Ecology Scenario Response

Spokane River Collaboration

Full Group

Friday, December 16, 2005

Goal

- Our goal is a healthy Spokane River
- Low DO is a major problem in the river
- The model clearly establishes the causal correlation of phosphorus/CBOD and low DO (Phosphorus is the dominant problem)
- Consistent with the best available science and state water quality standards, our goal at this time is to remove 191 lbs of point source P
- Discharges are by far the primary source of P
- There are controllable non-point P sources

YR	2004	2005	2006	2007	2008	200	2010	2011	2012	2013	2014	2015
TMDL Schedule w/ existing WQ criteria	TMDL Approval	**Phase I - Interim Nutient Removal**					**Phase 2 - Final TMDL Goal - Meet DO Criteria** 0.2 mg/L DO decrease from natural mostly by phosphorus control					
Point Sources	Planning for Max TP removal and reuse			Construction		MAX TP removal in-place	Meet natural background conc or Imp Reuse - Lake Monitor - Complete UAA					
Nonpoint Sources	Tributary TMDLs completed with Imp Plan			Begin Implement BMPs			Complete implement BMPs w/ monitoring and adaptive approach					

Estimates of Phosphorus Loading Reduction (2003 Pt Src flows)

	Existing Avg TP load Summer 2003			Max TP removal Load @ 50 ug/L- all to river			Load at TP Final goal @ 10 ugL to River	
Discharger	**#/day**	**Flow MGD**		**#/day**	**Flow MGD**		**#/day**	**Flow MGD**
CDA	6.9	3.2		0.4	3.2		0.1	3.2
Hayden	seaonal land app			seaonal land app			early spring P removal?	
Post Falls	4.1	2.1		0.4	2.1		0.1	2.1
Liberty Lake	9.1	0.7		0.1	0.7	If effluent TP meets instream target conc. -	0.0	0.7
Kaiser	0.1	0.1 (Outfall 02+03)		3.2	16*	effluent TP loading can increase with effluent flow	1.3	16.0
IEP	9.8	4.8*		1.1	4.8	as long as in-stream conc. does not increase	0.2	4.8
Spokane City/Cnty	151.0	36.5		14.5	36.5		2.9	36.5
Spokane CSO&Storm	14.2			CSO elim & SW mgmt plans			Reduce / Elim CSO & SW	
Tot. PS Load**	**195.2**			**19.7**			**4.6**	conc-based limt
Tributary Load (Natural+NPS)	150.8	YR 2001		150.8	YR 2001	≈ 2% reduction in trib loads needed to meet TMDL	127.0	YR 2001
Total Load**	346.0	NA		170.5	NA		127.0	

* Includes all cooling water

** with estimated P attenuation

Point Source compliance schedule implemented via common Administrative Order then roled into all individual permits within 2 years

Figure 10. Summary - Spokane R. Proposed TMDL and Phosphorus Loading Reduction Strategy (9-20-04)

The Goal Over Time

- Our goal was challenged as being unattainable
- It is clear we can significantly improve DO, but just how much is not clear
- Ecology will reconsider its position regarding P reduction when
  - Best available science supports a change
  - Direct experience over ~10 years of serious effort demonstrates Ecology's position is unattainable
- Revising the goal does not necessarily mean ending efforts to improve DO

Achieving the Goal

- All of us wisely decided to work collaboratively on a DO TMDL Implementation Plan
- Ecology believes working collaboratively is the way to make prompt progress improving river DO
- Ecology agrees with the Petitioners and the Sierra Club that an Implementation Plan using a multi-year, multi-faceted collaborative attack on P is the right strategy
- We are calling this a “Managed Implementation Plan” or MIP

MIP Foundations

- We must trust and ensure that none will ignore or walk away from the complexity, the time and the continuous effort this MIP demands
- Open evaluation, discussion and decision-making joined by an observant and engaged public will make MIP work
- We must be driven by good science, strong effort and rational action

MIP Timing

- We agree with the Sierra Club and the Petitioners that a major reckoning and calibration of the MIP is needed after the first 10 years
  - How is the river responding, especially DO?
  - What is in place, what's left to do, what works and what doesn't work?
  - What have we learned, how does the best science guide us, what new efforts show promise of improving DO?
  - How should we revise the MIP and/or the goal?

