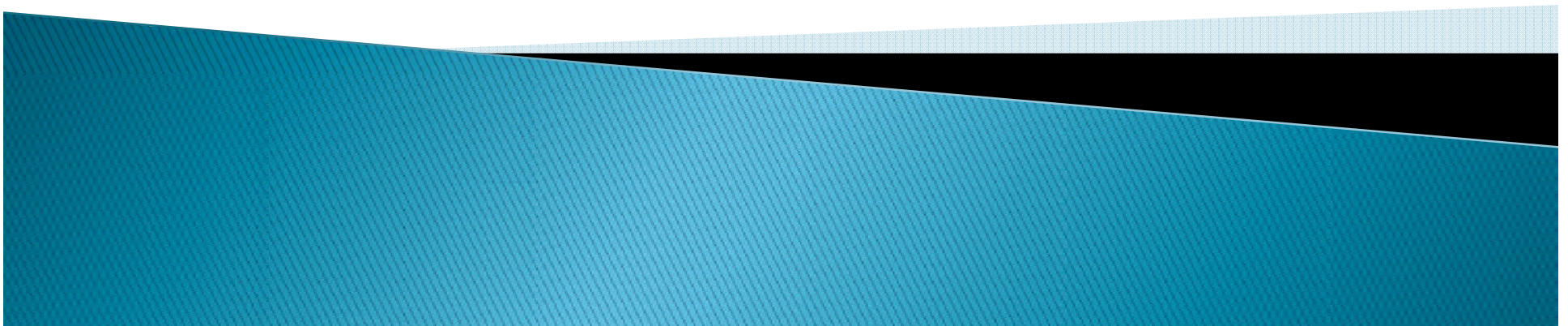


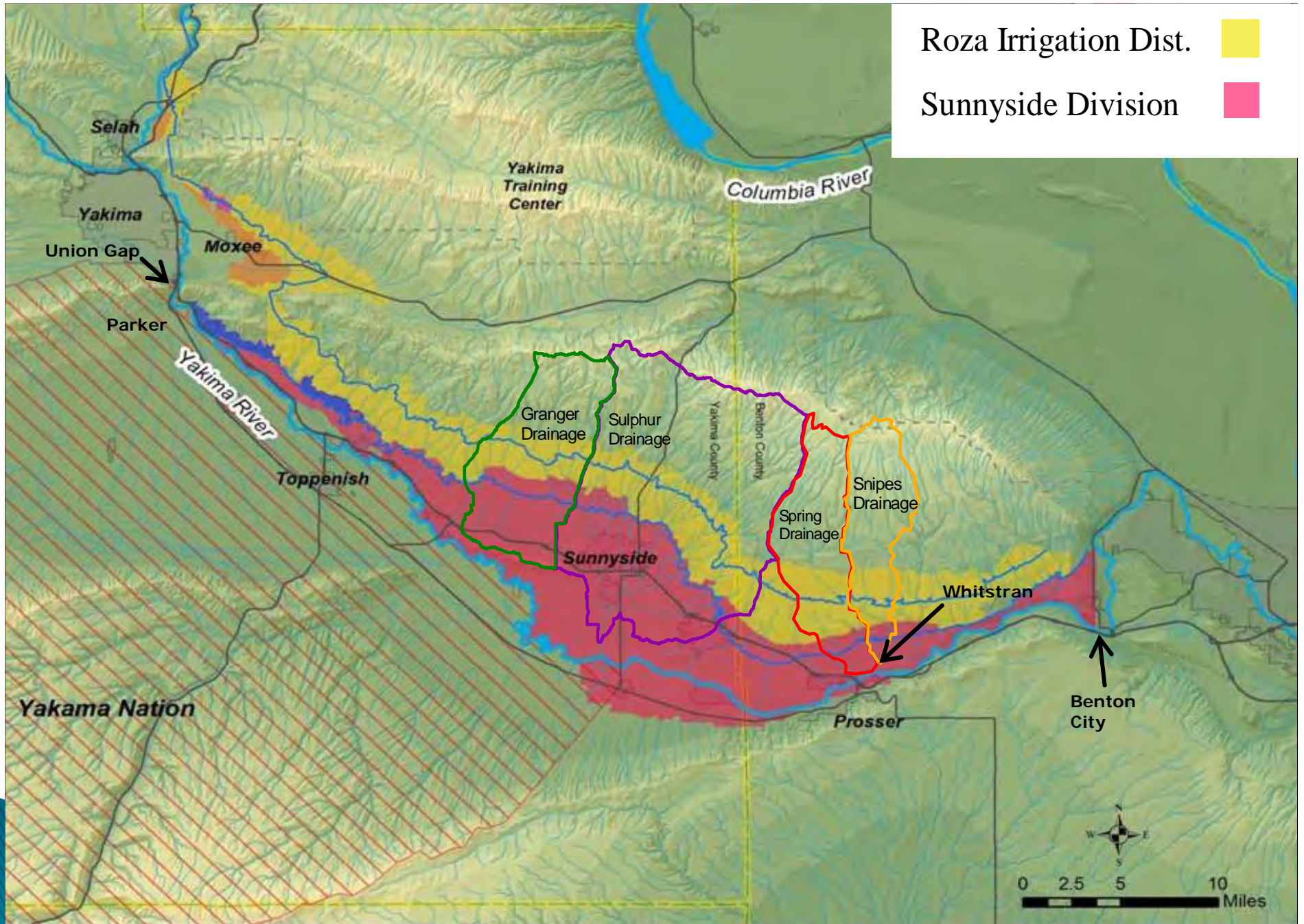
# Journey of the Roza Sunnyside Board of Joint Control

