

# WEBINAR

JULY 14, 2022



CALIFORNIA STORMWATER  
QUALITY ASSOCIATION®

# AGENDA

| Introduction             | Karen Cowan                  |
|--------------------------|------------------------------|
| TMDLs                    | Kadi Whiteside               |
| Monitoring and Sampling  | Melanie Sotelo               |
| QSD/QSP Responsibilities | Sandy Mathews                |
| Passive Treatment        | Tanya Bilezikjian            |
| Training Program         | Daniel Apt/Ken Kristoffersen |
| BMP Handbooks            | John Heltzel                 |
| RUSLE2                   | Andrew Sidor                 |
| Wrap-Up/The Remainders   | Dave Mercier                 |



**CAUTION: INFORMATION ON THE CGP REQUIREMENTS MAY  
CHANGE UNTIL THE PERMIT IS ADOPTED**

**CONFIRM ALL REQUIREMENTS IN THE ORDER ADOPTED BY THE STATE WATER BOARD**

# TOTAL MAXIMUM DAILY LOADS (TMDLs)

- THE PROPOSED PERMIT IMPLEMENTS 69 EXISTING TMDLS
  - REQUIREMENTS DO NOT APPLY TO ALL DISCHARGERS
- COMPLIANCE WITH TMDL – RELATED NUMERIC ACTION LEVEL (NAL) AND NUMERIC EFFLUENT LIMITATION
  - SITE POLLUTANT SOURCE ASSESSMENT
  - NON-VISIBLE POLLUTANT MONITORING ONLY IF POLLUTANT IS PRESENT, AND BMPS ARE BREACHED, MALFUNCTION OR FAIL, OR A SPILL

## FOUR PRIMARY IMPLEMENTATION CATEGORIES

Comply with  
General Permit

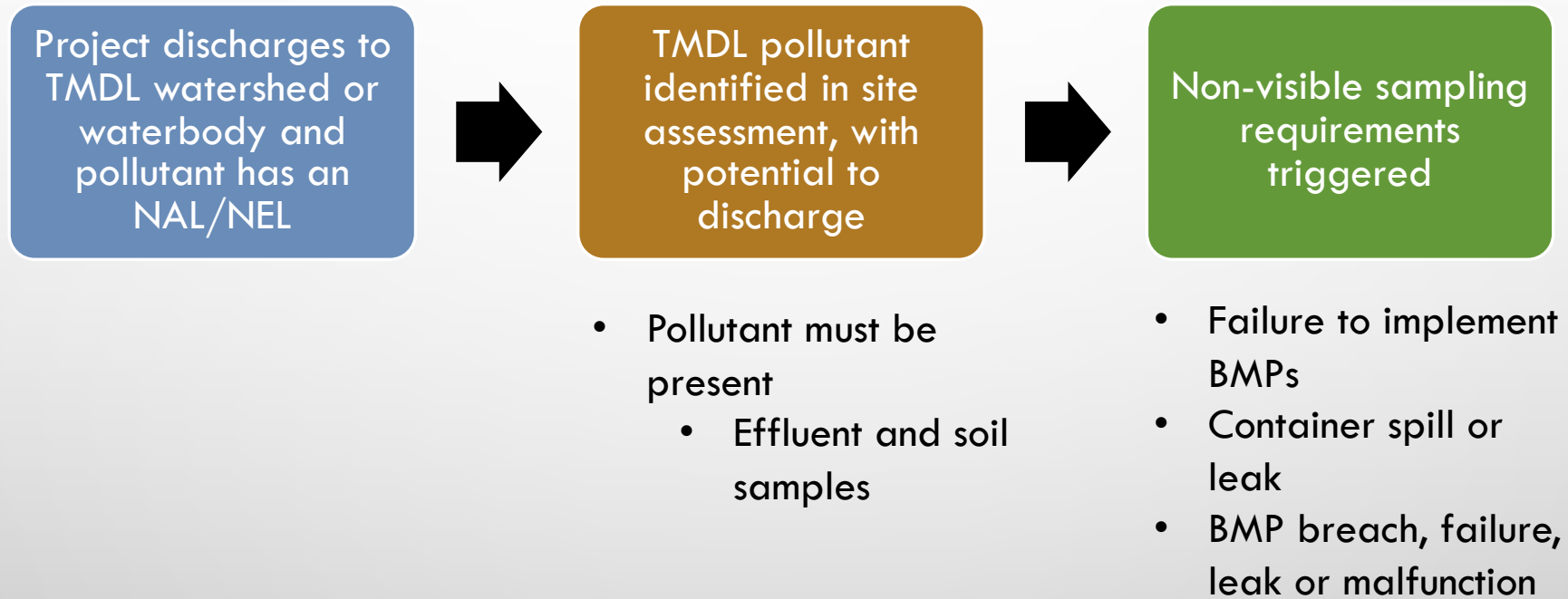
Erosion and  
sediment controls  
paired with RUSLE2  
Modeling

