

Winterization Workshop

Preventing erosion and sediment transport during the winter period



Central Coast Water Board Cannabis Regulatory Program

Tips and Reminders



Include your full name and organization in your zoom "name"

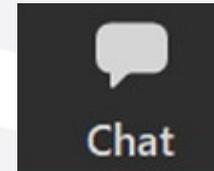


Unmute
Keep yourself muted until called on



raise hand

Use "raise hand" function if you have a question



Chat

Use chat to ask questions



Remember to sign in!
[Sign in form](#) will be linked in the chat

- **This workshop will be recorded and posted on our [website](#).**
- **Use the "raise hand" function if you have a question. You will be allowed to unmute and ask your question. You may also enter questions in the chat box and we will get to those during the Q&A.**
- **Please be respectful and keep questions related to winterization**

Zoom Reminders

To Mute/Unmute:

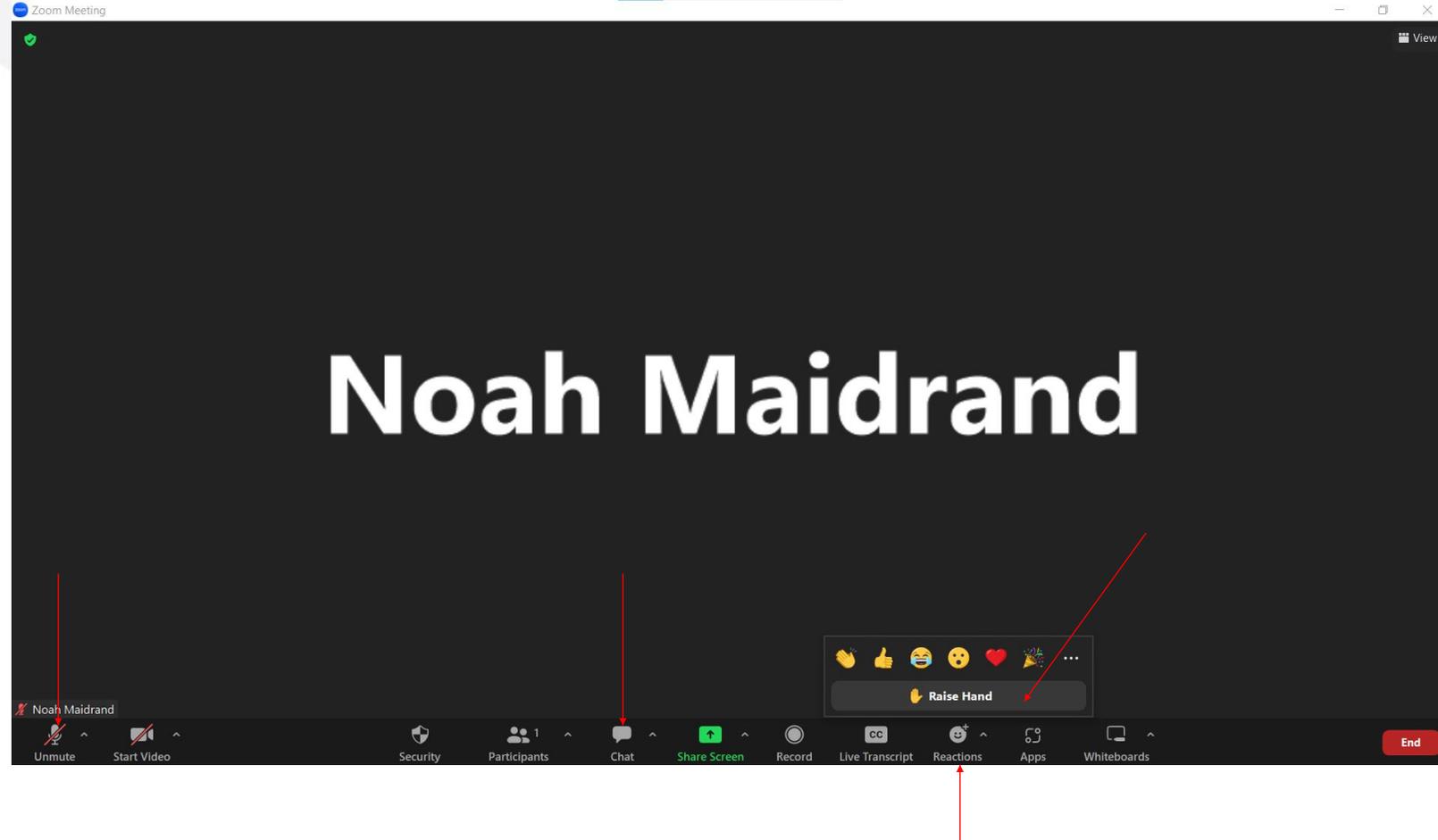
Click the microphone button in the bottom left

