

*What do we need to get to clean water?*

- Focus on implementation and back it up with enforcement and \$
- Move focus from planning to action
- Encourage litigators to renegotiate settlement agreement to focus on implementation & address the most current list
- The measure for cleaning up water should be clean water, not # of plans done.
- Establish laws that would define minimum standards to address nonpoint
- We need to stop arguing about the science when we know what we need to do.

## How does the Clean Water Act work?

We collect water quality data to identify stream segments that are not meeting water quality standards

So that

We can choose a strategy most likely to result in clean water— TMDL or something else.

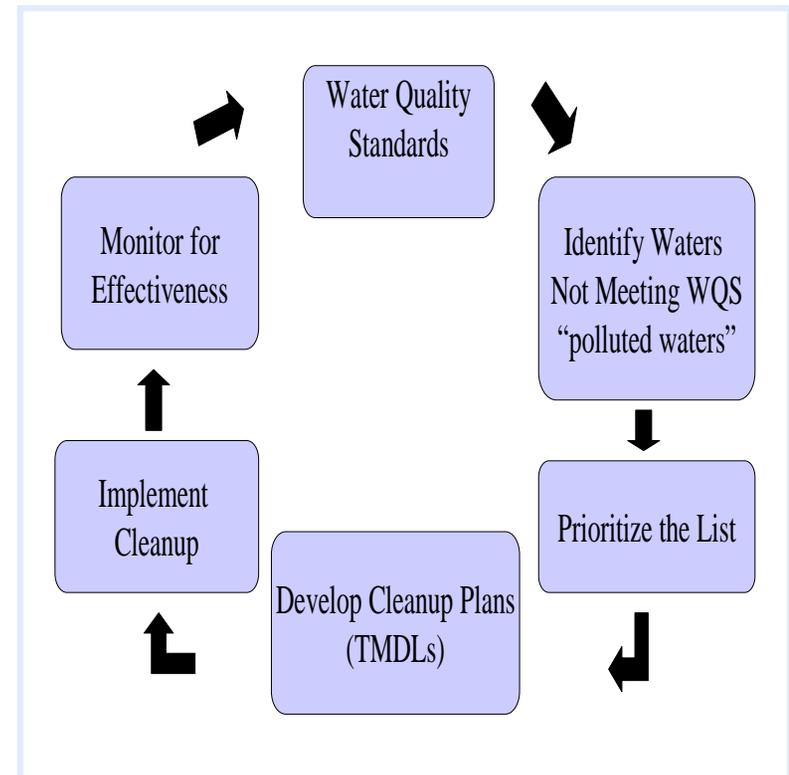
So that

Water quality meets standards for swimming, drinking, fishing, and habitat

So that

Aquatic life and human health are protected

1. Identify polluted waters {the 303(d) list}. Water bodies are divided into segments for listing purposes.
2. Prioritize identified waters.
3. Submit list of polluted water bodies every 2 years.
4. Within 13 years of listing establish Total Maximum Daily Loads (TMDLs) for waters on the list.



## How are polluted waters identified?

Ecology establishes criteria for listing polluted waters.

Ecology calls for data.

People who have been monitoring send in their data and we evaluate it.

The 303(d) list is NOT a monitoring program.

The list is based on data covering approximately 5% of the state's waters.

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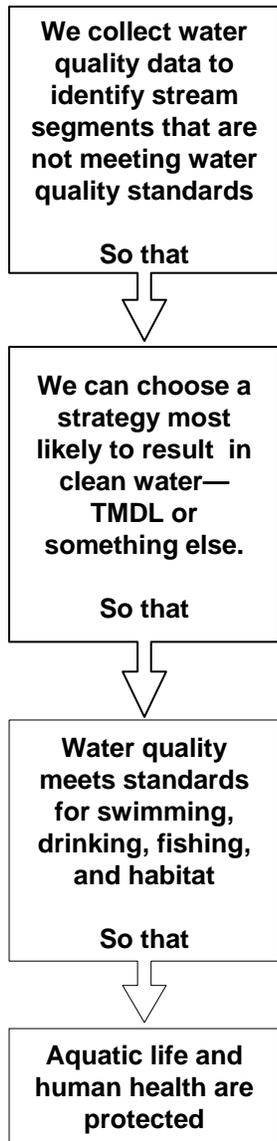
*Can the data used to assemble the list answer other questions?*



Data used to assemble the list tells us where people have monitored pollution problems. It does not tell us about total miles of polluted waterbodies because we do not know what's happening in places where we have no data. It also does not tell us how effective our implementation efforts have been.

In this example, the polluted segments are shown in bold. We might assume that the other segments are polluted also or are contributing to the pollution problem, but we cannot know this without further monitoring.

# Total Maximum Daily Load Department of Ecology

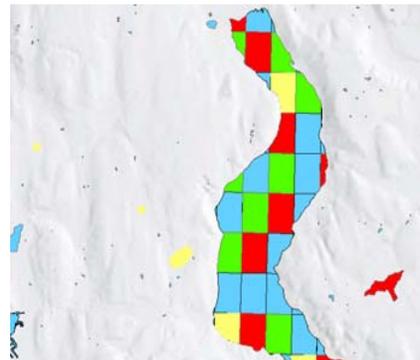


What are the other limitations of the list?

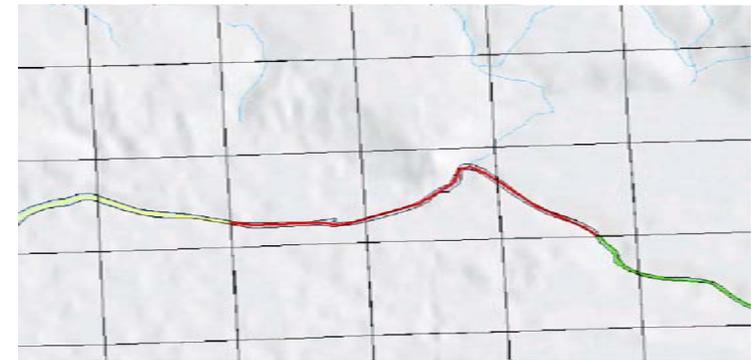
Listing data, in and of itself does not provide a complete picture of the extent of pollution—it is NOT a monitoring tool.

Different lists are not comparable to one another—they are not cumulative, and over the years, segment sizes have changed.