MIP Timing cont'd

- At least every five years (ideally before NPDES permit renewals) Ecology wants a significant MIP "check-up" to consider the MIP status and any minor revisions
- At least annually Ecology expects all participants to meet and report on progress and schedules, review monitoring data, coordinate with other factors (FERC/Avista), and consider possibilities for useful studies and investigations

MIP Timing cont'd

- The attack on P must be under way on all fronts next year
- *Personal Planning Note:* At first there may be little change in the current pattern of meetings so we can remain collaborative, coordinated and effective

MIP Actions

- The Petitioners and Sierra Club and Ecology all envision action in the same four arenas
  1. Improving wastewater treatment technology
  2. Water conservation to cut volumes
  3. Effluent re-use
  4. Aggressive non-point source control
- **It is the sum of all actions taken together that provides Ecology "reasonable assurance" the river DO will meet the goal**
- Every pound of P removed advances the effort

MIP Actions: **Technology**

- Ecology agrees with the Petitioners and the Sierra Club about a rigorous process to select the best reasonable and available technology for each public discharger
- We can all benefit from a joint process with common standards and methods, but the technology decisions are individual for each NPDES permit
- Establishing technology selection processes is a critical first step

MIP Actions: **Technology** cont'd

- Ecology agrees with the concept of interim permits until operations are stable, and we believe this takes approximately one year of operating experience
- Ecology wants to collaboratively explore ways to set permit levels that are routinely achievable
- Ecology also wants significant incentives to push treatment operation to optimum levels

MIP Actions: **Technology** cont'd

- Technology improvements at permitted discharges will certainly produce the largest improvement in DO. This is why technology upgrades are the highest priority action.
- Time is critical for the river and for providing certainty for permit holders.
- Ecology expects the technology selection process to be thorough, decisive and swift. Ecology is committed to making that happen

MIP Actions: **Conservation**

- There is agreement on conservation based on the LOTT model
- The LOTT program is based on spending wastewater revenue to avoid the cost of new treatment capacity
- General Rule: If the per gallon cost of a conservation effort is 50% of the cost of a new gallon of capacity, do it!

MIP Actions: **Conservation** cont'd

- Ecology wants unifying elements among all conservation programs with each program tailored to its host jurisdiction
- Wasting water is inconsistent with holding a water right. Ecology will use its authority to help efforts that discourage waste
- Ecology supports conservation of water going to treatment plants and water used outdoors
- Ecology considers conservation very significant