To Use the Chat:

Click the chat button in the left middle

To Raise/Lower Your Hand:

Click the reactions button, then raise/lower hand



Agenda



- Background
 - Definitions
 - Why winterize?
- Technical Information
 - Cannabis General Order requirements
 - BPTC measures
- Special Circumstances
- Annual Reporting
- Resources

Central Coast Water Board Region

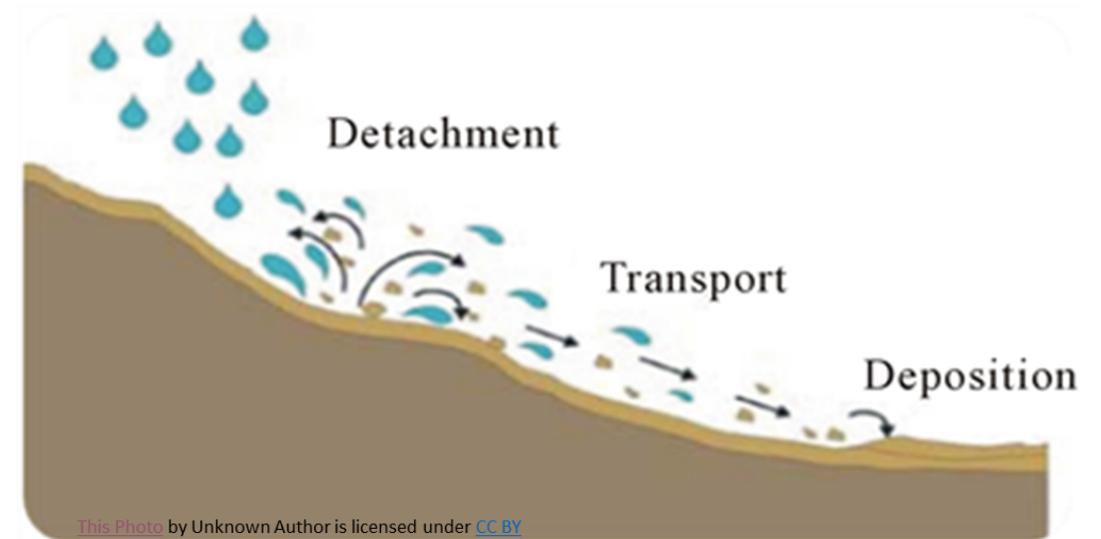


Definitions

- **Soil erosion** is the process by which soil particles are removed from the land surface by wind, water, or gravity.
- **Sediment** is soil, sand, and/or minerals washed from land into water, usually after rain.
- **Sedimentation** is the settling out of particles transported by water.

