SPOKANE RIVER PUBLIC HEARING

WASHINGTON STATE DEPARTMENT OF ECOLOGY

ORIGINAL

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Tuesday, October 20, 2009, 6:00 P.M.

Spokane Community College, Lair Building #5

1810 North Greene Street

Spokane, Washington 99217

Hearing Officer: CYNTHIA H. WALL

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THE HEARINGS OFFICER: Thank you for coming tonight. I'm Cynthia Wall, and I'm the Hearings Officer for tonight's hearing. On behalf of the Department of Ecology, welcome and thank you for coming. Ecology is represented tonight here by David Moore, who's the Spokane River Water Quality Lead; Karen Baldwin, who's the acting non-point supervisor; Jim Bellatty, the Water Quality Section Manager; Jeannie Daryl, the Permit Unit Supervisor; and Pat Hallanan, who does the industrial permitting for the Spokane River folks; and Jani Gilbert, who's our Public Information Officer. If there's any other Ecology people here, feel free to stand up. I haven't seen you guys.

So as the hearings officer, my job is conduct the formal portion of the hearing. Typically we have a presentation beforehand. We're gonna skip that tonight and go directly to the public comment.

The purpose of this hearing is to gather public comment on the Draft Spokane River TMDL. And written or video comments are given the same consideration as verbal comments. So if you have really lengthy comments, it would be better to summarize them and submit them either written or email. Must do so by 5:00 p.m., by October 30th, 2009. You can submit your comments in two ways, by email or written comments.

After the public hearing, the staff will prepare a Response to Comments document. You will get a notice of Ecology's final decision, if you put your name and address on the sign-in list at the door or if you are already on the mailing list.

If you're planning to testify, please indicate so on the sign-in sheet by the door. So if you haven't signed in, we'd like you to sign in at minimum and indicate whether you'd like to testify or not. So if you -- before we start, I want to make sure everyone added their name to the sign-in sheet. And at the end of the hearing if you, I'll give everyone an opportunity to get up and speak if they haven't signed in.

I'm gonna call your name in the order that you signed in. When I call you, please come forward, state your name, the organization you represent, and your address for the record. Please be courteous of those giving testimony by not talking if you're not testifying, so that we can get a clear recording of what's been said.

Let the record show it is 6:10 p.m. And this public hearing's being held at Spokane Community College, Spokane, Washington. The primary purpose of this hearing is to receive public comments on the proposed Spokane River TMDL.

The legal notice of this hearing was published in the Spokesman Review, the Inlander, the Coeur d'Alene Press, and the Journal of Business. The legal notice is also posted on the Ecology website.

When I call your name, please step up to the microphone, give your name, address, and who you are representing, provide your comments for the record. Any testimony received at this hearing along with the written or video comments received will be part of the official hearing record for this proposal.

So even though Bruce Rawls was the winner of the lottery, he's opted to let, switch with Dick Denenny. Dick has another meeting to attend. So Dick, I'll let you start.

MR. DICK DENENNY: I appreciate you accommodating me. We do have a city counsel meeting on right now, and I

actually left early to be able to come down here. Mr. Mielke had asked me to make statements on behalf of the City of Spokane Valley.

Again, my name is Dick Denenny. I'm here on behalf of the City of Spokane valley. Home address is 1615 South Virginia, Spokane Valley.

I was able to work with the TMDL group for about 20 months. Obviously, we thought we had a, an agreement. Throughout that whole period of time we worked with the various groups and came to a solution which we thought would allow us to put a new plant into operation.

Since 2003, the City of Spokane Valley's been working with the County to help create a state-of-the-art system that would allow us to create a new treatment plant. And this treatment plant would provide us with the most stringent discharge standards in the nation.

We are under a fear that if we do not get new discharges, we are not gonna be able to continue the elimination of septic systems out there, because we are running out of capacity. As you're aware, we have 10 million gallons capacity at the City of Spokane plant in which we can allocate our particular discharges into. We are running out of that capacity. We don't have capacity for new development in the future and near future. And we do not have capacity to continue the elimination.

We are coordinating with City of Spokane tomorrow, as a matter of fact, to talk about their particular needs. We had a meeting with a few of us about a month ago that talked about the needs of the City of Spokane and their future capacity. Even though they have capacity up at the, at the plant, itself, the capacity is reduced because of the inability for flow through the City of Spokane downtown. And thereby, we are creating an environment tomorrow, an opportunity for all of us to discuss mutual needs and sharing of resources when this plant is built, so that we would be able to accommodate the whole region's capacity needs.

If this TMDL is not approved, we will be in a situation where many of us will not be able to continue the economic growth in this region because of the lack of capacity. I feel that we need to move on. The process has been going on for long enough. We have addressed almost every question that has been brought forward in those meetings for that 18 months when we were working with Department of Ecology and EPA. And I think now is the time to move on.

THE HEARINGS OFFICER: Thank you. Bruce?

MR. BRUCE RAWLS: I'm Bruce Rawls, Spokane County Utilities Director, 1026 West Broadway Avenue.

Spokane County supports the implementation of the

1 Spokane River Draft Water Quality Improvement Plan. After
2 five years of debate over the TMDL, last summer the Center
3 for Justice delayed the implementation by another 13 months
4 because of objections over the water quality modeling
5 between Idaho and Washington and concerns about leaving
6 Avista out of the plan. The objections raised by the Center
7 for Justice have been resolved in this draft plan.
8 The new plan is scientifically and legally defensible.
9 The new plan complies with Federal Clean Water Act by
10 proposing the most stringent phosphorous standards in the
11 nation. And the plan calls for a 94 percent reduction of
12 phosphorous discharge for our region's treatment plants
13 compared to historical levels of treatment. This means that
14 over 99 percent of the phosphorous discharged by our
15 residents and businesses will be removed by our treatment
16 plants. Under this plan over 40,000 pounds per year of
17 phosphorous will be removed from the Spokane River by the
18 wastewater treatment plants.
19 The plan allows for a new regional treatment plant
20 which will allow Spokane County to eliminate an additional
21 9,000 septic tanks that currently discharge 20 pounds of
22 phosphorous per day or over 7,000 pounds per year into our
23 aquifer and eventually the Spokane River
24 In addition, the new Spokane County treatment plant
25 will divert flows from the City of Spokane plant at least

three years earlier than the City will implement tertiary phosphorous removal. This will reduce phosphorous into the Spokane River by 24 pounds per day, which is nearly 6,000 pounds per year.

This Water Quality Improvement Plan is critical to the well-being of the Spokane River and is essential to the economic vitality of our region. Further delay by any stakeholder would simply be irresponsible. Now is the time for Ecology to submit the plan, for EPA to approve the plan, and for the stakeholders in the region to implement it. Thank you.

THE HEARINGS OFFICER: Thank you, Bruce. Tom Agnew.

MR. TOM AGNEW: Good evening. My name is Tom Agnew. I'm a Liberty Lake resident. I'm also a Liberty Lake Sewer and Water District Commissioner. And appreciate this opportunity to testify on the TMDL.

Thanks to generations of attention, today's Spokane River, as we know, is much healthier and cleaner than it has been in decades. However, as we also know, there's more work to be done. Every person in this room, every Inland Northwest resident is a contributor. As the old saying goes, everyone is part of the problem, we're also part of the solution. All of us will pay higher utility bills to install the latest treatment technology. And all of us will learn to adopt new practices to help solve this

1 environmental challenge.

2 For the, most of the last decade, dozens of Inland

3 Northwesterners, experts, engineers, environmentalists,

4 regulators, scientists, and laymen like me have been meeting

5 regularly searching for a solution. Every treatment plant,

6 Spokane, Kootenai Counties, the Lands Council, the tribes,

7 the Sierra Club, Idaho's DEQ, Washington's DOE, the EPA, the

8 cities and counties and others have participated, and now

9 we're about to begin implementation. The proposed TMDL, as

10 you know, is one of the most stringent in the entire

11 country.

12 Liberty Lake Sewer District is the smallest of the

13 water reclamation plants involved. It's unknown if our

14 plant or anyone's will be able to meet all expectations.

15 Nonetheless, Liberty Lake is committed to meeting the TMDL.

16 The District will continue our commitment to environmental

17 stewardship.

18 We've always taken pride in adopting leadership roles

19 in environmental issues. Our District was formed to

20 restore, preserve and protect the lake. For years the

21 District tag line has been serving and the environment.

22 Our 1989 phosphorous free laundry detergent resolution

23 was followed by a statewide ban that has now become

24 nationwide. A couple of years ago our phosphorous free

25 dishwasher detergent resolution was followed soon by a State

1 law that is gradually taking hold in selected counties.
2 Last summer we expanded our resolution regarding phosphorous
3 free fertilizer, after four years of giving away
4 complimentary 50-pound bags of phosphorous free fertilizer
5 to area residents. Incidentally, warm thanks to Greenstone,
6 our partner, for providing fertilizer gratis.
7 The point of all this is to illustrate that meeting
8 this TMDL will require a partnership comprised of everyone
9 who lives here. Both what we put down the drain and how we
10 live our lives will require attention as we work together to
11 lessen our negative impact on your rivers and lake. Are we
12 willing to use our in-sink garbage disposals less, manage
13 pet wastes more responsibility. Will we change our damaging
14 agricultural practices. De-icer is a serious problem. The
15 TMDL will require extensive plans to remove non-point
16 sources of phosphorous in addition to the state-of-the-art
17 technology we'll all be installing for water treatment.
18 The challenges of the TMDL for Liberty Lake Sewer and
19 Lake Water District are many; small community, limited
20 resources, limited number of ratepayers. In 2006 we
21 undertook a 12 million dollar expansion of our existing
22 plant in anticipation of the need to do more. At that time
23 we were told it would cost approximately 4 million. Today
24 we're told it may cost as much as 10 million. The point
25 being that this is a major, major responsibility that we

share in this community.

The river's worth it. The economic conditions affect us all. The cost of meeting these stringent regulations, though critical, is necessary. Outside resources will probably be necessary. Funding sources have been reduced due to the loss of the public works trust fund. Will we be able to afford the necessary costs, well, we'll have to. And we all will pay.

Nonetheless, the District will continue our commitment to environmental stewardship. And that commitment includes doing everything possible to meet the TMDL. Thank you for this opportunity.

THE HEARINGS OFFICER: Thank you. Lee Mellish?

MR. LEE MELLISH: I'm gonna pass.

THE HEARINGS OFFICER: You're gonna pass, okay.

Bill Savit?

MR. BILL SAVITZ: Savitz.

THE HEARINGS OFFICER: Savitz. Sorry.

MR. BILL SAVITZ: Good evening. My name is Bill Savitz. And I represent Greater Spokane, Incorporated, 801 West Riverside in Downtown Spokane.

I'll leave the technical comments to, regarding the TMDL to the experts. GSI is interested in this topic not only from an economic sense but also from an environmental sense. Our community slogan really says it all, Near

1 Nature, Near Perfect. We support the position that the
2 Spokane River's our natural focal point in the region and is
3 due appropriate care in order for us all to enjoy its beauty
4 and recreational opportunities and as an economic draw for
5 companies who may be interested in moving here.
6 With that in mind, I'd like to address two different
7 subjects. First retain -- the first is retaining what we
8 have. Inland Empire Paper is one of the dischargers
9 addressed in the study. It's a 98 year-old-company with 14
10 million in payroll and 285 million in sales, 96 percent of
11 which comes from outside our region, which means that that's
12 imported money. From a regional economic standpoint, that's
13 the best kind as opposed to circulating the same dollars
14 around the community.
15 I'll let IEP speak for themselves in terms of what
16 they mean to the community from a further statistical point
17 but want to point out how the potential to lose an employer
18 of the magnitude, of this magnitude due to an unattainable
19 regulatory standard would be a very dark cloud over us all.
20 Not only would we lose a very good employer and neighbor,
21 but the message we would be passing on to other companies
22 interested in possibly moving here would be difficult to
23 overcome.
24 Our specific concern with regard to IEP in this TMDL
25 is the apparent lack of an opportunity for IEP to develop a

1 workable delta elimination program, as they can only come
2 about this from the perspective of a privately held company
3 and aren't able to wield the authority that a municipal
4 entity can employ in creation of the program.
5 We would ask that additional consideration be given
6 IEP with regard to achieving a workable program that can
7 help this company, and the jobs it provides remain viable
8 for our community.
9 The second point I wish to address is commentary
10 generated by an opponent of this study. From the website
11 this group has listed five points suggested commentary to
12 the TMDL. These largely are in opposition to major points
13 of the study and only further exacerbate the difficulty of
14 the situation. I'll address these points starting from the
15 bottom of their list and working up.
16 The first is the regional wastewater planning needed,
17 coordination. Regional wastewater planning is needed,
18 coordination between dischargers through a regional
19 authority. We may actually be in agreement on this point
20 and discussions may go forward accordingly. But for the
21 purposes of the TMDL comment period, this point is largely
22 irrelevant, and it's mostly a question of governments and
23 process management rather than relevant to the study. So I
24 won't comment on it further.
25 The next item on the list is what about PCBs. The

1 cleanup plan call -- the cleanup plans for phosphorous and
2 PCBs must be met. As we understand it, this will be
3 addressed under a separate process involving separate
4 technologies and will likely be a much more difficult
5 attainment that would only cause further delay to any
6 phosphorous reduction program as addressed by this TMDL.
7 For that reason, we believe your current course of
8 action should continue with implementation directed by this
9 TMDL taken as soon as practical in order to reduce the
10 continued waste of ratepayer money through delays and to
11 improve the river's health as soon as possible
12 Item 3: No special pollution rewards for Spokane
13 County. Removing septic tanks from the aquifer is good but
14 not at the expense of the Spokane River. The TMDL gives
15 credit in Spokane County for eliminating septic tanks, but
16 the benefit to the Spokane River is illusory. The aquifer
17 is not contributing significant phosphorous to the river.
18 Spokane County should not be allowed to build a new plant
19 that will pollute the Spokane River.
20 To my -- my response to that is basis for this comment
21 must assume that the river and the aquifer are two separate
22 bodies of water. As we know from your own studies, the
23 river and aquifer are, essentially, an homogenous body, and
24 septic tank input in the county logically contributes to the
25 river's phosphorous levels, as you've demonstrated in your

1 studies.

2 The base premise surmised in this, in the opposition's

3 position is, apparently, flawed, therefore, the remainder of

4 the comment isn't supported by what we know to be true

5 regarding this body of water.

6 To follow the opposition logic, one would be lead to

7 believe that there should be no incentive or methodology for

8 the county to reduce its delta through septic tank removal,

9 and current wastewater methods should be continued with

10 waste going through the offending tanks or into the City of

11 Spokane's Riverside facility.

12 This only harms the river further in the future and

13 doesn't give recognition to the new standards that this new

14 facility will provide for, nor does it give consideration to

15 the effect of introducing the treated water across a broader

16 expanse of the river providing greater dilution in the

17 overall stream.

18 The next item is realistic targets. The new plan

19 allocates some responsibility to Avista's Long Lake dam.

20 That's good. But the plan then substantially increases the

21 amount of pollution that the city and county may put into

22 the river. And that's a problem. The county should not

23 receive an allocation at all unless it can be shown that all

24 the parties are able to meet their pollution reduction

25 targets, zero discharge for the county.

1 Our response on that is on title of this point we
2 agree, realistic targets. In fact, though, the targets
3 presented aren't realistic from purely a technological
4 sense, nor are they an increase from the historical status
5 as stated in this comment, as everyone is already aware.
6 However, in combination with satisfactory delta elimination
7 programs, such as the county's septic tank removal program,
8 there's a light at the end of the tunnel in terms of meeting
9 the stated goals of the TMDL.
10 The assertion that zero discharge for the county is
11 absurd on its face in that the county already discharges
12 through existing septic tanks in the City of Spokane's
13 facility. Not allowing the county to go forward with their
14 plant only harms the effects of this proposed TMDL and
15 further damages the residents of our region through
16 unrealistic expectations with the continuation of current
17 practices. With this TMDL there's a light at the end of the
18 tunnel for county users, county residents. Should the
19 opposition's position prevail going forward, the light may
20 very well be an oncoming train.
21 Their next and top point on their list is no further
22 delay. To that I can only say amen. The irony of this top
23 of the list suggestion isn't lost on us, though. Nothing
24 would please us more than to get this process moving forward
25 with some sense of certainty as to where this plan will lead

us. However, if the prior four points suggested in the opposition commentary were to be incorporated into a yet to be written fourth draft of the TMDL, we will experience even more delays that will again be at the hands of those who have disagreed to past plan elements in a manner that has created the delays over the past several years. Those disagreements have been largely addressed by this third draft, and it's time to move on.

During the prior draft commentary periods some good suggestions were made, approaches to cumulative contributions considered, other parties brought into the fray, and reasonable results exist in this report that will mandate the most stringent treatment standards in the nation if not the world.

The time for further parsing is over. Everyone has had their opportunity for comment. It's time to move on. It is time for action and to advance the study forward into implementation so that we can quit wasting taxpayer dollars on further studies, and delays in construction to the county plant that has already doubled in cost due to past delays, and to provide the desired deliverable and start improving the dissolved oxygen condition in the river as soon as possible.

We all know that this TMDL is not a perfect solution for everyone, but we believe it is a pretty darn good

solution that has had ample input from all interested parties. Near nature, near perfect. This approach will provide the best opportunity for achieving vastly improved water quality while not completely bankrupting our community. Please don't sacrifice excellence in the quest for perfect when taking this report forward. The time for action is now. Thank you.

THE HEARINGS OFFICER: Thank you.

UNIDENTIFIED SPEAKER: Are there no time limits? Are there no time limits, ma'am?

THE HEARINGS OFFICER: There were so few names, I didn't set time limits, unless you have an extensive oral testimony.

Todd Mielke.

MR. TODD MIELKE: Good evening. For the record, my name's Todd Mielke. I am a Spokane County Commissioner. I serve currently as the chairman of that board. The address is 1116 West Broadway, Spokane, Washington, 99260.