Elaine S. Brouillard, WQ Specialist  
Matt Morgan, WQ Technician  
RSBOJC Water Quality Lab



Roza Irrigation Dist.

Sunnyside Division



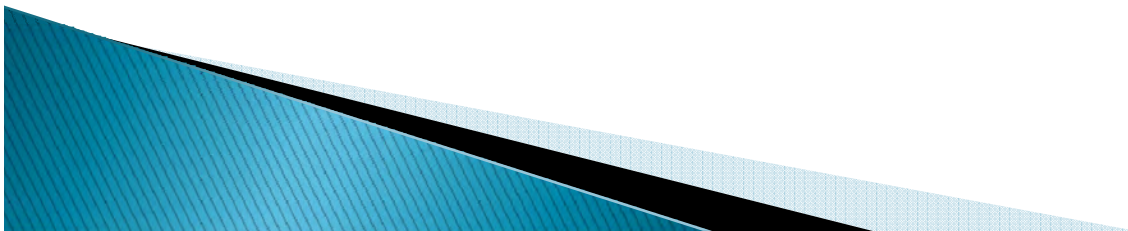


# Yakima River TMDL

»» RSBOJC Wasteway Results

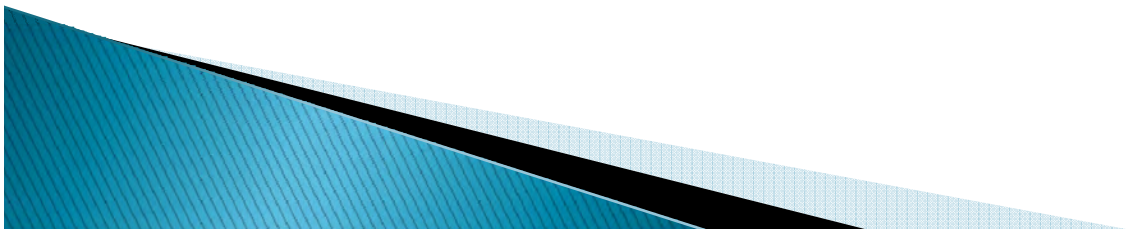
# EPA & Ecology Defined Problems

- ▶ 1996 Yakima River placed on 303(d) list of impairments from:
  - Suspended Sediment (Total Suspended Solids, TSS)
  - Turbidity (Nephelometric units, NTU)
  - DDT (dichlorodiphenyltrichloroethane, banned 1972)
- ▶ 1993 Fish in Yakima River contained the highest DDT concentrations in USA [Rinella et al, 1993]



# Ecology TMDL Goals

- ▶ A Suspended Sediment and DDT TMDL Evaluation Report for the Yakima River [Ecology, 97-321]
- ▶ 20 year span with 5 year target intervals.
- ▶ Desired Result: DDT reduction via sediment reduction for human and fish health



