



INDUSTRIAL STORM WATER

2021-22 ANNUAL TRAINING

SAN DIEGO COUNTY OFFICE OF EDUCATION

30 SEPTEMBER 2021

WELCOME!



ANNIKA DORMAN, CPSWQ, QISP TOR
JAMIE RICHARDS, CPSWQ

ASHLEE CADWELL



AGENDA

- ☐ Storm Water 101
- ☐ Current Events
- ☐ Pollutants and BMPs
- ☐ Permit Requirements
- ☐ Compliance Levels
- ☐ Compliance Strategies

STORM WATER 101

Storm Water and Sewer System difference





STORM WATER 101

Why is this important?

- Storm water collects pollutants in its path and deposits them in local waterways
- Sewage treatment plant removes pollutants prior to discharge offshore
- Rain entering sewer drains can cause sewage overflows
 - This is why only very small outdoor areas are permitted to connect to sewer



STORM WATER 101

Result: pollutants reaching waterways





STORM WATER 101

Waterways have specific beneficial uses, like:

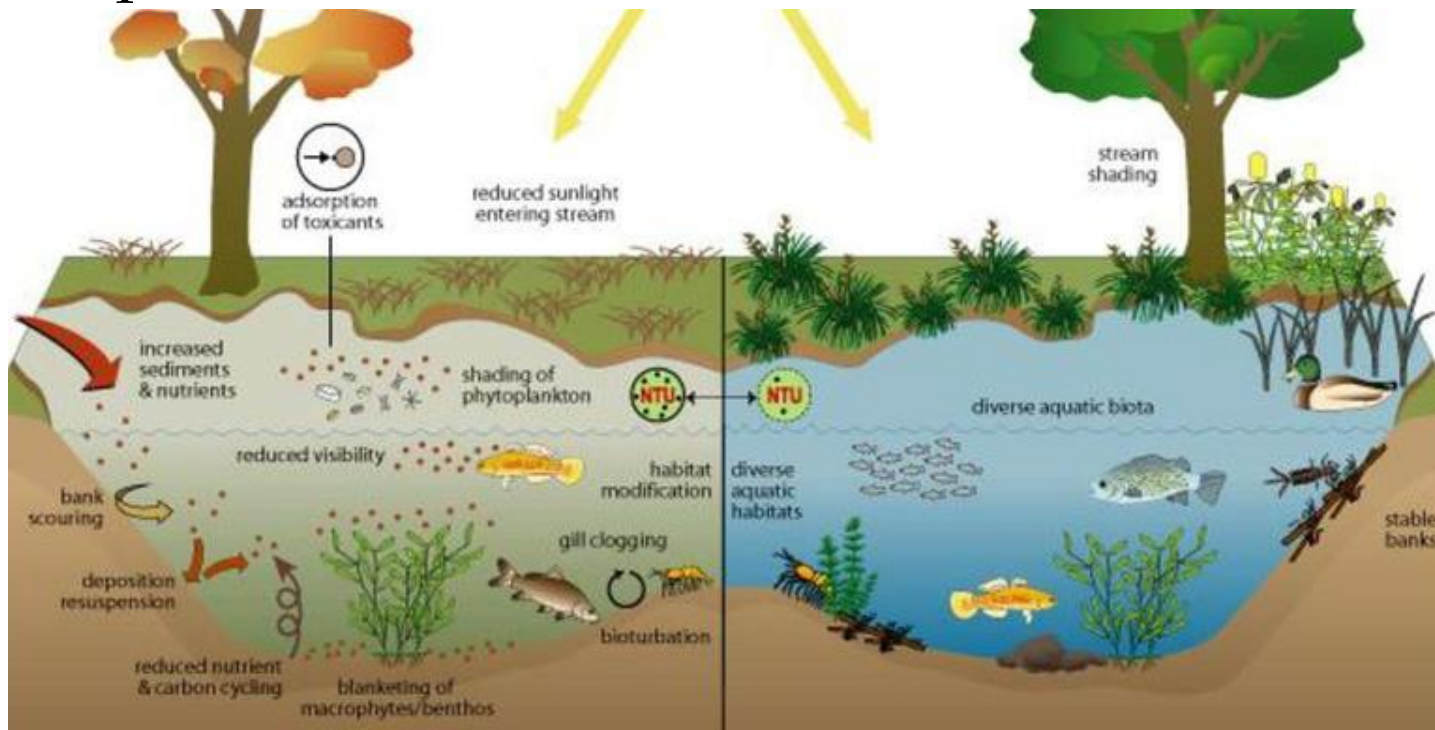
- Contact or Non-contact Recreation
- Municipal, Agricultural, Industrial Supply
- Habitat (Marine, estuarine, endangered species, wildlife, etc.)
- Migration
- Spawning
- Navigation
- Hydropower
- Commercial and Sport Fishing
- Aquaculture, Shellfish Harvesting