This evening I am speaking on behalf of the Board of County Commissioners and Spokane County, once again to reassure you of the commitment we have had since day one in this process. And that is that Spokane County is, is willing to meet or beat the most stringent standard in place in the United States; that we will utilize the most advanced technologies available that had been proven at the, at the

1 capacities that, that are needed to address our future
2 needs.
3 With that commitment, though, besides just words also
4 is resources. And again, this has been a TMDL that has been
5 long in the making. I just, I think in the last week
6 approved a budget, get a six-year budget for Spokane County
7 that is upwards of 260 million dollars in upgrades to
8 wastewater treatment for Spokane County.
9 When you combine that with the efforts made by other
10 jurisdictions in this region, this region is preparing to
11 spend nearly 1 billion dollars region wide in upgrading to
12 treatment technologies with regard to cleaning up the
13 Spokane River and protecting the Rathdrum/Spokane Valley
14 aquifer.
15 Sometimes we need to make sure that we, we recognize
16 the success that this TMDL accomplishes. It does impose the
17 most stringent standards in the nation. It does incorporate
18 conservation. It incorporates reuse. It incorporates
19 efforts in both point and non-point sources of
20 contamination.
21 But we need to complete the TMDL plan now. There's a
22 time to study, and there's a time to act. We have spent, I
23 think I've been involved in this issue since about 2002, and
24 we have spent a large portion of that time, almost seven
25 years studying. We have spent hundreds of thousands of

1 dollars on nationally recognized consultants and specialists
2 to take a look at all of the key points, whether it's the
3 technologies that will be incorporated, whether it's cutting
4 edge efforts in conservation and reuse. And those are in
5 the proposals that the, the entities are putting forth.
6 But there's also cost to any further delays. There's
7 costs financially. I think Mr. Savitz already commented
8 that just Spokane County's cost alone in the last five years
9 have doubled. Those are very real costs to the citizens of
10 this region, a region that is known statewide for relatively
11 low household income.
12 But there are also costs environmentally to these
13 delays. And, and I think one of the items that was pointed
14 out that in the time that we have delayed implementation of
15 TMDL and not implemented some of these technologies, there
16 were 40,000 pounds of additional phosphorous that's been
17 discharged into the river on an annual basis. There's a
18 very real environmental cost to further delays.
19 I do want to address a couple of the concerns that
20 have been raised. And one is that the Spokane County plant
21 is not needed, and there should be a zero discharge. First
22 and foremost, those who recognize the layout of the
23 residents in Spokane County recognize that the urban areas
24 follow the Spokane River on an east/west basis. There is a
25 number of residents who live in Spokane Valley. It is the

1 sixth largest city in the state of Washington.
2 It is absolutely impossible from a technological
3 perspective to get all of those discharge to the Riverside
4 facility, treatment facility located on the west end of the
5 City of Spokane. The piping infrastructure simply is not
6 capable of handling those flows through downtown Spokane.
7 And you'd literally tear up downtown Spokane and have to
8 rebuild it to change that infrastructure.
9 The other issue of zero discharge makes absolutely no
10 sense in, in an environment where we have true four seasons.
11 We have frozen ground. And it does limit the options, as
12 well.
13 A second point was eliminating septic tanks simply
14 shouldn't count. But I will tell you that septic tanks, as
15 we have come to learn, do not filter phosphorous. They're
16 not designed to do that. But there also is no capacity in
17 the current system to absorb all the septic tanks that
18 currently sit over the aquifer sensitive area and, and
19 eliminate that impact to the aquifer, and therefore, to the
20 river.
21 The aquifer -- the statement was that the aquifer
22 doesn't impact the river. We all know that that's simply
23 not true. You don't have to live here very long before you
24 know just how intertwined they are.
25 Another issue that has been raised is that we should

1 wait for other TMDLs. There are many constituents that
2 contribute to the well-being of the Spokane River and the
3 Spokane aquifer. And we cannot let delays and waiting for
4 what might happen in the future to be our justification for
5 inaction. Every day that we wait is another day that we do
6 not further protect and clean up the Spokane River.
7 Finally I would leave you with this. The Growth
8 Management Act in Washington State requires that local
9 governments address the future growth in their communities.
10 We do not have the option of simply saying we're full, and
11 all the growth should happen somewhere else in the state.
12 The State laws simply do not allow that. We need to move
13 forward. We need to figure out how to plan for those, that
14 future growth and those future residents. To do so means
15 that the infrastructure must be in place.
16 And so please help us implement the technologies that
17 are required so that we can meet the statutory requirements
18 placed on local government. Together, all the regulators,
19 all the local jurisdictions, we know we're pushing the
20 envelope with regard to technology. And that's a good
21 thing. We should be stretching it. And we should be doing
22 the absolute best that we can. This TMDL gets us there.
23 It's time to move forward. And we look forward to quick
24 action as we move to the next step in protecting our river.
25 Thank you.

THE HEARINGS OFFICER: Thank you. Ken Windram.

MR. KEN WINDRAM: Hi. My name is Ken Windram. I live at 4828 Pasadena Lane. I'm here as a taxpayer for the State of Washington, a resident of Spokane County, and a sewer fee payer for the County of Spokane. I also have a degree in environmental technology. I have the top wastewater licenses in Massachusetts, New York, Indiana, Hawaii, and State of Washington.

I'm here tonight because I may know a little bit more about this than maybe some of my neighbors and the impact it's gonna have on all of us. Public law 92-500 back in 1972, the Clean Water Act was enacted because the previous years to that we had rivers catching on fire in the U.S. And the citizens of the U.S. said we want to use our rivers again. And the goal of the Clean Water Act was to bring back the beneficial uses so the citizens of the U.S. could use the waters.

The Spokane River today is greatly improved over the quality it was back in 1972. The beneficial uses in the river are being met. Every summer I see thousands of people swimming and recreating in the river, people fishing, waterskiing, et cetera.

The issue is Lake Spokane and the Washington State DOE blanket standard for having a 0.2 milligram per liter DO delta from a theoretical pre manned condition throughout the

1 entire lake on a year-round basis. Every first year ecology
2 student learns that in a lake where it develops a
3 thermocline and stratifies temperature-wise in the summer,
4 that the hypolimnion or the bottom part of the lake will
5 have zero DO. Nothing goes down there. There's no DO.
6 Making -- many of the states have recognized this in
7 the U.S. and have set a narrative standard for the
8 hypolimnion. This is not true in Washington. The DOE's
9 standard at the hypolimnion of 0.2 milligrams per liter
10 delta is like making an oriental silk purse out of buffalo
11 ear. It will never be accomplished.
12 The DOE standard will result in the Spokane Valley
13 residents spending about a billion dollars in construction
14 costs and tens of millions of dollars a year in operational
15 costs. And the taxpayers didn't get to vote on it. This
16 comes pretty darn close to taxation without representation.
17 If you will recall from history, there was a revolution
18 started because of that. Plus at the end of doing all of
19 that money and spending all of that, we will still not meet
20 the DOE standard based upon the TMDL model.
21 However, after saying all that, I do, basically,
22 support the TMDL with one requirement. And that be that
23 during the first five years of the TMDL, that the DOE lead a
24 task force of stakeholders to do a site specific beneficial
25 use analysis of Lake Spokane and identify those specific

uses and the criteria and standards necessary to protect those uses. Basically, why the Clean Water Act was enacted. Have the science of Lake Spokane set the standards.

The treatment facilities up and down the Spokane River on both sides of the stateline have expressed a goal or desire to meet set tertiary treatment and low phosphorous DO to levels. And the simple reason is because we all live here. And if we don't protect the water, we're gonna have to go live someplace else. And it's much too nice a place to, to leave.

But the current TMDL will set phosphorous levels at 0.036 milligrams per liter, the lowest in the United States. The TMDL model indicates that if all the dischargers did not put a zero amount of phosphorous in the river, the DOE standard of 0.2 milligrams per liter would still not be met.

By running a Lake Spokane site specific standard, we can set the appropriate standard for the lake and also the treatment facilities. The treatment facilities at the tertiary standard and low phosphorous levels say at about .02 milligrams per liter is a reasonable goal in both capital cost and operational cost with a tremendous improvement on the water both at the river and at the lake.

So in summary, I would support the DOE's TMDL if a requirement is added that a site specific standard for beneficial uses be done and PO4 standards are reasonable.

1 Thank you.

2 THE HEARINGS OFFICER: Thank you. Hey, Ken, can you

3 tell me what your, after your name what the @, what your --

4 MR. WINDRAM: Oh. 4828 Pasadena Lane.

5 THE HEARINGS OFFICER: But on your email, watercleaner

6 @ and then?

7 MR. WINDRAM: Juno.com.

8 THE HEARINGS OFFICER: Okay, juno. Thank you.

9 There's not a lot of room in that column.

10 The next person I have to testify is Doug Krapas.

11 MR. DOUG KRAPAS: Krapas. Krapas. I've provided

12 written documentation, so you don't have to keep up with me.

13 THE HEARINGS OFFICER: Thank you, very much.

14 MR. DOUG KRAPAS: My name is Doug Krapas. I am the

15 Environmental Manager for Inland Empire Paper Company.

16 Address is 3320 North Argonne, Spokane, 99212.

17 Inland Empire Paper Company has provided thousands of

18 stable high paying jobs for our region's families since

19 1911. Although nearly 100 years old, we have developed into

20 one of the most modern newsprint facilities in the world.

21 Inland Empire Paper Company is an environmental

22 products company providing green jobs in a green industry.

23 Contrary to popular belief, we do not harvest trees to

24 manufacture our paper. We provide an environmental benefit

25 to society by manufacturing our products from waste

1 materials. Last year, for example, we recycled over 123,000
2 tons of old newsprint. And we reclaimed over 88,000 tons of
3 waste wood as raw materials to manufacture our paper. We
4 also generate green power from biomass. We plant over
5 500,000 trees annually. And we sequester carbon.
6 As an environmentally conscious company, Inland Empire
7 Paper understands the value the Spokane River brings to our
8 community. We are committed to improving water quality and
9 have been a key participant in the development of the TMDL
10 for Lake Spokane. We have already spent over 10 million
11 dollars in wastewater treatment improvements as a proactive
12 effort to meet the forthcoming more stringent limits. The
13 Inland Empire Paper Company was the first in our region to
14 install a full-scale system for phosphorous reduction.
15 Every single stakeholder impacted by this TMDL is
16 equally committed to investing the hundreds of millions of
17 private and ratepayer dollars that will be needed to
18 implement similar improvements. We are highly concerned,
19 however, that this significant community investment will
20 fall short of the goals of the TMDL due to a flawed model
21 and a failure to complete the plan.
22 The TMDL intentionally assigns arbitrary effluent
23 limits that cannot be achieved, even with the best
24 technology in the world. The plan expects the treatment
25 plants to seek other remedies in reductions to meet these

1 unachievable limits. Ecology's plan, however, does not
2 include, define or prove sufficient mitigating measures for
3 all of the treatment plant operators. Inland Empire Paper
4 Company specifically has not been afforded any of these
5 mitigating measures, and therefore, has no defined means to
6 make up the difference.
7 We view this plan in its current form as a threat to
8 our continued existence as a viable business. The Spokane
9 community has already lost thousands of high paying jobs and
10 many of its economic engines, including Kaiser Mead, Hewlett
11 Packard, American Sign and Indicator, and General Dynamics,
12 just to name a few. Can Spokane really afford to lose
13 another one of the few remaining cornerstones of its economy
14 simply because of a flawed plan.
15 If we are unsuccessful in resolving the deficiencies,
16 Spokane may not only lose one of the most modern newsprint
17 facilities in the world, it will lose over 300 million
18 dollars pumped into the local economy annually. Most of
19 which are new dollars coming from outside of Spokane.
20 The region will lose over 600 jobs and all the
21 countless jobs for future generates to come. The community
22 will lose 137 high paying green collar jobs. Spokane will
23 lose the region's largest recycler of wastepaper. Spokane
24 County will lose its third largest taxpayer. And Avista
25 will lose its largest Washington State customer.

Inland Empire Paper Company remains committed to improving water quality and to the development of the successful TMDL. With consideration of a few minor modifications that will have no measurable impact on water quality, the plan could be corrected to both maintain the goals of the TMDL and to preserve our community's jobs and economy.

I appreciate the opportunity to provide you with this testimony. In addition to this testimony, Inland Empire Paper Company will be submitting further written comments to the technical and legal merits of the TMDL.

THE HEARINGS OFFICER: Thank you. Bart Haggin.

MR. BART HAGGIN: My name is Bart Haggin. I live 15418 Little Spokane Drive. What we're here to do, what so often we try to do, we will try to make up for the sins of those of wealth and power who've exploited the natural world. For centuries now industrial capitalism has prided itself on the phony efficiency of maximizing profit by externalizing the costs so that others must subsidize misdeeds.

Corporations have corrupted the government process to ensure that the community at large will pick up the tab for their avoidance of paying for the total cost of doing business. Who are those who would destroy the common wealth that is there for the common good.

When toxic effluent is put into the rivers, the main thought that the powerful interests have is that they hope they can get away with it. They do a cost benefit analysis and determine what to do if the public demands that something must be done about the condition of that natural resource. They decide if it will be cheaper to obfuscate their actions with campaign contributions and public relations programs than actually to pay the total cost of doing business. That is what usually happens. That is why we are here today.

But what is an example of what happens? That is an example of what happens after the fact. Huge sums of money are spent to convince the public that what is being done to the natural environment is in the best interest of the people. So here we are trying to determine the lowest level of contamination we can afford for this, our river.

Some would pretend the beautiful meandering tributaries are culprits, responsible for the ills of the main stream. Latah Creek and Little Spokane River have problems of their own. But any contribution they make to the content of the big Spokane is of minor consequence and let's the main polluters off the hook.

Despite the name total maximum daily load, draft No. 4 does not actually identify the total amount of pollution that can be discharged into our river. Steven Colbert would

say that it takes just two words to respond to that, in-credible.

We've been waiting too long for justice for our river. Justice delayed is justice denied. Never forget that the Clean Water Act of the mid 1970s mandated that all the rivers of the nation should be safe to swim in and to eat fish from in 1983. I would say we're a wee bit behind schedule.

Ecology must require of itself and the dischargers to closely monitor how pollutants in the river risk public and environmental health. We want no further pipes put in the river. Land application is the way to go for the new facility. Thank you, very much.

THE HEARINGS OFFICER: Thank you. Rich Leon.

MR. RICH LEON: Yes. I am Rich Leon. I live at 5308 North Oak here in Spokane, Washington. I represent the Sierra Club and as a concerned citizen.

I have, am a freelance nature photographer. And I've lived in Spokane for the last 30-some odd years. In that time I've spent a lot of time photographing along the river. It's been very important to me. I've taken many award-winning photographs of the river. And I hope that we can keep protecting it not only now but in, for future generations to come. Thank you.

THE HEARINGS OFFICER: Thank you. Speed Fitzhugh.

MR. SPEED FITZHUGH: My name is Speed Fitzhugh. I work at 1411 East Mission in Spokane. I'm representing Avista. As you're aware, Avista volunteered to join the TMDL process to help it move forward, even though we're not a discharger. This, we understood, would provide a level of responsibility to mitigate for low dissolved oxygen in Lake Spokane due to the effects of the Long Lake dam.

It appears, however, that in reading the draft TMDL, that Avista will be responsible for all of the impacts caused by the non-point sources along the lake and the tributaries and relaxed upstream waste load allocations based on the previous draft TMDLs. We also believe it will be extremely challenging if not impossible to comply with the DOE deficits identified in the model run, and that it is unclear if we would ever achieve compliance based on the language of the draft TMDL.

In light of this, we're disappointed that the draft requires us to comply with every segment in the lake instead of focusing on the dominant aquatic habitat, as required in the water quality standards. These deficiencies need to be addressed if the TMDL is to be successful for us in the district.

Finally, we believe and recognize that everyone here in this room and involved in the TMDL process shares the common goal of improving the water quality in the Spokane

River and Lake Spokane. The challenge now for all of us is to figure out how we do that. I'd like to thank you for the opportunity to speak tonight. We'll be submitting formal written comments, as well. Thank you

THE HEARINGS OFFICER: Thank you. John Osborn.

MR. JOHN OSBORN: My name is John Osborn. I'm a physician at the Veteran's Hospital. My comments do not represent the position of the Veteran Administration. I chair the Sierra Club Upper Columbia River Group and serve on the executive committee of the Washington State chapter of the Sierra Club. These comments are those of the Sierra Club. And we will be submitting additional written comments. I reside at 2421 West Mission Avenue, Spokane.

This summer's toxic algae bloom in Lake Spokane was a wake-up call about the pressing need to clean up the Spokane River. It's interesting that comment period for the draft TMDL is concurrent with the toxic algae bloom, the latest.

Despite years of planning we have yet to come up with an honest approach to clean up our severely polluted river. Since 1998 the Department of Ecology has been trying to adopt a cleanup plan to control phosphorous and other oxygenating pollutants in the Spokane River. Eleven years is a long time.

Sierra Club has stuck with it. We've been calling out the flaws in various draft plans issued in 2004, 2007, 2008,

and pushing the State to meet the requirements of the Federal Clean Water Act.

Last month Ecology issued the latest version of the Spokane River dissolved oxygen TMDL. Sadly, draft No. 4 still contains fatal flaws. The latest draft TMDL has changed. Dischargers dumping at the Spokane River must meet hard pollution targets. The plan calls for water conservation and reducing non-point pollution. All good. But in other respects, the 2009 plan is even worse than the previous drafts.

First I'll talk about false pollution credits. Tributary streams are being asked to give too much. The draft plan claims credit for cleaning up the Little Spokane River and Hangman Creek. But the Little Spokane River is aquifer fed during summer months and phosphorous is at natural background levels. The plan calls for 36 percent clean up, an impossible target.

Hangman Creek cleanup is equally unrealistic. These tributary pollution targets are not realistic. But on paper the draft plan claims tributary credits to relax pollution limits for the sewage and industrial dischargers.

