Draft Ag Order 4.0

Irrigation and Nutrient Management for Groundwater Protection

Irrigation and Nutrient Management for Surface Water Protection

Pesticide Management for Surface Water Protection

Sediment and Erosion Management for Surface Water Protection

Riparian Area Management for Water Quality Protection
Topics

- Groundwater Phase Areas
- Targets, Limits & Time Schedules
- Monitoring & Reporting
- Third Parties
Groundwater Phase Areas

Groundwater Protection
Groundwater Phase Areas

- 3 Groundwater Phase Areas
  
  Ranch Location Determines Phase Area
  
  - Phase 1 = Highest Priority
  - Comply With Requirements For Phase 1 Areas Before Phase 2 Areas, etc.
  - Ranch Phase Noted on eNOI
Targets, Limits & Time Schedules

Limit
Fertilizer N Application

Targets & Limits
N Discharged to Groundwater

Groundwater Protection
### 6 Most Reported Crops

<table>
<thead>
<tr>
<th>Crop</th>
<th>N Application Limit (Lbs N/Crop Acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lettuce</td>
<td>275</td>
</tr>
<tr>
<td>Cauliflower</td>
<td>300</td>
</tr>
<tr>
<td>Broccoli</td>
<td>295</td>
</tr>
<tr>
<td>Celery</td>
<td>375</td>
</tr>
<tr>
<td>Spinach</td>
<td>240</td>
</tr>
<tr>
<td>Strawberries</td>
<td>330</td>
</tr>
<tr>
<td><strong>All Other Crops</strong></td>
<td><strong>500</strong></td>
</tr>
</tbody>
</table>

### Fertilizer Nitrogen Application Limits

- All Ranches Starting 2022
- 6 Most Frequently Reported Crops in TNA Reports
- All Other Crops

### Targets & Limits

Groundwater Protection
### Targets & Limits For Nitrogen Discharged To Groundwater

<table>
<thead>
<tr>
<th>N Discharged (A - R)</th>
<th>Year</th>
<th>Target or Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>2022</td>
<td>Target</td>
</tr>
<tr>
<td>400</td>
<td>2024</td>
<td></td>
</tr>
<tr>
<td>300</td>
<td>2026</td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>2030</td>
<td></td>
</tr>
<tr>
<td>150</td>
<td>2035</td>
<td>Limit</td>
</tr>
<tr>
<td>100</td>
<td>2040</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>2050</td>
<td></td>
</tr>
</tbody>
</table>

#### N Applied
- N Removed
- N Discharged

A - R

- All Ranches
- Total of N Discharged From All Crops Grown On Ranch In Year

**(Lbs N/Ranch Acre)**
Monitoring & Reporting Categories
Monitoring & Reporting
Groundwater Protection

- Irrigation & Nutrient Management
- On-Farm Domestic Wells
- Irrigation Wells
- Groundwater Quality Trends
Irrigation & Nutrient Management

Upon Order Adoption...
- All Ranches *Monitor*
  - Total N *Applied*
  - Irrigation Water Vol. *(estimate)*
  - *Reporting* is phased in

Phased In Over Time...
- Monitoring & Reporting
  - Total N *Removed*
  - Irrigation Water Info *(measurement)*

...In addition to Total N Applied

- All Ranches By 2027
Irrigation & Nutrient Management

Irrigation Water Info

Overapplication Of Irr. Water:

↑ N Runoff
↑ N Leaching Below Crop Root Zone

- Calculate Crop ET
- Monitor Volume of Irr. Water Applied to Ranch & Crop

Monitoring & Reporting
Groundwater Protection
On-Farm Domestic Wells

- All Ranches Upon Order Adoption
- Does Not Depend on GW Phase Area
- Annual
- Nitrate, TDS, General Minerals, 1,2,3-TCP
Irrigation Wells

- All Ranches
- Input to Irrigation & Nutrient Mgmt. Planning & Reporting
- Phasing In . . .

Primary Irr. Well → All Irr. Wells
- N Applied
- N Removed
- Irrig. Info

Monitoring & Reporting
Groundwater Protection

- Annual
Groundwater Quality Trends

- Develop Trend Monitoring Plan (Due Date = Phased In)
  - Define Well Network
- Well Sampling & Reporting
- Trend Evaluation Report

Monitoring & Reporting
Groundwater Protection
3rd Parties (Cooperatives)
Groundwater Protection

Assist in Achieving Compliance

• GW Quality Monitoring & Reporting
  • Domestic Wells
  • Irrigation Wells

• GW Quality Trends
  • Trend Monitoring Plan Development & Implementation

• Trend Evaluation
Irrigation and Nutrient Management for Groundwater Protection

Thank you