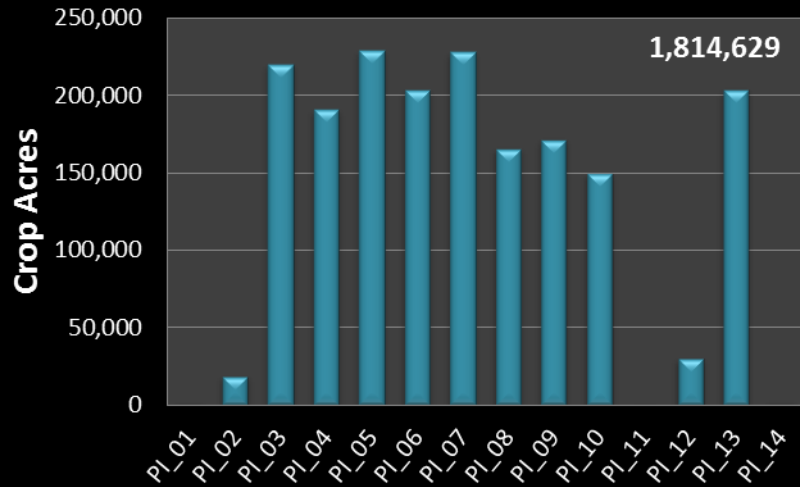


## Outcome(s)

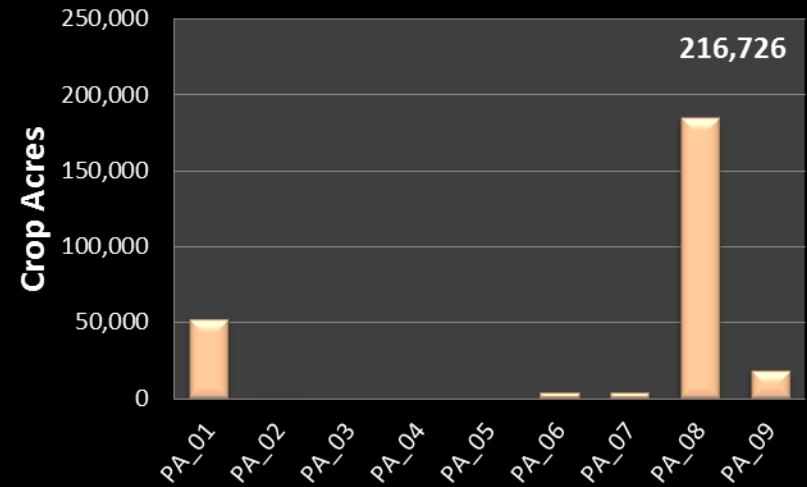


# Pesticide Management

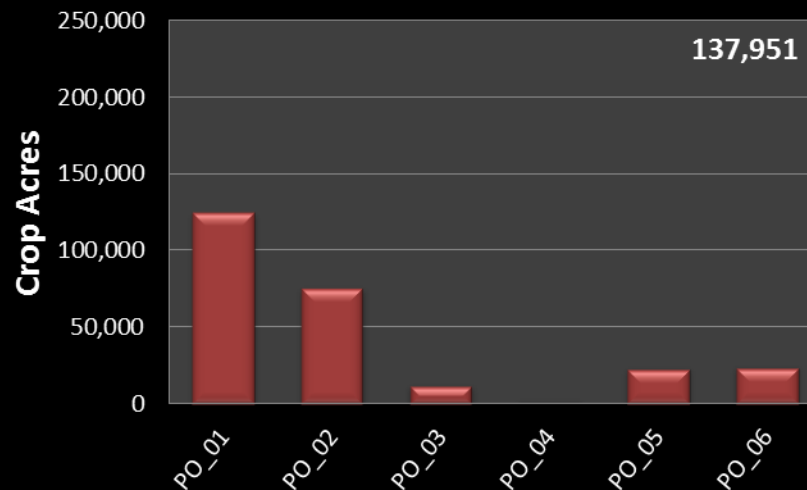
## Implementation



## Assessment

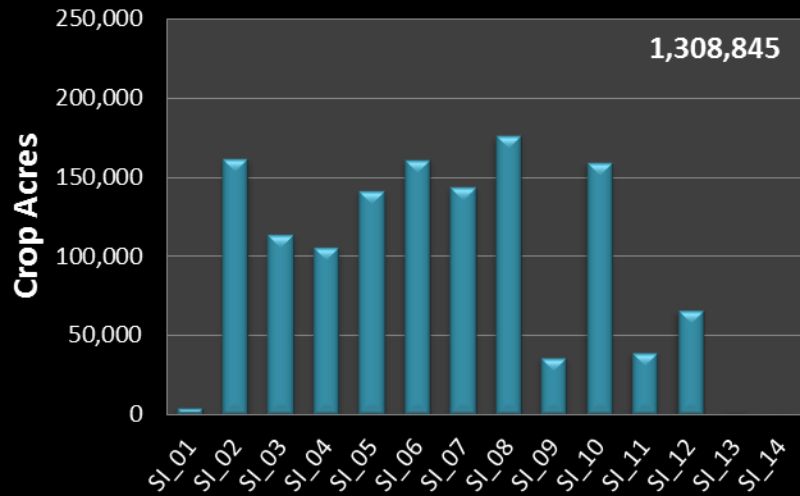


## Outcome(s)

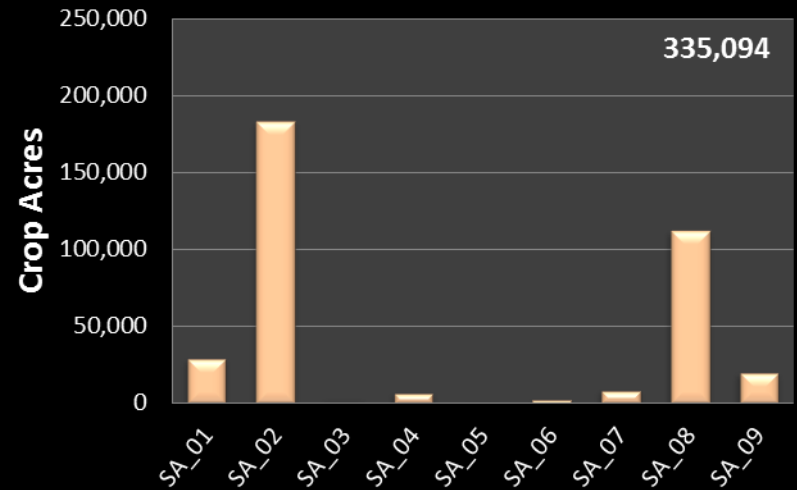


# Sediment Management

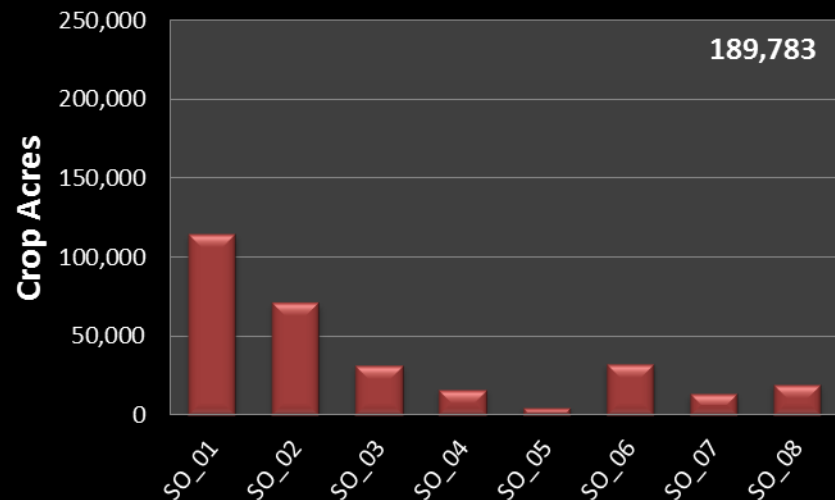
## Implementation



## Assessment



## Outcome(s)



# Conclusion

- Water quality management practice baseline has been established
- Annual Compliance Form is an important reporting tool
- Levels of Agricultural Order reporting remains positive and continues to increase

# Next Steps

- Workshops
- Prioritization

# Questions