Secondly, assigning cleanup to Avista should not get the polluters off the hook. The draft plan, in addition to tributary streams, also relaxes pollution quotas for the sewage and industrial plants by shifting major cleanup

1 responsibilities to Avista. But Avista has been saddled
2 with a huge cleanup quota that cannot be met.
3 Let's, let's be clear, Sierra Club has called for
4 Avista responsibility to improve dissolved oxygen, but this
5 plan gives the dischargers a green light to make major
6 investments in substandard technology based on unrealistic
7 assignments to Avista. It's a shell game, and it won't
8 clean up the river. Reasonable assurance it ain't.
9 The Spokane River cleanup plan must demonstrate
10 reasonable assurance that water quality standards can be
11 met. Because of the false tributary and Avista credits,
12 the, that reasonable assurance is missing.
13 Septic deception. The County continues to hold the
14 aquifer hostage. Removing septic tanks from the aquifer is
15 good but will not reduce phosphorous loading to the Spokane
16 River. The draft plan would allow Spokane County to stick
17 another pipe into the river and discharge from its new
18 sewage treatment plant based on incorrect assumption that
19 septic removal equates to phosphorous reduction in the
20 river. The Sierra Club has always said Spokane County is
21 holding the aquifer hostage to the Spokane River.
22 There's no TMDL in the TMDL. Despite the name, total
23 maximum daily load, draft No. 4 does not actually identify
24 the total amount of pollution that can be discharged into
25 the river. It's incredible. Even the most basic

1 requirement of the cleanup plan process has not been met.
2 The draft plan contains no identification of how much
3 pollution is coming across the stateline from Idaho, no
4 identification of the total loading from the tributaries,
5 and no identification of the total amount that the Spokane
6 River and Little Spokane can handle. Contrast this draft
7 with the 2004 TMDL, which Sierra Club approved of, which
8 provided a month by month allocation of acceptable pollution
9 levels.
10 Next, delay, delay, delay. The Spokane River has
11 waited 11 years for a legally sufficient phosphorous cleanup
12 plan. This draft, the fourth, allows dischargers another 10
13 years or more to comply with the plan. This strategy of
14 delay is harming the Spokane River and the fish and wildlife
15 that depend on the river.
16 What about PCBs. Cleanup plans for phosphorous and
17 PCBs must connect. When dischargers install expensive
18 technology to remedy phosphorous, that technology must also
19 clean up PCBs. The public will pay dearly if these two
20 plans do not connect.
21 And finally, water quality monitoring is essential.
22 Lake Spokane resident Scott Chaney watched a toxic algae
23 bloom into a monster. He called the Department of Ecology
24 and Department of Health, but no agency would claim
25 responsibility for monitoring where the water quality

1 problems might harm the public. Scott had to pay to ship
2 samples to Seattle. Only after the lab reported high
3 toxicity did Ecology issue a public health warning. Ecology
4 must require of itself and the dischargers to closely
5 monitor how pollutants in the river risk public and
6 environmental health.
7 Thank you. And the Sierra Club will be providing
8 additional written comments
9 THE HEARINGS OFFICER: Thank you. Ted Knight.
10 MR. TED KNIGHT: My name is Ted Night. I'm here on
11 behalf of the Spokane Tribe of Indians. Their headquarters
12 are located in Wellpinit, Washington. My home address is
13 2928 Fuhrman Avenue East, Seattle, Washington, 98102.
14 Up front I would like to thank Ecology for their open
15 communication with the Tribe during the development of this
16 draft DOE TMDL. The Tribe appreciates Ecology's efforts to
17 implement the principles of the Centennial Accord. And the
18 Tribe is committed to improving and strengthening its
19 government to government relationship with Ecology.
20 Throughout the development of this TMDL the Tribe has
21 had the opportunity to offer input and has been kept
22 informed of the TMDL's progress. However, in the end, this
23 is Ecology's plan, and the Tribe remains concerned about
24 several portions of it. As it is currently designed, the
25 Tribe cannot support this 2009 draft with the dissolved

1 oxygen TMDL.

2 First, this draft describes a method by which Ecology

3 plans to issue an NPDS permit for a new discharger that is

4 contrary to both Federal and State law. Both Federal

5 regulation and Washington Administrative Code will be

6 violated by this plan.

7 Second, to attain the applicable water quality

8 standards for the Spokane River and Long Lake, this draft

9 relies on huge reductions in non-point source pollution.

10 The Tribe strongly supports Ecology's desire to reduce

11 non-point source pollution in the basin, however, the

12 contemplated reductions are unrealistic.

13 The draft describes no fixed funding mechanisms for

14 these reductions. It does not describe a fixed schedule for

15 these reductions. And it does not describe a method by

16 which the State will overcome its historic reluctance to

17 pursue non-point source pollution, polluters for violations.

18 In short, this draft fails to provide a reasonable assurance

19 that the hope for reductions in non-point source pollution

20 will actually occur.

21 Third and finally, the draft's margin of safety is

22 inadequate. It fails to address the potential effect a

23 climate change will have on the flows of the river, and the

24 river's reduced loading capacity because of such flow

25 changes. It fails to address the continued and virtually

1 unregulated withdrawals of groundwater within the basin both
2 in Idaho and Washington and those withdrawals' effect on the
3 river flows.
4 Finally, it fails to address the winter and early
5 spring discharges of pollutants and their effect on sediment
6 oxygen demand during the critical months.
7 In closing, because of the upstream pollution, the
8 Tribe's water quality is degraded and portions of the
9 Tribe's waters are uninhabitable to, for aquatic life. The
10 Tribe is hopeful that Ecology will make the necessary
11 changes to this draft so that it can be legally and
12 scientifically defensible and will provide a roadmap to
13 improving the river's health.
14 The Tribe will be submitting written comments in the
15 coming weeks. Thank you.
16 THE HEARINGS OFFICER: Thank you. Ryan Gardner.
17 MR. RYAN GARDNER: Good evening. My name is Ryan
18 Gardner. And I didn't give you my address. It's -- would
19 you like it?
20 THE HEARINGS OFFICER: For the record, please. If you
21 have a business address, that's fine.
22 MR. RYAN GARDNER: 1412 North Post Street, Apartment
23 C-1, Spokane, 99201. I'm a student and an intern at Gonzaga
24 University's School of Law's Environmental Law Clinic. I'm
25 here representing the Kootenai Environmental Alliance and

1 Corey Bowley (phonetic spelling), an individual recently
2 harmed by toxic algae in Lake Spokane.
3 My first point, both Avista and the dischargers in the
4 TMDL are encouraged to use the non-point source reduction
5 program to contribute to achieving their DOE
6 responsibilities and waste load allocations. In fact, the
7 preferred method of pollution reduction for Avista is to,
8 quote, reduce non-point source contributions to the
9 reservoir by implementing BMPs and pollutant control on land
10 that would otherwise directly contribute pollutants to the
11 reservoir.
12 However, there is little information as to how such
13 reductions by non-point sources will be measured and
14 attributed to the efforts of Avista and the dischargers. In
15 this case there'd be no end of pipe measuring. If the
16 managed implementation plan isn't revised to include
17 accurate measuring methods for non-point sources, then it's
18 going to allow such sources the ability to discharge into
19 the waters without being closely monitored, and thus the
20 plan will have large gaps in its ability to make sure that
21 its achieving its end responsibility.
22 My second point is that under the CEPA section of the
23 managed implementation plan, it is stated that the TMDL
24 should be considered in the issuance of land use permits by
25 local authorities. While it's an independent activity, it's

1 recommended that the Shoreline Master Plan would be a good
2 mechanism through which to regulate non-point sources in
3 this case. Some examples would be to create buffer zones at
4 the shoreline specifically around farms with phosphorous
5 containing fertilizers or grassy lawns. Considering the
6 obstacles to monitoring phosphorous this could drastically
7 help to achieve some of the goals of the TMDL. Thank you.
8 THE HEARINGS OFFICER: Thank you. Jim Kimball.
9 MR. JIM KIMBALL: My name is Jim Kimball. I'm a
10 licensed professional engineer. I live at 6975 North 16th
11 Street in Dalton Gardens, Idaho. I'm here representing
12 myself as an impacted resident of Idaho.
13 You know, I find that I agree with about 95 percent of
14 the comments by the environmental groups. And except one
15 thing, the last permit go around for the Idaho dischargers,
16 you know, had about 50 micrograms. But it was the
17 seasonality equal to about 100 to 200 micrograms. Because
18 what it did, it pushed an incentive for reuse by allowing
19 higher loading in the spring and fall and a lower loading to
20 provide incentive for reusing. The new permit does not
21 provide any incentive.
22 So after two years of work on the TMDL, it was
23 appealed, the old one, the permits, I don't think they
24 really appealed, they just pulled them off by UPA, so the
25 new permits came out and reduced Idaho loading by about five

1 times eliminating incentive for reuse. And I'm trying to
2 figure out, you know, the polarity here is why we can't come
3 to some conclusion is, you know, there's a lot of hype.
4 Sierra Club puts out big pictures of death of the Spokane
5 River. And if you look at those pictures, it's flowing.
6 People can walk across the river. A lot of that has been
7 achieved and rectified by Avista increasing the flow to
8 500 cfs minimum. I don't think you'll see those problems.
9 Underlying that, though, is the Spokane River water
10 quality probably could be met in a couple years. The
11 Spokane River to the, where the reservoir starts can be an
12 easy fix with the previous permits. But the problem is that
13 everybody combines the Spokane River with the issue of Long
14 Lake into one issue. 100 micrograms, 500 micrograms would
15 probably easily protect the water quality standards in the
16 Spokane River.
17 But nobody's really arguing about cleaning up the
18 river with realistic numbers. So first of all, the issue
19 has been convoluted by holding the water quality of the
20 Spokane River at bay while we argue over this natural
21 condition for Long Lake Reservoir, but they call it Lake
22 Spokane.
23 So people think, well, we're gonna kill the lake.
24 Well, what we're shooting for is 0.2 milligrams per liter
25 dissolved oxygen, which is immeasurable. Okay. So you run

a computer model to see what we can discharge. They have an immeasurable impact on the lake. Not taken into consideration, though, is the fish. Are there fish down there? You will never meet the water quality standards of 8 to 9 milligrams per liter even without the dischargers. So we're arguing over these artificial numbers that can't be measured. Now, the difference between the realistic number of 100 micrograms and the 36 micrograms for Idaho is that 0.005, roughly, which is an immeasurable part of the immeasurable part. So we're arguing over these numbers that are insignificant.

What's not on the table and the public should be aware of, and this never seems to get through, are the questions, No. 1, what's the cost. And they've thrown out a number of one billion. I don't know if that includes Avista or not. But we don't even know what Avista's cost could be to turn a reservoir, manmade reservoir back to a lake. So that's one question.

Algae blooms. Of course, the dischargers now help to algae bloom. Computer models show that we're gonna still have algae bloom. It's a characteristic of the lake and previous land use changes. And I agree with the environmental groups, they're not addressing the septic, you know, they're addressing agricultural. We can do only one with the point. You're still gonna have the problem. And

1 you're gonna hang the cost of sewering the lake on Avista,
2 on my electric bill.
3 So we don't know that. The report is not peer
4 reviewed. It's interesting, it has -- I used to be a
5 regulator with the Q (phonetic spelling) that I always had
6 to justify what I did. But this TMDL has an engineering,
7 not engineering report, it's a report that sets the
8 standards that says we can achieve these numbers by non-peer
9 reviewed person, agency that should be peer reviewed by
10 engineers to see if it's feasible or not.
11 The impact of this analysis says we can meet 36
12 subject to fines of $32,000 a day and jail sentence and
13 opens yourself up to all kinds of lawsuits by not meeting
14 this 36 standard. And it raises some issues. So what is
15 compliance, as Avista pointed out. We don't know. They
16 haven't told us what they're gonna do at the end of 10
17 years. We then decide if we complied or not, and we spend
18 another billion or 2 billion dollars. So would you buy a
19 house and say, I don't care what I pay for it, I don't care
20 what the interest is. You're gonna fix it, and you don't
21 care how much it cost to fix the house. And so, but we're
22 gonna commit to it and say this is fine.
23 And, and people have agreed to protect the Spokane
24 River, Idaho, I know. And, you know, this is not one size
25 fits all. What's good for the Washington dischargers may

1 not be good for Idaho. And we've got to separate those
2 issues
3 So if the TMDL's appealed, it's not because of the
4 people want to work together, the dischargers clean up the
5 river, it's because there's no defined end point. It's not
6 a fair allocation of loading to Idaho. It does not really
7 conform to Sierra Club and other groups that said, hey, we
8 want to promote reuse. It doesn't promote reuse. It's
9 flawed. It's un-peer reviewed. There's no plans for
10 non-point removal.
11 It's a definite misrepresentation of the issues to the
12 public. The public is sitting looking here saying, hey,
13 we're killing the Spokane River. No, it's we're not
14 complying with an immeasurable number. And they're not
15 gonna give us the benefit of the doubt of an immeasurable
16 statistically insignificant part of that. So it's kind of
17 strange how we got into this.
18 And there's no initial understanding of -- and I don't
19 think there's really involvement by the public. Because all
20 they see is this death of Spokane River controversy. I
21 really think an environmental impact statement should be
22 prepared on this, peer review of these documents so that
23 it's fair. And the Sierra Club can feel comfortable with
24 it, and Idaho people, and Washington people. And the public
25 will know that they're, if they have an expectation that 10

1 years from now we've spent all this money, and there won't
2 be any change. And there won't be, because it's not
3 measurable. There will be a reduction in, in algae blooms.
4 And maybe not, because if we don't do the non-point, you
5 still have the algae blooms.
6 So I think the TMDL should have an EIS but also a plan
7 to allow the required dischargers to achieve a realistic
8 number of around 100 micrograms with the reuse. You average
9 the seasonality. So, you know, 50 micrograms part of the
10 year, might be 200 part of the year, but it's still a
11 realistic number. Thank you.
12 THE HEARINGS OFFICER: Thank you. Michael Chappell.
13 MR. MICHAEL CHAPPELL: Yes. Very good. My name is
14 Michael Chappell. I'm the director of the Environmental Law
15 Clinic at Gonzaga. Address is 721 North Cincinnati Street,
16 Spokane, 99220. Appearing tonight, as Ryan indicated, on
17 behalf of Kootenai Environmental Alliance and a lake
18 resident who directly impacted by the algae blooms in the
19 lake. The following are just highlights of the written
20 comments we plan on submitting.
21 First of all, to echo what other people have said, the
22 draft TMDL doesn't contain clear requirements that
23 demonstrate to the discharger and the public that an entity
24 is complying with its waste load allocation. In fact, it
25 has been noted the draft TMDL fails to contain specific load

allocations, which is a basic requirement of TMDL process.

In terms of the vagueness problem that we have or we see, the TMDL needs to outline exactly how the delta reductions or the proposed nutrient trading will work and demonstrate how these methods versus an easy understand end of pipe limitation will actually result in compliance with water quality standards.

We also agree with other commenters that Avista appears to bear too much of the burden for reducing levels in Long Lake. The pendulum appears to have shifted from dischargers, little responsibility for Avista, and now it seems to have shifted too far the other way. And Avista bears much of the brunt of the responsibility for reducing levels in Long Lake. And yet, they don't have clear requirements that would demonstrate compliance with the TMDL.

In terms of some specifics, I will note, I applaud the inclusion of storm water in the calculations. I will, however, note that at the same time you have a long or detailed discussion about the reduction of storm water, DOE is extending the period for compliance for Phase II permittees to develop and implement their storm water management plans and other significant elements of the Phase II permit. I think you need to address that in the TMDL.

1 In your response to comments, we would request that
2 you explain why you included the month of March in your
3 tributary load allocations when the previous two draft TMDLs
4 only used April and May. Please explain why you changed
5 your methodology for calculating tributary load allocations.
6 It's my understanding you previously modeled the tributary
7 load allocations and then calculated the percent load
8 reductions. Why the change in methodology?
9 Please explain how you calculated the non-point source
10 reduction values, because they appear to be arbitrary. Yet,
11 they are obviously important to the remaining calculations.
12 Why did you change the methodology for averaging the,
13 the loading for specific periods? The result has been a
14 drastic reduction in non-point source reduction values from
15 approximately 96 percent in the 2004 draft TMDL to 50
16 percent in the 2007 draft TMDL to 36 percent in the 2009
17 draft TMDL, yet conditions on the ground haven't changed
18 that drastically to indicate why those reductions are so
19 drastic.
20 I think you're aware of this, you've been notified
21 about this, but figures in Table M4 are incorrect and result
22 in tributary load allocations being off as much as 22,
23 sorry, 21 percent. Please correct the numbers and
24 recalculate the load allocation using the appropriate data.
25 It also finally appears that you're grossly

overestimating the loads to the lake from natural conditions, particularly groundwater. Please clearly explain the basis for your calculations to come up with these natural conditions.

I will say listening tonight, I understand that many people have worked on this TMDL certainly a lot longer than I have and are probably tired of the process and have what I'm now calling TMDL fatigue. But the truth is that if we don't get a workable TMDL passed that will actually result in reductions of phosphorous in the lake, we will spend many millions of dollars and come back here 10 years from now. And I'm very confident to say that nobody wants that. Thank you.

THE HEARINGS OFFICER: Thank you. Before we close formal testimony, I'd like to extent the opportunity for anyone else who wants to give formal comment to do so now.

(No response)

Nobody, okay.

All testimony received at this hearing along with written or video comments received will be part of the official record for this proposal. The public comment period ends at 5:00 p.m. on October 30th, 2009. Written comments must be received by then.

Please submit written comments to David Moore, M-O-O-R-E, Washington State Department of Ecology, North

4601 Monroe, Spokane, Washington, 99205. You may submit comments by email, as well, to dmoo461@ecy.wa.gov.

All oral and written comments received during the public comment period will be responded to in a document called The Response to Comments Summary that will state Ecology's official position on the issues and concerns raised. That document will be included as a final, a part of the final TMDL document. Copy will be mailed to everyone who provided oral or written testimony today.

On behalf the Department of Ecology, I thank you for coming this evening, and I appreciate your cooperation and courtesy. This hearing is adjourned at 7:20 p.m.

STATE OF WASHINGTON)
: ss: REPORTER'S CERTIFICATE
COUNTY OF SPOKANE)

I, Rita A. Ketza, a notary public in and for the State of Washington, do hereby certify:

That the foregoing public hearing was held on the date and at the time and place as shown on Page 1 hereto;

That the foregoing is a true and correct transcription of my shorthand notes of the requested public hearing transcribed by me or under my direction;

WITNESS my hand and seal this 29th day of October 2009.

RITA KETZA
CCR No. 2136,
Notary Public in and for the
State of Washington, residing
at Spokane.

RITA KETZA NOTARY EXP. 05/01/2010 PUBLIC SPOKANE COUNTY, WASHINGTON

Moore, David (ECY)

From: rootcellar@juno.com
Sent: Sunday, November 01, 2009 9:05 PM
To: Moore, David (ECY)
Subject: Lake Spokane TMDL

I support the issues presented by Scott Chaney Sincerely Ann F. Riordan

October 30, 2009

Mr. David Moore
Washington State Department of Ecology
Eastern Regional Office
N. 4601 Monroe
Spokane, WA 99205-1295

Re: Spokane River and Lake Spokane 2009 Dissolved Oxygen Draft TMDL

Dear Mr. Moore:

On behalf of Avista Corporation ("Avista"), I am writing to provide comments on the draft Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load Water Quality Improvement Report issued on September 15, 2009 ("draft DO TMDL"). We appreciate the hard work by the staff of the Department of Ecology ("Ecology") and Region X of the Environmental Protection Agency in preparing the draft DO TMDL.

Avista's detailed comments on the draft DO TMDL are appended as Attachment A. As you will see, Avista's primary concern relates to the role that water quality modeling results will play in implementing the DO TMDL. In particular, we are concerned about the use of the numeric modeling values shown in Table 6, which purport to definitively measure Avista's responsibility for DO deficits in Lake Spokane.

Despite the shortcomings described in our detailed comments, Avista does not object to Ecology's use of the modeled DO values shown in Table 6 as one consideration in determining Avista's compliance with its DO responsibility under the TMDL. Other important considerations include the extent to which existing and designated uses are being supported (with a particular focus on the dominant aquatic habitat), and the results that are achieved once Avista has employed reasonable and feasible measures toward improving DO levels in Lake Spokane.