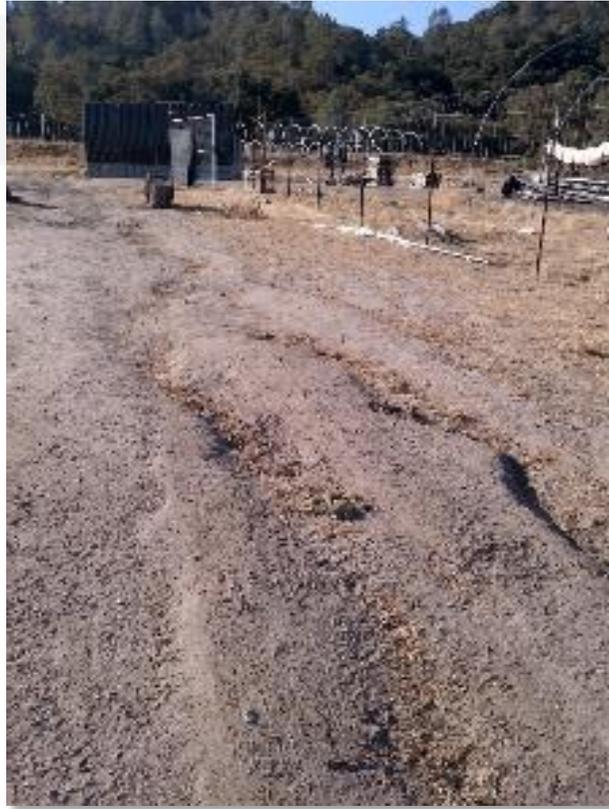


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Examples of Erosion



Examples of Erosion



Examples of Sediment



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Definitions

- **Best Practicable Treatment or Control (BPTC) measures**
 - Tools and techniques to prevent erosion and sedimentation
 - Commonly referred to as Best Management Practices (BMPs)



What is winterization?

- Implementing measures to prevent erosion and transport of sediment and soils during the rainy season
- Pollutants can be transported to surface waters in stormwater flows.
 - Sediment
 - Fertilizers
 - Pesticides

Why do we need to winterize?



- Minimize risk of pollution to surface water and groundwater
- Reduce impacts:
 - neighboring properties
 - sensitive wildlife
- Minimize costs

Impact of Sediment on Surface Water

- Sediment inputs to surface water negatively affect aquatic habitat
- Sediments can carry nutrients, pathogens, and other co-contaminants



Central Coast Region Surface Water Quality

- Common pollutants that impair surface waters in the Central Coast Region are:
 - Pesticides, nutrients (including dissolved oxygen), bacteria.
- Of assessed waterways in the Central Coast Region:
 - 28% are impaired for turbidity
 - 29% are impaired for nitrate or nutrients
- Additional information: [Final mapping visualization tool for the 2020-2022 Integrated Report for Clean Water Act 303\(d\) List](#)

Cannabis General Order Winterization Requirements

- Complete winterization before the beginning of the winter period:
 - **October 15 to April 15** for Santa Cruz County and Monterey County
 - **November 15 to April 1** for all other counties in the Central Coast region
- Requirements can be found in [Cannabis General Order Attachment A, Section 2, Requirements 126 – 134](#)



Categories of winterization requirements

- **Roads**

- Block or close temporary access roads
- Maintain culverts, drop inlets, trash racks, etc.
- Limit heavy equipment use

- **Materials management**

- Cover and berm soils & spoils

- **Bare ground**

- Stabilize disturbed areas
- Apply erosion control on bare ground
- Install linear sediment controls

Road-related requirements



- Block or close **temporary access roads**
Cannabis General Order Attachment A, Section 2, Requirement 127
 - Prevent motorized vehicle access during the winter period
- Maintain **culverts**, drop inlets, trash racks, etc.
Cannabis General Order Attachment A, Section 2, Requirement 130
 - Ensure they are not blocked by debris or sediment
 - Inspect outflow for erosion
 - Inspect culverts prior to the first fall/winter rain and following rain events that produce at least 0.5 in/day or 1.0 in/ 7 days

Culvert Examples



Limit heavy equipment use

Cannabis General Order Attachment A, Section 2, Requirement 128

- May not be operated during the winter period unless you have received prior authorization from the Water Board
- Can be authorized for routine soil preparation or planting



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Requirements for Materials Management

- **Cover and berm** soils and spoils

Cannabis General Order Attachment A, Section 2, Requirement 132

- Loose stockpiled construction materials – soils, spoils, aggregate, etc.
- Potting soil, compost, green waste, etc.
- Any materials that can be transported by stormwater
- Have adequate cover and berm materials available on site