Numeric Action  
Levels(NALS)

Numeric Effluent  
Limitations (NELs)

# TMDL SAMPLING TRIGGERS

ALL THREE CONDITIONS NEED TO BE PRESENT TO REQUIRE TMDL SAMPLING



# IMPLEMENTATION REQUIREMENTS

## Comply with General Permit

- Implementation of Best Management Practices (BMPs)
  - E.g., routine housekeeping, sanitary waste management, etc.
- May require structural BMPs

## Erosion and sediment controls paired with RUSLE2 Modeling

- On-site source and mass-based Waste Load Allocation (WLA) in applicable TMDL(s)
- BMPs to result in predicted erosion rates equal to pre-construction conditions
- RUSLE2 modeling for each phase

## Numeric Action Levels(NALS)

- Implement BMPs to prevent an NAL exceedance
- Exceedance occurs on the 2<sup>nd</sup> and each subsequent taken
  - Within the same drainage area
  - During the same reporting year
- Not a violation

## Numeric Effluent Limitations (NELs)

- Implement BMPs to prevent an NEL exceedance
- Exceedance occurs on the 2<sup>nd</sup> and each subsequent taken
  - Within the same drainage area
  - During the same reporting year
- Is a violation and subject to penalties



# TMDL SAMPLING

## **2009 PERMIT**

- PERFORM GRAB SAMPLES FOR PH AND TURBIDITY AND MEASURED WITH A HANDHELD (FIELD) EQUIPMENT
  - NAL FOR PH AND TURBIDITY
- NON-VISIBLE SAMPLING PERFORMED IF A SPILL, BREACH OR FAILURE OF BMPS OCCURS AND UNABLE TO REMEDIATE/CLEANUP PRIOR TO NEXT PRECIPITATION EVENT
- NO TMDL REQUIREMENTS
- NALS
  - IF AN EXCEEDANCE OCCURS RESULTS TO BE SUBMITTED WITHIN 10 DAYS
- NON-VISIBLE SAMPLING RESULTS SUBMITTED WITH THE ANNUAL REPORT

## **PROPOSED 2022 PERMIT**

- PERFORM GRAB SAMPLES FOR PH AND TURBIDITY AND MEASURED WITH A HANDHELD (FIELD) EQUIPMENT
- NON-VISIBLE SAMPLING PERFORMED IF A SPILL, BREACH OR FAILURE OF BMPS OCCURS AND UNABLE TO REMEDIATE/CLEANUP PRIOR TO NEXT PRECIPITATION EVENT
- TMDL SAMPLING – GRAB SAMPLES COLLECTED AND SENT IN FOR LAB ANALYSIS (SEE TMDL SAMPLING TRIGGERS)
- NALS AND NELS
  - IF AN EXCEEDANCE OCCURS RESULTS TO BE SUBMITTED WITHIN 10 DAYS
- ROUTINE AND NON-VISIBLE SAMPLING RESULTS SUBMITTED WITHIN 30 DAYS AFTER OBTAINING THE ANALYTICAL RESULTS

The image features a light gray gradient background. In the top-left and bottom-right corners, there are clusters of realistic water droplets of various sizes, rendered with soft shadows and highlights to give them a three-dimensional appearance. The text "MONITORING AND SAMPLING" is centered in the middle of the image.

# MONITORING AND SAMPLING



# VISUAL MONITORING - TRADITIONAL

## 2009 Permit

| Risk Level | Quarterly Non-Stormwater Discharge | Pre-Storm Event |                | Daily Storm BMP | Post-Qualifying Event |
|------------|------------------------------------|-----------------|----------------|-----------------|-----------------------|
|            |                                    | Baseline        | REAP           |                 |                       |
| 1          | X                                  | X               | Not Applicable | X               | X                     |
| 2          | X                                  | X               | X              | X               | X                     |
| 3          | X                                  | X               | X              | X               | X                     |

## Proposed 2022 Permit

| Risk Level | Weekly | Pre-Qualifying Event | During-Qualifying Event | Post-Qualifying Event |
|------------|--------|----------------------|-------------------------|-----------------------|
| 1          | X      | X                    | X                       | X                     |
| 2          | X      | X                    | X                       | X                     |
| 3          | X      | X                    | X                       | X                     |

# VISUAL MONITORING – LINEAR UTILITY

## 2009 Permit

| LUP Type | Daily Site BMP | Pre-Storm Event/<br>Baseline | Daily Storm BMP | Post-Storm     |
|----------|----------------|------------------------------|-----------------|----------------|
| 1        | X              | Not Applicable               | Not Applicable  | Not Applicable |
| 2        | X              | X                            | X               | X              |
| 3        | X              | X                            | X               | X              |