Water quality standards are developed to support those beneficial uses

STORM WATER 101

Pollutant levels affect beneficial uses

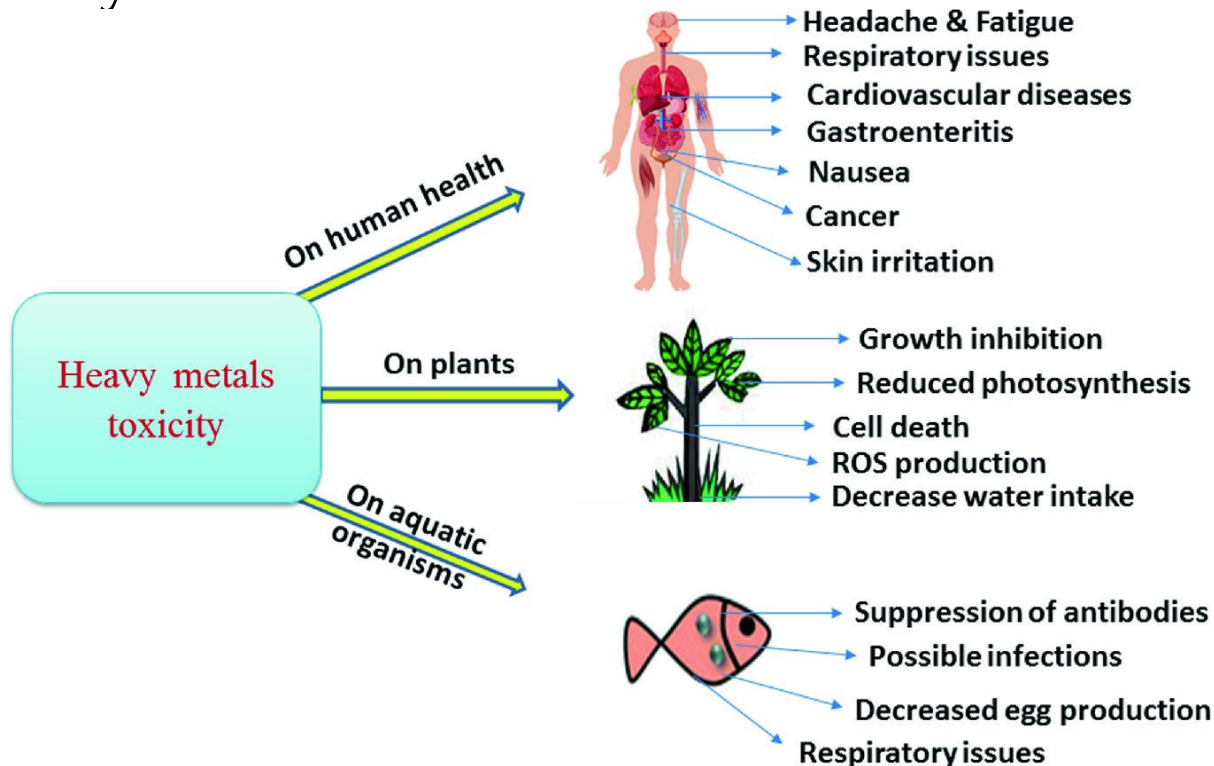
- Dirt: clogs storm drains, clouds water leading to aquatic plant and animal death, and loss of habitat



STORM WATER 101

Pollutant levels affect beneficial uses

- Heavy metals: Toxic



STORM WATER 101

Pollutant levels affect beneficial uses

- Leaves/grass: decomposition reduces oxygen



STORM WATER 101

Pollutant levels affect beneficial uses

- Oils, soaps: coats gills, kills aquatic life



STORM WATER 101

Pollutant levels affect beneficial uses

- Bacteria: makes people and animals sick



STORM WATER 101

Pollutant levels affect beneficial uses

- Trash: **all of the above!**





STORM WATER 101

Goal: Reduce pollutant exposure and transport to mitigate the impacts of human activity on waterbodies

And so we have... *the Industrial Permit!*





PERMIT REQUIREMENTS

How does the Permit support waterbody beneficial uses?