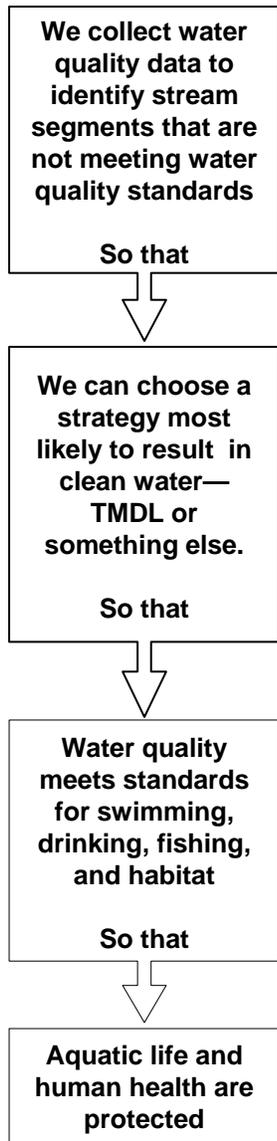
Year	Segmentation Size
1996	Up to 30 miles
1998 & 2004	Township Range Section – about 1 mile



■ Polluted   
 ■ Waters of Concern



■ TMDL'd   
 ■ No Data

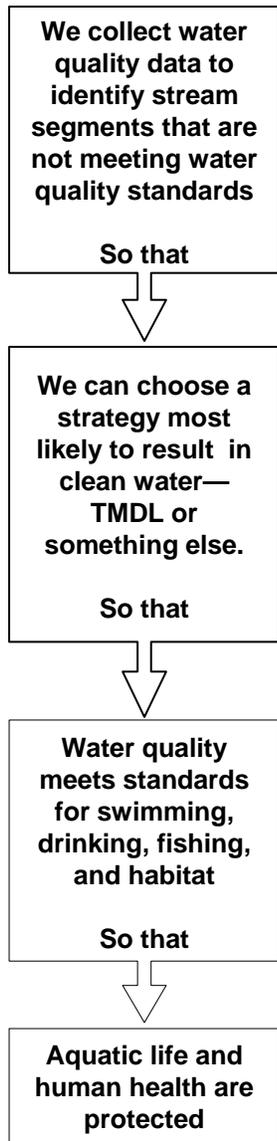


## *Which list are we talking about?*

**1996 list** – 1566 polluted segments  
River lengths up to 30 miles  
Listed whole lakes  
We care about this list because of the settlement agreement.

**1998 list** – 1953 polluted segments  
River length up to one mile  
Listed parts of lakes –grids (2,460 ft by 3,650 ft)  
This list is replaced with the 2004 list.

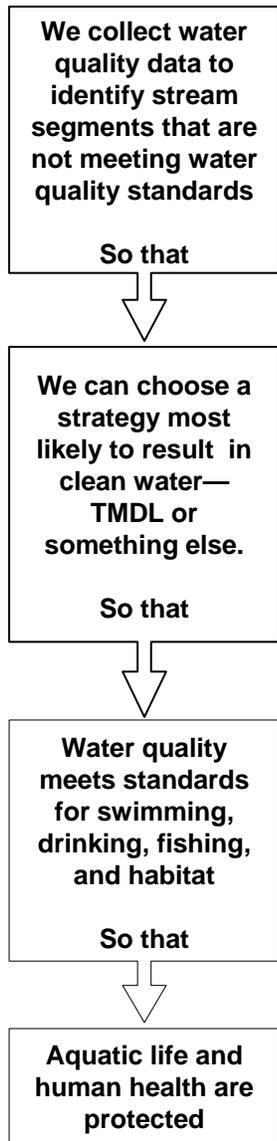
**2004 list** – 2678 polluted segments  
River length up to one mile.  
Listed parts of lakes –grids (2,460 ft by 3,650 ft)  
We care about this list because it is the most recent and we have 13 years to address these polluted segments.



## ***There are 3 Separate Performance Requirements for the TMDL Program***

1. Meet Court Ordered Settlement agreement that is based on our 1996 list of polluted waters – and has balloon payments
2. Address the 2004 polluted water listings within 13 years
3. Clean up the state's water

**We are trying to do ALL of them at the same time.  
The third one is the most important!**



## *What is a TMDL?*

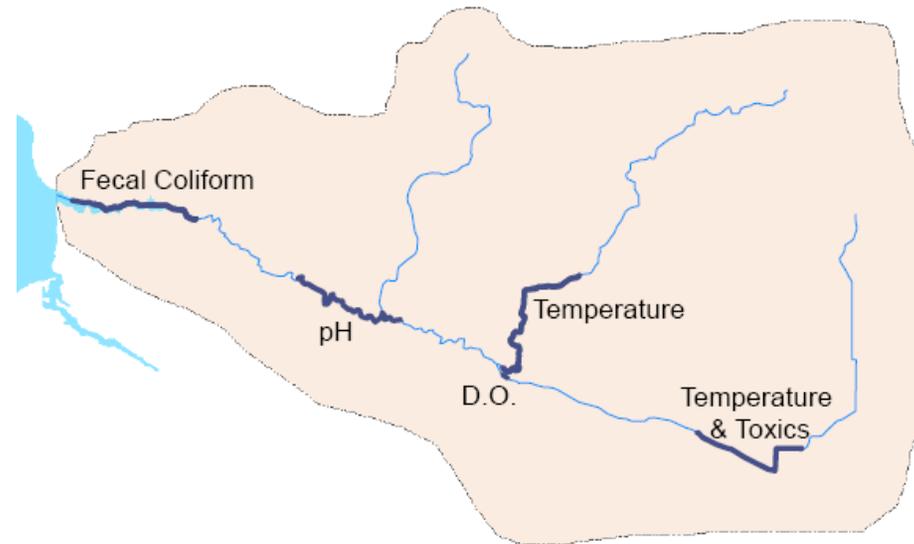
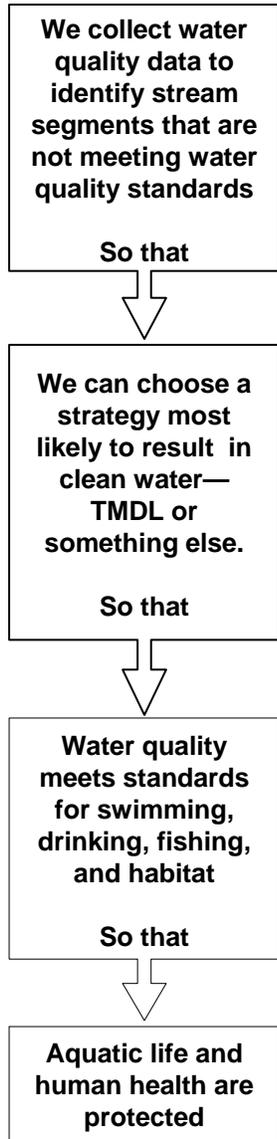
The maximum amount of a pollutant that can be discharged without violating water quality standards.