Cover Soils & Spoils – Good* Examples



Cover Soils & Spoils – Bad Examples



Requirements for Bare Ground



- Stabilize disturbed areas
- Apply erosion control measures on bare ground
- Apply linear sediment controls



Stabilize disturbed areas & apply erosion control to bare ground

Cannabis General Order Attachment A, Section 2, Requirements 131 & 133



- **Disturbed areas** – all areas where cannabis cultivation-related activities are taking place
- Apply BPTC measures to prevent erosion
 - cover crop
 - mulch
 - erosion control blankets

Linear sediment controls

Cannabis General Order Attachment A, Section 2, Requirement 129

- Examples – silt fences, straw wattles
- Install along the toe, face, and grade breaks of exposed slopes

Steepness of slope	Maximum spacing of linear sediment controls
0 – 25%	20 ft
25 – 50%	15 ft
> 50%	10 ft

Example of exposed slope



Examples of linear sediment controls



Key Point!

If you control erosion, you prevent sediment transport.



Special Circumstances

- Sites that operate year-round
- High and moderate risk sites
 - Stormwater monitoring requirements

Sites that operate year-round



- Many sites in our region operate year-round
- Still required to implement the measures described

Requirements for high and moderate risk sites

- Monitor and record
 - Surface water runoff
 - Occurrences of soil erosion
 - Condition of erosion control and sediment capture measures



Requirements for high and moderate risk sites

- Keep a record of
 - Maintenance activities performed on erosion control and sediment capture measures
 - Actions taken to stabilize disturbed area within the setbacks
 - Materials (fertilizers, pesticides, petroleum products, soils) delivered to the site, and how they are stored
 - Holding tank, septic tank, or chemical toilet servicing

Requirements for high and moderate risk sites

Cannabis General Order Attachment B

Stormwater runoff monitoring – required during all months in which activity is occurring at the site until winterization is complete

Table B3: Stormwater Runoff Monitoring Requirements

Constituent	Frequency	Monitoring Frequency
Turbidity	Once per calendar month when precipitation exceeds 0.25 inch per day or when storm water runoff from the site is generated	All months until winterization procedures are complete.
pH	Once per calendar month when precipitation amount is forecast to exceed 0.25 inch per day	All months until winterization procedures are complete.

What does this mean?

- If you **do not** plan to operate during the winter period –
 - Complete winterization measures before the beginning of the winter period
 - If it rains >0.25 in or enough to produce runoff before winterization measures are completed, take samples to measure pH and turbidity
- If you **do** plan to operate during the winter period –
 - You are required to monitor pH and turbidity throughout the entire winter period
 - Measure constituents once per calendar month when it rains >0.25 in or enough to produce runoff

If you need help with stormwater monitoring...

- Check out ELAP laboratories
https://www.waterboards.ca.gov/drinking_water/certlic/labs/
- Refer to list of technical assistance providers on our website
https://www.waterboards.ca.gov/centralcoast/water_issues/programs/cannabis_cultivation/docs/tech_assist_providers.pdf

Annual Reporting

- All Tier 1 and Tier 2 cultivators are required to report the winterization measures they implemented in their annual reports
- High and moderate risk sites have additional reporting requirements
- Keep a record of BPTC measures implemented and maintenance performed throughout the winter so you have the information on hand



Annual Reporting Workshop



For more information about annual reporting and winter requirements for high and moderate risk sites, check out the recording of our 2021 annual reporting workshop, available on our website:

https://www.waterboards.ca.gov/centralcoast/water_issues/programs/cannabis_cultivation/index.html#annual

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Our Website:

https://www.waterboards.ca.gov/centralcoast/water_issues/programs/cannabis_cultivation/index.html

