

**Santa Clara Valley  
Water District**



# Monitoring

- When
  - During every planned or unplanned discharge!
- Why
  - Pollution prevention
  - To prove compliance with regulations.
- How
  - Monitoring Equipment
- What
  - Chemical and Physical parameters

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**Senior Water Quality**  
**Specialist**  
**B.S. Geology**

17 years Santa Clara Valley Water District

11 years of Water Utility Discharge

4 years Artesian well discharges.

Groundwater Specialist II

Water Quality Specialist II

Senior Water Quality Specialist

Stormwater Program Compliance

# Monitoring-When

- During planned discharges.

- A sampling plan is part of the notification to the Water Board.
- See the Planned Discharge Activities Checklist beginning on page 20.
- Frequency
- Submit the data per Permit requirements.

- During unplanned discharges.

- Sampling should begin as soon as possible after an hazardous situations are under control.
- See the Unplanned Discharge Checklist beginning on page 22.
- Best professional judgment
- Submit the data per Permit requirements.

# Monitoring-Notification form

## NOTICE OF TEMPORARY DISCHARGE

Santa Clara Valley Water District  
for Water Utility Operation & Maintenance

Facility Name (origination of discharge): \_\_\_\_\_

Location of discharge: \_\_\_\_\_

Facility discharging to: \_\_\_\_\_

Name of person responsible for reporting/monitoring: \_\_\_\_\_

### Type of water being discharged:

Raw Water       Treated water (dechlorinated)       Ground water

Volume of water being / to be discharged: \_\_\_\_\_ gallons

Date of discharge: \_\_\_\_\_

Time discharge began / will begin: \_\_\_\_\_ am/pm

Time discharge ended / will end: \_\_\_\_\_ am/pm

Flow rate: \_\_\_\_\_ cfs

### BMPs to be implemented during discharge (check & list all that apply):

Erosion control (list BMPs used): \_\_\_\_\_

Sediment control (list BMPs used): \_\_\_\_\_

Turbidity monitoring (attach monitoring sheet)       Dechlorination (attach monitoring sheet)

Explanation of discharge, discharge location, BMPs to be implemented, monitoring, etc:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Monitoring-Why

- Pollution Prevention
- BMP effectiveness
- MRP requirements



# Monitoring-How and What

- We use various forms of equipment to monitor discharges.
- Primarily we use turbidity, pH and temperature monitoring equipment
- For treated water discharges we use Chlorine residual meters