For the purpose of counting for EPA, each listed polluted (temperature, pH, toxics) water segment = 1 TMDL

A Water Quality Improvement Plan (which is also sometimes called a TMDL) often includes many TMDLs – this is a plan that will drive point source permit decisions.

Point source actions implemented through permit changes  
Nonpoint is more complicated since it is not tied to a permit.

## *What does a TMDL study area look like?*



We group listings into TMDL study areas using watershed boundaries. We consider several strategies:

- Can we address all of the listings in the watershed? We sometimes can't do this because of budget, staff, time constraints.

If we can't address all listings, then we try to:

- Group listings polluted by the same pollutant and/or related pollutants
- Group listings with pollutants that can be addressed by the same set of management practices
- Group listings that can be addressed by the same jurisdiction

# Total Maximum Daily Load Department of Ecology

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So that

We can choose a strategy most likely to result in clean water—TMDL or something else.

So that

Water quality meets standards for swimming, drinking, fishing, and habitat

So that

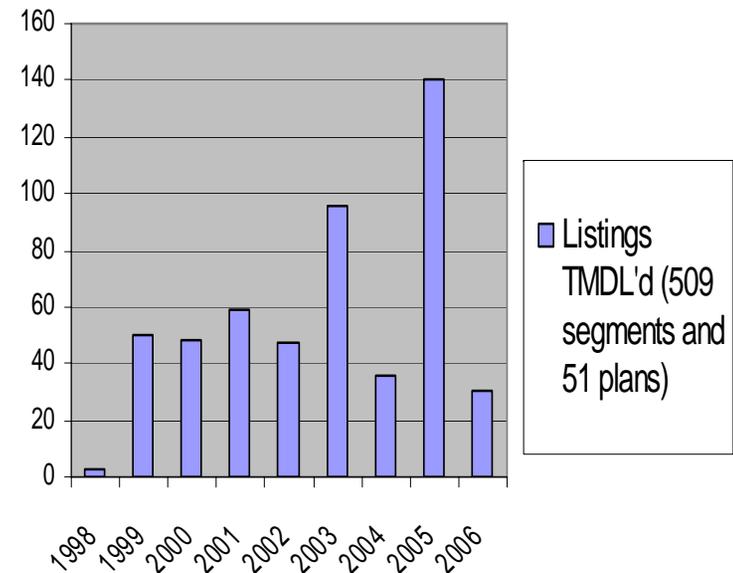
Aquatic life and human health are protected

## How are we doing at meeting the settlement agreement?

- EPA was sued in 1991 because Washington not addressing polluted waters
- Ecology entered into agreement with EPA for a 15 year TMDL development schedule based on the 1996 list.
- We were to produce TMDLs for 1566 listings by 2013.
- We thought we could make it because we were hoping some other processes would take care of 1/3 of the listings; this has not happened.
- We do not think we can meet this production goal—we're halfway through and have done a third.

	TMDLS required	number submitted
Cumulative by FY 03	249	303
by FY 04		339
by FY 05		479
by FY 06		509
Cumulative by FY 08	801	
Cumulative by FY 13	1566	

## How are we doing?



We collect water quality data to identify stream segments that are not meeting water quality standards

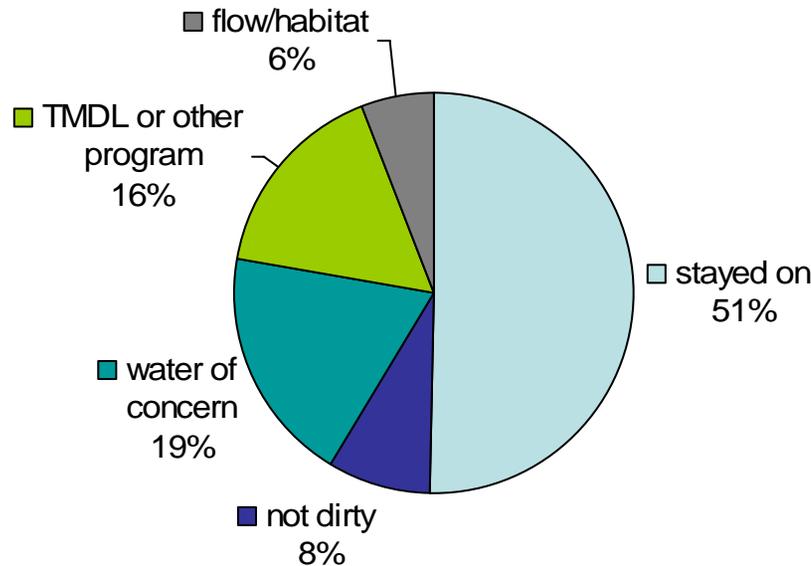
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## Address the 2004 polluted water listings within 13 years

Where did 1998 reassessed segments go?

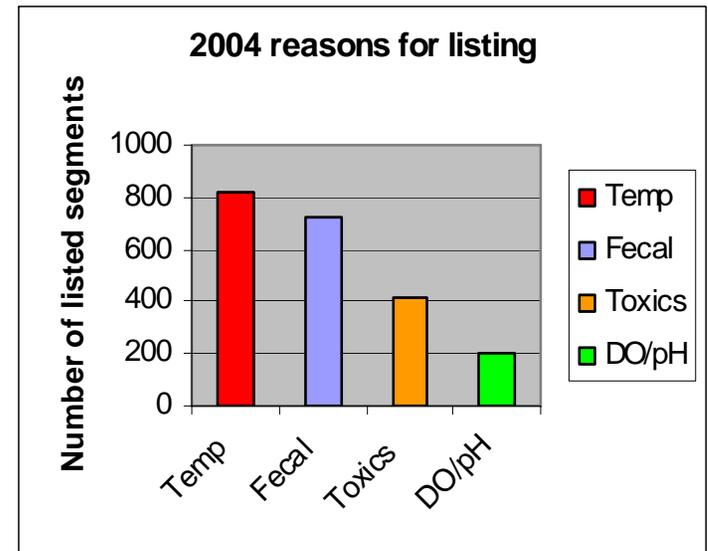


2,678 segments listed as polluted. 725 more than the 1998 list

This includes segments from the 1996 list for which we have not done TMDLs as well as segments identified by new data.

The 2006 workload assessment indicates we will be 25% short of TMDL production staff to address the 2004 listings in time. This would mean 312 Water Quality Improvement Plan.

## 2004 Major Reasons for Listing



# Total Maximum Daily Load Department of Ecology

What are we investing to produce TMDLs and what do we need?