However, Avista strongly objects to the use of Table 6 as anything more than an approximation of DO changes caused by Long Lake Dam, based on very limited data and highly debatable modeling assumptions. For example, the model's assumption that upstream sources are not contributing to the DO problem in Lake Spokane once their nutrients enter the Lake is flawed and unrealistic.

The key language that Avista believes requires modification is found on page 36 of the draft DO TMDL:

> Direct calculation of the dissolved oxygen improvements necessary to meet the water quality standards in Lake Spokane are provided in Table 6 and are calculated for each segment (vertical averaged dissolved oxygen) location within the reservoir (Figure 7).

> The water quality improvements required in Table 6 must occur in order to achieve water quality standards for DO in Lake Spokane, and will serve as the basis for evaluation of the adequacy of Avista's WQAP in meeting its responsibilities. To achieve these water quality improvements, Avista can consider all necessary methods, such as technology or engineering improvements to the dam and reservoir, as well as methods to reduce nonpoint sources of nutrients to the system.

Avista proposes that Ecology replace this language with the following:

> Table 6 shows the model's approximate, predicted dissolved oxygen levels in Lake Spokane under "natural" conditions, after implementation of controls on upstream sources. The shaded cells indicate those areas where it is predicted that DO levels will be more than 0.2 mg/L below natural conditions. Future versions of this table, with modeling results based on additional updated data (particularly that regarding the dominant aquatic habitat within the Lake), will serve as one indicator of whether Avista's DO WQAP is fulfilling Avista's responsibility to mitigate its proportionate level of responsibility for DO problems in Lake Spokane. To fulfill its responsibility, Avista shall consider and implement reasonable and feasible technological and operational measures.

If Ecology adopts this proposed language, inconsistent language elsewhere in the draft DO TMDL will need to be revised accordingly.

I am enclosing a CD that includes copies of previous comments filed by Avista during the course of the DO TMDL process, and documents referenced in Attachment A for your reference and consideration, and in order to ensure a complete administrative record.

I hope that you will find our comments helpful in developing a DO TMDL that more appropriately addresses Avista's level of responsibility for DO conditions in Lake Spokane. If I can provide you with any additional information, please do not hesitate to contact me.

Sincerely,

Speed Fitzhugh

Elvin "Speed" Fitzhugh
Avista Corporation
Spokane River License Manager
(509) 495-4486

Enclosure

Attachment A

Avista's Comments on Ecology's
September 2009 Draft DO TMDL

Avista Corporation

Comments on Draft Water Quality Improvement Report for Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load

I. INTRODUCTION AND BACKGROUND

A. Avista Plays a Unique Role in this DO TMDL Process.

The purpose of a TMDL process is to develop a plan to improve water quality in water bodies known to be out of compliance with applicable water quality standards. The TMDL then divides responsibility for making necessary improvements among the point sources that discharge into the water body, such as wastewater treatment facilities and industrial facilities, and non-point sources, such as fertilizer use, animal waste handling, and failing septic systems.

Currently, Lake Spokane receives approximately 85,750 lbs of phosphorus during March through October.[1] The primary point sources are seven facilities located along the main stem of the Spokane River between Coeur d'Alene Lake and Lake Spokane. Together, they discharge a summer average of approximately 75 million gallons of treated wastewater per day into the River. Another point source is expected to result from construction of a wastewater treatment facility by Spokane County. These eight facilities are referred to collectively as "Dischargers."

Avista plays a unique role in this DO TMDL process because none of its facilities discharge nutrients into the River or Lake Spokane. Instead, Avista owns and operates the Spokane River Hydroelectric Project (Spokane River Project), consisting of five hydroelectric dams on the Spokane River. One of these is the Long Lake Dam, which impounds the river and creates a 23.5 mile-long reservoir, Lake Spokane. The impoundment causes some of the nutrients discharged by point and non-point sources to

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[1] Phosphorus loads into Lake Spokane were calculated by multiplying load (lbs P/day) by the corresponding number of days, and summing these values when necessary. Current phosphorus loading into Lake Spokane is 85,750 pounds from March through October. Draft DO TMDL at 24-25. Primary tributaries (i.e., Hangman Creek, Coulee Creek and Little Spokane River) contribute about 35,000 pounds (41%) of this phosphorus load. Draft DO TMDL, Appendix M, at 2. Attaining the draft DO TMDL load allocations would reduce these tributary loadings to approximately 28,000 lbs, a reduction of 20%. *Id.* Groundwater accounts for about 22,400 lbs (26%) of the phosphorus loadings into the Lake, and the draft DO TMDL does not provide an allocation that would reduce these loadings. Draft DO TMDL, Appendix M, at 1. Although the draft DO TMDL does not provide the 2001 loadings from point sources, it does provide waste load allocations, which total 6,248 lbs of phosphorus, for the four existing point sources in Washington (Liberty Lake, Kaiser, Inland Empire Paper Company, and the City of Spokane) and Spokane County's new wastewater treatment plant, which has yet to be constructed. Draft DO TMDL at Table 4. "The point source load will be reduced by 94 percent in March – May, 87 percent in June, and nearly 90 percent in July – October." Draft DO TMDL at Figure 4. Note that three additional point sources located in Idaho (City of Coeur d'Alene, Hayden Area Regional Sewer Board, and City of Post Falls) also contribute to Spokane River loads.

settle and accumulate on the bottom of the lake. Without Long Lake Dam, the same amount of nutrients would simply continue to be carried downstream before settling and accumulating on the bottom of the next storage reservoir, Lake Roosevelt.

For almost a decade, the Spokane River DO TMDL process proceeded in parallel with the relicensing of the Spokane River Project by the Federal Energy Regulatory Commission (FERC). From 2000 to 2005, Avista consulted with other interested parties as it prepared its License Application to FERC, while Ecology and the Dischargers attempted to complete the DO TMDL process. Ecology issued a draft DO TMDL for public comment in 2004, and then issued revised versions in 2007 and 2008. Avista participated in the TMDL process throughout this period, but was instructed by Ecology and others that it did not belong in that process because it is not a discharger. Instead, Ecology decided that Avista's responsibilities regarding DO in Lake Spokane would best be determined through Ecology's Section 401 Certification, to be issued in conjunction with the FERC License. May 2008 Draft Spokane River DO TMDL at 5, 47, and B-83.

Only earlier this year did the relicensing and DO TMDL processes officially converge, after several parties appealed the Section 401 Certification that Ecology issued for the Spokane River Project. In the course of settling those appeals, Avista volunteered to become a full participant in the DO TMDL process, so that its level of responsibility could be determined along with the Dischargers and non-point sources on a comprehensive basis. Settlement Agreement in *Sierra Club v. Department of Ecology*, PCHB Nos. 08-067, 08-068, and 08-072, Attachment A at 10-11 (February 2009). Pursuant to that Settlement Agreement, Ecology issued a revised Section 401 Certification on May 8, 2009, and the conditions of that certification are now included as Appendix B to the FERC License issued on June 18, 2009.

The revised Section 401 Certification provides that, after EPA approves the DO TMDL, Ecology will amend its certification to require Avista to develop, within two years of the effective date of the amendment, a DO Water Quality Attainment Plan (WQAP) for review and approval by Ecology. The WQAP will provide a detailed strategy to address Avista's "proportional level of responsibility, based on its contribution to the dissolved oxygen problem in Lake Spokane as determined in the DO TMDL." FERC License, Appendix B, Sec. 5.6.C. Additionally, Avista has until the end of December 2009 to "identify reasonable and feasible improvements and/or mitigation measures that could be used to address its proportional level of responsibility for dissolved oxygen in Lake Spokane," in accordance with the Settlement Agreement between Avista, Ecology, Inland Empire Paper, Sierra Club, and the Center for Environmental Law and Policy referenced above. Settlement Agreement at 3. The identified mitigation measures will be further refined during development of the WQAP.

The current draft DO TMDL is the first to include an apportionment of responsibility for Avista. Draft DO TMDL at xii. With Avista now "at the table," Ecology increased the total phosphorus waste load allocations (WLAs) for the Dischargers by several-fold; from 7-8 ppb in the 2008 draft DO TMDL to 25-42 ppb in the current draft DO TMDL. May 2008 Draft TMDL, Table 5, at 30 and 2009 draft DO TMDL, Table 4, at 28, respectively.

Counteracting the effects of this increase now becomes the responsibility of Avista, according to the draft DO TMDL.

B. Avista has Already Committed to Improving DO Levels In and Below Lake Spokane.

Avista has already taken steps to improve DO levels, both at the outflow of the Long Lake Dam and in Lake Spokane itself. The Long Lake Dam outflow to the powerhouse is drafted from well below the lake's surface (the intake is located 29-45 ft below the full pool elevation)**,** drawing water from the middle layer of the lake. When stratification occurs during the summer, the water flowing downstream from the dam is relatively cold (in fact, colder than the natural river would be at times) (HDR, May 9, 2005, *Spokane River Hydroelectric Project: Current Operations Water Quality Report* at 6-41 and 6-45), but does not meet the applicable numeric criteria for DO.

In response, in its 2005 application to FERC, Avista proposed to explore ways to improve the DO levels in the outflow from Lake Spokane. Since then, it conducted an initial feasibility study and proposed, as part of the Section 401 Certification and FERC relicensing processes, to complete a Phase II Feasibility and Implementation Plan. The proposal was welcomed by others and included by Ecology in its Section 401 Certification, which is now part of the FERC License. FERC License, Appendix B, Sec. 5.6.B.

Avista made other proposals in the relicensing process to address water quality in Lake Spokane, and those too have now been included in the FERC License. Such proposals include the creation of a 200-foot shoreline buffer along approximately 18 miles of Avista-owned Lake Spokane property to preserve it in a natural condition, preventing future residential, commercial, and/or agricultural uses that would further impact the lake's water quality. FERC License, E. 47, at 15. Additionally, Avista proposed to acquire, restore and/or enhance 47 acres of wetlands along Lake Spokane, which was later revised by Ecology in its Section 401 Certification to a minimum of 42.51 acres. FERC License, Appendix B, Sec. 5.3.G. As stated above, Avista's DO WQAP will identify additional mitigation measures to improve DO levels in Lake Spokane**.**

C. Avista is Subject to Different Laws than the Dischargers and Non-point Sources.

Avista has agreed to have its proportional level of responsibility determined in the DO TMDL process, notwithstanding that dams do not discharge pollutants. However, the water quality effects of hydroelectric dams are governed by distinctly different provisions of law than are the water quality effects of either point source or non-point source Dischargers. Among other things, Washington law makes dams responsible for water quality problems only to the extent that there is substantial evidence that they have caused the problem, and provides that dams are to employ "reasonable and feasible" means to attain water quality standards. These differences are discussed in more detail below.

II. SPECIFIC COMMENTS

A. The TMDL Must Not Make Avista Responsible for Eliminating All DO Deficits as Quantified in the Shaded Cells in Table 6.

For a number of reasons discussed below, the following language in the draft DO TMDL would impose an unreasonable and disproportionate DO responsibility on Avista:

> Direct calculation of the dissolved oxygen improvements necessary to meet the water quality standards in Lake Spokane are provided in Table 6 and are calculated for each segment (vertical averaged dissolved oxygen) location within the reservoir (Figure 7). The water quality improvements required in Table 6 must occur in order to achieve water quality standards for DO in Lake Spokane, and will serve as the basis for evaluation of the adequacy of Avista's WQAP in meeting its responsibilities. To achieve these water quality improvements, Avista can consider all necessary methods, such as technology or engineering improvements to the dam and reservoir, as well as methods to reduce nonpoint sources of nutrients to the system.

Draft DO TMDL at 36 and xi. The text of the heading for Table 6 contains similar language:

> **Table 6. TMDL Scenario #1 dissolved oxygen concentrations** *(italics) are compared with No Source scenario concentrations (bold) for [start date] through [end date]. Those areas of the reservoir where additional DO improvement is needed by Avista are shaded. Avista's responsibility (mg/L) for each segment is quantified in the shaded cells.*

(Emphasis in original). The draft DO TMDL must recognize the limitations inherent in the modeling results, and must not hold Avista responsible for eliminating all DO deficits as they are quantified in the shaded cells in Table 6. Avista proposes that Ecology replace the paragraph from pages 36 and xi of the draft DO TMDL quoted above with the following:

> Table 6 shows the model's approximate, predicted dissolved oxygen levels in Lake Spokane under "natural" conditions, after implementation of controls on upstream sources. The shaded cells indicate those areas where it is predicted that DO levels will be more than 0.2 mg/L below natural conditions. Future versions of this table, with modeling results based on additional updated data (particularly that regarding the dominant aquatic habitat within the Lake), will serve as one indicator of whether Avista's DO WQAP is fulfilling Avista's responsibility to mitigate its proportionate level of responsibility for DO problems in Lake Spokane. To fulfill its responsibility, Avista shall consider and implement reasonable and feasible technological and operational measures.

In addition, Ecology should change the heading of Table 6 to read as follows:

Table 6. TMDL Scenario #1 dissolved oxygen concentrations (*italics) are compared with No Source scenario concentrations (bold) for [start date] through [end date]. Those areas of the reservoir where the model predicts a decrease of more than 0.2 mg/L of DO over natural conditions are shaded.*

1. The model is simply a regulatory tool; it cannot legitimately be used as a precise measure of compliance with numeric water quality criteria.

The draft DO TMDL discusses water quality modeling results as if they are a precise measure of reality, and of Avista's level of legal responsibility for achieving water quality standards. This is inconsistent with the comments of Ecology and EPA during the public meetings, where EPA's lead modeler, Mr. Ben Cope, and others repeatedly acknowledged that a water quality model is not itself reality, but is rather a "pretty good representation" of what is happening in the Spokane River and Lake Spokane, based on a number of assumptions. These latter comments are consistent with comments by Ecology early in the TMDL process (2004), when it stated that "the model provides a good approximation of the major forcing processes and features of the system that affect water quality such as the hydrodynamics of Lake Spokane, pools associated with the dams, periphyton growth, and pollutant loading." Cusimano, R. F., 2004, *Spokane River and Lake Spokane (Long Lake) Pollutant Loading Assessment Report for Protecting Dissolved Oxygen* (Cusimano 2004) at 56.

This more cautious characterization of the modeling results also reflects the limited amount of actual data used to verify the model. The entire model is based on DO measurements ***gathered over a period of nine days;*** two days at six stations in 2001, and on seven days at two stations in 2000. Wells, S. and C. Berger, June 2009, *Spokane River Modeling Report 2009: Model Update and Calibration Check* at 52 and 83. Thus the apparent precision of Table 6, with its 32 lake segments and 14 semi-monthly periods, each with DO values expressed in tenths of micrograms, is derived by substantially extrapolating and interpolating the actual data. It is important that this be acknowledged in the final DO TMDL so that those who implement it (most of whom will not be trained modelers) will understand and appreciate that the modeling results are but one simulated measure of success, not the sole indicator of compliance.

2. The draft DO TMDL's characterization of the water quality of Lake Spokane is based on information that is incomplete and outdated.

The draft DO TMDL begins by asking the critical threshold question: "Why is a TMDL project being done in this watershed?" Draft DO TMDL at x. In response, the draft states that: "Lake Spokane, also known as Long Lake, has a long history of water quality problems. Eutrophication of the lake has been one of the major water quality concerns for the area over the past 40 years (Cunningham 1969, Soltero et al. 1973 – 86, Singleton 1981, Wagstaff and Soltero 1982)." *Id*.

This characterization ignores the improvements in water quality that have occurred since the late 1970s. Among other things, the City of Spokane constructed a new advanced wastewater treatment plant in 1977, with secondary treatment that removed 85 percent of the phosphorus. Cusimano 2004 at 31. By 1987, a study prepared for Ecology based on data collected from 1966 to 1985 concluded that: "All four trophic status indicators [(i.e., chlorophyll-a concentrations, phytoplankton biovolume, Secchi disk transparency and hypolimnetic DO levels)] have exhibited significant (P<.05) improvements following the implementation of AWT [Advanced Water Treatment] at Spokane." Patmont et al. 1987, *The Spokane River Basin: Allowable Phosphorus Loading* at 46.

By 2003, an Ecology report had concluded that: "The minimum dissolved oxygen concentrations in the lake improved immediately after 1977 and appear to have continued to improve until 1991, but the 2000 and 2001 data suggest that the lake may not improve further without further management." Cusimano 2003, *Data Summary: Spokane River and Lake Spokane (Long Lake) Pollutant Loading Assessment for Protecting Dissolved Oxygen* at 32. Since then, however, Ecology has collected almost no DO water quality data from Lake Spokane. The draft DO TMDL addresses five water body segments that Ecology included in its 303(d) list for dissolved oxygen. Of these five, only one (Listing 11400) is based on data collected after 2001. Draft DO TMDL, Table 1; 2008 303(d) Listings 40939, 15188, 17523, 15187, and 11400.

With respect to impacts on fish and other aquatic species, the draft DO TMDL states the problem in the abstract, rather than in the specific context of Lake Spokane: "Eutrophication is a process where excess aquatic plant growth occurs in a water body in response to high levels of nutrients (i.e., nutrient enrichment), and this plant growth can reduce the oxygen in the water to levels that are harmful for fish and other aquatic species." Draft DO TMDL at x. The draft DO TMDL cites ***no evidence*** that fish and other aquatic species in Lake Spokane are being harmed by low levels of DO. To the contrary, Lake Spokane is the site of several bass fishing tournaments each summer. In addition, the FERC License requires Avista to annually stock 155,000 catchable-sized sterile rainbow trout in Lake Spokane for a minimum of five years. FERC License, Article 406, at 85. This requirement is based on a recommendation by the Washington Department of Fish and Wildlife (WDFW), which stated that "Upper Falls, Nine Mile, and Lake Spokane reservoirs all offer littoral and limnetic habitats that are favorable to producing rainbow trout fisheries." WDFW, Comments on the Draft Environmental Impact Statement for FERC Projects P-2545 (Spokane River Developments) and P-12606 (Post Falls Project) and Modified Recommendations for Terms and Conditions, March 6, 2007 at 26.

While there is no requirement that "all data relied upon by the agency be immediate," an agency should seriously consider how much weight to give to out-of-date studies. *Lands Council v. Powell*, 395 F.3d 1019, 1031 (9th Cir. 2005) (finding a six-year-old study "too outdated to carry the weight assigned to it"); *Seattle Audubon Soc'y v. Espy*, 998 F.2d 699, 704-05 (9th Cir. 1993) (overturning NEPA analysis on basis that it relied on "stale scientific evidence"). In particular, an agency should not rely on older data while failing to consider up-to-date studies on the same topic. *Espy*, 998 F.2d at 704-05 (older study

was "stale" in part because a newer report had been issued, to which agency gave inadequate consideration).