- Minimum Best Management Practices (BMPs)
 - Pollutant source control
 - Exposure minimization
 - Discharge prohibition
- Monthly Inspections
- Discharge Monitoring
 - Observations
 - Sampling
 - Numeric Action Levels

PERMIT REQUIREMENTS



Good Housekeeping



Preventative Maintenance



Spill and Leak Prevention and Response



Material Handling and Waste Management



Erosion and Sediment Controls



Employee Training Program



Quality Assurance and Record Keeping

Minimum BMPs



MINIMUM BMPs

Good Housekeeping



- Sweep/clean regularly, properly store materials
- Prevent material tracking
- Minimize dust
- Clean up after rinsing/washing
- Prevent discharge of any rinse/wash waters or industrial materials
- Minimize storm water flow through industrial areas

MINIMUM BMPs



Preventative Maintenance

- Identify all equipment and systems used outdoors that may spill or leak
- Establish procedures and schedule for inspection, maintenance and repair



MINIMUM BMPS



Spill and Leak Prevention and Response

- Develop and implement spill and leak response procedures
 - Absorbent
 - Steam cleaning
- Identify spill and leak response equipment, location, and maintenance procedures.



MINIMUM BMPs

Illicit Discharge Prevention

- Facilitate correct activities
 - Ensure mop sinks are accessible
 - Provide drain covers for use during outdoor cleaning
 - Restrict access to hoses (keyed hose bibs)
 - Plumb AC lines to sewer or landscape
- Ensure vendors are employing appropriate BMPs
 - Contract language
 - Activity audits
 - Look for evidence of past discharges as well as active flows
- Leak audits
 - Water meter checks



DMAX

MINIMUM BMPs

Material Handling and Waste Management



Minimize

Minimize handling of industrial materials or wastes during a storm event

Contain

Contain all stored non-solid industrial materials or wastes

Cover

Cover industrial waste disposal containers and industrial material storage containers when not in use

Clean

Clean all spills of industrial materials or wastes that occur during handling

Observe

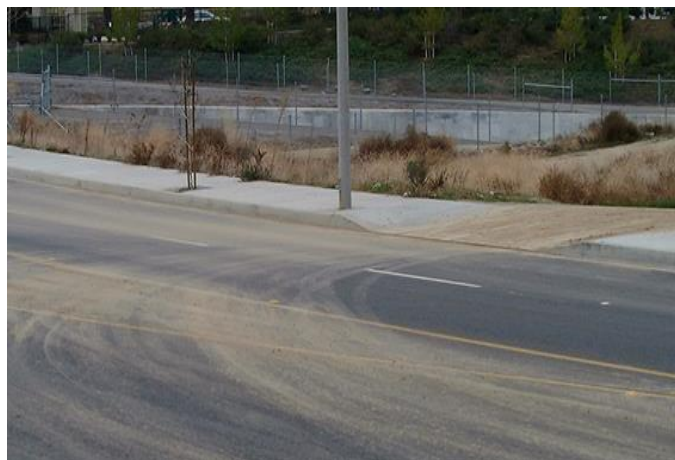
Observe and clean any outdoor material or waste handling equipment or containers



MINIMUM BMPs

Erosion and Sediment Controls

- Implement effective wind erosion controls
- Provide effective stabilization for inactive areas, finished slopes, and other erodible areas
- Maintain effective perimeter controls and stabilize all site entrances and exits
- Divert run-on and storm water away from all erodible materials





MINIMUM BMPS

- Annual training required
- Retain records for last 5 years
 - Training
 - Sampling/Weather
 - Monthly inspections
 - Annual Reports
- SWPPP & Site Map