# Dechlorination

## In-line Drip De-chlorination



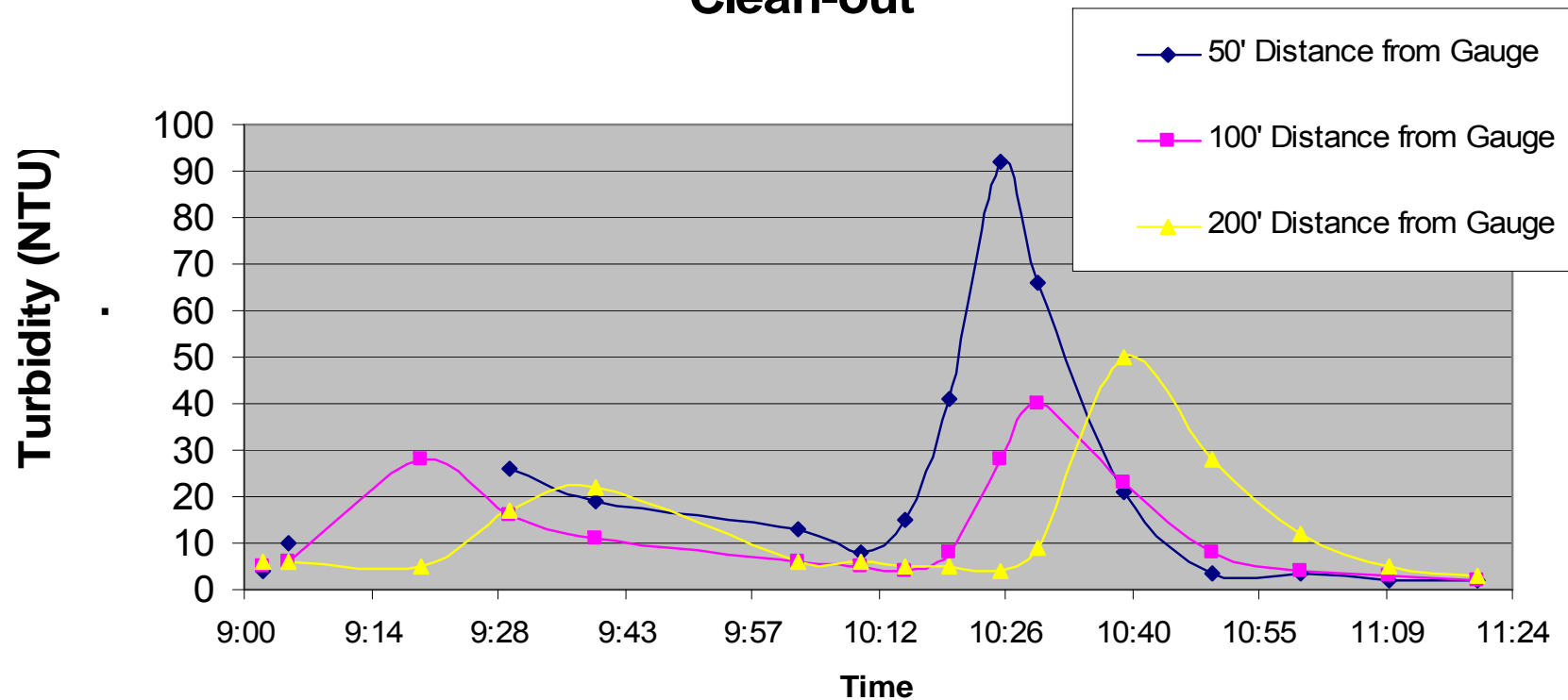
# Dechlorination

## *Field Test Findings*

- Na/Ca thiosulfate neutralized combined chlorine much slower than free chlorine
- AWWA recommends Sodium Ascorbate Dechlorination chemical and Ca thiosulfate for a minimum effect on pH
- Warning-Some dechlorination chemicals can reduce dissolved oxygen
- Dechlorination chemicals did not have a pronounced effect on pH
- Increasing dechlorination chemicals in tablet and powder form neutralized free and combined chlorine to below
- 0.05 mg/L
- Some chemicals in (ascorbic acid tablet) dissolve too quickly to be practical
- Sodium thiosulfate in table form is effective for 45 minutes for flow rates of 100gpm
- Increasing flow rates (e.g. from 100 gpm to 450 gpm) can reduce the amount of time dechlorination chemicals remain effective