3. The model does not focus on "dominant aquatic habitat" of the Lake, as required by Ecology's regulations.

Ecology's regulations require that DO levels be measured in the dominant aquatic habitat of the water body. As stated in WAC 173-201A-200(1)(d)(iv):

> (iv) DO measurements should be taken to represent the ***dominant aquatic habitat*** of the monitoring site. This typically means samples should:
>
> (A) Be taken from well mixed portions of rivers and streams; and
>
> (B) Not be taken from shallow stagnant backwater areas, within isolated thermal refuges, at the surface, or at the water's edge.

(Emphasis added.) However, the draft DO TMDL makes no mention of the dominant aquatic habitat of Lake Spokane. More importantly, the monitoring points identified in the draft DO TMDL do not, in fact, represent the dominant aquatic habitat of the lake.

WDFW has concluded that spawning and rearing habitat exist in the river and shallower part of the upper reservoir and tributaries, and that the lower reservoir provides refuge and forage habitat. *Summary of Ecology Information Regarding Aquatic Life Uses in Lake Spokane* (undated) at 2. This is consistent with the fact that the dominant aquatic habitat of a stratified water body is the area above the thermocline. In such water bodies, the area below the thermocline typically has reduced DO due to natural processes. Wetzel, R.G., 1975, *Limnology* at 127. Therefore, these areas cannot serve as the dominant aquatic habitat.

By establishing compliance points in the areas identified by WDFW, Ecology would provide reasonable assurance that numeric criteria will be met where the other essential habitat conditions exist. Such an approach would also avoid an expensive and futile effort to achieve compliance with numeric criteria in those portions of the lake where spawning and rearing would not naturally occur even under the most favorable DO levels. The DO TMDL should acknowledge that protection of dominant aquatic habitat will be an important consideration in evaluating Avista's compliance with its DO responsibility.

Instead of this approach, however, the draft DO TMDL goes in the opposite direction. First, the modeling excludes the top 8 meters of the lake, ***over 40 percent of the lake's volume,*** much of which is part of the dominant aquatic habitat. The draft DO TMDL states that the top 8 meters have "amplified algal activity which increases daytime dissolved oxygen levels." Draft DO TMDL at 36. However, the draft DO TMDL neglects to mention that amplified algal activity (i.e., respiration) ***reduces*** DO levels at nighttime. Thornton et al., 1990, *Reservoir Limnology: Ecological Perspectives* at 75. Because the draft DO TMDL measures compliance with the numeric DO criteria on the

basis of a ***daily minimum*** (i.e., the minimum over a 24 hour period), the fact that algal activity may increase the daytime DO levels is not a reason to exclude the upper 8 meters from the analysis.

Second, as to the bottom 60 percent of the lake, the draft DO TMDL makes no distinctions between portions of the lake that may constitute dominant aquatic habitat and those that do not. Instead, it requires compliance with the numeric criteria in all 35 segments of the lake.

4. The draft DO TMDL must be consistent with provisions of state law pertaining to dams.

a. Avista's obligation under the TMDL is to address only water quality problems caused by its dam.

Washington law limits the extent to which dams may be held responsible for water quality problems: "With respect to Federal Energy Regulatory Commission licensed hydropower projects, the department [of Ecology] may only require a person to mitigate or remedy a water quality violation or problem to the extent there is substantial evidence such person has caused such violation or problem." RCW 90.48.422(3). The draft DO TMDL acknowledges the causation principle underlying RCW 90.48.422(3): "A dissolved oxygen responsibility has been determined with the CE-QUAL-W2 model to account for the dissolved oxygen impacts ***caused by*** Long Lake Dam during the most critical times of the year." Draft DO TMDL at vii (emphasis added). The draft DO TMDL also correctly states that "water quality in the reservoir is a function of: 1) the quality of water flowing into the reservoir, and 2) the reduced assimilative capacity of the system caused by Long Lake Dam." *Id*. at 24.

However, the modeling construct used to determine Avista's responsibility incorrectly attributes causation to Long Lake Dam. This construct is described in the draft DO TMDL:

> The approach used to evaluate the extent to which the dam's alteration of the free-flowing river's hydrology contributes to the lake's impairment relies on water quality predictions from the model, CE-QUAL-W2, and focuses on a benchmark location in the free-flowing river, downstream of all anthropogenic sources, but upstream of Lake Spokane. If the model assumes that all upstream sources of impairing pollutants are reduced such that water quality at this benchmark location is unimpaired during the critical period of March to October, then it is reasonable to assume that all impairments downstream of the riverine portion of this TMDL are attributable to the reduction in the assimilative capacity of the lake caused by Long Lake Dam.

Draft DO TMDL at 35. Below, we explain why this approach violates RCW 90.48.422(3).

(1) The draft DO TMDL incorrectly assumes that a water quality problem would not exist but for the dam.

A fundamental error in the draft DO TMDL is the assumption that the DO concerns regarding the Spokane River would be solved if the Long Lake Dam did not exist. "If we run the model without the reservoirs, then the critical condition would be greatly altered and the problems with dissolved oxygen would appear to be non-existent." Draft DO TMDL at 8, quoting from October 24, 2008 Ecology letter to EPA.

This is not accurate. The draft DO TMDL omitted a key qualifier when it quoted from Ecology's October 24, 2008 letter to EPA. In that letter, Ecology continued on in the sentence quoted above to state that "in fact this is not the case." Although DO levels in ***that portion*** of the river would likely be higher without the dam, the absence of the dam would simply allow the same nutrient load to travel downstream to another location, where it would cause algal growth, leading to algae decomposition, and reduced DO levels. In short, the Long Lake Dam does not ***cause*** nutrients from upstream sources to create DO problems that would not otherwise exist; it merely determines ***where*** in the river system DO problems caused by others will manifest themselves.

(2) The draft DO TMDL makes Avista responsible for the effects of nutrients that it did not cause to enter the Lake, from sources over which it has no control.

The draft DO TMDL effectively makes Avista solely responsible for the effects of upstream discharges (both point and non-point) once they reach the lake, notwithstanding the fact that none of them are caused or controlled by Avista. This includes all nutrients from the Dischargers once those nutrients reach the lake, all of the nutrients that flow from Hangman Creek and other tributaries, and those that flow directly into the lake from along its shoreline.

The draft DO TMDL also makes Avista responsible for the effects of decades of historic discharges that it did not cause. Going forward, the Dischargers are required to reduce their nutrient discharges only so that the "benchmark location is unimpaired during the critical period of March to October…." Draft DO TMDL at 35. In other words, the draft DO TMDL does not limit discharges from upstream sources from November through February, notwithstanding that those discharges have the same effect on the bottom of the lake as nutrients discharged from March through October, and any effect those nutrients have during the "critical season" becomes the sole responsibility of Avista under the terms of the draft DO TMDL.

The model also assumes that Segment 154 (where compliance is measured for the Dischargers) is "downstream of all anthropogenic sources," which is not true. This error makes Avista responsible for all discharges resulting from activities on or near the shores of Lake Spokane, notwithstanding the fact that it neither causes nor controls the sources of those discharges. In addition to farming activities along the shore of the lake, the approximate 400 septic tanks located within 300 feet of Lake Spokane most likely

contribute additional nutrients to the lake. Under the model, Avista is held 100 percent responsible for the DO effects of such discharges.

(3) The draft DO TMDL should not make Avista the sole guarantor of DO levels in the Lake.

The obligations of the Dischargers under the TMDL are fixed and predictable. Each Discharger is assigned a WLA, which will be incorporated into its NPDES permit. As long as they meet the effluent limits in their permits (either by lowering the concentration of nutrients in their discharge or through other "delta eliminating" actions), the Dischargers will be in compliance with their obligations under the DO TMDL.

However, the draft DO TMDL takes a fundamentally different approach with respect to Avista. It makes Avista responsible for complying with water quality criteria for DO in all segments of Lake Spokane, from June through October. If upstream land development activities increase the flow of nutrients into the Spokane River or any of its tributaries, or if there is a significant accidental release of nutrients from any of the Dischargers, or if septic tanks fail around Lake Spokane, Avista should not be responsible for counteracting the effects on DO in the lake.

This problem will be particularly acute if compliance is determined solely through monitoring or as indicated in Table 6 of the draft DO TMDL. Monitoring Lake Spokane's water quality would document DO conditions resulting from all sources, but would not distinguish between the effects of Avista's enhancements and those of other sources. In other words, substantial progress by Avista would not necessarily be reflected in monitoring results if other sources of nutrients increase during the same timeframe. It is, therefore, critical that Avista's compliance with the DO TMDL be evaluated based on a combination of factors, including monitoring data, modeling results, implementation and quantification of Ecology-approved BMPs, and the effects these have on the dominant aquatic habitat. The model used to evaluate compliance must also be updated to reflect actual conditions being evaluated.

b. Avista's obligations under the DO TMDL must be to implement measures that are "reasonable and feasible."

Dams that cause or contribute to a violation of water quality standards must develop a WQAP that provides a detailed strategy for achieving compliance using "all reasonable and feasible improvements." WAC 173-201A-510(5)(b)(ii). The "reasonable and feasible" standard should be clearly incorporated into the expression of Avista's compliance obligation.

5. The draft DO TMDL makes Avista responsible for improving water quality in segments of Lake Spokane not identified on Ecology's 303(d) list.

The draft DO TMDL assigns Avista responsibility for improving DO levels in all areas of Lake Spokane represented in the model as segments 165 through 188. These segments

include large portions of the lake that Ecology has not identified as "water quality-limited segments."

Section 303(d) of the Clean Water Act requires each state to "identify those waters within its boundaries for which the effluent limitations required by section 1311(b)(1)(A) and section 1311(b)(1)(B) of this title are not stringent enough to implement any water quality standard applicable to such waters." 33 USC 1313(d)(1)(A). It also requires states to establish TMDLs "for the waters identified" in the preceding sentence. 33 USC 1313(d)(1)(C) and 40 CFR 130.7(c)(1). Thus, a TMDL is written specifically for waters identified as water quality-limited in the state's 303(d) list.

Ecology's 303(d) list identifies only a small portion of Lake Spokane as a Category 5, or impaired, water. Listing ID 40939 in Ecology's 2008 Water Quality Assessment. The portion identified as impaired includes only those areas represented in the model as around segments 181 and 182**.** Therefore, the draft DO TMDL can allocate responsibility for improving DO levels only in those listed segments.

B. Avista and the Dischargers Must be Allowed to Meet Their Respective Obligations Under the DO TMDL by Using Offsets for Non-point Source Reductions Immediately.

The draft DO TMDL acknowledges that water quality standards cannot be achieved unless non-point sources are reduced: "Based on estimates of achievable improvements in nutrient control upstream of the lake, ***water quality standards cannot be achieved*** in Lake Spokane unless both the capacity of Lake Spokane is improved (through reductions in nutrients and improvements in in-lake dissolved oxygen) and upstream anthropogenic sources (point and non-point sources) are substantially decreased." Draft DO TMDL at xi. It further notes that "The nonpoint total phosphorus source load accounts for a large portion of the overall load, especially during the spring months." *Id*.

In Table 5, the draft DO TMDL assigns load allocations to the mouths of certain tributaries to the Spokane River (Hangman Creek, Coulee Creek, and the Little Spokane River) and for groundwater to the mainstem of the Spokane River. Draft DO TMDL at 31. These allocations translate to nutrient loading reductions ranging from 20 to 50 percent. Thus, water quality standards for Lake Spokane cannot be achieved unless the 20 to 50 percent reductions in non-point source loadings are actually achieved. Avista strongly encourages Ecology to take all actions necessary to meet these load allocations.

In addition, it is critical that Avista and the Dischargers be allowed to meet their respective obligations under the DO TMDL by helping to reduce non-point source loadings. The draft DO TMDL states that Ecology may award water quality offsets for non-point source reductions, but not "until the load allocations in Table 5 have been met as determined through data collected for the biennial and ten-year assessments." Draft DO TMDL at 51. This limitation is both counter-productive and contrary to law. It should be deleted from the final DO TMDL, and water quality offsets for non-point source reductions should be awarded when the conditions in WAC 173-201A-450 are satisfied.

First and foremost, this limitation would discourage efforts at non-point source reductions until the first ten-year assessment has been completed. Since the purpose of the DO TMDL is to improve water quality, as quickly as practicable, we believe the DO TMDL should encourage such efforts, not discourage them.

Denying offsets for non-point source reductions until the load allocations in Table 5 have been met also will make it far more difficult for the Dischargers to meet their WLAs. The draft DO TMDL acknowledges that the Dischargers might not meet their WLAs unless they can reduce, and take credit for, non-point source loadings. "The dischargers and Avista can and will likely need to pursue actions to reduce nonpoint sources of pollution to the mainstem of the river and the tributaries, in order to reduce their 'delta' and meet the wasteload allocations (Dischargers) and dissolved oxygen responsibility (Avista)." Draft DO TMDL at 30.

Furthermore, this limitation is contrary to Ecology's regulation on offsets. WAC 173-201A-450(2) sets forth the conditions that must be met before Ecology can grant a water quality offset. One of those conditions states that "[o]nly the proportion of the pollution controls which occurs beyond existing ***requirements for those sources*** can be included in the offset allowance." WAC 173-201A-450(2)(e) (emphasis added). However, the DO TMDL will not establish "requirements" for any non-point source. Instead, it will set collective reductions for the tributaries and groundwater to which these non-point sources discharge. In other words, the DO TMDL will set a percentage reduction for a water body, but will not specify how, or by whom, the reduction will occur.

This is an important distinction. It means that no individual non-point source to the tributaries or to groundwater will have a "requirement" to reduce its nutrient loading. Therefore, if the Dischargers or Avista take action to control loadings from such sources, there is no chance that they would relieve someone else of an existing obligation or that they would receive credit for a non-point source reduction that has already been required.

We understand that Ecology cannot give offset credit for assumed reductions that are built into the DO TMDL. But the draft DO TMDL expects reductions in loadings from the tributaries and groundwater ranging from 0 percent to no more than 50 percent. Draft DO TMDL at Table 5. Thus, 50 percent to 100 percent of the current loadings to the tributaries and to groundwater will still be "available" for reduction by Avista and the Dischargers even if the expected reductions are achieved.

An example will illustrate this point. The draft DO TMDL allocates to Hangman Creek a 20 percent reduction in human-caused pollution (March-May average). *Id*. Even with this allocation, there will still be a loading of 80 percent of human-caused pollution into Hangman Creek between March and May. Avista and the Dischargers could help meet their respective responsibilities under the TMDL by reducing the remaining 80 percent loading to Hangman Creek. These reductions would be over and above the 20 percent already assigned in the DO TMDL, and thus would not constitute "double counting" of loading reduction credit.

Even if the non-point reductions in the DO TMDL were considered "requirements" for

sources to the tributaries and to groundwater, we see no basis in the law for denying offset credits until after the expected reductions have occurred. In fact, Ecology's regulations suggest that offset credits will be available during the implementation phase of a TMDL. WAC 173-201A-450(1) ("Water quality offsets may be used to assist an entity in meeting load allocations targeted under a pollution reduction analysis (such as a total maximum daily load)"). Since the typical compliance period for a DO TMDL is ten years, the regulation contemplates that offsets will be available before the ten-year assessment is conducted.

Finally, the draft DO TMDL also states that offsets "may only be awarded for actions above and beyond landowners existing requirements to manage land in a manner that does not violate RCW 90.48." Draft DO TMDL at 51. It is unclear to us what sorts of "existing requirements" Ecology has in mind. Please clarify this statement so that Avista and the Dischargers understand what types of controls are eligible for offsets.

C. Miscellaneous points.

1. The draft DO TMDL states that "[i]f downstream [monitoring] results indicate non-compliance with Tribal water quality standards for dissolved oxygen, then corrective action will be taken by both the upstream dischargers and Avista per the implementation plans to meet the standard." Draft DO TMDL at 43. Our understanding is that the DO TMDL study area ends at Long Lake Dam, the base of Lake Spokane. As discussed above, Avista is already in the process of improving DO conditions downstream from the Long Lake Dam. In addition, Avista and the Spokane Tribe have entered into an agreement to work together to improve water quality within reservation waters.

2. Table 6 includes shaded cells for the period between October 31 and December 15. These cells should not be shaded, since the DO TMDL makes clear that the critical period for DO does not extend past October 31.

3. The schedule on page 57 of the draft DO TMDL states that Avista is required to develop a WQAP by 2011. However, several actions have to be taken before the deadline for developing Avista's WQAP will be known. Ecology must adopt a final TMDL; EPA must approve the final TMDL; and Ecology must amend Avista's Section 401 Certification to require submittal of the WQAP. Once this last step is taken, Avista will have two years to develop the WQAP. The DO TMDL should acknowledge that the deadline for developing a WQAP may be later than 2011.

III. REFERENCES

Cusimano 2003, *Data Summary: Spokane River and Lake Spokane (Long Lake) Pollutant Loading Assessment for Protecting Dissolved Oxygen*

Cusimano, R. F., 2004, *Spokane River and Lake Spokane (Long Lake) Pollutant Loading Assessment Report for Protecting Dissolved Oxygen*

FERC License for Project Nos. 2545-091 and 12606-000 (June 18, 2009).

HDR, May 9, 2005, *Spokane River Hydroelectric Project: Current Operations Water Quality Report*

May 2008 Draft Spokane River DO TMDL

Patmont et al., 1987, *The Spokane River Basin: Allowable Phosphorus Loading*

Settlement Agreement in *Sierra Club v. Department of Ecology*, PCHB Nos. 08-067, 08-068, and 08-072

Summary of Ecology Information Regarding Aquatic Life Uses in Lake Spokane (undated)

Thornton et al., 1990, *Reservoir Limnology: Ecological Perspectives*

Department of Ecology's 10/24/2008 Letter to EPA

WDFW, Comments on the Draft Environmental Impact Statement for FERC Projects P-2545 (Spokane River Developments) and P-12606 (Post Falls Project) and Modified Recommendations for Terms and Conditions, March 6, 2007

Wells, S. and C. Berger, June 2009, *Spokane River Modeling Report 2009: Model Update and Calibration Check*

Wetzel, R.G., 1975, *Limnology*

2008 303(d) Listings 40939, 15188, 17523, 15187, and 11400

CITY OF COEUR D'ALENE
WASTEWATER UTILITY DEPARTMENT

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October 29, 2009

Via E-mail: dmoo461@ecy.wa.gov

Mr. David Moore
Water Quality Program
Eastern Regional Office
Washington State Department of Ecology
4601 North Monroe Street
Spokane, WA 99205

Re: 2009 Draft Spokane River and Lake Spokane Dissolved Oxygen TMDL Water Quality Improvement Plan

Dear Mr. Moore:

The City of Coeur d'Alene submits the following comments on the Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load Draft Water Quality Improvement Plan (Draft TMDL) published in September 2009.