# TMDL Drain Goals

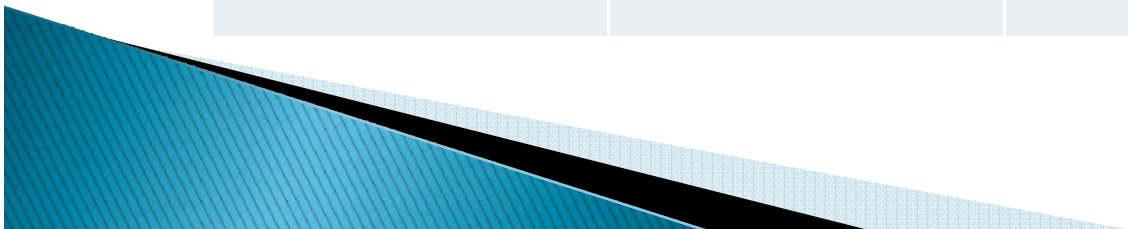
Granger Drain, Sulphur & Spring	90% Turbidity (NTU)	TSS Mg/L	Total DDT Ng/L
2002	25	56	7 Based on a regression curve
2007	25	7	
2012	25	7	1
2017	25		human health criteria in fish & water

Ecology Publication 97-321, July 1997

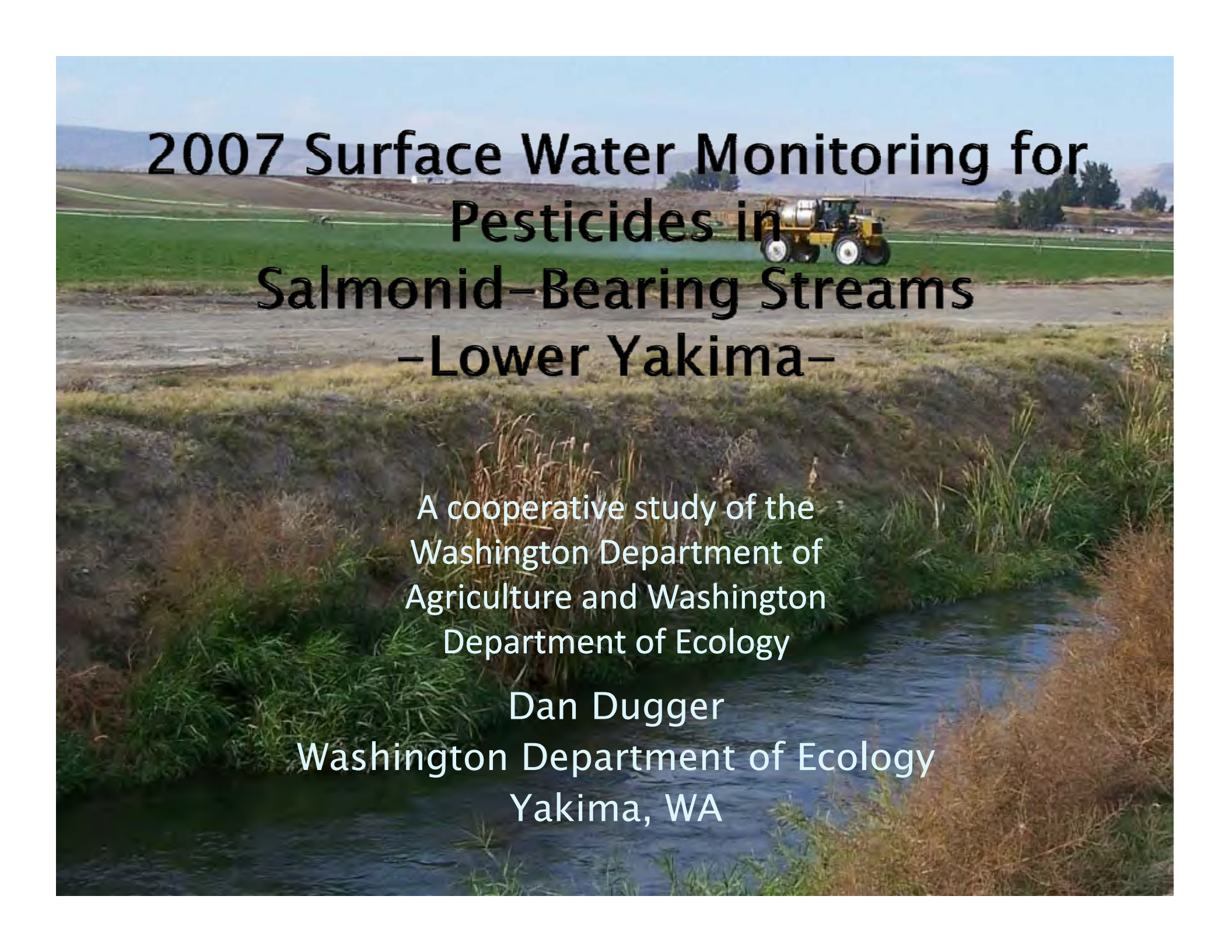


# 90% Irrigation Values

Sample Site	1997	2002	2007