We collect water quality data to identify stream segments that are not meeting water quality standards

So that

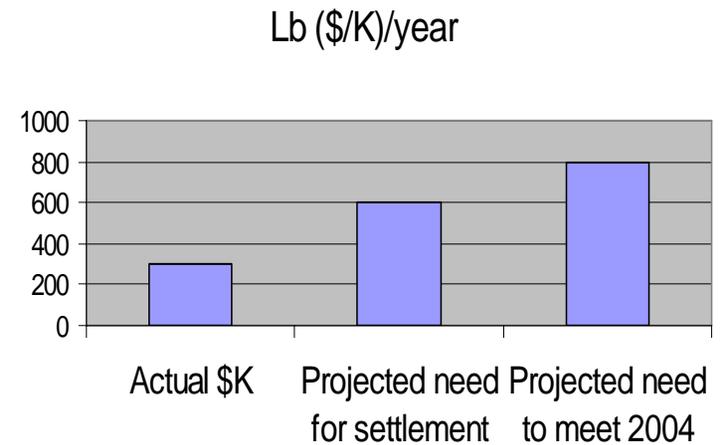
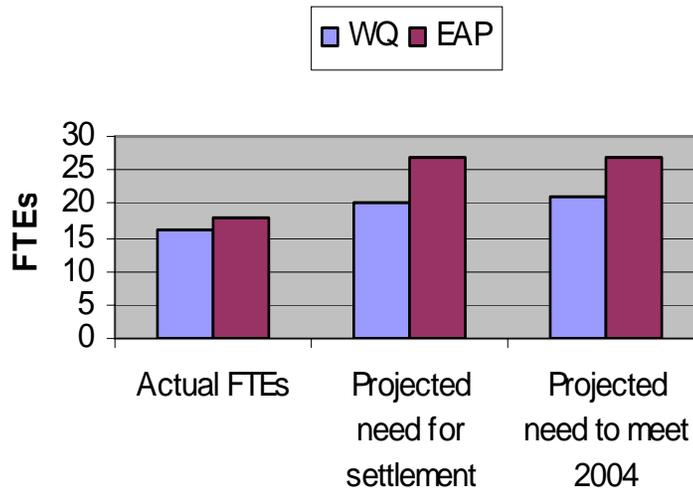
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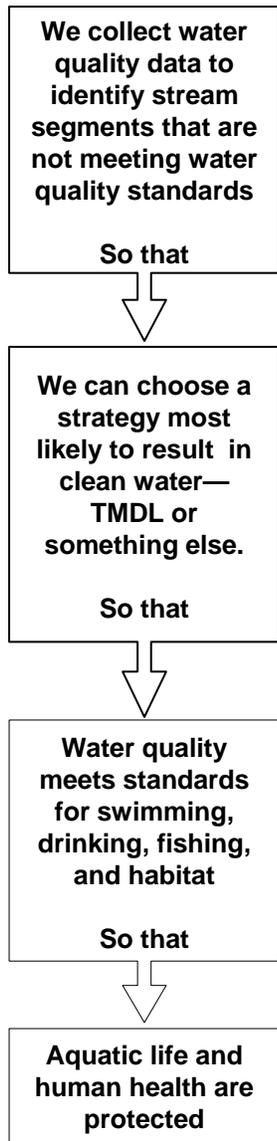
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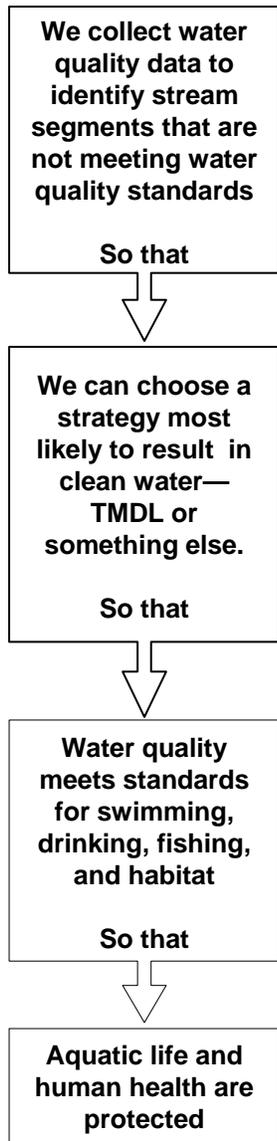
Type of Water Quality Improvement Plan	Cost (FTEs and Lab)
Bacteria	\$296,000
DO/pH/Nutrient	\$380,000
Toxics	\$356,000
Temperature	\$411,000



*What resources are we using to implement TMDLs?*

- Permit writers that write permits to address TMDL
- .5 FTE for a year to produce each detailed implementation plan.
- We have developed 27 Implementation Plans that cover 336 listed segments.
- TMDL leads work on implementation as time allows, but have to move on to the next TMDL in order to meet schedule.
- No dedicated nonpoint resources focused just on implementation at this time—**This is our TMDL budget request.**

The TMDL budget add is—  
4 FTEs for the WQ Program, 1 in each region to focus on implementation  
2 FTEs for EA Program to monitor effectiveness of BMPs or of the straight to implementation actions  
Plus \$50,000 per region for lab work



## *2001 workload assessment improvement ideas —what worked, what didn't?*

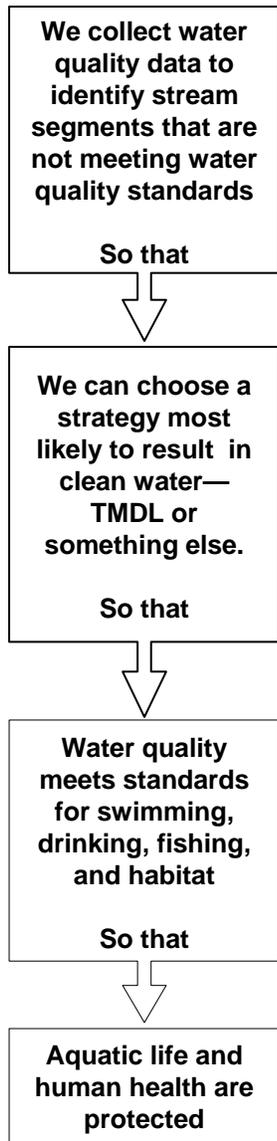
We did a workload assessment in 2001 to determine whether we could meet the settlement agreement. In addition to staff and \$ estimates, we came up with some ideas to help improve production—some worked, some didn't, some didn't get tried.