Coeur d'Alene has been a willing participant in the Collaborative Process that led to the Foundational Concepts and Memorandum of Agreement (MOA) signed by Jay Manning in March 2007. While Ecology did not include Coeur d'Alene as a party to the MOA, Coeur d'Alene funded a proportional share of the costs for the Collaborative Process and cross border commitments to one of the most aggressive efforts to improve nutrient loading anywhere in the nation. It is unfortunate that the state of Washington and EPA are unwilling to honor the commitments made in the MOA.

The TMDL allocations are based on what can be achieved with technology and what constitutes a fair allocation between dischargers and Avista as the operator of the Long Lake Dam. Coeur d'Alene cannot possibly implement technology to achieve a seasonal average of 36 µg/L for total phosphorus (TP). Allowing a larger allocation to Idaho dischargers under will not adversely impact dissolved oxygen levels in the Spokane River or Lake Spokane. Thus granting an achievable allocation to Idaho will not impact the obligations of Avista or any other discharger subject to the TMDL.

In support of this proposal Coeur d'Alene submits the follow comments and questions:

A. The Draft TMDL determination on treatment technology is arbitrary and capricious.

Ecology should acknowledge that the basis for the TMDL allocations to dischargers is not based on achieving a specific water quality standard but on assumptions about the capabilities of phosphorus removal technology and the availability of effluent offset credits.

The Draft TMDL correctly states that the state of Washington does not have any authority to set wasteload allocations for Idaho dischargers, Draft TMDL, at 28. The same section of the Draft TMDL nonetheless claims that "Ecology has worked closely with EPA to develop very specific assumptions about the anticipated permit-driven reductions of anthropogenic loading of phosphorus, CBOD, ammonia from wastewater treatment plants and stormwater in Idaho." Draft TMDL, at 29.

Please confirm that the "very specific assumptions" described in this statement are the modeling assumptions used by Portland State University (PSU) to develop the water quality modeling described in the Draft TMDL. The assumptions are set forth in the PSU Spokane River Modeling Scenarios Report 2009 (September 15, 2009), Table 2 ("PSU Report").[1] In response to these comments please disclose any other "very specific assumptions" that are referenced on page 29 of the Draft TMDL.

Ecology should explain its basis for assuming in Table 2 of the PSU Report that Coeur d'Alene can not achieve a monthly TP average of 36 µg/L. Coeur d'Alene has been actively evaluating treatment technology to improve nutrient removal from its effluent since 2004 as part of the Spokane River Collaborative Process. Ecology was a participant in that process and is fully aware of the enormous effort to evaluate treatment technology including pilot studies at the Coeur d'Alene Wastewater Treatment Plant (WWTP).

Ecology should acknowledge that it is not aware of any technology that would enable Coeur d'Alene to achieve a seasonal TP average of 36 µg/L. If Ecology does not acknowledge this, then Ecology should in response to these comments identify the specific treatment technologies that are available to Coeur d'Alene, other facilities that have installed the treatment technology, the expected treatment capacity of the technology and any data that confirms the assumptions Ecology has made about the treatment technology. To the extent Ecology is not able to provide such information, Coeur d'Alene will assume that the "specific assumptions" are simply arbitrary and capricious numbers selected by Ecology and EPA staff for water quality modeling.

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[1] Coeur d'Alene notes that the PSU Report is not an appendix to the Draft TMDL. Coeur d'Alene incorporates the PSU Report in its entirety with these comments and requests that it be made part of the administrative record in this proceeding.

Coeur d'Alene incorporates by reference its letter to EPA Region 10 dated September 27, 2007, together with the attachment submitted with that letter. (Exhibit 1.) Ecology should explain in response to these comments why this information does not justify revising the "very specific assumptions" about Coeur d'Alene's anticipated permit limits. It is clear from the pilot testing described in Exhibit 1 that technology will not be able to achieve 36 µg/L as a seasonal average. The capabilities of these technologies will not be confirmed without additional pilot testing, plant design, and optimization. It is simply too soon for any qualified engineer to assert that 36 µg/L is an attainable seasonal average for Coeur d'Alene. It is not a good engineering practice, or defensible for Ecology, to prejudge the capabilities of treatment technology based on the analysis in Appendix J. Would Ecology ever accept a memorandum such as Appendix J as adequate AKART analysis under its permitting regulations?

Ecology should explain in response to these comments how it has used Appendix J to determine the "very specific assumptions" that apply to the Idaho dischargers. The appendix is not discussed anywhere in the Draft TMDL and the Draft TMDL is silent as to what assumptions, if any, Ecology has derived from the report. These comments incorporate by reference the HDR critique of Appendix J as if it is fully set forth herein. (Exhibit 2.) In your response to these comments, please specifically explain whether you agree or disagree with the concerns raised in the HDR document. If you do not specifically respond to the HDR critique, Coeur d'Alene will assume that Ecology agrees with analysis by HDR as to the inadequacies of Appendix J.

The Draft TMDL includes a memorandum from the Technology Work Group that was part of the Collaborative Process. Appendix L. That memorandum sets forth specific conclusions about the limitations of data and additional evaluation of data. In your response to comments specifically state for each comment whether you agree or disagree with the statements. If Ecology does not respond specifically to each statement in Appendix L, Coeur d'Alene will assume that Ecology agrees with the statements made in the memorandum.

B. The selection of model Scenario #1 is arbitrary and capricious.

Neither the Draft TMDL nor the PSU modeling report describe the difference in modeling results between Scenarios #1 and #2. This appears to be an intentional action by Ecology to obscure the evident fact that there is no meaningful difference between the results from either modeling scenario. From what can be gleaned from the documents both scenarios show results that comply with the pH and dissolved oxygen water quality criteria at model segment 154. The results also show that both scenarios are as compliant with the ad-hoc, and improper, use of EPA eco-region criteria. In response to these comments Ecology should fully disclose and discuss the differences in results for both scenarios.

The modeling results indicate that the differences between Scenario #1 and Scenario #2 are "slight." (Exhibit 3.) In response to these comments please explain both the full results for Scenario #2 and the basis for selecting Scenario #1 over Scenario #2.

The modeling results for Scenario #1 and Scenario #2 indicate that these are no real differences in the projected TP concentrations at model segment 154. (Exhibit 4.) Exhibit indicates that Scenario #1 model results meet 10 µg/L 65% of the time from March through October. The modeling results also indicate, however, under Scenario #2 that the TP level at model segment 154 will meet 10 µg/L 62% of the time over the same period.

In light of the nearly identical results for both scenarios, Ecology should explain in response to these comments how it made the determination described on page 35 that the "water quality goal at the benchmark location is being used to confirm that when the Spokane River enters the reservoir upstream sources of dissolved oxygen impairment have been reduced to the point where remaining dissolved oxygen impairments in the reservoir is caused by Long Lake Dam and is Avista's responsibility." How does Ecology make this determination? How is it legally defensible, equitable or reasonable to impose an allocation on Idaho dischargers that cannot be achieved where Avista is only assigned "responsibility" to "improve" dissolved oxygen conditions in Long Lake?

C. Idaho dischargers have minimal impact on dissolved oxygen levels in Washington.

The PSU modeling includes additional modeling for Idaho dischargers. The results from this modeling are not discussed anywhere in the TMDL. In response to these comments Ecology should explain how the PSU modeling results were used to arrive at the "specific assumptions" about Idaho discharge permits.

Ecology in response to these comments should also acknowledge that the PSU modeling demonstrates that Idaho discharges do not cause or contribute to a violation of pH or dissolved oxygen criteria at the state line (PSU Report, Fig. 6) and at model segment 154 (PSU Report, Fig, 9). As shown in Fig. 9, there is no difference between dissolved oxygen levels at model segment 154 comparing the No Source Scenario and Idaho only dischargers under Scenario #1.

The PSU modeling results for Idaho dischargers, PSU Report, Tables 14 and 15, show that the Idaho dischargers contribute only 5% of the DO incremental decrease in the lake from all sources based on the modeled results at depths of 179, 180 and 181 during the critical time of year (August 15-31).[2] More significantly, the results of the PSU Idaho only modeling shows that the Idaho sources cumulatively contribute to an INCREASE in DO at the critical depth of 188 for all modeled timeframes from June 1 to September 15, including the critical August 16 through 31 timeframe. The increases range from 0.13 in June to .01 in the critical August 16 through 31 timeframe. The PSU report does not explain the modeled DO increase contributed by the Idaho dischargers at the 188 critical depth.

[2] David Dilks, LimnoTech, Results of CE-QUAL-W2 Model Sensitivity Analyses in Response to Different Levels of Idaho Point Source Discharge, at 3, September 1, 2009. (Exhibit 3.)

Ecology should explain whether it believes that the results would be any different in comparing the No Source results with Idaho only dischargers under Scenario #2. Ecology should also explain how it is reasonable and equitable to impose unachievable load allocations on Idaho when Idaho dischargers are not responsible for measurable or modeled increase in dissolved oxygen at the riverine assessment point.

Coeur d'Alene requested that LimnoTech conduct additional modeling runs assuming Idaho dischargers are higher seasonal average concentrations. The LimnoTech report is incorporated in these comments by reference. (Exhibit 5.) The additional modeling assumed higher TP assumptions for Idaho only discharges to assess the Idaho only impact on the river and lake DO. At higher assumed TP allocations for Idaho sources, modeling conducted by LimnoTech, demonstrates the Idaho sources set at allocation assumptions of 100 mg/l and 200 mg/l would add to the overall decrease in DO attributed to Idaho dischargers by only .011 and .045 less than 0.7 to 3% at the worst case depth (187 for Scenario #1 as modeled by PSU) and critical depth (188 for Idaho only scenarios of 100 and 200).[3]

Ecology has ignored the PSU report which demonstrates that Idaho sources under Scenario #1 contribute to improved DO at the critical depth and demonstrates that the application of Scenario #1 allocations to Idaho is not equitable for Idaho. Ecology should not arbitrarily disregard their own modeling results. The PSU model reports show that Idaho sources at the critical river mile (154) and depth (188) and time of year under Scenario #1 allocation assumptions will both meet the DO criteria at the riverine assessment point and contribute to improved DO in the lake. There is no modeled impact on DO at the critical depth for Idaho sources. Idaho sources do not cumulatively or independently contribute to a decrease in DO at the critical depth under Scenario #1; they contribute to an increase or improvement in DO.

Ecology needs to reassess the assumed Scenario #1 allocations for Idaho sources based on the PSU modeling results and the LimnoTech modeling results. These results support higher allocation modeling assumptions for the Idaho sources by Ecology in its selection of equitable WLA for Washington sources including Avista. The modeling results support an assumed range of TP allocations to the Idaho sources from 50 to 200 mg/l. The TMDL should be revised to include these ranges for Idaho sources as the assumed Idaho loadings for final modeling purposes. Based on the PSU 2009 modeling and LimnoTech modeling for Idaho only sources, the stated TMDL WLA basis in Washington of equity among the sources and achievement of the DO standard at the riverine assessment point for upstream sources from both states, can be achieved at these higher contribution assumptions. It will then be up to EPA to set permit limits for the Idaho discharges based on this range.

During the development of the water quality modeling it was understood that Idaho dischargers would have a higher seasonal average than Washington dischargers except Inland Empire Paper Company which would have the same seasonal average as Idaho

[3] *Id.*, at 3.

dischargers and Kaiser Aluminum which would have a lower seasonal average. (Exhibit 6.) Ecology should explain why this essential assumption was abandoned in the final modeling specifications.

D. The Idaho allocation improperly assumes that effluent offsets are available in Idaho.

In response to these comments Ecology should explain whether the use of effluent offsets was a factor is selecting Scenario #1 as the basis for the TMDL. Since the allocations of 36 µg/L are not achievable with known technology, the allocations must assume that allocations will only be achievable through technology and nonpoint source reduction.

During the TMDL development process it was made clear to EPA and Ecology that effluent offsets were not available to Idaho dischargers. (Exhibit 7.) Ecology should explain how effluent offsets are available to Coeur d'Alene and how offsets are factored into the "very specific assumptions" Ecology and EPA have made about the Idaho discharger permits.

E. Ecology improperly rejected EPA's proposed allocation to Idaho dischargers.

In July 2009 EPA Region 10 submitted a proposed allocation for Idaho Dischargers that was based on consultation with EPA headquarters and the EPA Office of General Counsel. (Exhibit 8.) The proposed allocation would have been based on the percentage of DO deficit in Lake Spokane attributable to Idaho dischargers and would have allowed EPA permitting in Idaho to set limits for the three municipalities in a manner that would address actual impacts relative to a water quality standard.

In response to these comments Ecology should explain why it has proposed to base allocations on assumed capabilities of technology as opposed to any application of the state water quality criteria.

F. The use of eco-region criteria in the TMDL is arbitrary and capricious.

Ecology has relied on so-called eco-region criteria from EPA that have never been adopted by Ecology as part of the state water quality standards or approved by EPA. In response to these comments Ecology should acknowledge that the eco-region criteria are not part of the state water quality standards and that Ecology specifically declined to adopt the EPA eco-region criteria as part of the state standards when they were last updated.

Ecology should also acknowledge in response to these comments that it has not followed any of the procedures set forth in WAC 173-201A-230 for developing nutrient criteria. In particular, Ecology should acknowledge that it did not conduct a specific study or consider "stakeholder input as part of a public involvement process equivalent to the Administrative Procedure Act" as required under WAC 173-201A-230(3)(b). Ecology

should also disclose if it considers this TMDL review process to be the equivalent to a public involvement process equivalent to the Administrative Procedures Act.

Ecology should also acknowledge in response to these comments that it derived the eco-region criteria for the TMDL simply by determining the boundary between two eco-regions. The Idaho Department of Environmental Quality (DEQ) was highly critical of the arbitrary and capricious manner in which the EPA criteria are being applied in the TMDL. (Exhibit 9.) In your response to comments please specifically reply to each and every comment made by DEQ in Exhibit 9. To the extent Ecology does not respond to concerns raised by DEQ, Coeur d'Alene will assume that Ecology admits to the concerns and conclusions made by DEQ in Exhibit 9.

G. Lake Spokane is not an oligiotrophic water body.

Ecology should acknowledge in response to these comments that the Spokane River and Lake Spokane are not oligiotrophic water bodies. Lake Spokane, as a man-made reservoir, has probably always been a mesotrophic water body, as it supports a warm-water fishery. There is no evidence of salmonid spawning.

Ecology has previously found that Lake Spokane is and was of a mesotrophic state. The following is excerpted from the Ecology's nutrient criteria development guidance document:

"Oligiotrophic Conditions

Low algal productivity will generally exist with TP in the range of 0 to 10 μg/L (Nordin, 1985; Funk and Moore, 1985; Gilliom 1984; OECD, 1982; Simpson and Reckhow, 1979). Carlson (1977) states that at TP ranges from 0 to 12 μg/L, mean chlorophyll-a will be less than 3 μg/L and Secchi transparency depths will be greater than 5 meters. Water-uses are supported for recreation, drinking water, and aquatic life. The water is generally of high clarity and is aesthetically pleasing. According to Nordin (1985) and Ney, et al (1990), fisheries productivity will be quite low at TP concentrations less than 5 μg/L.

Mesotrophic Conditions

Moderate algal productivity will generally exist with TP in the range of 10 to 20 μg/L (OECD 1982; and others) or 12 to 24 μg/L (Carlson,1977), chlorophyll-a in the range of 2 to 6 μg/L, and Secchi transparency depths between 3 and 5 meters (Gilliom, 1984). Cold-water fisheries may be adversely affected by some degree of hypolimnetic oxygen depletion. There may be additional benefits to salmonids in lakes from having TP less than 15 μg/L (Nordin, 1985)."[4]

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[4] Moore, A., Hicks, M., *Nutrient Criteria Development In Washington State Phosphorus*, Washington State Department of Ecology, Water Quality Program, Watershed Management Section, April 2004. Publication Number 04-10-033.

The guidance document – Table 2.2 – refers to Lake Spokane as mesotrophic as described by Patmont in 1987.[5]

Ecology has also acknowledged the mesotrophic conditions in Lake Spokane in other studies:

> Even though the URS (1981) report highlighted the need for public input as "essential" for selecting an appropriate water quality criterion for protecting beneficial uses, there does not appear to have been much public involvement or intergovernmental coordination (e.g., Fish and Wildlife) in determining the beneficial uses of Lake Spokane, or in determining the lake criterion (time- and area-weighted average euphotic zone TP concentration of 25 ug/L).
>
> Initially, Ecology recommended managing Lake Spokane as an upper mesotrophic system by identifying a mean euphotic zone chlorophyll *a* criterion for the June-October period of 10 ug/L (a value that represents the threshold between mesotrophic and eutrophic conditions). This criterion did not lead directly to the site-specific TP criterion that was ultimately approved by EPA. The TP criterion was adopted because predicted phytoplankton biovolume and Secchi disc fell within an approximate mesotrophic criteria range. However, it was acknowledged that the predicted trophic characteristics for mean and peak chlorophyll *a* and mean hypolimnetic minimum dissolved oxygen may exceed the upper mesotrophic target boundary values (i.e., eutrophic characteristics). Data collected since 1978 show that the chlorophyll *a* variables regularly exceed the mesotrophic target boundary values of 10 ug/L in the upper end of the lake….

In 2004 Ecology found that "before establishing any modified phosphorus TMDL for the lake, the **beneficial uses and an appropriate criterion to protect the uses, including the time period(s) to protect, need to be determined."**[6] (Emphasis added.) The TMDL does not include any analysis of beneficial uses in Lake Spokane and throughout this process Ecology has been unwilling to consider the actual beneficial uses in the lake. Absent that information, Ecology should acknowledge that it is arbitrary and capricious to impose the EPA eco-region criteria as part of the TMDL analysis.

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[5] Patmont, C.R., et al, *The Spokane River Basin: Allowable Phosphorus Loading*, Harper-Owes, Seattle, WA. 1987.

[6] Cusimano, B., Spokane River and Lake Spokane (Long Lake) Pollutant Loading Assessment for Protecting Dissolved Oxygen, Washington State Department of Ecology, February 2004. Publication No. 04-03-006.

H. Monthly and weekly maximum permit limits are impracticable.

The TMDL is based on "specific assumptions" about permit limits for Washington and Idaho dischargers. Ecology should acknowledge that it is impracticable to convert seasonal average allocations to monthly and weekly permit limits. Ecology has in fact made this determination with respect to Washington dischargers and the response to these comments should explain its rationale for this decision and acknowledge that the same rationale applies to Idaho facilities.

I. Nonpoint source reduction under the TMDL is illusory.

In Appendix E, at E-6, the TMDL assumes aggressive nutrient reductions in Hangman Creek and the Little Spokane River. The Clean Water Act requires that Ecology demonstrate reasonable assurance that these reductions can be achieved. The TMDL does not describe, however, any established program, timeline, or funding to accomplish these reductions. In response to these comments Ecology should explain what specific actions it will take to fund and implement a program to reduce the nutrient loading from these tributaries.