## Proposed 2022 Permit

| LUP Type | Weekly | Pre-Qualifying<br>Precipitation Event | During-Qualifying<br>Precipitation Event | Post-Qualifying<br>Precipitation Event |
|----------|--------|---------------------------------------|--|--|
| 1        | X      | X                                     | X  | Not Applicable                         |
| 2        | X      | X                                     | X  | X                                      |
| 3        | X      | X                                     | X  | X                                      |

# MONITORING – QUALIFYING EVENT

**2009**

**Permit**

- EVENT FORECAST
  - **STORM DEPTH  $\geq$  0.5-INCH**

PoP -  
Probability of  
Precipitation

**Proposed  
2022 Permit**

- EVENT BEGINS WITH FORECAST
  - **POP  $\geq$  50%**
  - **QPF  $\geq$  0.5-INCH**
- EVENT ENDS WITH FORECAST
  - **2 SEQUENTIAL 24-HR PERIODS**
    - **QPF  $<$  0.25-INCH**

Within 24-Hr Period

QPF -  
Quantitative  
Precipitation  
Forecast

# SAMPLING - TRADITIONAL

## 2009 Permit

| Risk Level | Stormwater Discharge | Receiving Water |
|------------|----------------------|-----------------|
| 1          | Not Applicable       | Not Applicable  |
| 2          | X                    | Not Applicable  |
| 3          | X                    | X               |

## Proposed 2022 Permit

| Risk Level | Stormwater Discharge Sample Collection (as applicable) | Receiving Water Sample Collection (as applicable) | Non-Visible Sample Collection (as applicable) |
|------------|--|---|---|
| 1          | Not Applicable   | Not Applicable                                    | X   |
| 2          | X  | Not Applicable                                    | X   |
| 3          | X  | X (Post-Exceedance)                               | X   |

# SAMPLING – LINEAR UTILITY

## 2009 Permit

| LUP Type | Stormwater Discharge Sample Collection | Receiving Water Sample Collection | Non-Visible Sample Collection |
|----------|--|-----------------------------------|-------------------------------|
| 1        | Not Applicable                         | Not Applicable                    | X                             |
| 2        | X                                      | Not Applicable                    | X                             |
| 3        | X                                      | X                                 | X                             |

## Proposed 2022 Permit

| Risk Level | Stormwater Discharge Sample Collection (as applicable) | Receiving Water Sample Collection (as applicable) | Non-Visible Sample Collection (as applicable) |
|------------|--|---|---|
| 1          | Not Applicable   | Not Applicable                                    | X   |
| 2          | X  | Not Applicable                                    | X   |
| 3          | X  | X (Post-Exceedance)                               | X   |

# SAMPLING – GENERAL OVERVIEW

## Proposed 2022 Permit

- **PH AND TURBIDITY SAMPLING**
  - **3 SAMPLES PER DISCHARGE LOCATION WITHIN 24-HR PERIOD**
  - **DURING ACTIVE DISCHARGE**
  - **WITHIN BUSINESS HOURS**
- **SUBMITTED TO SMARTS WITHIN**
  - **30 DAYS – NO EXCEEDANCE**
  - **10 DAYS – EXCEEDANCE**

Sampling Exceptions  
Included - Revised  
Language

Stored Stormwater  
Sampling Required

Run-on Sampling –  
Remains Optional

Receiving Water  
Sampling – Revised  
Language

The background of the slide is a light gray gradient. It is decorated with several realistic water droplets of various sizes. In the top-left corner, there is a large droplet and several smaller ones. In the top-right corner, there is a medium-sized droplet and a small one. In the bottom-right corner, there is a large, irregular droplet and several smaller ones. In the bottom-center area, there are a few small droplets. The text is centered in the middle of the slide.

# QSD/QSP RESPONSIBILITIES



# EXPANDS ROLE FOR QSDS FROM BEGINNING TO END OF PROJECT

- **2009 PERMIT**

- QSDS MUST PREPARE SWPPPS AND SWPPP AMENDMENTS

- **PROPOSED 2022 PERMIT**


- QSDS MUST PERFORM SPECIFIED INSPECTIONS THROUGHOUT PROJECT
- WITHIN 30 DAYS OF THE START OF CONSTRUCTION
- WITHIN 30 DAYS OF QSD REPLACEMENT
- TWICE ANNUALLY: AUG-OCT; JAN-MAR
- WITHIN 14 DAYS OF NAL EXCEEDANCES
- AS REQUESTED BY WATER BOARD STAFF

**QSD inspections  
may not be  
delegated**



# OTHER EXPANDED QSD RESPONSIBILITIES

- **PROPOSED 2022 PERMIT**

- QSDS MUST INSPECT INACTIVE SITES WITHIN 14 DAYS OF STATUS APPROVAL BY WATER BOARD
  - QSDS MUST PREPARE PASSIVE TREATMENT PLANS
  - QSDS MAY PERFORM WORK OF A QSP
- 