Worked: Single entry into watershed  
Maximize use of existing data  
Verification Studies

Didn't work: Coordination with Watershed Planning Act  
Getting others to produce TMDLs  
Lake TMDLs

Good ideas: Larger geographic areas  
Standardized, streamlined technical approaches  
Match level of technical rigor to study objectives

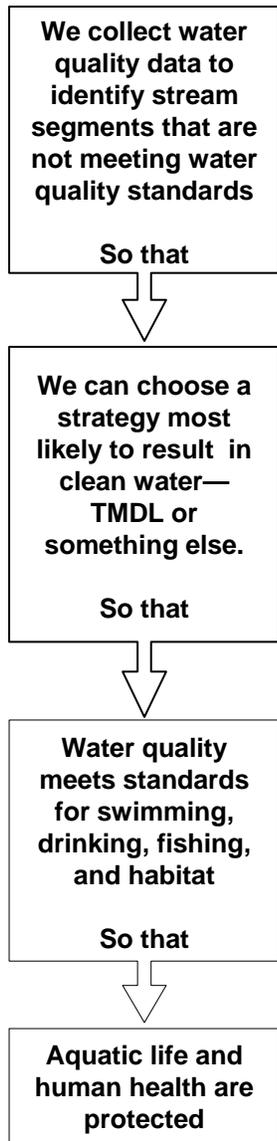
## *2005 TMDL internal redesign*



Initiated based on input from staff that current approach could be improved.

The following are the changes:

- WQ TMDL staff are the first into a watershed to talk about doing a TMDL
- Submit one report to EPA that includes EAP technical analysis and Water Quality general thinking about how to meet standards
- Develop Water Improvement Plan templates and standardized language that everybody uses
- Develop brochure describing the role/responsibilities of an advisory committee
- Instituted a formal policy peer review along with a technical peer review for every TMDL report



### *What have we learned since 2001 ?*

It takes an average of 3.25 years to do a TMDL, but some politically difficult or technically complex ones have been abandoned or taken up to 10 years.

For nonpoint TMDLs we keep proving we need the same BMPs. This is not a cost effective way to spend public resources.

Every time we do a new list, the need for staff will increase, unless we can use additional strategies to help get the job done.

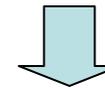
The real job is to implement TMDLs.

A TMDL is not always the best tool to achieve clean water.

We need to use the right tool.

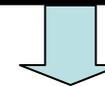
### **Other Tools**

#### **Straight to Implementation**

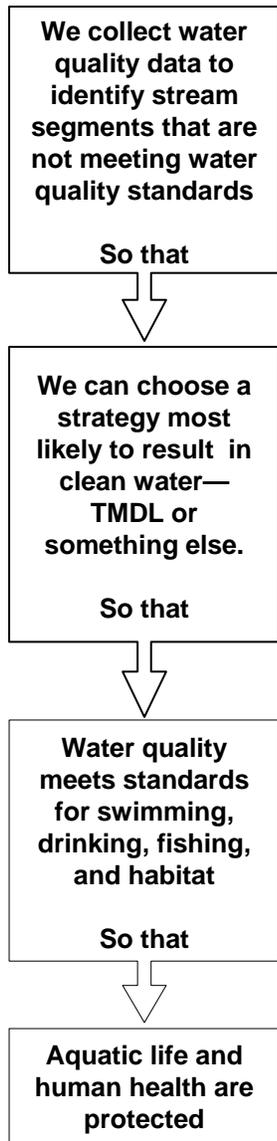


- Community acknowledges problem exists
- Strong community willingness to cooperate

#### **"Streamlined" TMDL**



- Much WQ data already collected
- Reduce scope of sampling



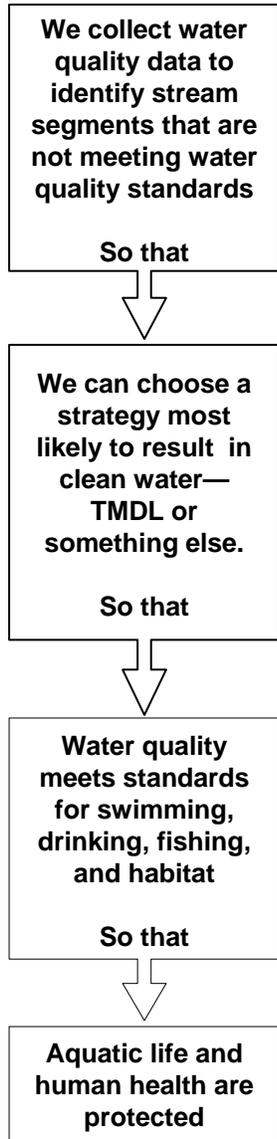
### *What new strategies are we using now?*

- Encouraging staff to try alternative approaches when they think it will work
- ERO already doing “straight to implementation”
- ERO and SWRO piloting streamlined TMDLs
- Factoring implementation into 2006 workload assessment

### What additional strategies should we use?

- Emphasize implementing TMDLs
- Maintain continuous presence in the watershed
- Go straight to implementation in every region when it’s the right strategy
- Establish minimum standards for all land uses (AKART for nonpoint)

## Is water getting cleaner with TMDLs?



WQ Improvement	% Improvement	Implementation Happening no Measured Improvements
Lower Yakima, TSS/DDT	> 50%	Little Klickitat River, Temp
Granger Drain, FC	> 50%	Teaway River, Temp
Nooksack River, FC	> 50%	Upper Yakima, TSS/DDT
Dungeness River, FC	> 50%	Colville River., FC
Skokomish River, FC	> 50%	South Prairie Cr, FC
Johnson Creek, FC	> 50%	
Willapa R, FC	> 50%	
Union River, FC	30-50 %	
North Creek, FC	30-50 %	
Issaquah Cr, FC	30-50 %	
Lower Skagit River, FC	30-50 %	
Chehalis/Grays Harbor, FC	1-30%	