The Department of Ecology is required to respond to all comments submitted on the draft TMDL. Pursuant to 40 CFR § 130.7(c)(ii) and the 1997 Memorandum of Agreement between the Department of Ecology and EPA, Ecology must ensure that the TMDL submittals to EPA include responsiveness summary to public comments as described in 40 CFR § 25.8. Under 40 CFR §25.8 the response to comments must include "the agency's specific responses in terms of modifications of the proposed action or an explanation for rejection of proposals made by the public."

I appreciate your consideration of these comments.

Sincerely

H. Sid Fredrickson
Wastewater Superintendent

Enclosures
cc: John Tindall, P.E., IDEQ

City of Coeur d'Alene
Exhibits to Comment Letter on 2009 Draft TMDL for DO
in the Spokane River and Lake Spokane

Exhibit 1	Letter from Sid Fredrickson to Brian Nickel dated September 27, 2007, with attachments.
Exhibit 2	Dave Clark, HDR, review of March 24, 2009 EPA Region 10 Memorandum on Wastewater Treatment Plants Achieving Low Effluent Phosphorus Concentrations.
Exhibit 3	Email from David Knight to Laurie Mann (June 23, 2009).
Exhibit 4	Email from Brian Nickel to Dave Moore (July 2, 2009) with attachment.
Exhibit 5	David Dilks, LimnoTech, Results of CE-QUAL-W2 Model Sensitivity Analyses in Response to Different Levels of Idaho Point Source Discharge, at 3, September 1, 2009.
Exhibit 6	Setting Phosphorus Targets in the Spokane TMDL to Meet Dissolved Oxygen Criteria (April 1, 2009).
Exhibit 7	Email from Marti Bridges to Robert Steed, August 14, 2009.
Exhibit 8	Email from Laurie Munn to Dave Moore (July 29, 2009); Email from Susan Braley to David Moore (July 31, 2009); Attachment "Loading from Sources in Idaho."
Exhibit 9	Email exchange between Robert Steed and John Tindall, dated April 13, 2009

CITY OF POST FALLS

HAYDEN AREA REGIONAL SEWER BOARD

October 30, 2009

Mr. David Moore
Water Quality Program - Eastern Regional Office
Washington State Department of Ecology
4601 North Monroe Street
Spokane, WA 99205-1295

Re: Comments on Draft Dissolved Oxygen Total Maximum Daily Load ("TMDL") report

Dear Mr. Moore:

On September 15, 2009, the Washington State Department of Ecology ("Ecology") issued the Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load Draft Water Quality Improvement Report, Publication No. 07-10-073 (the "Draft Report"). Comments on the Draft Report were to be due within 30 days, though Ecology subsequently extended the comment period until October 30, 2009. The City of Post Falls ("Post Falls") and the Hayden Area Regional Sewer Board ("HARSB") have reviewed the Draft Report and now offer their comments in response.

<u>Summary</u>

Post Falls and HARSB remain committed to excellent water quality for the citizens of this region. Post Falls has demonstrated this commitment for over ten years with sustainable biological treatment that removes about 95 percent of its incoming oxygen-demanding loads year-round. Liberty Lake is the only other steward of the Spokane River who currently utilizes this year-round process. HARSB is the only steward on the river removing all its current loads through reuse in the summer months, even though Idaho's rules to protect our world-class aquifer are the most stringent in the country. HARSB has also installed improvements which remove about 95 percent of its ammonia and biochemical oxygen demands year-round. We intend to continue our stewardship through meaningful investments of our citizens' hard-earned money. Those investments must produce attainable water quality benefits, they must allow regulatory flexibility to achieve those benefits, they must sustain our economy, and they must be fair to all stewards of the river.

The Draft Report is materially flawed. The Draft Report sets water quality limits where it should not and does not set water quality limits where it should. Ecology, through the TMDL process and its Draft Report, has looked upstream to their Idaho neighbors to bear the remedy disproportionately. Ecology has admitted in the Draft Report that any Idaho-discharged phosphorus would be below the ability of science to detect by the time it reaches Long Lake Dam.[1] Idaho did not create this problem but is being asked to bear an unfair share of the burden of meeting Washington's imposed standards.

Notwithstanding our serious concerns about the Draft Report, Post Falls and HARSB remain committed to an equitable solution that addresses our contribution to the problem. Idaho dischargers can be allocated a phosphorus wasteload equivalent to a 100 microgram per liter (µg/L) discharge without adversely affecting the wasteloads granted to Washington point sources or the obligations placed on Avista Utilities ("Avista"). Short of such an allocation, Post Falls and HARSB will have no choice but to pursue all available remedies.

These and other comments are set out below.

Comments

1. The Draft Report acknowledges that Ecology lacks the authority to establish wasteload allocations for sources outside the State of Washington.[2] Despite this, the Draft Report goes on to effectively do just what it stated it would not do. The Draft Report states that Ecology has made very specific assumptions about the anticipated permit-driven reductions of anthropogenic loading of phosphorus, carbonaceous biochemical oxygen demand, and ammonia from wastewater treatment plants and stormwater in Idaho. These assumptions are based on point sources discharging equivalent pollutant concentrations at wastewater treatment plants in both states, and have been incorporated into the model scenarios supporting this TMDL.[3]

   Ecology, in short, assigned values to individual treatment plants within Idaho. Ecology, as a result, made determinations (i) of how to allocate any reduction in pollutant loads between non-point sources or point sources and (ii) of how to allocate any reduction in pollutants between Idaho's three point-source discharges. (Idaho's three point-source dischargers are the three wastewater treatment plants between Coeur d'Alene Lake and the Washington-Idaho border. These plants belong to Post Falls, HARSB, and the City of Coeur

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[1] Draft Report at H-5.

[2] Draft Report at 28.

[3] Draft Report at 29.

d'Alene ["Coeur d'Alene"].) It is not for the State of Washington to make such determinations for the State of Idaho. The Draft Report readily acknowledges the effect of its determination on Idaho. The Draft Report states that "EPA will incorporate permit limits, consistent with the assumptions in this TMDL, into the NPDES permits for Idaho point source dischargers."[4] Whose assumptions are being incorporated into Idaho NPDES permits? The State of Washington's. It is for the State of Idaho, not Ecology, to set any allocations or to make any judgments about whether non-point sources or point sources should bear the burden of any reductions, and, if so, in what ratios. For example, one effect of Ecology's allocations in reductions to the three wastewater treatment plants will be effectively to prohibit growth in these three municipalities. Whether a good judgment or a bad judgment, this determination is not for the State of Washington to make. The Draft Report cannot, and should not, apply beyond the borders of Washington.

2. While Portland State University's River Modeling Scenarios Reports ("PSU River Modeling Scenarios Reports") indicate that Idaho point sources will be issued the same allocations and limits as Washington dischargers, the technical basis for the Draft Report assumption is incomplete and not supported with commensurate water quality and beneficial use improvements. It is, in fact, more justifiable to issue permit limits of 100 µg/L seasonal average for the Idaho dischargers rather than the 36 µg/L input to the selected Draft Report model scenario. That conclusion is based on Spokane River attenuation (see Comment 5 below), all known, available, and reasonable methods of prevention, control, and treatment ("AKART"), and the fact that this standard meets the objective of achieving an equivalent water quality and beneficial use improvement in the reservoir. Although Portland State University did not model the 100 µg/L (72 µg/L wasteload allocation) scenario, the September 2, 2009, letter attachment from Coeur d'Alene to Ecology included those results modeled by LimnoTech. The analysis shows an insignificant 0.7 percent dissolved oxygen impact (0.011 mg/L) during the worst-case period, at the worst-case location, and under worst-case flow conditions. This option does not change Avista's responsibility, as depicted in Table 6 of the Draft Report, or Washington's point source allocations. At the same time, it provides Washington equivalent water quality and beneficial use improvements while providing Idaho the required regulatory flexibility, economic sustainability, and fairness. Therefore, Idaho should be afforded 100 µg/L seasonal average permit values under a consistent

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[4] Draft Report at 29. We do not believe the Draft Report, as written, authorizes EPA to set the types of permit limits described, either in implementing the TMDL or in conducting reasonable potential analyses for permit limits. A load must be set and its basis established. A TMDL may not be used to establish backdoor technological limits.

TMDL and the resulting permitting approach by the U.S. Environmental Protection Agency ("EPA").

3. The Draft Report should be limited to one determination with respect to the State of Idaho: to set a maximum wasteload allocation at the Washington-Idaho border.[5] It is then for the State of Idaho, in conjunction with the EPA, to determine how it will satisfy this wastewater allocation at the border. The State of Idaho can balance the current and future interests of municipalities, agriculture, forestry, and mining as appropriate in light of the total allocation permitted at the border. It is for the State of Idaho and its voters, not for the unelected officials of the State of Washington, to make these determinations about Idaho's future. The State of Idaho, not Ecology, sets the water quality standards within Idaho.

4. Ecology's determination of what should be the maximum wasteload allocation at the Washington-Idaho border has an important limitation. The restriction should be no more than would be required to satisfy the State of Washington's water quality standards at the border. The State of Idaho does have an obligation to satisfy the EPA-approved water quality standards the State of Washington imposes on its own water bodies at the border, but no more. To the extent the State of Washington wishes to have more stringent standards to increase the protection of a water body within the State of Washington, such as Long Lake reservoir, it can do so in two ways. First, it can legally promulgate more stringent water quality standards and then Idaho would have to satisfy the new standard at the Washington-Idaho border. Or second, Ecology can promulgate a TMDL to tighten the standards locally to protect a water body, such as Long Lake, though the TMDL would apply to Washington sources, and would not apply outside Washington.

5. Ecology has allocated reduced point-source discharges for the wastewater treatment plants in Post Falls, HARSB, and Coeur d'Alene. When deciding how much to reduce these three permitted point-source discharges, Ecology stated it would do so "based on an equitable distribution of wasteload allocations."[6] The decision as to what is an equitable distribution between Washington and Idaho is made by the State of Washington without any meaningful consideration of input from the State of Idaho. Idaho Department of Environmental Quality ("IDEQ") representatives have made Ecology's lack of meaningful consideration of the State of Idaho's input abundantly clear on numerous occasions at public meetings during the TMDL process over the past twelve months. The Draft

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[5] We note that our recent sampling on the Idaho side of the border shows phosphorus concentrations in the Spokane River below 10 µg/L.

[6] Draft Report at 13.

Report later gives some insight into what the State of Washington believes is "equitable" when it notes that the distribution of reductions amongst point sources was "based on point sources discharging equivalent pollutant concentrations at wastewater treatment plants in both states."[7] While reducing the discharge of pollutant concentrations from Idaho plants so that the discharges are "equivalent" to those from Washington plants might appear to have a certain cosmetic fairness, actually it is everything but. While traveling along the Spokane River, the oxygen-demanding constituents discharged to the river are naturally taken up by the normal environmental processes in the river. This is one reason why the phosphorus concentrations from Idaho plants are not detectable, even by the best scientific measurements, by the time it reaches Long Lake, whose occasional algal blooms are the engine behind this TMDL process. While the phosphorus travels along the river, its concentrations are being reduced or attenuated by natural uptake. Calling for "equivalent" concentrations at the outfalls of the plants does not account for the geography that the Idaho plants are much further from Long Lake reservoir than are the Washington sources. Consider that the City of Spokane is only 9.3 river miles from the start of the reservoir while Post Falls, the nearest of the Idaho plants, is 43.1 miles away.[8] Because of the natural attenuation, Idaho sources cause much less of the problem in the reservoir, though this is not considered in how much Ecology deems that the plants should share the burden. It is like going to dinner at a restaurant, ordering and eating a salad while everyone else orders and eats large steaks, and then being told at the end of the dinner that the "equitable" way to split the bill is equally. While each person pays the same dollar amount, the result is anything but equitable given the much smaller cost of the salad. So too here, the burden the Idaho plants should bear must be in proportion to the harm they cause to Long Lake. To force on them an equal share of the clean-up bill, when they cause so much less of the problem, is not equitable. In our call for fairness, we have not advocated that Washington should give us some of their "meal"; rather, we have asked that our portion of the bill be commensurate with our share of the "meal."

6. If ultimately implemented, the Draft Report's determinations would require extensive upgrades to the Post Falls, HARSB, and Coeur d'Alene wastewater treatment plants. Those upgrades are estimated to cost the local Idaho ratepayers over one hundred million dollars over the next 20 years. The plants in Washington will also have to make extensive upgrades. The upgrades in Washington will have a much greater effect on the phosphorus concentrations in

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[7] Draft Report at 29.

[8] The furthest of the three Idaho outfalls, that of Coeur d'Alene, is 52.5 miles from the start of Long Lake.

Long Lake than will the upgrades to the Idaho plants because the Washington plants are so much closer. Ecology, through its Draft Report, is setting in motion a process whereby the local ratepayers of northern Idaho would have to spend additional untold millions of dollars to further reduce a phosphorus load that is already predicted to be undetectable at Long Lake reservoir. This is an unfair and wasteful allocation of public improvement dollars.

7. The proposed changes in the Draft Report are intended to reduce the likelihood of algae blooms on Long Lake reservoir, an artificial water body far from the Washington-Idaho border. Long Lake is created by Long Lake Dam, a dam owned and managed by Avista. Long Lake is, perhaps not surprisingly given its name, a narrow lake that extends almost 24 miles in length. The lake flows slowly from near the City of Spokane to Long Lake Dam. Oxygen in the atmosphere does not exchange with the water in a slow-flowing reservoir as quickly as it would in a fast-moving river. Additionally, any nutrients in the water column can settle out and recycle to encourage algae growth during its slow journey. The effect is that oxygen in the atmosphere does not replenish the oxygen in the water that is naturally taken up by plants and fish. Long Lake is also a deep water body as it approaches the dam, so deeper levels of the lake stratify without exposure to the atmosphere during the summer months. The effect is that once these lower levels become oxygen-depleted through natural processes, the oxygen levels there do not recover until the fall of the year.

8. The Draft Report does not adequately address what action Avista must take to share in the remedy of the problem fairly. Instead, the Draft Report spells out nebulous plans for future meetings to come up with plans. The point dischargers, both Idahoan and Washingtonian, have reductions that have been modeled. The Avista dam instead must merely accommodate a water quality "benchmark" or "goal" 10 µg/L phosphorus at the start of Long Lake by coming up with a Water Quality Attainment Plan within two years. The effect may be to require Avista to install and turn on some aerators at the bottom of Long Lake once every ten years. It may be education programs, non-point source reduction, biological studies (that arguably should have already been conducted by Washington), or some as yet unknown actions. Without an understanding of the magnitude of the burden the Draft Report places on Avista, no one can evaluate whether this is a light burden or perhaps an excessive one. In turn, no one (probably not even Avista) can evaluate whether Ecology has allocated the burden proportionately between the causes of the problem.

9. Ecology has set a 10-µg/L total phosphorus benchmark for the Spokane River at the start of Long Lake reservoir. Beyond this concentration, the Draft Report considers the "remaining dissolved oxygen impairments in the reservoir to be caused by Long Lake Dam and is Avista's responsibility to address."[9] The source

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[9] Draft Report at 35.

of Ecology's 10-µg/L benchmark is an EPA guidance document that gives total phosphorus levels for Ecoregion II which range from 3.0-32.5 µg/L with a 25th percentile of 10 µg/L. The current water quality standard for phosphorus in the Long Lake reach of the Spokane River fits within EPA's range at a maximum concentration of 25 µg/L from June 1 to October 31.[10] Ecology's institution of a lower amount in effect creates a new water quality standard that, instead of being applied state-wide, applies to one discretionary location on one river. Ecology lacks the legal authority to set such a benchmark. If Ecology wants this level of clean water, it can do so, it just has to bear that burden throughout Washington and not just pick a location that has the effect of disproportionately burdening Idaho. It also needs to do so through the rulemaking process, not through unilaterally drafting a few paragraphs in a TMDL document. The Draft Report indicates that Ecology applies a "target" of 10 µg/L total phosphorus at the Little Spokane River confluence with Long Lake, and bases its determination of TMDL compliance on that target.[11] In effect, Ecology is attempting to make the "target" into a water quality standard, but exceeds its authority in doing so. The phosphorus standard for Long Lake is listed as 25 µg/L.[12] The 1987 WDOE document titled "The Spokane River Basin: Allowable Phosphorus Loading" (Patmont et al, contract C0087074), reported that WDOE "determined that the 25 µg/L seasonal mean EZ-TP value is an appropriate water quality standard for Long Lake, since it best represents mesotrophic conditions with the lake (L. Singleton, Ecology, personal communication)." In contrast, the TMDL reports that, as basis for the selected scenario: "Implementation of these wasteload allocations will result in an average total phosphorus concentration of 10 µg/L in Lake Spokane (model segment 154) from June through September (see Figure 3)." The Organization for Economic Co-operation and Development's (OECD, 1982) probabilistic classification of trophic states indicates an oligotrophic category for lakes with 10 µg/L phosphorus. For over two decades, Washington has managed Long Lake as a mesotrophic water body; however, it now appears that the classification of the reservoir, and hence the management consequences, is being changed through this TMDL process. This appears to be, in effect, a revision of the designated beneficial use but without the requisite technical basis to do so. If that is Ecology's intent, a Use Attainability Analysis should be conducted before making this change.

As provided in UAA Petitioners' February 22, 2005, letter to David Peeler, Ecology Water Quality Manager, in which a conditional offer to withdraw the

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[10] Wash. Admin Code § 173-201A-602.

[11] Draft Report at 36.

[12] Wash. Admin Code § 173-201A-602.

UAA Petition was made, we continue to retain the right to resubmit the UAA Petition. Further, the burdens imposed may force Post Falls and HARSB to apply for variances from the applicable water quality standards.

10. The appropriateness of the 10-µg/L level of phosphorus to this point in the river is also arbitrary and capricious. It is as if the State of Washington picked a speed limit for a road in Spokane at 45 miles per hour ("mph") simply by mentioning that there is a road in New Jersey that has a 45-mph limit. It may be true that the road in New Jersey has that speed limit. It may also be true that the New Jersey road meets some New Jersey design standard. What is wholly missing is the appropriateness of how that speed limit applies to the specific Spokane road. So too, there are lots of water quality standards out there. The 10 µg/L standard is just one of them. The current 25 µg/L standard also fits well within the range of reference conditions for Ecoregion II. What is missing is a justification for why this one of many possible limits is appropriate for that particular spot in the Spokane River.