# EXPANDED ROLE FOR QSP OVERSIGHT OF WORK AT SITE

- **2009 PERMIT**

- QSPS ARE RESPONSIBLE FOR INSPECTION, MAINTENANCE REPAIR AND SAMPLING ACTIVITIES
- MAY BE DELEGATED TO APPROPRIATELY TRAINED STAFF

- **PROPOSED 2022 PERMIT**

- QSPS MUST PERFORM SPECIFIED INSPECTIONS THROUGHOUT PROJECT THAT MAY NOT BE DELEGATED
  - MONTHLY, WITHIN 72 HOURS OF A QUALIFIED PRECIPITATION EVENT (QPE), WITHIN 14 DAYS OF NAL EXCEEDANCE
- QSPS MUST PROVIDE FOUNDATIONAL AND SITE-SPECIFIC TRAINING FOR DELEGATES
- QSPS MUST DETERMINE THAT DELEGATES HAVE COMPETENT UNDERSTANDING OF TASKS
- QSPS MUST REVIEW AND OVERSEE WORK COMPLETED BY DELEGATES

Delegates must be identified in SMARTS before performing tasks

# EXPANDED ROLE FOR QSPS OVERSIGHT OF WORK AT SITE

- **PROPOSED 2022 PERMIT**

- QSPS MUST DIRECT DEPLOYMENT OF EROSION CONTROL BMPS
- QSPS MUST CHECK NOAA FORECAST DAILY DURING QPES
- QSPS MUST COMPLETE THE NOTICE OF TERMINATION (NOT)
- QSP MUST INSPECT SITE PRIOR TO NOT OR CHANGE OF INFORMATION SUBMITTAL
- QSPS MUST IMPLEMENT PASSIVE TREATMENT PLANS
- QSPS MUST INSPECT PASSIVE TREATMENT APPLICATION AREAS 72 HOURS IN ADVANCE OF FORECAST PRECIPITATION AND WITH 48 HOURS OF A QPE
- QSPS MUST TRAIN STAFF AT SITES SUBJECT TO BACTERIA TMDLS

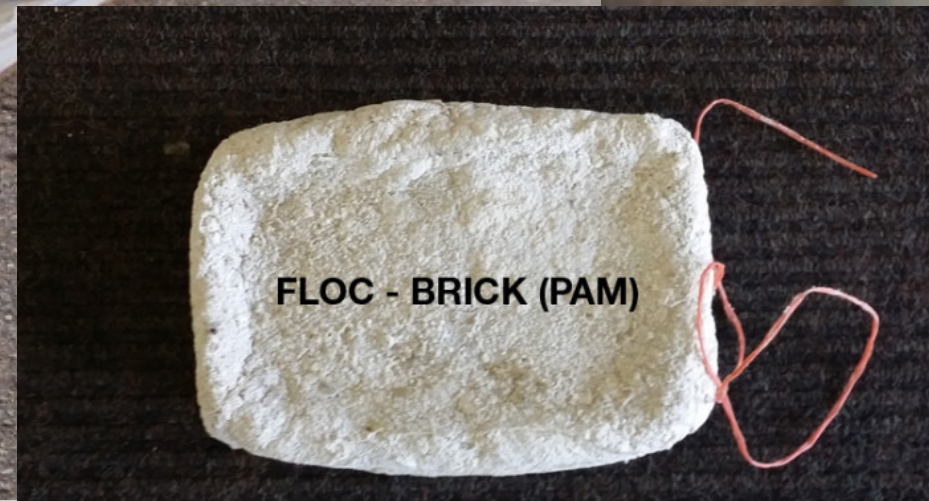
# PASSIVE TREATMENT

# WHAT IS PASSIVE TREATMENT, AND WHY IS IT IMPORTANT?

- PASSIVE TREATMENT IS THE USE OF CHEMICALS TO REDUCE TURBIDITY THROUGH COAGULATION AND FLOCCULATION FOLLOWED BY SETTLING
- PASSIVE TREATMENT IS THE FIRST BMP THAT REMOVES TURBIDITY FROM WATER



# PASSIVE TREATMENT PRODUCTS IN USE





# CONSTRUCTION STORMWATER TREATMENT HISTORY

## CALIFORNIA HISTORY

- **1999 CA CGP:** NO TREATMENT ALLOWED; TREATMENT BY GRAVITY FED BMPS ONLY; NO TURBIDITY TRIGGERS
- **2009 CA CGP:** ONLY ACTIVE TREATMENT ALLOWED (HIGH COST, DIFFICULT TO IMPLEMENT, INCLUDED NELS). INTRODUCED THE USE OF TURBIDITY AS A MEASURE OF COMPLIANCE, BUT TRADITIONAL CONSTRUCTION SITE BMPS DO NOT REMOVE TURBIDITY
- **DRAFT 2022 CGP:** PASSIVE TREATMENT IS NOW ALLOWED. YAY!