Employee
Training,
QC, Record
Retention



MINIMUM BMPs

- Thorough Housekeeping
 - Sweeping
 - Oil residue removal
 - Discharge point cleanup
- Cover exposed materials
- Prepare sampling kit and supplies
- Notify sampling personnel and alternates
- Notify shift workers of enhanced BMPs so that items are not placed outdoors during rain events

Pre-Rain BMPs



MONTHLY INSPECTIONS

When: Once a month, every month

- Within daytime operating hours
- On days without precipitation

- What to observe:

- “Outdoor industrial equipment and storage areas, outdoor industrial activities areas, BMPs, and all other potential source of industrial pollutants.”
- Use your site map for reference
- **No industrial activities/materials in non-industrial drainage areas!**





MONTHLY INSPECTIONS

What to Record:

- Findings
 - Adequate
 - Not Adequate
 - N/A
- Comments
 - Issue details
 - Corrective actions taken
- Send forms to: adorman@dmmaxinc.com



Ashlee.Cadwell@sdcoe.net





DISCHARGE MONITORING



Sampling: *When & Where*



Sample 2 times per year at *all* industrial discharge points



Required once between July and December, and once between January and June.

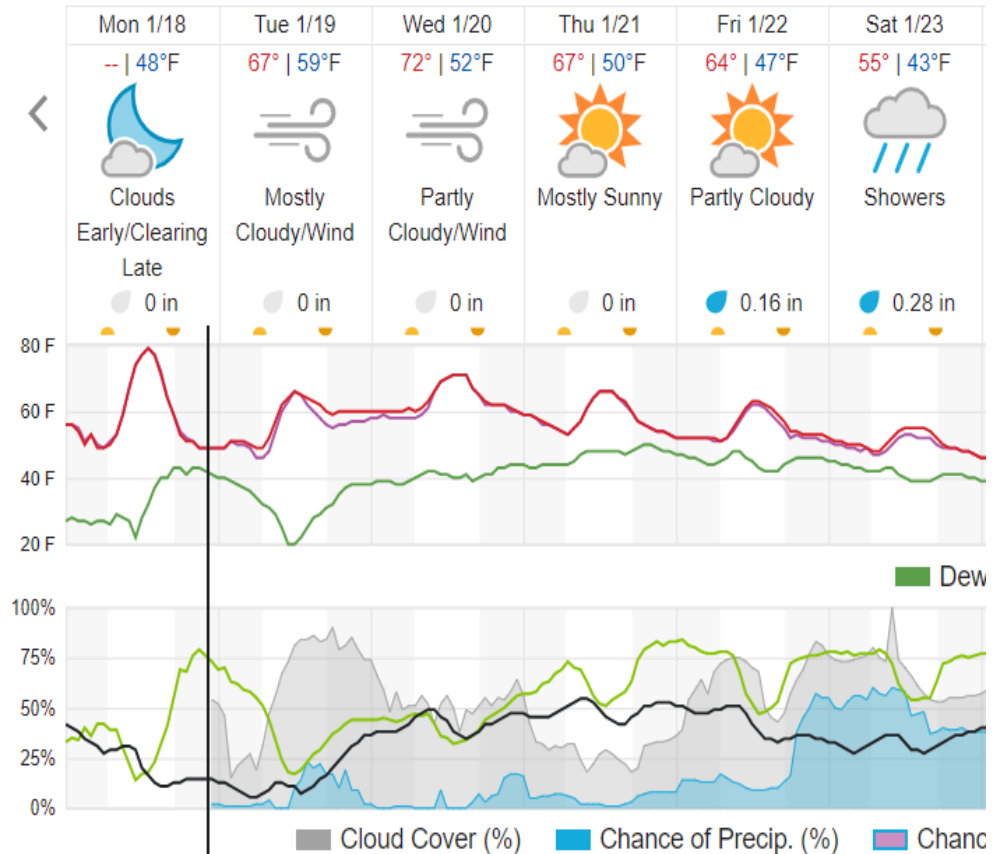


Sample at each industrial discharge point

Refer to site map, not every drain is a discharge point

DISCHARGE MONITORING

- ☐ Bottle kits ready
- ☐ Check a reliable weather report weekly
 - Weather.gov
 - Wunderground.com
- ☐ Trigger pre-rain prep: 40% chance of 0.1 in
 - Use pre-rain checklist
 - Notify sampling personnel
- ☐ Document weather conditions for your records





DISCHARGE MONITORING

When should I sample?