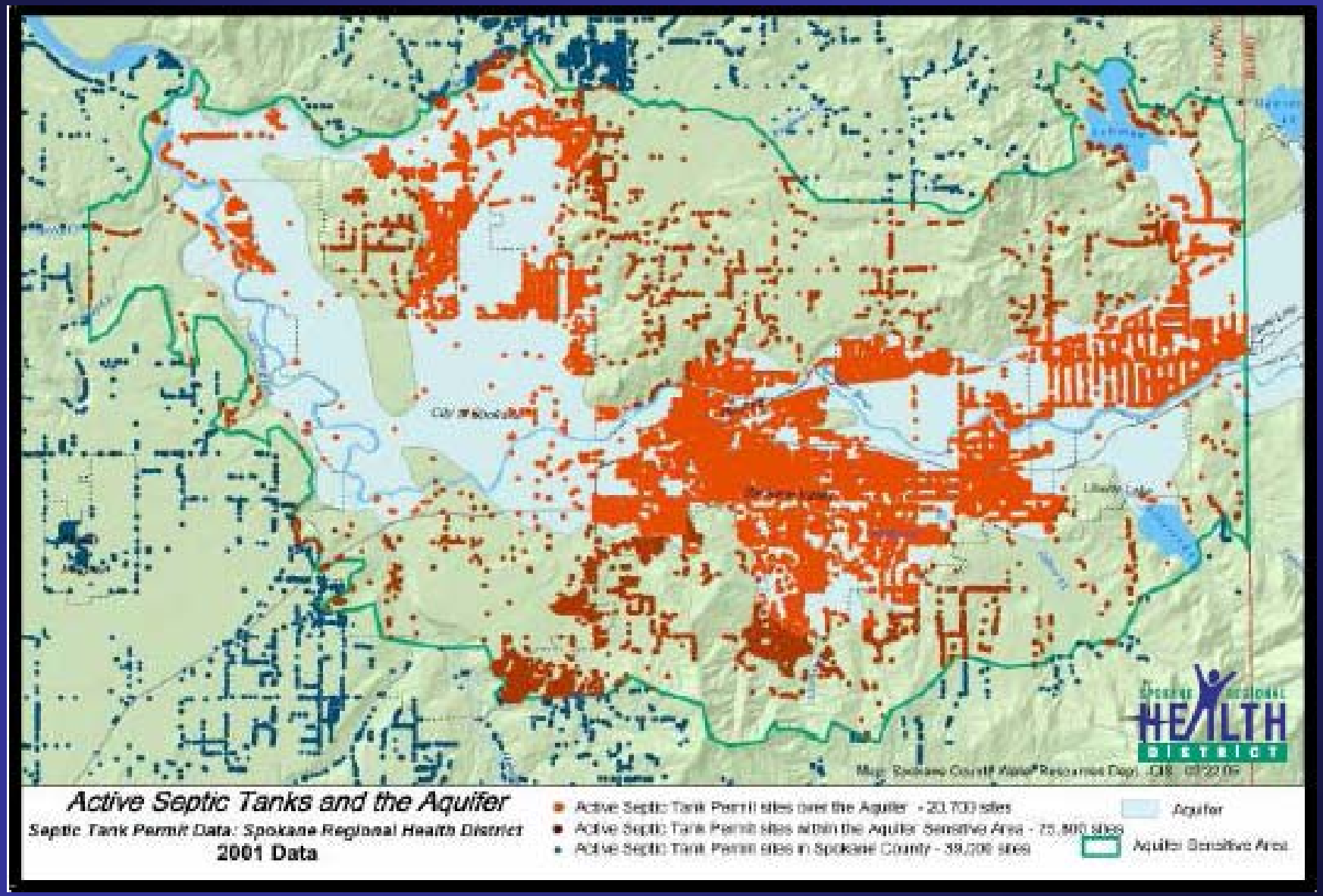
MIP Actions: **Re-use**

- Re-use is important in both the Petitioner and Sierra Club scenarios. It is vital from Ecology's perspective
- Re-use is in greatest demand during the months of greatest concern for the river
- Re-use effectiveness is more certain than non-point controls

MIP Actions: **Re-use** cont'd

- Re-use is simplified by creating Class A reclaimed water which is suitable for any purpose except routine human consumption
- Infiltration of Class A water for aquifer recharge is a year-'round opportunity
- Re-charge should also be carefully considered

MIP Actions: **Re-use** cont'd



MIP Actions: **Re-use** cont'd

- Ecology considers re-use a very high priority action that needs attention now
- Re-use and producing Class A Reclaimed water should be part of the Technology selection process (i.e., don't preclude making Class A water)
- Re-use plans should be part of facilities plans and general sewer plans
- Funding for re-use needs to be aggressive
- Ecology will support funding for re-use planning

MIP Actions: **Non-point**

- Ecology accepts that more non-point may be controllable and wants the plan ASAP
- Ecology supports public education and efforts to control P at the household level
- Fund $1 million a year for 20 years (with re-use funded separately)
- Reduce the funding if controls are shown to be ineffective, increase funding if very effective

MIP Actions: **Non-point** cont'd

- Start the efforts as soon as suitable elements of the non-point plan are ready
- Ecology will seek legislative authorization for $333K, its third of the plan cost
- The Conservation District should play a key role with planning and implementation of non-point efforts

Monitoring

- Ecology supports the recommendations of the Monitoring Workgroup
- Monitoring includes
  - Enhanced river trend monitoring
  - Effectiveness monitoring especially for non-point source efforts
  - Assuring usable, good quality data
  - Proposing and managing studies to better understand the river and enhance the model
  - Clearing house assuring models produces good info
- Ecology proposes paying half the cost

Public Education

- The MIP requires some explanation
- An informed and engaged public will keep motivation and success rolling
- Each participant will have important and individual messages, but our collaboration and proximity require consistency and coordination
- Ecology supports quality, coordinated public education and information

Spokane County Plant

- The Sierra Club has identified issues involved with a new discharge
  - 40 CFR § 122.4(i)
  - WAC 173-201A-510(4)
- Every action should improve the river
- Everyone needs to be within the law
- Possible keys to permitting a new plant
  - Demonstrably improves river
  - Promptly enables new action front (re-use)

Growth

- Volume of pollutants (P/CBOD), not volume of water, is Ecology's main concern.
  "It's about pounds"
- Growth is not a river issue if river DO is "reasonably assured" of meeting the goal through managed use of the four action arenas
  1. Improving wastewater treatment technology
  2. Water conservation to cut volumes
  3. Effluent re-use
  4. Aggressive non-point source control