## OTHER INDUSTRIES/GEOGRAPHIES

- **AGRICULTURE:** USES PASSIVE TREATMENT CHEMICALS, AND HAS A WEALTH OF RESEARCH AND GUIDANCE ON PRODUCTS AND DOSING RATES
- **OTHER STATES/COUNTRIES:** ALLOW USE OF PASSIVE TREATMENT, SIGNIFICANT RESEARCH AND INFORMATION AVAILABLE ON EFFECTIVENESS AND USE
- **EPA CGP:** ALLOWS USE OF PASSIVE TREATMENT

# PASSIVE TREATMENT

- PERMIT APPROACH
  - NOT A STANDALONE BMP. MUST USE IN CONJUNCTION WITH SEDIMENT CONTROLS
  - DEVELOP PASSIVE TREATMENT PLAN
  - INSPECTION: 72 HOURS PRIOR TO FORECAST PRECIPITATION/48 HOURS FOLLOWING QUALIFYING PRECIPITATION EVENTS
  - MONITORING: ACCORDING TO RISK LEVEL/LUP TYPE
  - “TRAINED PERSON” MUST BE IN CHARGE OF PASSIVE TREATMENT WORK ONSITE
- COST: INCREASE
- COMPLIANCE RISK: DECREASE
- IMPACT: POSITIVE
  - ABILITY TO TARGET FINE SUSPENDED SEDIMENT
  - ABILITY TO MEET TURBIDITY LIMITS
  - MAY BE A CHALLENGE TO FIND ENOUGH TRAINED PEOPLE



# TRAINING REQUIREMENTS

- SOMEWHAT UNCLEAR. ATTACHMENT G REQUIRES A “TRAINED PERSON” BE RESPONSIBLE FOR PASSIVE TREATMENT IMPLEMENTATION
- HEAVY RELIANCE ON MANUFACTURER DATA ON TOXICITY, DOSE RATE
- COST: INCREASE
- IMPACT: NEUTRAL
  - INCREASED TRAINING UPFRONT
  - CONTINUING EDUCATION LIKELY TO OVERLAP WITH UNDERLYING CERTIFICATIONS
  - ADDITIONAL STANDARDIZED TRAININGS TO BE MADE AVAILABLE

# BENEFITS AND DRAWBACKS OF PASSIVE TREATMENT

## **BENEFITS**

- ABILITY TO REMOVE TURBIDITY, WHICH IS USED AS A PROXY FOR SEDIMENT DISCHARGE, TO ASSESS BMP EFFECTIVENESS, AND TO MEASURE PERMIT AND TMDL COMPLIANCE

## **DRAWBACKS**

- CANNOT MODEL THE EFFECTS OF PASSIVE TREATMENT IN RUSLE2
- FEW QSDS AND QSPS AND CONTRACTORS HAVE EXPERIENCE IMPLEMENTING PASSIVE TREATMENT
- IT CAN BE DIFFICULT TO TREAT A WHOLE SITE WITH PASSIVE TREATMENT. SHEET FLOW DISCHARGES WILL NEED TO RELY ON EROSION CONTROLS OVER PASSIVE TREATMENT.
- “IF A HANDFUL IS GOOD, IS FIVE HANDFULS BETTER?” THOUGHT PROCESS CAN LEAD TO OVER DOSING AND RELEASE OF UNREACTED PASSIVE TREATMENT CHEMICAL

## **RECOMMENDATION**

- EMPLOY PASSIVE TREATMENT ON RISK LEVEL 2/3 OR LUP TYPE 2/3 SITES ONLY, OR THOSE WITH TMDL-TRIGGERED TURBIDITY REQUIREMENTS


# TRAINING PROGRAM

# TRAINING: CGP TRAINING TEAM (CGPTT)

- FORMED BY THE STATE WATER BOARD & CASQA IN 2008 TO DEVELOP THE CGP TRAINING PROGRAM
- CGPTT WORKS COOPERATIVELY WITH AND IS AN ADVISORY BODY TO THE STATE WATER BOARD AND CASQA ON THE CGP TRAINING PROGRAM
- CONSISTS OF DIFFERENT CATEGORIES OF PROFESSIONALS AND REPRESENTATION FROM DIFFERENT SECTORS INCLUDING:
  - STATE WATER BOARD & REGIONAL WATER QUALITY CONTROL BOARDS
  - CASQA
  - MS4S
  - CONSTRUCTION BMP IMPLEMENTATION EXPERTISE
  - TRAINING DEVELOPMENT EXPERTISE
  - SPECIALTY BMP APPLICATION,
  - LINEAR UTILITIES
  - TRANSPORTATION
  - BUILDING INDUSTRY
- CGPTT SUBCOMMITTEES
- CONTENT
  - DEPLOYMENT
  - TOR QUALIFICATIONS
  - EXAM
  - QSD/QSP PREREQUISITES/QUALIFICATIONS