# Stream Gauge Cleaning Study

## Bodfish Creek Turbidity During Gauge Clean-out



# Tracking and Effectiveness Evaluations

## *Methods of Reporting*

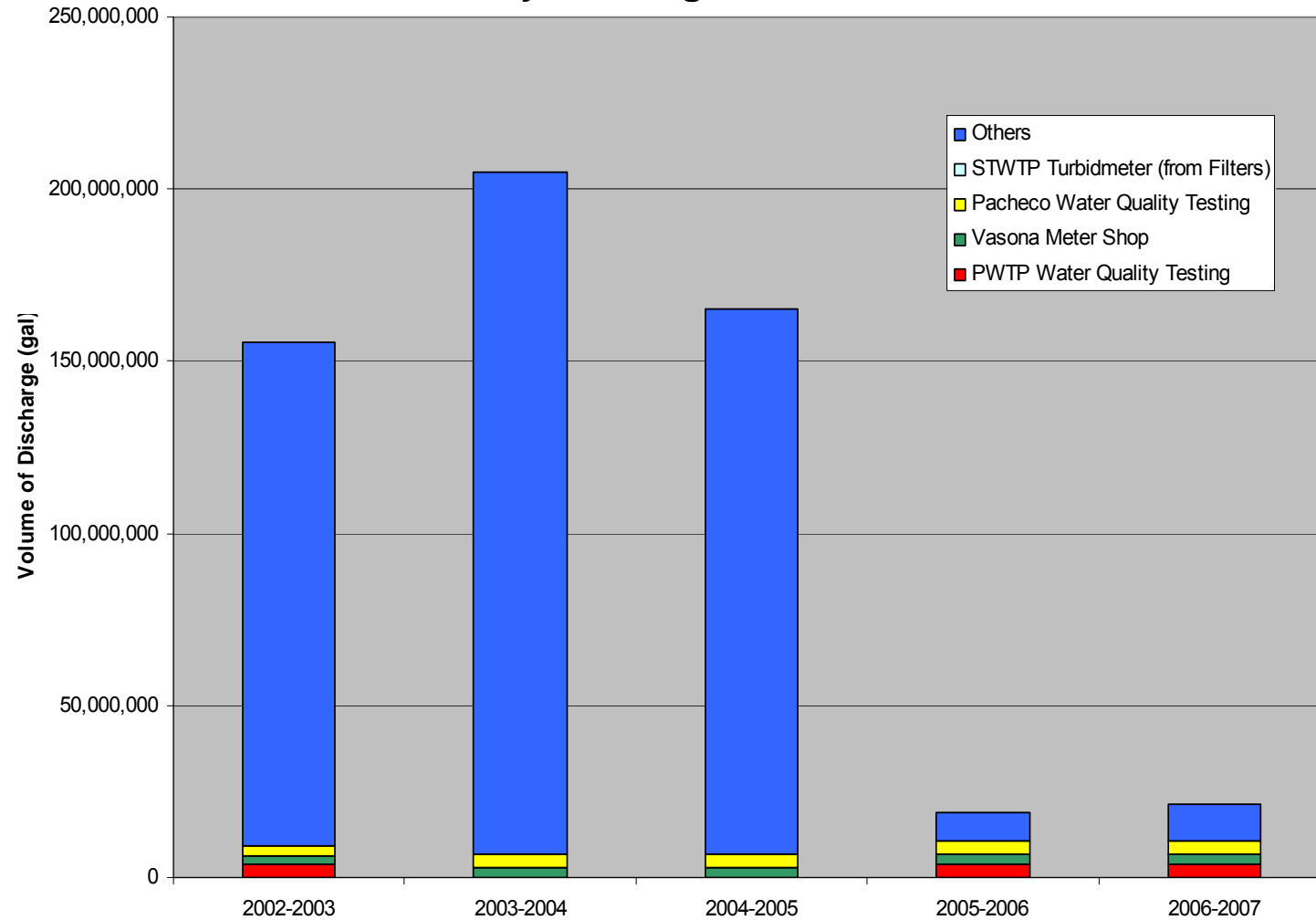
### Program Effectiveness Evaluation

- Discharge Activity Checklists
- Discharge tracking table
- District staff feedback
- Send out reminders
- Inventory of discharges due each month
  - Monthly Discharge Inventory form
  - Email

# Water Utility Discharge Breakdown

Table 2.2

Water Utility Discharge Breakdown Chart



# pH

- Drastic changes in pH can harm wildlife
- pH can change due to some dechlorination chemicals.
- pH goal is to be within the range of the Basin Plan and to general not change receiving water pH by more the 0.5



# Chlorine

- Chlorine residual goal is 0.05 mg/l
- I know sounds low but it can be done!
- Dechlorination and flow rate is the key!!



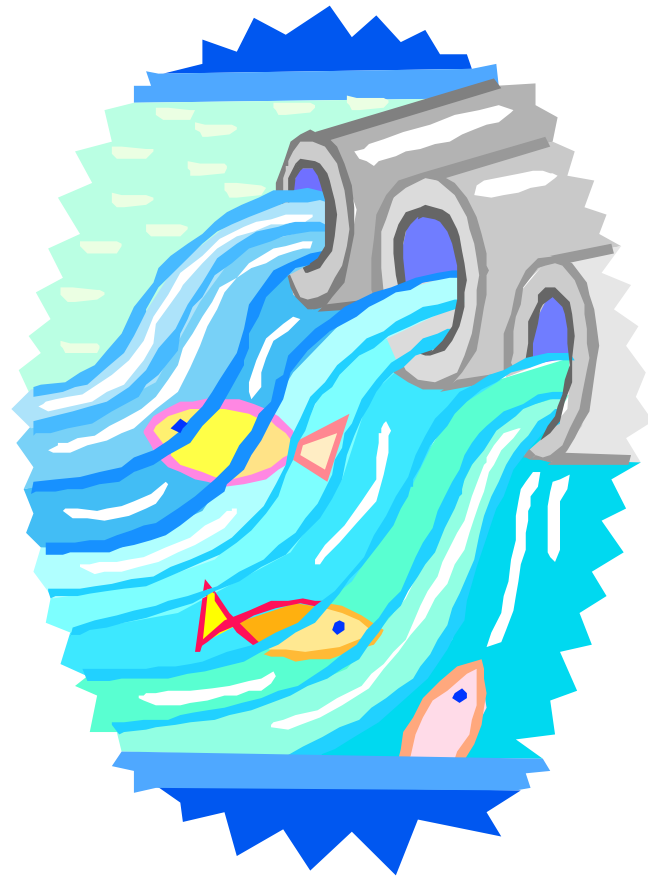


*Photograph  
courtesy of*



# Turbidity

- Turbidity
- 5 NTUs max increase.  
between 1-50 NTU
- 10 NTU max increase  
between 50 to 100 NTU
- 10% of background  
after that.





Questions?