Resources

- Pacific Watershed Associates
 - **Handbook for Forest, Ranch, and Rural Roads: A Guide for Planning, Designing, Construction, Reconstructing, Upgrading, Maintaining and Closing Wildland Roads**
<https://www.pacificwatershed.com/sites/default/files/RoadsEnglishBOOKapril2015b.pdf>
- California Department of Transportation
 - **Construction Manual**
 - **Chapter 4: Construction Details, Section 21: Erosion Control**
<https://dot.ca.gov/programs/construction/construction-manual/section-4-21-erosion-control>
 - **Chapter 4: Construction Details, Section 24: Stabilized Soils**
<https://dot.ca.gov/programs/construction/construction-manual/section-4-21-erosion-control>
 - **Construction Site Best Management Practices (BMP) Manual**
<https://dot.ca.gov/-/media/dot-media/programs/construction/documents/environmental-compliance/csbmp-may-2017-final.pdf>
 - **Construction Site Best Management Practice (BMP) Field Manual and Troubleshooting Guide**
<https://dot.ca.gov/-/media/dot-media/programs/construction/documents/environmental-compliance/bmp-field-master-fullsize-final-jan03-a11y.pdf>
- California Stormwater Quality Association
 - **Stormwater Best Management Practice Handbook: Construction**
www.casqa.org

Resources

- County of Santa Cruz Planning Department
 - **County of Santa Cruz Construction Site Stormwater Pollution Control BMP Manual**
<https://www.sccoplanning.com/Portals/2/County/Planning/env/ConstructionStormwaterBMPManual-Oct%20312011version.pdf?ver=smnXzfTscbn8clXSlalaLA%3d%3d>
- County of Santa Cruz Planning Department & Resource Conservation Districts of Santa Cruz, San Mateo, and Monterey Counties
 - **Central Coast Private Road Maintenance Guide**
<https://www.rcdmonterey.org/images/docs/publications/central-coast-private-road-maintenance-guide.pdf>
- Central Coast Resource Conservation Districts
 - **Handbook of Agricultural Conservation Practices**
<https://www.rcdmonterey.org/images/docs/publications/ag-practices-handbook-2012.pdf>
- Upper Salinas-Las Tablas Resource Conservation District & San Luis Obispo County Planning and Building
 - **Cover up Story: Erosion Control Handbook - A Practical Guide to Erosion Control and Sediment Reduction**
<https://us-ltrcd.specialdistrict.org/files/ea85810b4/Erosion-Control-Handbook.pdf>
- Monterey County Resource Conservation District & Monterey County Agricultural Commissioner's Office
 - **Stormwater Erosion and Runoff on Salinas and Pajaro Valley Farms**
<https://www.rcdmonterey.org/images/docs/publications/rcdmc-valley-runoff-and-erosion.pdf>
 - **Hillslope Farming Runoff Management Practices Guide**
<https://www.rcdmonterey.org/images/docs/publications/rcdmc-hillslope-guide-rvsd-2.11.14.pdf>

Resources

- Monterey County Resource Conservation District & Santa Cruz County Resource Conservation District
 - **Vegetative Treatment Systems for Water Quality Improvement**
<https://www.rcdmonterey.org/images/docs/publications/vegetative-treatment-system-fact-sheet.pdf>
- Monterey County Resource Conservation District, Santa Cruz County Resource Conservation District & USDA Natural Resource Conservation Service
 - **Controlling Erosion on Hillside Farm Roads**
<https://www.rcdmonterey.org/images/docs/publications/roads-brochure.pdf>
- Santa Cruz County Resource Conservation District
 - **How to Install Straw Wattles for Erosion Control**
<https://www.youtube.com/watch?v=rGkTAPmOMbw>
 - **A Guide to Straw Wattle Installation**
https://www.rcdsantacruz.org/images/brochures/pdf/Straw_Wattle_Installation_Guidelines.pdf
 - **Road Drainage Maintenance and Repair: A Rapid Self-Assessment for Your Private Road**
https://www.rcdsantacruz.org/images/brochures/pdf/Rural_Road_Self_Assessment_Final.pdf
- Quivira Coalition
 - **Erosion Control Field Guide**
<http://www.watershedartisans.com/wp-content/uploads/2016/03/Erosion-Control-Field-Guide.pdf>



Thank you!