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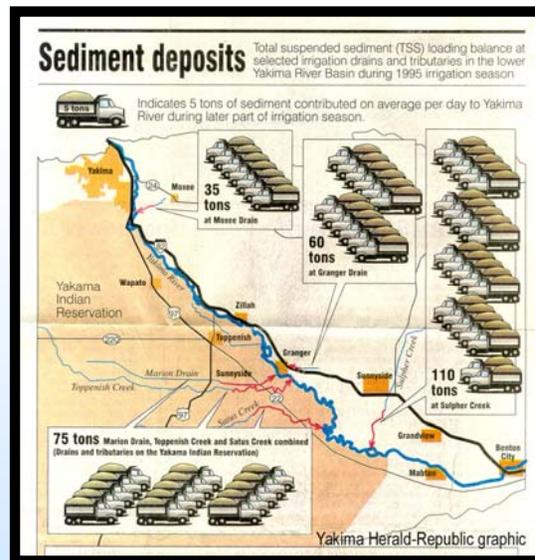
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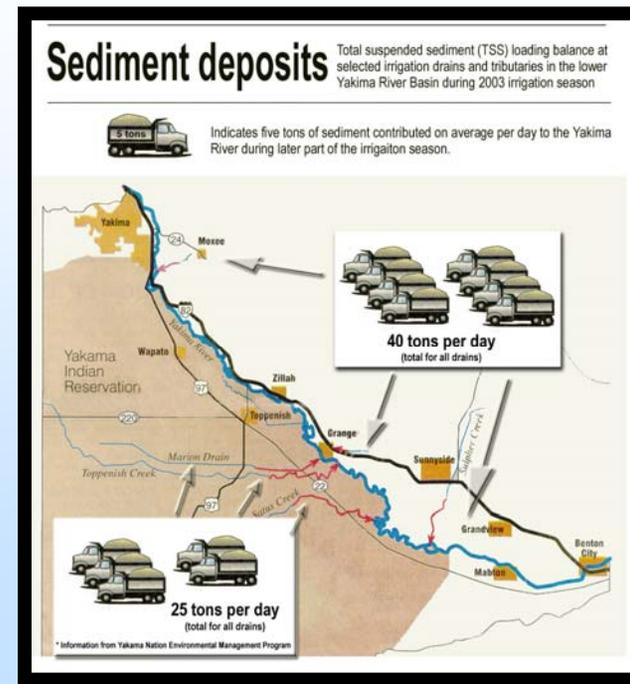
So that

Aquatic life and human health are protected

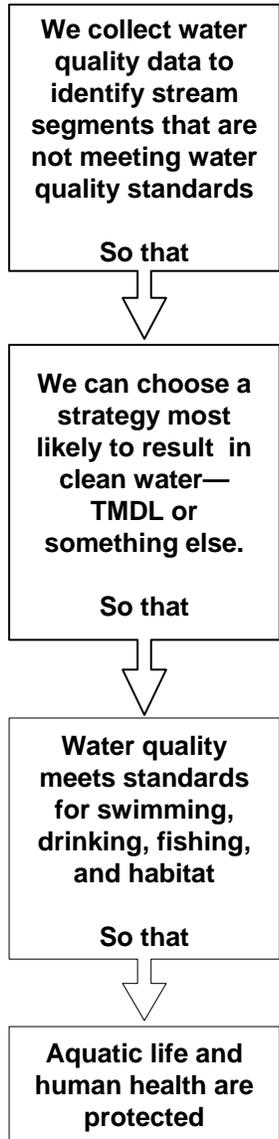
## Is water getting cleaner with TMDLs? Water Quality Improvement in Lower Yakima for total suspended sediment/DDT



**BEFORE**

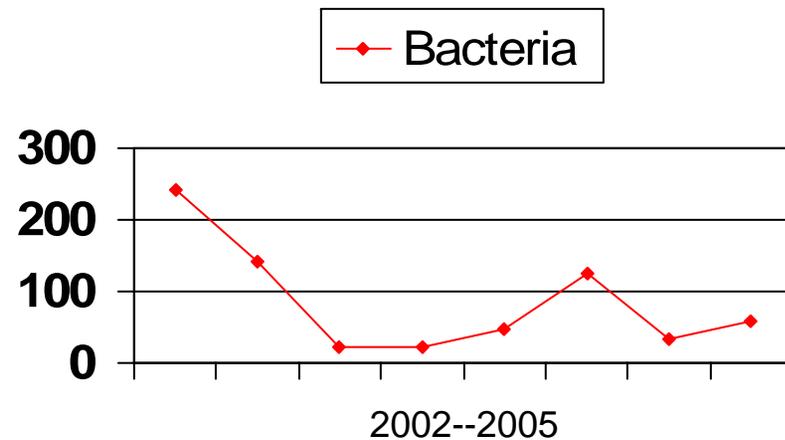


**AFTER**



Is water getting cleaner with moving straight to implementation?

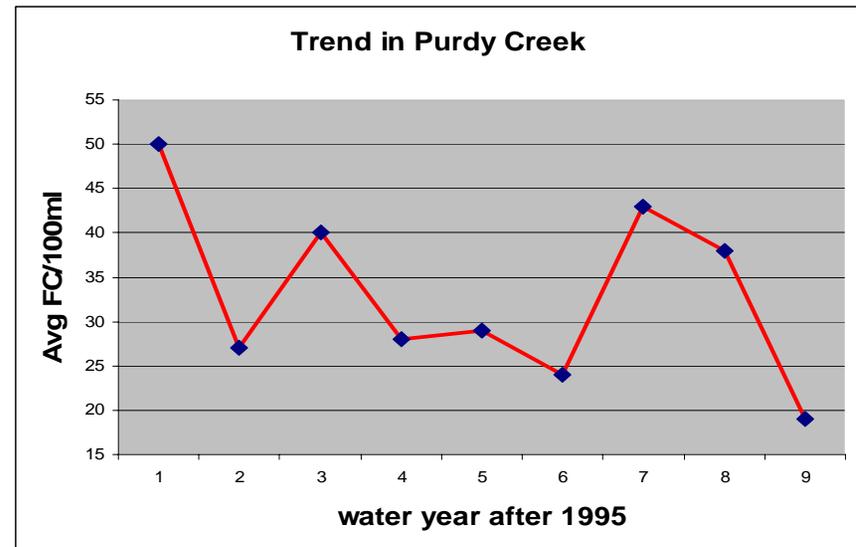
ERO efforts to reduce bacteria in Alpowa Creek by just implementing riparian BMPs. CD, landowners and Ecology start implementation in 2001.



Kitsap County

Identified failing septic systems and animal waste problems and worked directly with landowners to fix them. Health district and CD began implementation in 2002.

Now meeting standards!