❑ During Qualifying Storm Events (QSEs)

> 48 hrs since last rain

< 12 hrs since rain
began

< 4 hrs since start of
business *or* of runoff

Runoff for *any*
drainage area

It's a **QSE!** Get
ready to sample.

DISCHARGE MONITORING

Making Observations:

- Observe every sample point
- Observe sample in a clear container
 - ☐ Check for any observable pollutants
 - ☐ If observable pollutants present, check for and address source



DISCHARGE MONITORING

pH

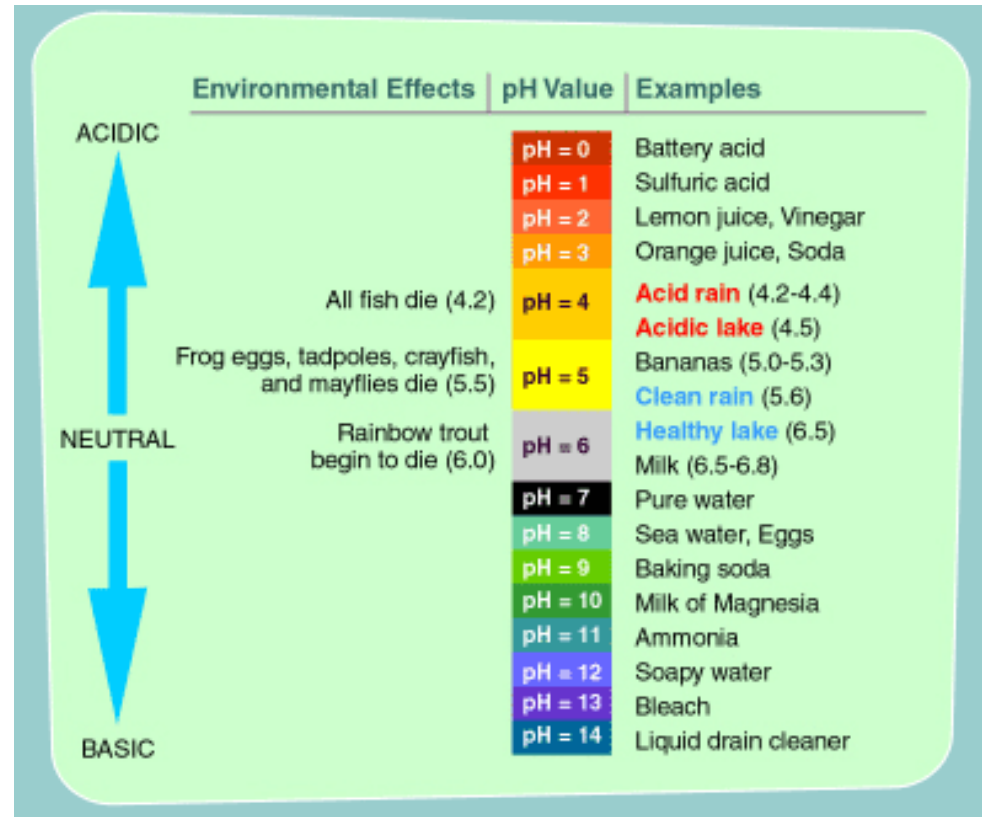
- Dip paper strip into flowing water for a few seconds or until paper is wet
- Immediately compare color of paper to the guide on the package (to the nearest 0.5)



DISCHARGE MONITORING

pH

- Measure BEFORE handling your sample jars (Why?)
- DO NOT test the water already in your sample jar (Why?)
- pH is less than 6 or more than 9 - *take it again!*
- Look for a source:
 - ❑ Low pH (acidic)- batteries, open trash containers, chemicals
 - ❑ High pH (basic)- often white powders (drywall dust, concrete dust)



DISCHARGE MONITORING

Sample Collection:

- Wear gloves
- Fill bottles directly, if possible, OR
- Use a clean collection container, rinsed in sample water
 - ❑ An empty, sterile bottle from your kit can be used to fill the other containers
- Fill bottles to the “neck” (vials to brim)
- Bottles with stickers contain acid-
do not overfill!
- Label bottles w/ discharge ID, date, time
- Place bottles in cooler with ice



https://youtu.be/_krQLJCC1AM?t=466

DISCHARGE MONITORING

Sample Collection:

Small vials: carefully fill to brim

- Goal: virtually no air
 - ☐ Turn bottle upside down to check for bubbles
 - ☐ If there is a bubble, add more water and check again
 - ☐ Be careful not to overfill





DISCHARGE MONITORING

Sample Delivery:

- Drop off within **48 hours** if bus washing occurs onsite
- Drop off within **7 days** otherwise
 - **Check holding times in the SWPPP**
 - The lab is not open on Sundays, and Saturdays, only if arranged
 - Samples must remain on ice during transport (*fridge ok until then*)

DISCHARGE MONITORING

Sample Delivery:

Enviromatrix Analytical, Inc. (EMA)
9590 Chesapeake Dr. Suite 5
San Diego, CA 92123
(858) 560-7717

Reminders:

- Rainy days are VERY busy, try to wait until the next day
- Make sure ALL your bottles are labeled
- Have your chain of custody ready
- Be patient
- Make sure to pick up your replacement kit





GROUP ACTIVITY



FILL IN THE BLANK

- Dirt negatively affects waterways by _____
- If I see a problem during a monthly inspection I should note _____ on my form.
- The biggest source of zinc on my site is _____
- If I get a high pH value I should _____
- I need to get my samples to the lab within _____
- The best way to remove heavy metals from runoff is with _____



REPORTING

Legally Responsible Person (LRP)

“For a municipality, state, federal, or other public agency: by either a **principal executive officer** or ranking elected official. This includes the chief executive officer of the agency or the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA).”

Duly Authorized Representative (DAR)

“... a person designated as a Duly Authorized Representative **has responsibility for the overall operation of the regulated facility or activity**, such as a person that is a manager, operator, superintendent, or another position of equivalent responsibility, or is an individual who has overall responsibility for environmental matters for the company”

REPORTING

What do I have to do in SMARTS?

- Certify each QSE sample analysis results
 - Due 30 days after receipt from lab
- Certify the Annual Report
 - **This is due July 15th**
 - Ensure an LRP or DAR are available to certify
- Certify ERA Reports
 - These are due by December 31st of each year