Granger Drain	228 NTU 562 TSS	60 NTU 101 TSS	48 NTU 23 TSS
Sulphur Creek Wasteway	81 NTU 209 TSS	22 NTU 35 TSS	20 NTU 19 TSS
Spring Creek Wasteway	49 NTU 114 TSS	26 NTU 33 TSS	16 NTU 9 TSS
	Reductions:	71% – 82%	91% – 96%







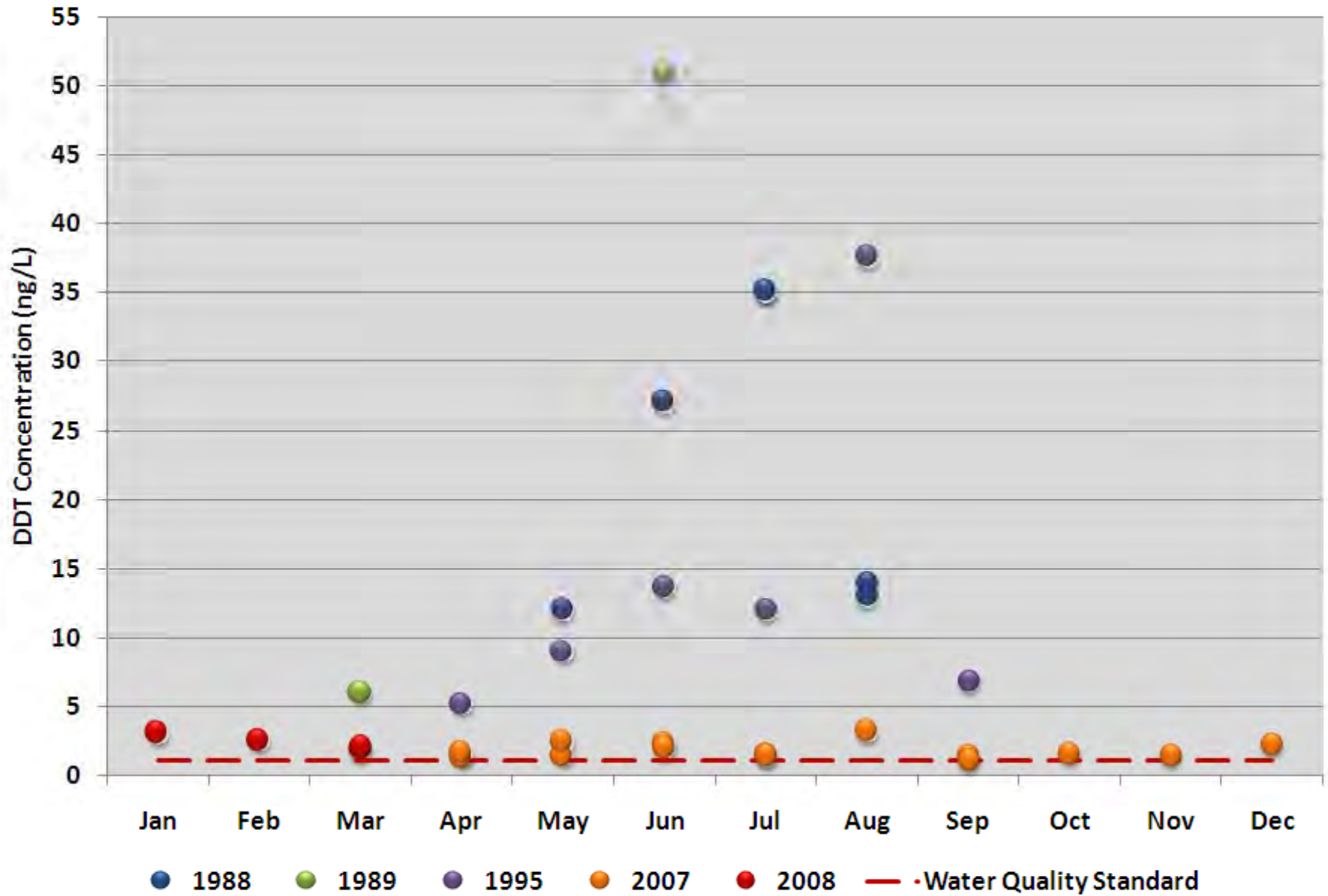
# 2007 Surface Water Monitoring for Pesticides in Salmonid-Bearing Streams -Lower Yakima-