*When will we be finished producing TMDLs?*

We collect water quality data to identify stream segments that are not meeting water quality standards

So that

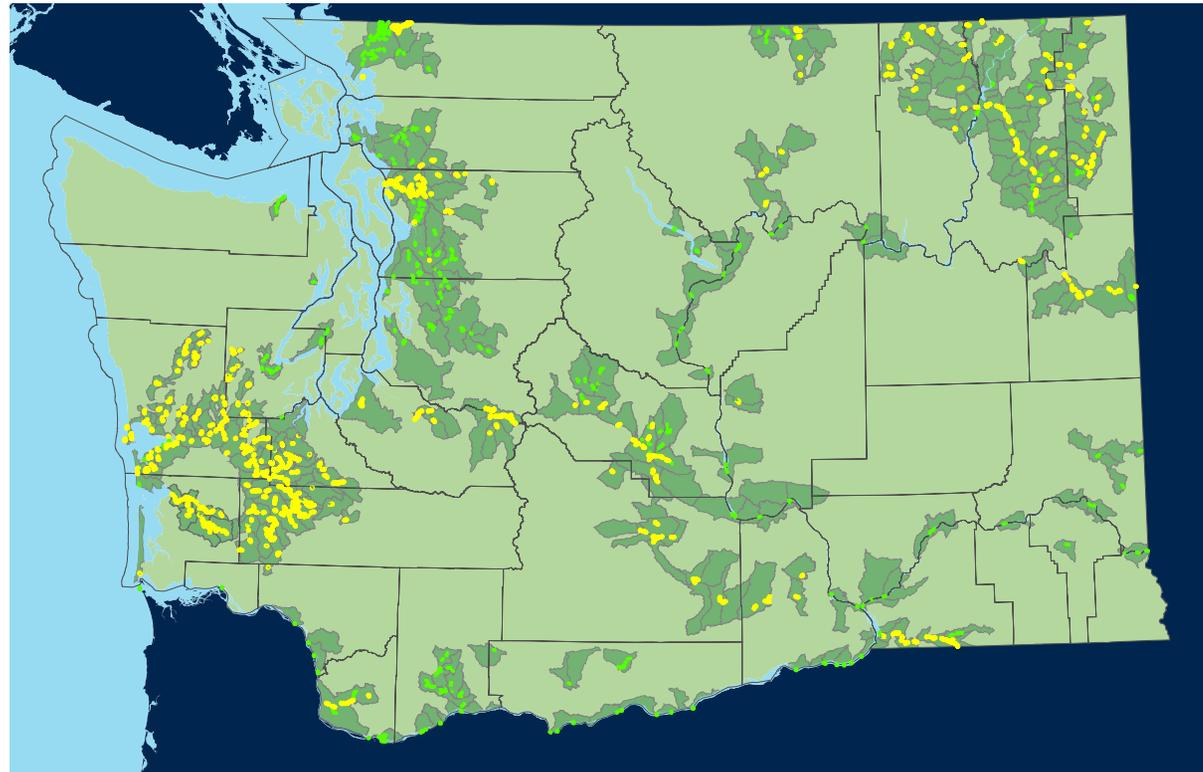
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■ TMDL Multiple Parameter  
■ TMDL Single Parameter

In theory, we'll be finished with TMDL production when the map of Washington is covered by watersheds that have been TMDLed.

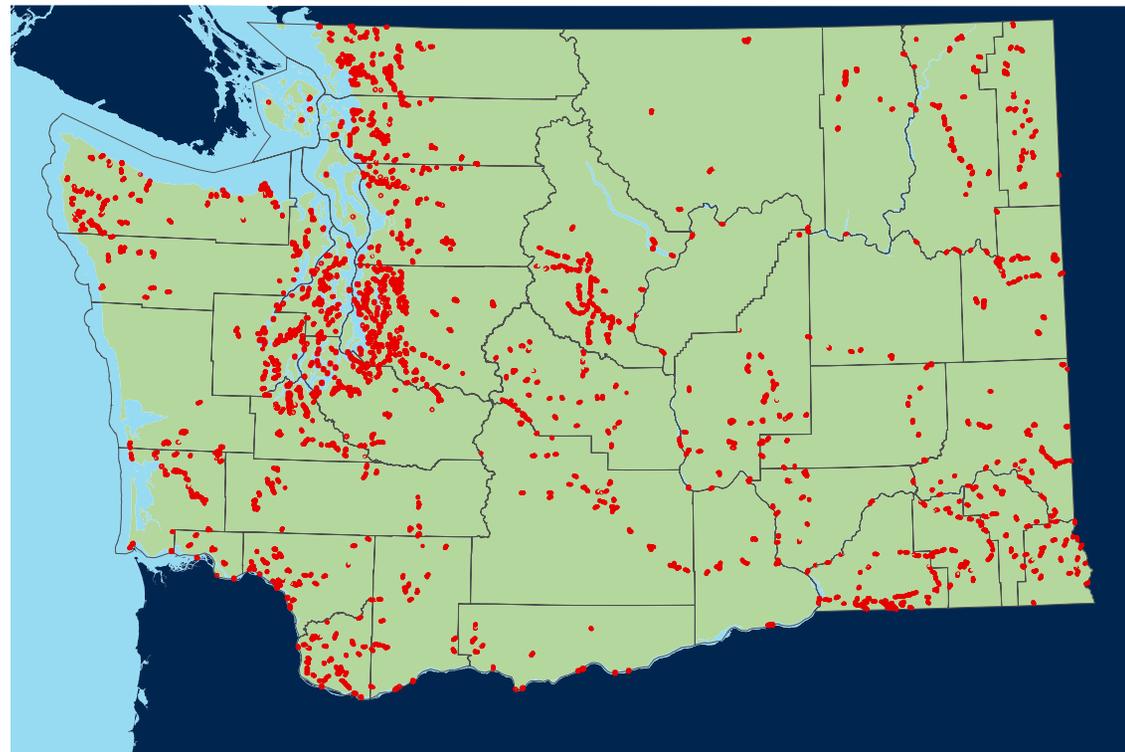
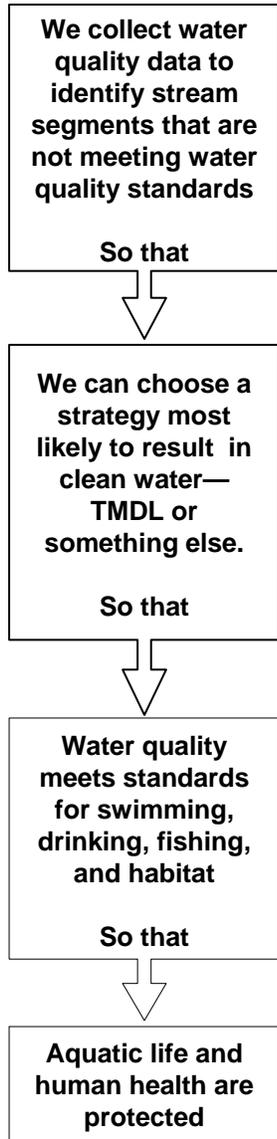
But . . .

## *When will we be finished producing TMDLs?*

The picture can change if a new discharger enters a watershed or we find a pollutant we didn't find before.

And:

Though we may have finished developing TMDLs, the job of implementing and maintaining BMPs never ends.