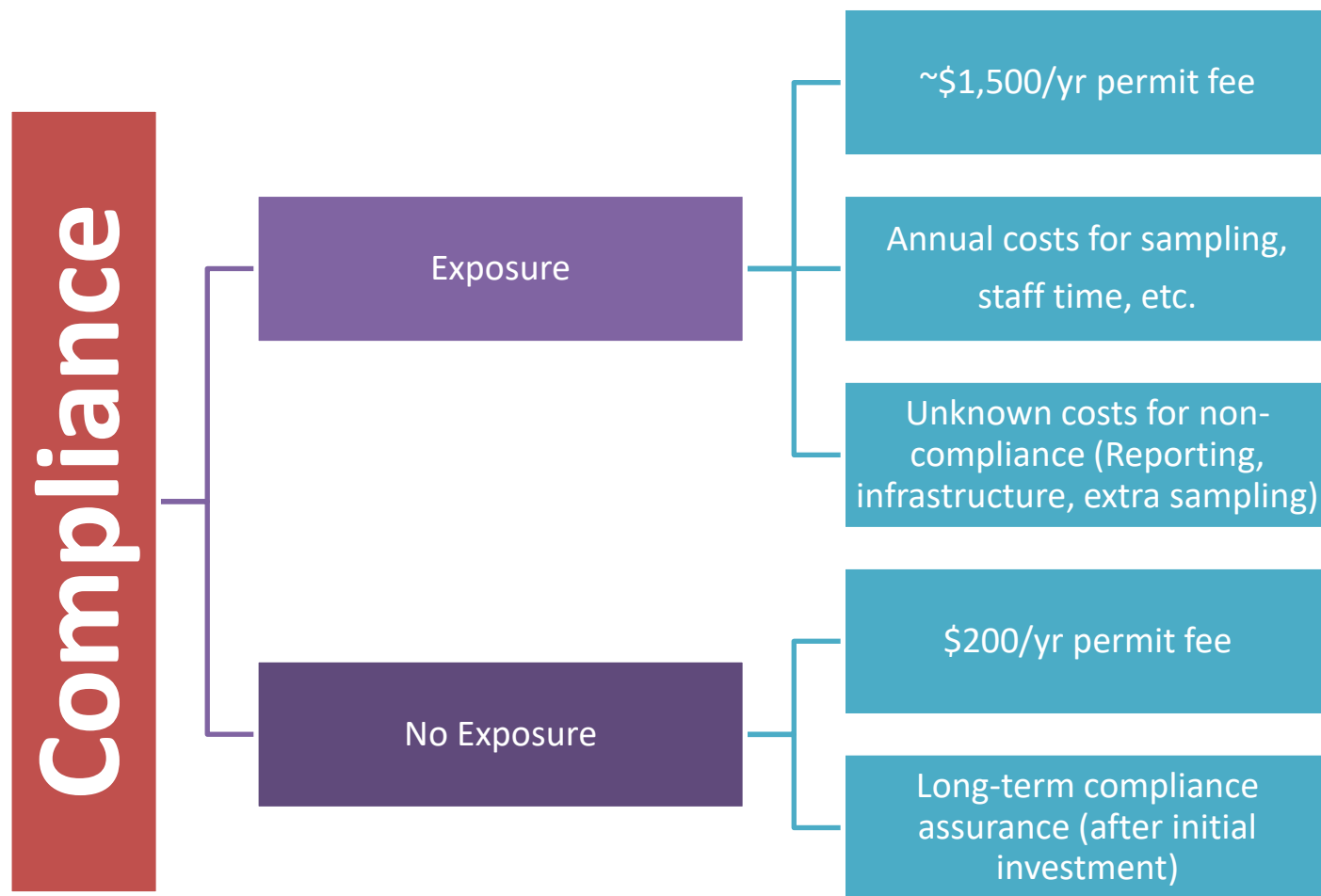
COMPLIANCE

Numeric Action Levels (NALs)

- What happens if I have an NAL Exceedance?
 - Enter Level 1 for that pollutant:
 - Complete evaluation by Qualified Industrial Storm Water Practitioner (QISP)
 - Identify BMPs and SWPPP revisions
 - Submit Level 1 ERA Report
 - Continued NAL exceedances will result in Level 2:
 - Technical Report
 - BMP Revisions may need to be more costly/structural
 - **Takes 4 QSEs without exceeding NALs to return to baseline**



COMPLIANCE





COMPLIANCE

No Exposure Certification

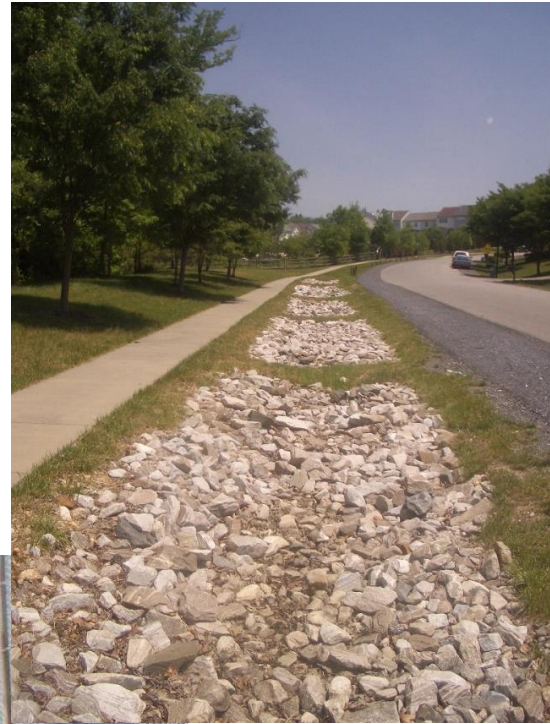
- All ***industrial*** activities and materials are contained indoors
- OR
- Are within cover and containment (bermed and/or draining to sewer)