# CGP TRAINING PROGRAM GOALS

- THE CGP TRAINING PROGRAM IS INTENDED TO HELP ACHIEVE THE FOLLOWING GOALS:
    - COMPLIANCE WITH THE CGP
    - PROTECTION OF CALIFORNIA'S WATERS FROM STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES
    - FAIR, FIRM AND CONSISTENT, STATEWIDE ENFORCEMENT OF THE CGP
- 



# CGP TRAINING PROGRAM UPDATES

- UPDATES TO ADDRESS CHANGES WITH THE NEW CGP
- PROCESS FOR UPDATES HAS NOT YET BEEN FORMALIZED BY THE CGPTT, ONLY DRAFT
- GENERAL DRAFT PROCESS FOR CGP TRAINING PROGRAM UPDATES:
  - CGPTT TO DEVELOP NEW DRAFT MODULE THAT HIGHLIGHTS CHANGES BETWEEN THE EXISTING AND NEW REQUIREMENTS, A DIRECT COMPARISON
    - CGPTT WILL LIKELY HOLD A FEEDBACK FORUM TO RECEIVE INPUT ABOUT THE NEW DRAFT MODULE
    - CGPTT TO FINALIZE THE NEW MODULE AND PLACE IN AN ONLINE FORMAT
    - TIMELINE FOR MODULE DEVELOPMENT IS TBD

# CGP TRAINING PROGRAM UPDATES CONT.

- GENERAL DRAFT PROCESS FOR CGP TRAINING PROGRAM UPDATES – CONT.:
  - EXISTING QSD/QSPS TO TAKE A SELF-LED, NEW ONLINE TRAINING MODULE, ROUGHLY 2 – 4 HOURS OF CONTENT
  - NEW MODULE WILL BE USED BY CGP TORS FOR QSD-QSP TRAINING CLASSES ONCE THE MODULE IS DEVELOPED
    - TORS SHALL INCORPORATE THE NEW MODULE AS SOON AS IT IS AVAILABLE
    - NEW QSD/QSPS STILL NEED TO LEARN BOTH THE 2009 AND REISSUED PERMIT REQUIREMENTS DURING THE CGP REGULATORY TRANSITION PERIOD
  - ONCE THE CGP REGULATORY TRANSITION PERIOD ENDS, MATERIAL PERTAINING TO THE 2009 PERMIT WILL BE REMOVED FROM THE CGP TRAINING MODULES AND THE QSD-QSP EXAM QUESTIONS