A cooperative study of the  
Washington Department of  
Agriculture and Washington  
Department of Ecology

Dan Dugger  
Washington Department of Ecology  
Yakima, WA



## DDT Concentration in Sulphur Creek Wasteway









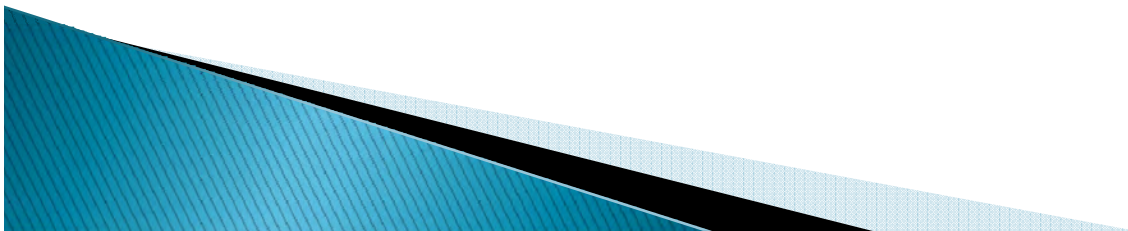


2009 WADOH removed  
1993 Fish Consumption  
Advisory due to DDT



# EPA Section 319 Nonpoint Source Success Stories

- ▶ [http://www.epa.gov/owow/nps/Success319/state/wa\\_yakima.htm](http://www.epa.gov/owow/nps/Success319/state/wa_yakima.htm)

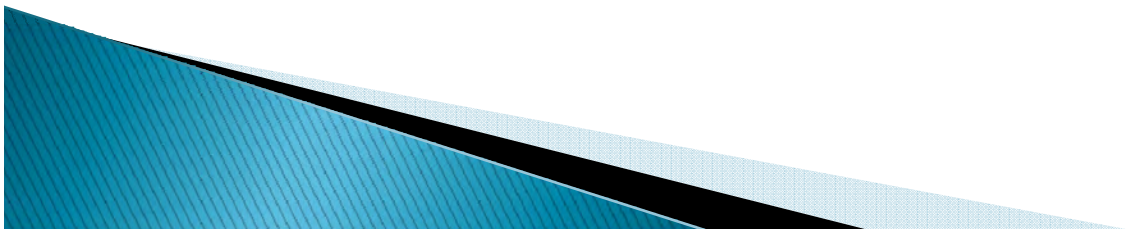


# Policy

- »» Creation of the Roza Sunnyside Board of Joint Control

# RSBOJC: 1996 Partnership

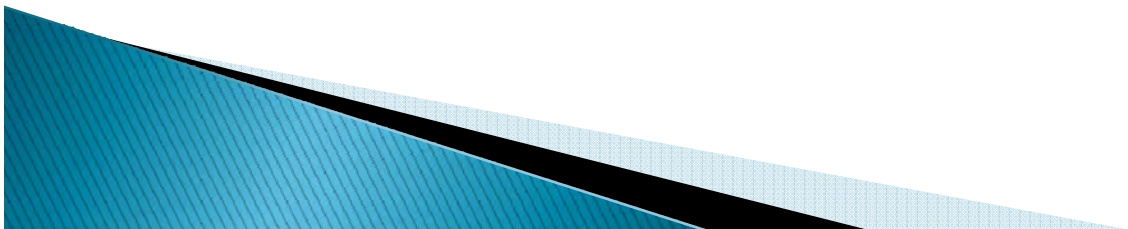
- ▶ Roza Sunnyside Board of Joint Control (RSBOJC) created to address Water Supply issues
  - Roza Irrigation District (72,000 Acres)
  - Sunnyside Division (99,244 Acres)
    - Sunnyside Valley Irrigation District
    - Grandview Irrigation District
    - Benton Irrigation District
    - Konowac Ditch Company
    - Piety Flats Ditch Company