COMPLIANCE

Exposure

- Source control (BMP implementation)
- Redirect runoff to landscaping/infiltration area
- Inlet protection
- Filter runoff
 - Infiltration BMPs work best for metals
- Slow down runoff
 - Check dams
 - Inlet protection



Source Identification: Metals

- Engine and tire wear dust
- Brake dust
- Auto fluids/components
- Rusty/galvanized roofing/siding/fencing/equipment
- Batteries
- Metal cutting

Source Controls:

- Contain activities
- Cover/coat materials/equipment
- Housekeeping (vacuum sweep, spill cleanup)



Source Identification: Sediment

- Unpaved areas
- Construction disturbances
- Stockpiles

Source Controls:

- Cover (tarp, jute matting)
- Contain (wattle/silt fence/gravel bags)
- Stabilize (gravel/paving/sealing/planting)



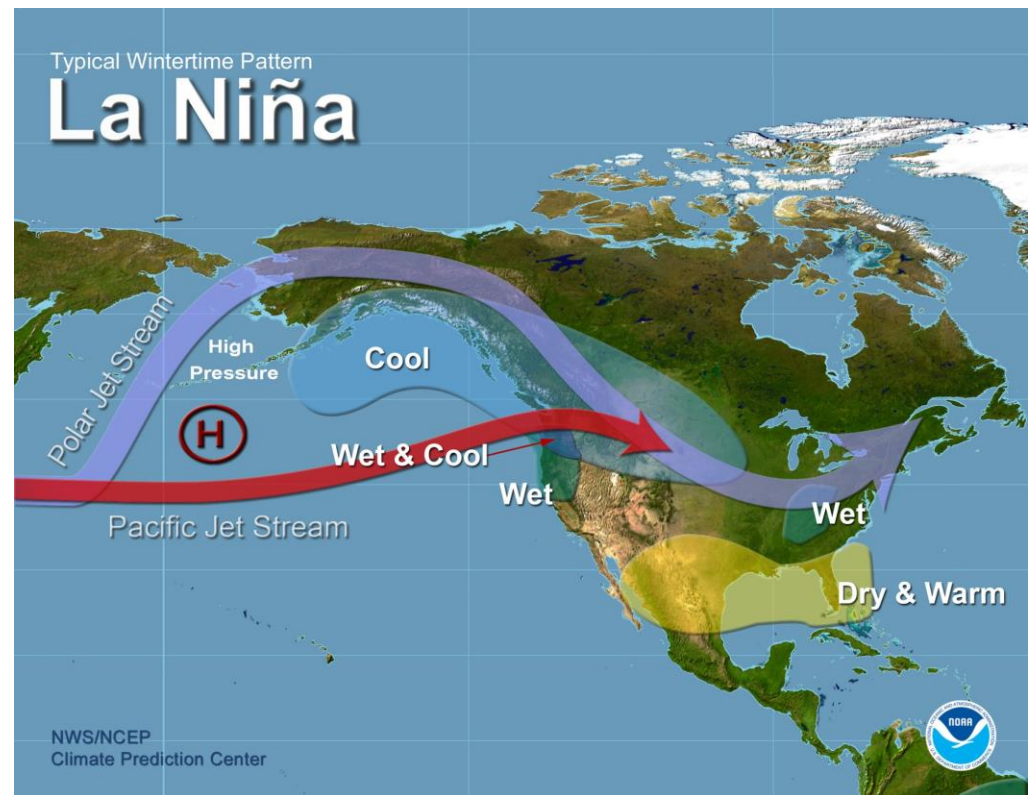
CURRENT EVENTS

COVID-19

- All IGP requirements are the same

La Niña

- Less rain anticipated this year





CURRENT EVENTS

New Permit?

- Yes, eventually- no draft language yet
- Discussions active with Regional Board:
 - SMARTS functionality
 - Legal implications
 - Compliance Groups



QUESTIONS?



CONTACTS

Annika Dorman (D-MAX)
adorman@dmxinc.com
(858) 224-3267

Jamie Richards (D-Max)
jrichards@dmxinc.com
(858)922-8983

Ashlee Cadwell (SDCOE)
Ashlee.Cadwell@sdcoe.net
(858)-292-3735