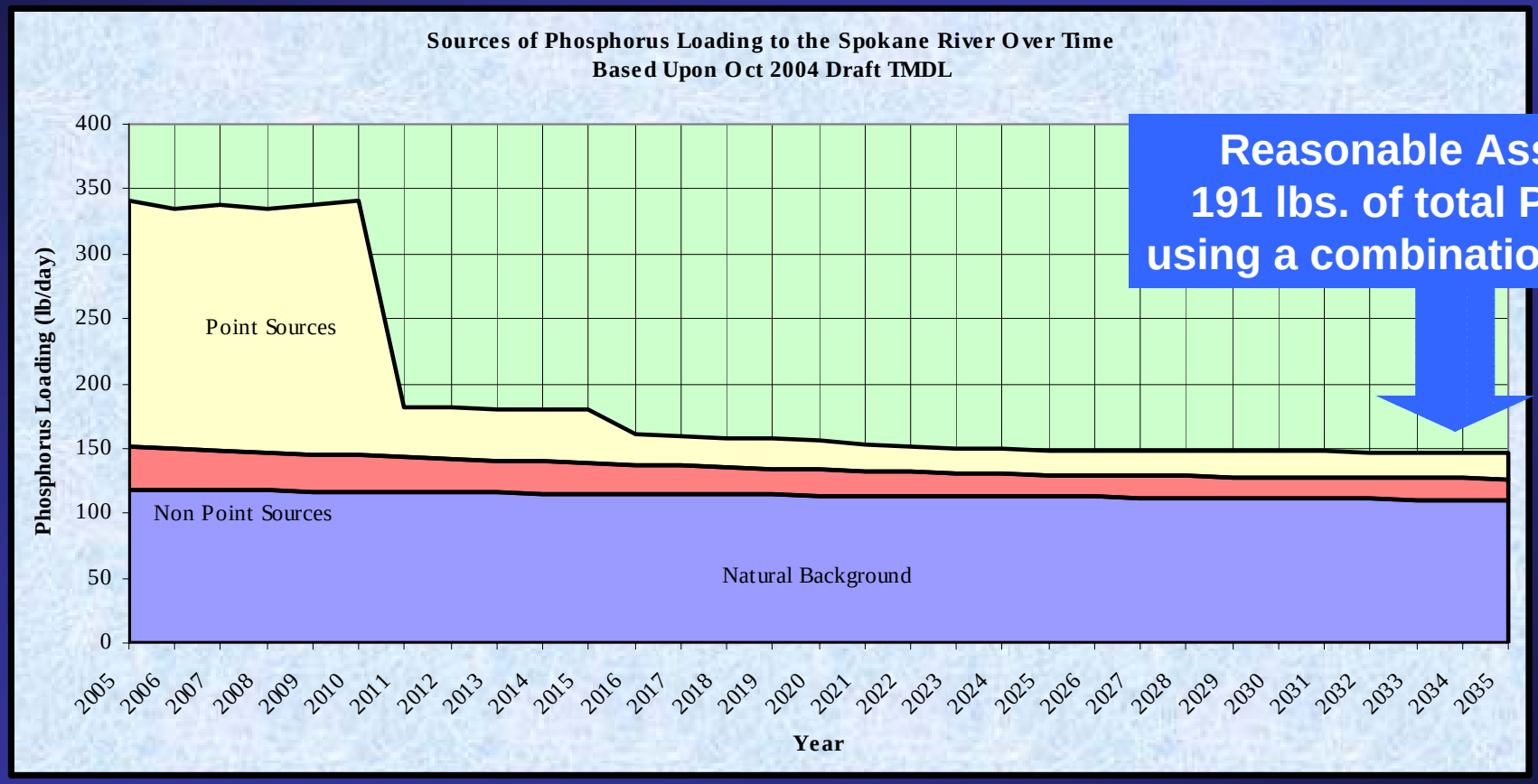
Reasonable Assurance

The sum of our actions…

- As the MIP is envisioned and started
- As actions and results are monitored over time
- When we reach the “major reckoning and calibration”
- As we move through what the Petitioners call the “second stage”

…must reasonably assure that we will achieve water quality standards

How This Works



How This Works cont'd

- Because we can't tell for sure right now how every action will work, we act on all reasonable fronts
- We measure for improved DO/reduced pounds
- We do what has promise and proves itself and we drop what doesn't work
- After 10 years we have a major reckoning and recalibration and collaboratively choose to
  - » Stay the course
  - » Change approach
  - » Modify expectations

Questions/Discussion

Making An Outline

1. List all elements
2. Group elements under general headings
3. Arrange general headings for flow
4. Expand key elements

Some Implementation Plan Elements

- Non-point actions
- Conservation actions
- Technology selection
- NPDES permit factors
- Re-use actions
- Monitoring
- Keeping the schedule

Some MOU Elements

- Keeping the schedule
- Who convenes and how do we manage ourselves
- Accountability and consequences
- Gathering, spending and accounting the money