# BMP HANDBOOKS

# BMP HANDBOOKS

## GOALS

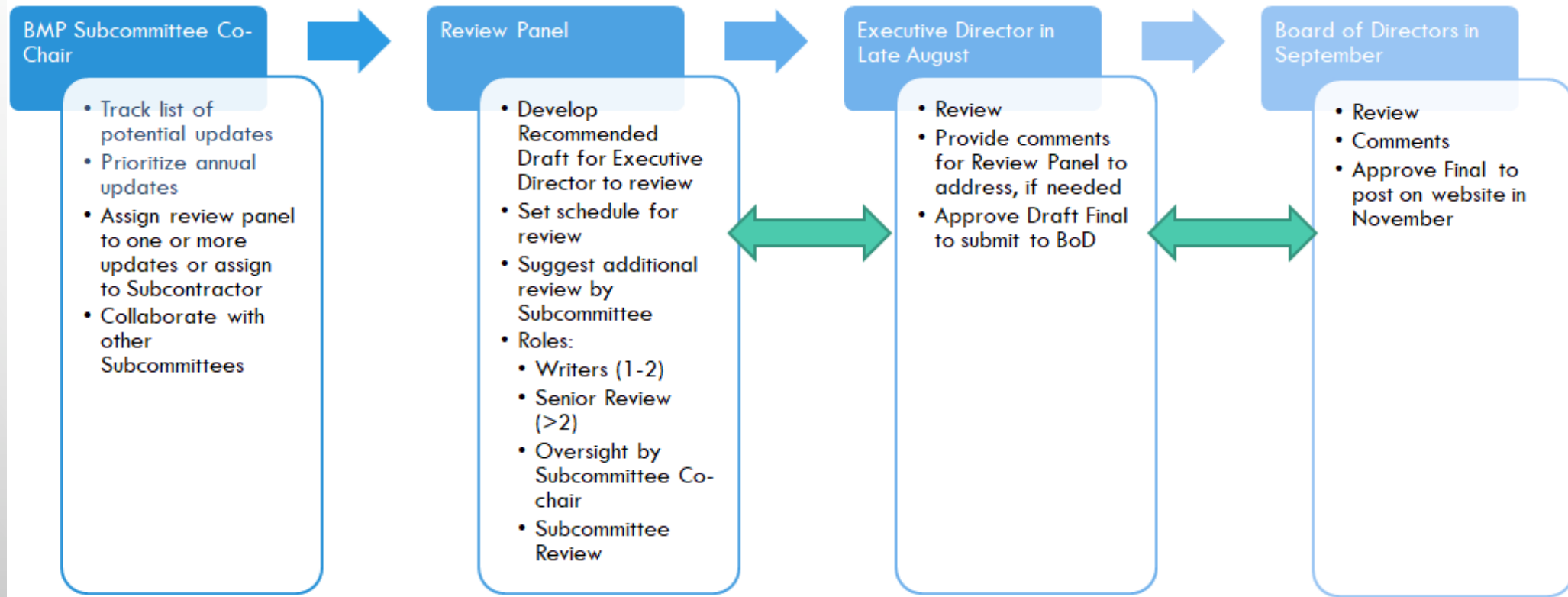


Overview of New Draft Review Process



Tentative Schedule for BMP Handbook Updates

# DRAFT REVIEW PROCESS FOR NEW PRODUCTS



# DRAFT ROLES AND RESPONSIBILITIES:

| Subcommittee Review Panel   | Co-Chair  | Executive Director  | Board of Directors  |
|---|---|---|---|
| <ul style="list-style-type: none"><li>• Identify Lead to provide updates to the Subcommittee</li><li>• Writers (1-2)</li><li>• Multiple reviewers (&gt;2)<ul style="list-style-type: none"><li>• Not the writer</li><li>• Relevant technical expertise</li></ul></li><li>• Subcommittee, as-needed<ul style="list-style-type: none"><li>• if recommended by RP</li><li>• Review of new material</li></ul></li></ul> | <ul style="list-style-type: none"><li>• Oversight</li></ul> | <ul style="list-style-type: none"><li>• Review and comment</li><li>• Submit Final Draft to Board of Directors</li></ul> | <ul style="list-style-type: none"><li>• Review and provide feedback</li><li>• Approval of Final Draft</li><li>• Post by following month</li></ul> |

# BMP HANDBOOK UPDATE SCHEDULE

- -SOLICIT RFP (NOW THROUGH CGP ADOPTION)
- -FOR ADDITIONAL INFO SEE ([HTTPS://WWW.CASQA.ORG/ABOUT/RFPS-RFQS](https://www.casqa.org/about/rfps-rfqs))
- -CURRENT DUE DATE LISTED AS AUGUST 5<sup>TH</sup> AT 5:00 PM. WILL BE EXTENDED
- -SOLICIT INPUT FROM MEMBERS AND REVIEWERS FROM BMP HANDBOOK SUBCOMMITTEE/COLLABORATE WITH CONSTRUCTION SUBCOMMITTEE
- -FINAL DRAFT HANDBOOK UPDATES DUE TO BOARD OF DIRECTORS SEPTEMBER 1<sup>ST</sup> 2023





# NEXT BMP HANDBOOKS SUBCOMMITTEE MEETING

•TUESDAY JULY 19<sup>TH</sup> AT 1:00 PM

- [JOHN.HELTZEL@OWP.CSUS.EDU](mailto:JOHN.HELTZEL@OWP.CSUS.EDU)
  - [ROSHAN.CHRISTOPH@CASQA.ORG](mailto:ROSHAN.CHRISTOPH@CASQA.ORG)
- 

**RUSLE2**

# RUSLE2 REQUIREMENTS

- **REVISED UNIVERSAL SOIL LOSS EQUATION, VERSION 2 (RUSLE2)**
  - EROSION PREDICTION MODEL (EROSION RATES AND SEDIMENT DELIVERY)
  - COMPUTATIONS BASED ON EQUATIONS, SCIENTIFIC DATA, AND TECHNICAL JUDGMENT



Manage Soil Topo

Add break Erase break

STEP 1: Choose location to set climate:  
Location

STEP 2: Choose soil type:  
Segment  Seg length (horiz), ft  Soil

STEP 3: Set slope topography:  
Segment  Slope length to bottom of seg (along slope), ft  Slope length (horiz), ft

| Segment | Slope length to bottom of seg (along slope), ft | Seg length (horiz), ft | Steepness, % | Total vert. drops, ft | Sediment delivery, t/ac/yr |
|---------|---|------------------------|--------------|-----------------------|----------------------------|
| 1       | 35.36   | 25.00                  | 100          | 25                    | 1.5                        |
| 2       | 135.4   | 100.0                  | 1.0          | 26                    | 0.100                      |
| 3       | 191.3   | 50.00                  | 50           | 51                    | 1.3                        |
| 4       | 316.3   | 125.0                  | 2.0          | 54                    | 0.13                       |

STEP 4: Select and modify management:

| Segment | Slope length to bottom of seg (horiz), ft | Management  | Sed. delivery, t/ac/yr |
|---------|---|---|------------------------|
| 1       | 11  | ...imate areas\Existing Undisturbed Vegetative Cover\Grass and forbs, existing, 50 to 60 pct Canopy Cover | 1.7                    |
| 2       | 12  | MAN_PTR:INTERNAL[1]   | 1.4                    |
| 3       | 24  | ...imate areas\Existing Undisturbed Vegetative Cover\Grass and forbs, existing, 50 to 60 pct Canopy Cover | 2.7                    |
| 4       | 25  | MAN_PTR:INTERNAL[3]   | 1.5                    |
| 5       | 120                                       | Mediterranean climate areas\Existing Undisturbed Vegetative Cover\bare ground                             | 0.40                   |