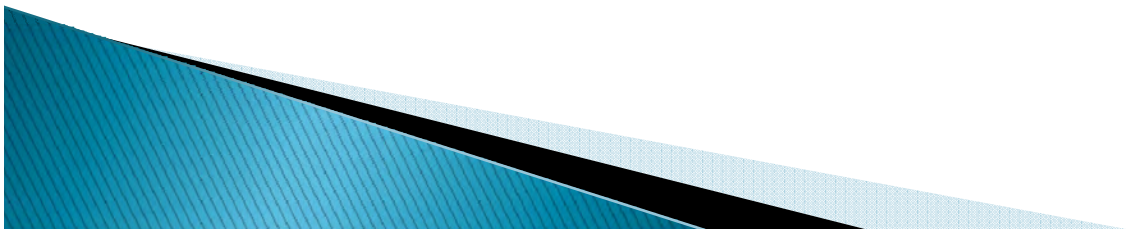
# RSBOJC Response to TMDL

- ▶ Yakima River TMDL: Voluntarily adopted the lead role in Water Quality issues
- ▶ RSBOJC Water Quality Goals:
  - high landowner buy-in
  - Increase grower profits
  - Involve Conservation Districts and Universities
  - Operate accredited WQ lab
  - Create and adopt a comprehensive WQ policy



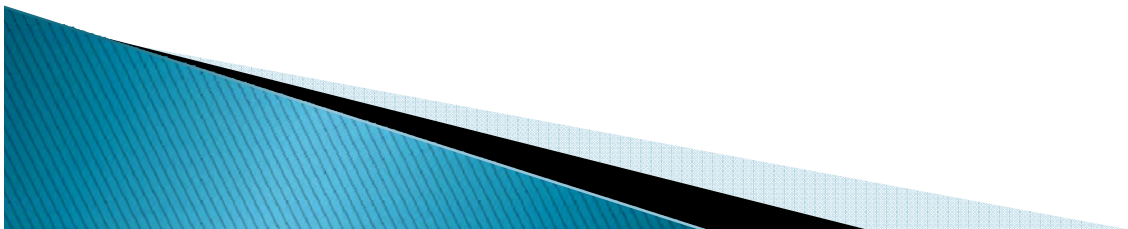
# RSBOJC Educational Components

- ▶ Board invited landowners to meetings
- ▶ Managers & Board went to vendor sponsored winter meetings
- ▶ Board and Managers teamed with WSU for soil education programs
- ▶ "Keep soil on the farm and not in the river"