## Where are Water Quality Improvement Plans being implemented?

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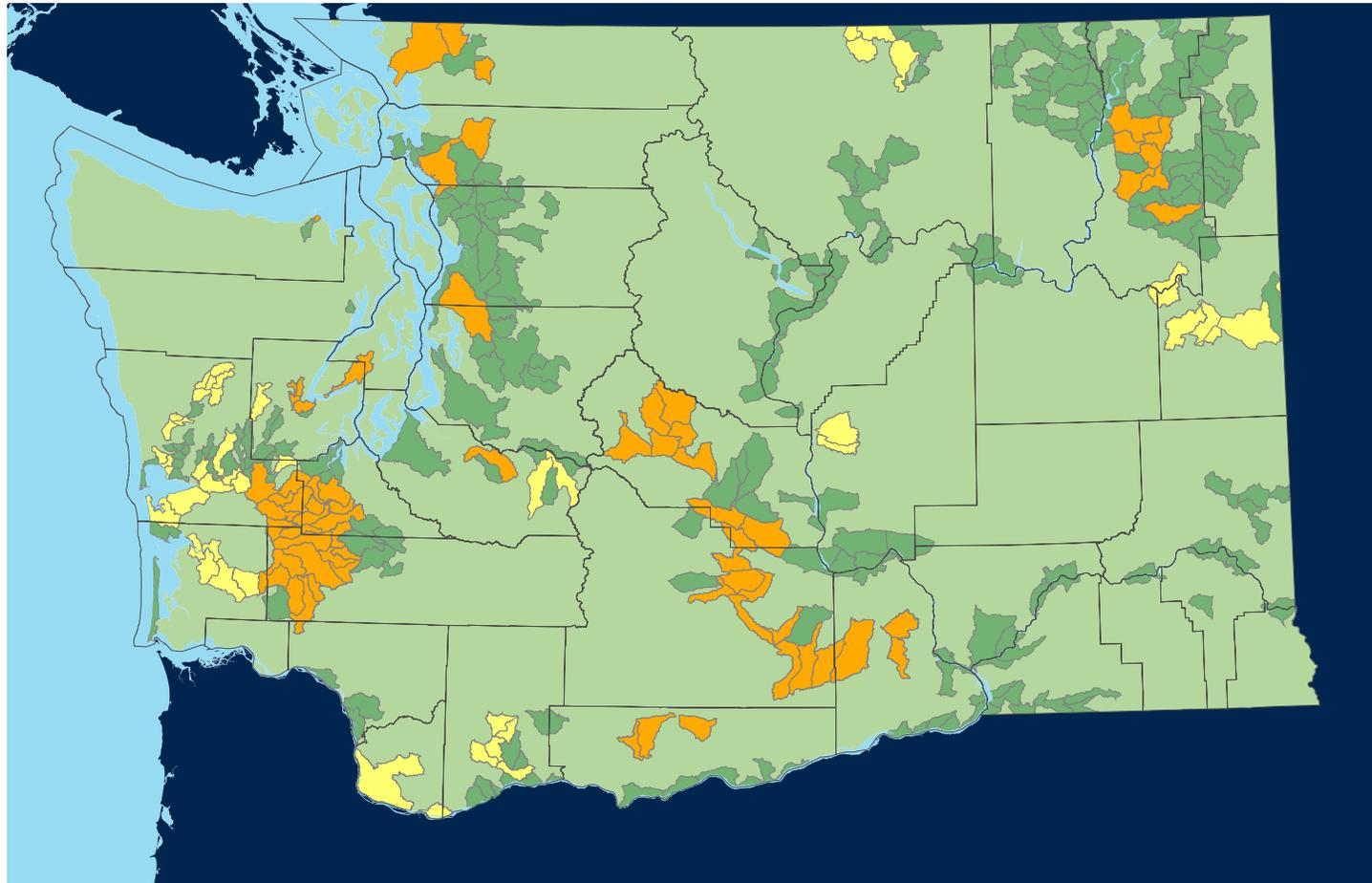


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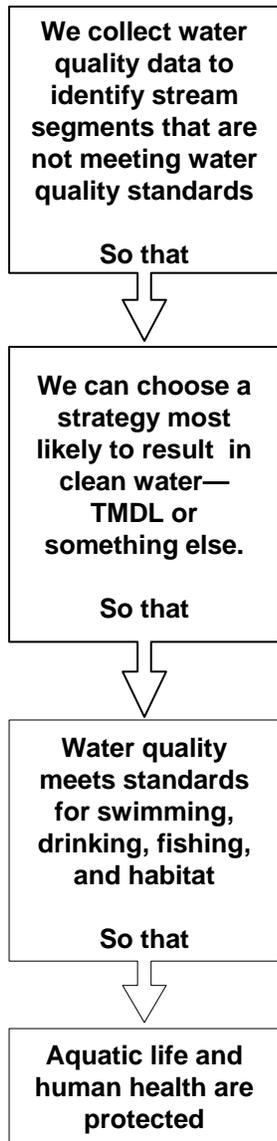
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 Subwatersheds with WQ Improvement Plan

 Detailed Implementation Plan

 Significant Implementation



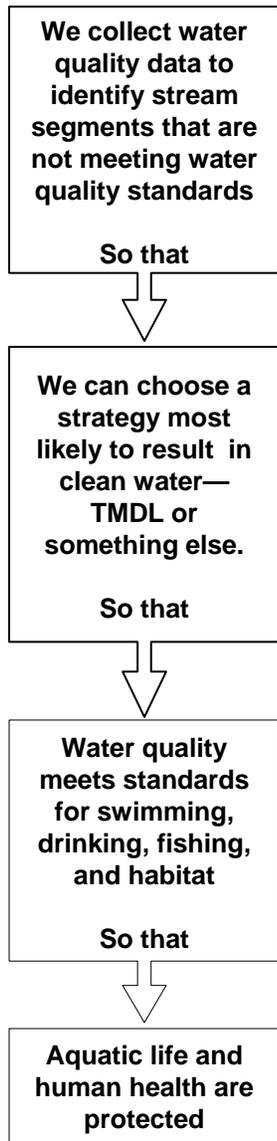
### *Why is this work so difficult?*

#### Point Source

- Bear the brunt of the impact for meeting standards—do more even though they are not major contributor
- Technology might not be available to meet standard
- WQ Standards low tolerance for loading (e.g. 0.2 mg/L DO)

#### Nonpoint Source

- Takes time to build relationships and trust
- We're encountering organized resistance
- Lack of political support to enforce on nonpoint dischargers



## *What do we need ?*

We get to clean water only if we implement—TMDL production guarantees nothing in nonpoint world.

### Recommendations:

- Place more focus on implementation and back it up with enforcement and funding.
- Renegotiate settlement agreement to focus on implementation and address dynamic nature of the list.
- Establish AKART for nonpoint.

Without these, we may not be able to get to clean water from here.