STEP 5: Set supporting practices: Contouring  Diversions, Terraces, Sediment Basins

STEP 6: Set Sediment barrier system: Sediment barrier set  description

Soil loss, t/ac/yr   
Soil loss erod. portion, t/ac/yr   
Sediment delivery, t/ac

Adjust yields

# RUSLE2 REQUIREMENTS

- **2009 CGP**

- METHOD OF DEMONSTRATING FINAL STABILIZATION WHEN FILING NOTICE OF TERMINATION
- SELDOM OR INCONSISTENT USE
  - NO STANDARD GUIDELINES/GUIDANCE
  - LIMITED DATA SETS
  - ACCEPTANCE OF USE VARIES ACROSS REGIONAL BOARDS
- “FINAL STABILIZATION” – SEDIMENT DISCHARGE RISK LESS THAN PRE-CONSTRUCTION
  - BOTH SOIL LOSS AND SEDIMENT DELIVERY LESS THAN PRE-CONSTRUCTION CONDITION

# RUSLE2 REQUIREMENTS

- **PROPOSED 2022 CGP**

- STILL AN ACCEPTABLE METHOD OF DEMONSTRATING FINAL STABILIZATION WHEN FILING NOTICE OF TERMINATION
- **MUST USE RUSLE2 TO MEET SEVERAL NEW TMDL REQUIREMENTS IN SELECT WATERSHEDS**
  - SLOPES MODELED AT EACH PHASE OF CONSTRUCTION
  - SOIL LOSS AND SEDIMENT DELIVERY MUST BE LESS THAN PRE-CONSTRUCTION CONDITION DURING EACH PHASE
  - EROSION AND SEDIMENT CONTROL BMPS BASED ON RUSLE2 RESULTS TO BE DEPLOYED
- **MAY BE REQUIRED TO DEMONSTRATE NATURAL BUFFER SEDIMENT LOAD EQUIVALENCY FOR PROJECTS WITHIN 50-FEET OF A RECEIVING WATER**

# RUSLE2 REQUIREMENTS

- **TMDL APPLICABILITY**

| Region                 | Waterbody/Watershed      |                           |                       |
|------------------------|--------------------------|---------------------------|-----------------------|
| <b>North Coast (1)</b> | Albion River             | Upper Eel River           | Noyo River            |
|                        | Big River                | South Fork Eel River      | Ten Mile River        |
|                        | Lower Eel                | Gualala River             | Trinity River         |
|                        | Middle Fork Eel River    | Mad River                 | Van Duzen River       |
|                        | Middle Main Eel River    | Mattole River             |                       |
|                        | North Fork Eel River     | Navarro River             |                       |
| <b>Los Angeles (4)</b> | Ballona Creek            | Revolon Slough            | Machado Lake          |
|                        | Ballona Creek Estuary    | Colorado Lagoon           | Marina del Rey Harbor |
|                        | Sepulveda Canyon Channel | Dominguez Channel Estuary | Oxnard Drain          |
|                        | Calleguas Creek          | Los Angeles Harbor        | Santa Monica Bay      |
|                        | Conejo Creek             | Los Beach Harbor          |                       |
| <b>Santa Ana (8)</b>   | San Diego Creek          | Upper Newport Bay         | Lower Newport Bay     |



# RUSLE2 REQUIREMENTS


- **CHALLENGES/SOLUTIONS**

- NO CONSISTENT RUSLE2 MODEL
  - PUBLICLY AVAILABLE
  - WEB-BASED PREFERRED
  - COMPREHENSIVE DATA SETS/CUSTOMIZABILITY
- RUSLE2 CANNOT MODEL PASSIVE TREATMENT OR USE OF SEDIMENT BASINS
  - NEED ALTERNATIVE ACCEPTANCE STANDARDS FOR PROJECTS EMPLOYING THESE CONTROLS
- NEED GUIDELINES, STANDARDS, AND TRAINING (QSDs AND REGIONAL BOARD STAFF)

# WRAP-UP/REMAINDERS



# THE REMAINDERS

- ROUTINE MAINTENANCE PROJECTS (ORDER II.B.1)
  - REGULATORY TRANSITION PERIOD
  - IMPERVIOUS/PERVIOUS CHARACTERIZATION
  - RESIDENTIAL LOT STABILIZATION
  - AUTOMATIC APPROVAL OF NOT
  - FORMAL INACTIVE STATUS
- 



THANK YOU!

CASQA

[CASQA@CASQA.ORG](mailto:CASQA@CASQA.ORG)





20  
YEARS

50 YEARS *of the* CLEAN WATER ACT