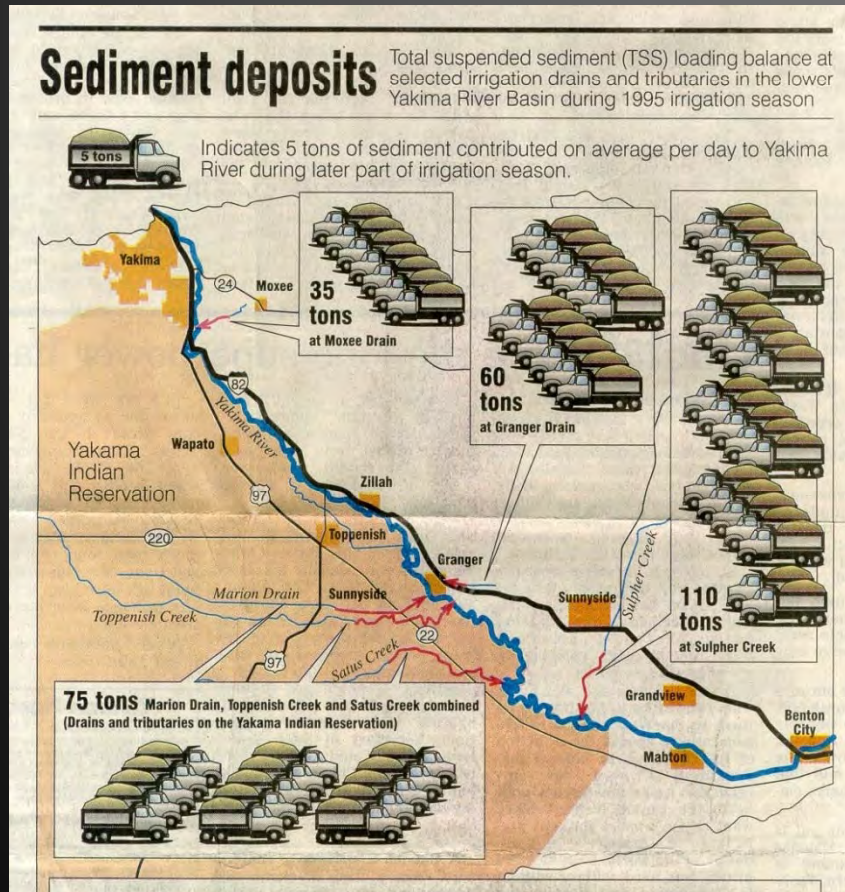
# RSBOJC Policies

- ▶ Satisfy TMDL goal of all drains and tributaries to Yakima River with 90% turbidity target of 25 NTU at their discharge points.
- ▶ On-Farm Run-Off Program, 1999
- ▶ On-Farm Loan Program, 2000
- ▶ Established cooperative programs with Conservation Districts to assist irrigators





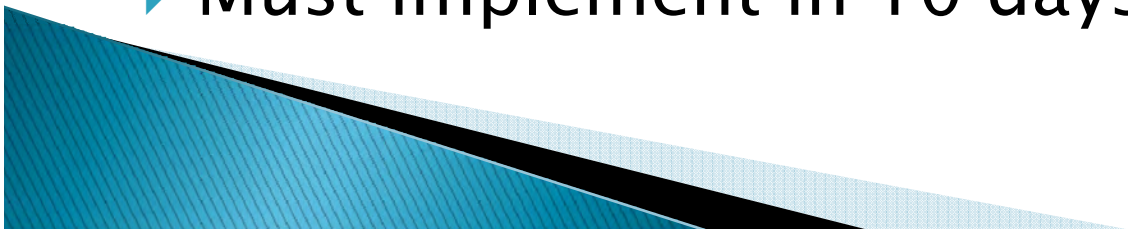
# Public Awareness



- ▶ 1998 Yakima Herald Republic article brought TSS to the public's awareness (1995 data).
- ▶ More landowners began practicing BMPs.

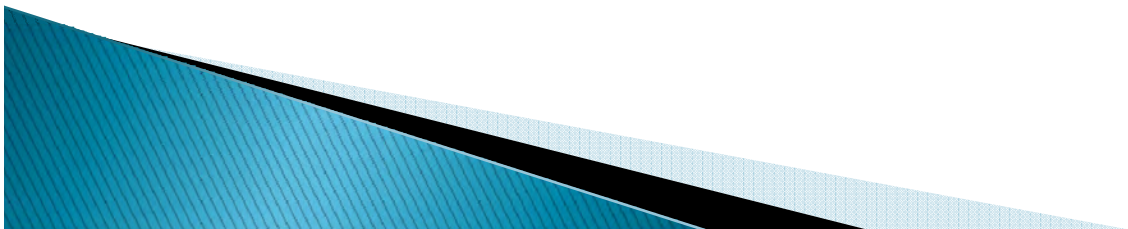
# On-Farm Run-Off Program

- ▶ Violation if the sum of samples exceeds 300 NTU from 3 or less WQ samples
- ▶ Notified to implement appropriate corrective measures
- ▶ Follow-up sample is above 150 NTU, required to submit Short and Long Term Plans
- ▶ Must implement in 10 days



# Start small, be consistent

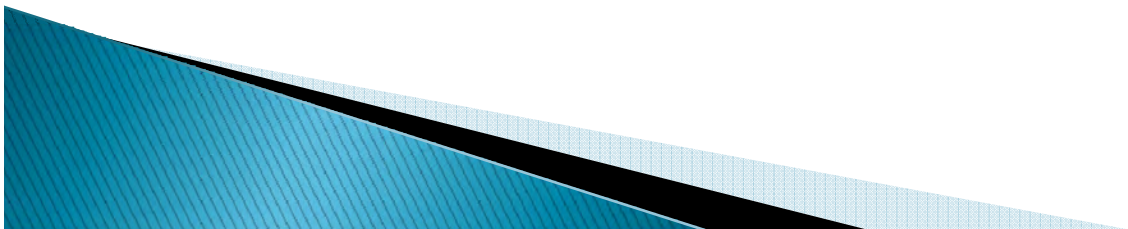
Date	NTU Violation Value
1999	2000
2000	1000
2001	500
2002 – 2009	400
2010 – 2011	300





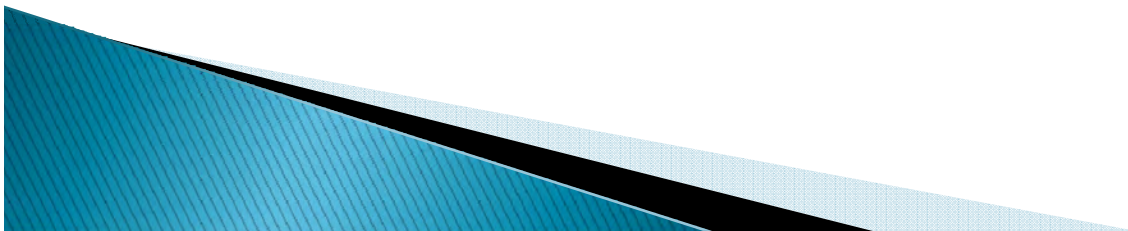
# The Carrot & Stick

- ▶ Compliance after implementing BMPs, clean slate, honor their improvements
- ▶ Non-Compliance. Reduce water delivery from 268 to 166 gpm per 40 acres until compliance is obtained.
- ▶ If continued violation, water delivery is further reduced to 112 gpm per 40 acres.



# On-Farm Loan Program

- ▶ District administers Ecology loan program to the landowner
- ▶ 1% loan for upgrade from rill irrigation to sprinkler or drip

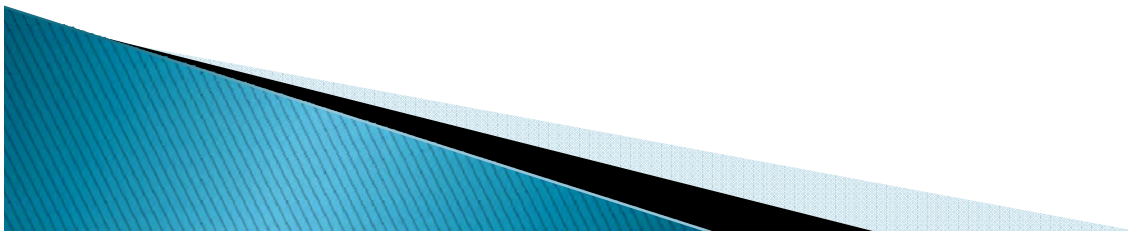


BMPs



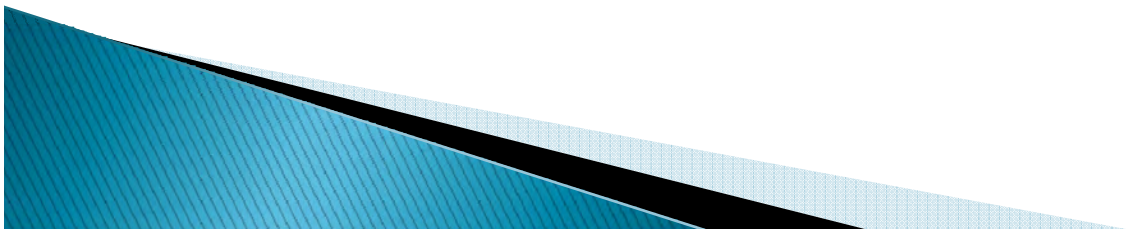
# Board sets Policies $\approx$ BMPs

- ▶ No livestock in waterways
- ▶ 20' No-till zone between crop & drain
- ▶ On-Farm Run-Off Policy, 300 NTU violation
- ▶ No illicit dumping or connections to waterways



# RSBOJC Acknowledgements

- ▶ Dairymen and farmers would support one other
- ▶ Unknown regulation is an anxiety
- ▶ Self Regulation will decrease litigation, fines, upcoming regulations
- ▶ Develop personal contacts





# WQ Policies & BMPs Work



1997 Sulphur Creek  
Wasteway



2000 Sulphur Creek  
Wasteway



Ecology awards Roza and Sunnyside Valley Districts the Environmental Excellence Award, 1998 & 2004

Mangers & Board members accept on behalf of the landowners





Elaine Brouillard

RSBOJC Water Quality Lab  
Roza-Sunnyside Board of Joint  
Control

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