11. The 10-µg/L level for Avista burdens Idaho and Washington dischargers by requiring them to satisfy a standard beyond Washington's water quality standards. The State of Washington has designated beneficial uses for the Spokane River and then has assigned water quality standards that it will allow people to use those waters consistent with those uses. For the Spokane River, the State of Washington, through its water quality standards, has stated that 25 µg/L phosphorus is sufficiently clean to allow those beneficial uses to be met. (And EPA has accepted this determination by the State of Washington.) If Long Lake Dam did not exist and so the land under Long Lake was a river segment of the Spokane River, this river segment would have a 25-µg/L limit. The Idaho and Washington dischargers should only bear the responsibility to keep the water consistent with a 25-µg/L limit, the state of the water if there were no Long Lake Dam. Avista, not the Idaho and Washington dischargers, should bear the consequence of having turned the river into a lake by being responsible for an additional remediation. To hold Avista responsible only for clean-up as if it acquired water at 10 µg/L would shift remediation to the dischargers beyond what they caused. With this noted, Post Falls and HARSB have offered a 100-µg/L discharge limit that meets their needs without affecting the obligations either of Avista or of the Washington dischargers.

12. Washington has many homes along both sides of Long Lake's nearly 24-mile length. Most of these homes are on septic tanks, which leach nutrients into the groundwater. Much of this groundwater is hydraulically connected to the water in Long Lake. In turn, the nutrients from these septic tanks, including phosphorus, enters Long Lake. Ecology has created a regulatory structure that has allowed these septic tanks to contribute phosphorus to Long Lake for decades. A count of structures in an aerial photograph shows that there are about 1,600 septic systems in the vicinity of Long Lake, of which about 25

percent are within 500 feet of the shoreline. Spokane County's 2007 Facility Plan Amendment indicates on Table 11-2 about 0.02 pounds per day loading to groundwater upon each septic tank's breakthrough. That could amount to 4,000 pounds of total phosphorus each season from unregulated septic tanks near the reservoir, depending on the soil retention factor. This source of phosphorus, directly adjacent to slow-moving Long Lake, is not identified in the Draft Report. The Clean Water Act requires septic systems to be regulated as point sources in facts such as these. U.S. v. Lucas, 516 F.3d 316, 329 (5th Cir. 2008) (holding that septic tanks that discharge into waters of the United States are point sources); see N. Cal. River Watch v. City of Healdsburg, 496 F.3d 993, 997-98 (9th Cir. 2007) (holding that point source was discharging illegally into a pond that is hydrologically connected to a water of the United States). In modeling from where the sources of phosphorus are coming, Ecology has made a judgment to ratchet down the far-away dischargers in Idaho, rather than clean up the septic tanks adjacent to the problem areas in Long Lake reservoir. This is not permissible.

13. A number of serious deficiencies in the TMDL and its modeling approach have been summarized in the attached October 19, 2009, memo from water quality expert Gene Welch. It provides detailed analyses and background information that were presented earlier in modeling meetings and input to PSU. Since it does not appear that the Draft Report adequately addresses Mr. Welch's input, we are including it as part of this comment letter for the record.

14. There are also additional detailed comments in the attached Exhibit A.

Post Falls and HARSB hope Ecology can find ways to accommodate these comments in a revision of the TMDL and in the development of a management implementation plan that is fair to Idaho.

If you have any questions or need additional information, please contact the undersigned.

Sincerely,

/s/Clay Larkin
Clay Larkin, Mayor
City of Post Falls

/s/Gerry House
Gerry House, Chairman
Hayden Area Regional Sewer Board

Cc: C. L. "Butch" Otter, Governor of the State of Idaho
Mike Crapo, U.S. Senator for the State of Idaho
James Risch, U.S. Senator for the State of Idaho
Walt Minnick, U.S. Representative for the 1st District of the State of Idaho
Toni Hardesty, Director, Idaho Department of Environmental Quality
Christine Psyk, U.S. Environmental Protection Agency, Region X

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Exhibit A

A. **Idaho Dischargers Have Been Treated Unfairly Compared to Washington Dischargers.** The Draft Report states, "Because all the impacts causing the water quality impairment are considered, the proportional share that each discharger bears is less than in earlier draft TMDLs."[13] This is not true for Idaho dischargers. Idaho dischargers bear a greater proportional share. Earlier draft TMDLs resulted in 2007 draft NPDES permits where Idaho dischargers were held to a monthly average discharge of 50 µg/L phosphorus from June through September with commensurate waste load allocations. Seasonal shoulder months allowed additional loading that amounted to a combined seasonal phosphorus load of 7,880 pounds. The PSU River Modeling Scenarios Report shows an assumed total phosphorus load allocation of 1,177 pounds for Idaho dischargers from March through October, a 670 percent decrease in seasonal loading.[14] Conversely, the 2007 draft Washington permits and the Draft Report showed the Washington dischargers at a combined load allocation of 1,634 pounds per season[15] compared to the Draft Report which shows a combined 6,245 pounds of total phosphorus per season – a 382 percent increase.[16] It is clear that Washington has received a comparative implementation advantage when it comes to the consequences of the Draft Report. In addition to the obvious loading reallocations, Idaho communities do not have the economy of scale that Spokane enjoys for economic effectiveness. Idaho also has fewer opportunities for offset credits to manage the delta envisioned by the Draft Report. Furthermore, Idaho receives unfavorable phosphorus load allocation assumptions (36 µg/L compared to 42 µg/L for Spokane and Spokane County). Washington has less rigorous aquifer protection controls. Idaho stakeholders have not treated equitably in the resolution of this watershed-wide issue. Idaho is being hurried through closing doors as Ecology avoids exploring a broader range of choices that could better manage the watershed. There has been a lack of effort to develop a partnering relationship between the stakeholders responsible for water quality on the Spokane River. Post Falls and HARSB insist, and federal and state regulatory authorities should insist, on fairness in implementing the TMDL and in NPDES permitting. In that regard, a interstate Memorandum of Understanding could address these concerns similar to the September 2008 Memorandum of Understanding between the Idaho Department of Environmental Quality, EPA Region 10, and the Shoshone-Bannock Tribes.

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[13] Draft Report at xii.

[14] September 2009 PSU River Modeling Scenarios Report at 5, Table 2.

[15] Draft Report at Table ES2.

[16] Draft Report at 17, Table 3.

B. **Washington Water Quality Standards Do Not Comply with Washington's Cost/Benefit Analysis Statute.** Washington adopted new water quality standards in 2003 and revised them in 2006 to implement an EPA requirement for salmonid spawning, rearing, and migration, core summer salmonid habitat, spawning, and char use. A Washington statute requires that, before adopting a significant legislative rule, the relevant Washington agencies determine that the probable benefits are greater than the probable costs, taking into account both qualitative and quantitative analysis and the specific directives being implemented.[17] The statute also requires the agency to analyze alternatives to rule making and the consequences of not adopting the rule, and determine that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and objectives of the statute requiring it. Washington, in implementing the new water quality standards, did not consider the impacts on neighboring states and Avista and the adoption of the water quality standards is therefore incomplete.[18]

C. **Washington's Water Quality Criteria for Protecting the Designated Beneficial Uses for Long Lake are Not Science-Based.** According to a case study, when Washington replaced its class-based standards in 2002 with new use-based standards, "the uses for each class were simply rolled over into the use-based system without any site-specific consideration of the appropriateness of those uses for any water body". Many of the former criteria were also directly carried over. Despite significant efforts toward developing proposed dissolved oxygen criteria to address specific aquatic life uses, Ecology elected to withdraw the portion of the rule that changed the dissolved oxygen criteria and continued to use the former criteria applied to classes. For example, the same minimum dissolved oxygen levels specified to support Class A waters (8.0 mg/L) are now also specified for "salmon and trout spawning, noncore rearing, and migration." The technical basis for the original criteria has long since been lost, and efforts toward developing scientifically based criteria were not applied to the rule change.[19]

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[17] Wash. Rev. Code § 34.05.328.

[18] WSR 03-01-124, Proposed Rules, Department of Ecology, Order 02-14 Filed December 19, 2002; Chapter 173-201A WAC, Benefit, Cost, and Least Burden Analysis for Amendments to Washington's Surface Water Quality Standards, November 2006, Publication Number: 06-10-094.

[19] "Exploring Use Attainability Analysis," 2007 National Association of Clean Water Agencies and Water Environment Research Foundation, at 7.

Ecology has indicated that a thorough evaluation of the fisheries of Long Lake reservoir is needed to answer the fundamental question of the beneficial uses that are to be protected. Washington Administrative Code has designated the Lake Spokane reservoir for core salmonid summer habitat (and other uses), with a corresponding dissolved oxygen standard of 9.5 milligrams per liter (mg/L).[20] It has also designated the Spokane River for salmonid spawning, rearing and migration with a dissolved oxygen standard of 8.0 mg/L. In contrast, EPA's Quality Criteria for Water[21] recommends a dissolved oxygen criteria of 9.0 mg/L for slight production impairment in the embryo and larvae life stages (spawning) and 8 mg/L for no salmonid production impairment in all other life stages (rearing and migration). The Gold Book standards were based on science and remain in place as recently as EPA's 2009 National Recommended Water Quality Criteria. There is no apparent basis for Ecology's oxygen standards. The physical conditions of Long Lake, such as flow rate and substrate or sediment, have not been evaluated to determine the suitable oxygen level for salmonid spawning. Since the purpose of the TMDL is to protect the designated beneficial uses, Ecology must determine whether the beneficial use will be protected or achieved. Ecology must determine before or as part of this TMDL (i) the baseline condition of the salmonid fishery, (ii) the protected condition of the fishery, and (iii) the plan for monitoring improvement to the fishery. Unless Ecology bases the designated beneficial uses and the supportive water quality standards for Long Lake on scientific principles, the resulting implementation of any technological changes may be (a) over-protective and costs hundreds of millions of dollars in necessary expenditures or (b) under-protective and endanger the fish populations. Ecology should commit to these assessments before or as part of the TMDL so that the benefit derived from the TMDL outweighs the demand for dedication of significant public and private expenditures over an undetermined number of decades.

D. **Known Pollutant Sources Adjacent to Long Lake Which Contribute to the Non-Attainment of Washington's Water Quality Standards Have Not Been Included in the Draft Report.** The Draft Report does not include an evaluation of known pollutant sources, such as septic tanks (as discussed above), landscaping, and large agricultural fields. The effect is to skew the effects on dissolved oxygen in 2001 to other sources. The Model Update and Calibration Check Report prepared by Portland State University in support of the TMDL acknowledges the potential for septic tank impacts in the groundwater around the lake when it excludes those well test results.[22]

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[20] Wash. Admin. Code § 173-201A-200(1)(d).

[21] 1986 Gold Book.

[22] June 2009 PSU River Modeling Scenarios Report at 25.

The aerial photography review shows about 900 agricultural and landscaped acres along the lake, of which about 14 percent are within 500 feet of the shoreline. The actual applied load of phosphate fertilizers on these areas is unknown, but we estimate several tons are required for crop and turf management each year. Recommended application rates for phosphate fertilizer vary widely depending on soil conditions and crop type. For example, the recommended phosphate application rates for alfalfa may be as high as 200 pounds per acre to establish an irrigated crop. Maintenance applications would need to satisfy the uptake rate of 8 to 16 pounds of phosphate removed per ton of alfalfa produced. Irrigated ground produces around 6 to 8 tons of alfalfa per acre.[23] In addition, recommended application rates for phosphates on established lawns is about 22 to 34 pounds per acre.[24] If fertilizer management is within the tighter agricultural guidelines, only 25 percent of the applied phosphorus would be available for runoff, wind erosion, soil adsorption and leaching. This could amount to between 12 and 32 pounds per acre per year or between about 10,000 and 30,000 pounds of phosphorus per year added to the non-point lake loading but uncounted in the TMDL. Those near-shore sources could far exceed the entire 7,700 pound seasonal loading from regulated point sources currently included under TMDL Scenario #1.

Additionally, the PSU River Modeling Scenarios Report states that ground water is well-aerated, it follows that the ammonia discharges of septic systems is aerobically converted to nitrate and completely mobile in ground water.[25] The potential linkage between land use in the vicinity of the lake and undesirable algae blooms has been discounted when further investigation should be pursued in order to make substantive and observable water quality improvements. At the TMDL public meeting on September 24, 2009, Ecology emphasized that septic systems are significant sources of phosphorus to the Spokane River. Rightfully, the cost of controlling nutrients from the septic systems should be born by the parties who own them.

Similar to the above comment, the fish hatchery on the Little Spokane River is not specifically accounted for in the TMDL. It should have a corresponding waste load allocation assigned and an appropriate discharge permit or mitigation strategy formulated. According to Ecology report "Quality and Fate of Fish Hatchery Effluents During the Summer Low Flow Season" (Publication No. 89-

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[23] "Nutrient Management Guide for Dryland and Irrigated Alfalfa in the Inland Northwest," 2009, Pacific Northwest Extension.

[24] "Fertilizing Lawns," 2009, University of Minnesota.

[25] September 2009 PSU River Modeling Scenarios Report at 18.

17) the Spokane Trout Hatchery had 45,000 pounds of trout on hand, and discharged fourteen cubic feet per second with an effluent total phosphorus concentration of 40 µg/L. This equates to a total phosphorus load of three pounds per day going into the Little Spokane River immediately upstream of the lake or 735 pounds seasonally. By comparison, this loading is the amount that the TMDL implies is the maximum allowable loading from a population of up to 125,000 people in Idaho. Ignoring obvious contributing conditions in favor of assigning the responsibility to the upstream regulated communities is not in the spirit or the letter of the Clean Water Act.

E. **The Draft Report and the PSU River Modeling Scenarios Report incorporate invalid loading and permit assumptions.**[26] Nationally-recognized experts representing the Spokane River Stewardship Partners (the "SRSP") presented numerous reasons why Appendix J is invalid in the attached April 10, 2009, letter to EPA and Ecology. The largely unsupported leaps of logic contained in Appendix J appear to be an attempt by EPA Region 10 to refute EPA's own two-volume, peer-reviewed document issued only six months earlier.[27] EPA clearly states on page ES-3 of their peer-reviewed document, "Technologies are available to reliably attain an annual average of 0.1 milligrams per liter (mg/L) or less for TP and 3 mg/L for TN." That report quantifies its statement with a common statistical basis and an average annual operating plant performance of 70 µg/L TP with an average standard deviation of 30 µg/L for the eight "very low" phosphorus removal facilities having adequate data to produce statistical results. In addition, the SRSP representatives reviewed the attached peer-reviewed limits of technology (LOT) and variability paper with Ecology and EPA on several occasions in June and July 2009. The information shows definitively why EPA's 2008 document uses annual averages and statistical variability as the correct basis for evaluating permit and/or waste load allocation compliance. It shows that maximum weekly variations at these very low phosphorus removal levels will likely be three to five times higher, and maximum monthly values will likely be two to three times higher than the annual average removal performance.

Ecology should not expect the public to willingly expend hundreds of millions of dollars on the pretext that our local treatment facilities can meet seasonal waste load allocations 58 to 64 percent below EPA's peer-reviewed values. EPA's fifteen-page memo in Appendix J of the Draft Report simply does not justify

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[26] Draft Report at 17, Table 3; September 2009 PSU River Modeling Scenarios Report at Tables 2-4.

[27] Municipal Nutrient Removal Technologies Reference Document, EPA 832-R-08-006, September 2008.

Ecology's approach. Ecology is creating a framework whereby peer-reviewed scientific evaluation is ignored and the resulting TMDL and permits will be unattainable. This approach is not in alignment with the Draft Report which states, "These waste load allocations will be achieved by the installation of the most effective feasible nutrient removal technologies and implementation actions (target pursuit actions) . . . ."[28] It is also not in alignment with the Washington Administrative Code which requires application of AKART under antidegradation.[29] The Washington Administrative Code definition says AKART "shall represent the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants associated with a discharge." EPA's September 2008 peer-reviewed document describes AKART at 70 µg/L TP on an annual average basis with a standard deviation of 30 µg/L TP for "very low" phosphorus removal technology. The Draft Report does not adhere to that requirement.

F. **The Draft Report Favors Larger Treatment Plants over Smaller Ones.** The Draft Report has taken the position that larger treatment plants (Spokane and Spokane County) are operated and sampled more consistently and therefore worthy of 17 percent more waste load allocation than all the other point sources on the Spokane River.[30] This is unjustified in Appendix J and simply places disproportionately more responsibility on Idaho entities with the least impact on the Spokane River and Long Lake. Sampling frequency should not be a determinant of discharge concentration and load limits. While the argument has been made by Ecology and EPA leading up to the Draft Report that all entities will receive the same permit values, regardless of their waste load allocation, the further statement regarding the Liberty Lake Water and Sewer District example,[31] shows that the Draft Report intends to hold the point sources to the waste load allocation values rather than any future permit values. Ecology cannot justify that these professionally operated smaller facilities should receive disproportionately lower waste load allocations for this Draft Report than the larger dischargers with the largest impacts on Long Lake.

G. **The Idaho-Only Model Scenario's Place is Unclear.** The Draft Report leaves unclear the significance and use of the Idaho-only model scenario. Portland State University developed the Idaho-only model scenario as part of its

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[28] Draft Report at xi.

[29] Wash. Admin Code § 173-201A-300(2)(d).

[30] Draft Report at 28, Table 4.

[31] Draft Report at 30.

PSU River Modeling Scenarios Report but was not mentioned in the Draft Report.[32]

H. **The Load Sources for Long Lake Dam Should be Identified.** The Draft Report states that Avista is responsible to "improve dissolved oxygen impairments that occur in the reservoir downstream" of the Little Spokane river confluence, where the model indicates total phosphorus will meet Ecology's pristine target of 10 µg/L at the confluence.[33] Table 6 indicates Avista must improve the dissolved oxygen concentration at Segment 188 from August 16 to 31 by 1.2 mg/L. The Draft Report does not indicate the equivalent TP wasteload reduction that would be needed to achieve the dissolved oxygen requirement. Since the Draft Report study relies upon phosphorus reductions as the means to achieve the dissolved oxygen standard, it is imperative that the corresponding load sources be identified, quantified, and evaluated for reduction potential. Without this information for Avista's responsibility, reasonable assurance that the dissolved oxygen standard is achievable appears invalid.

Also, we question the use of the 2001 flow conditions as the reasonable worst-case because minimum flows have subsequently been raised to 500 cubic feet per second. Valid river TP data at these flow rates and times of year are readily available and should be accurately reflected in the modeling analysis.

I. **The Results of Any Trading Program Should be Included in the TMDL Process.** A trading program can be a useful tool to help manage the delta or to otherwise accommodate pollutant loads. Rather than trying to set up a trading program after final permits have been issued, a better idea is to allow the results of any trading program to be incorporated into the TMDL process before final permits are issued. In this way, final permits can be written to reflect any agreements for reductions that have already been accomplished. This is often a lot more administratively effective.

J. **Idaho was Not Part of a Collaborative Process with Ecology. The Draft Report states that a collaborative process involving all stakeholders was employed in the development of the TMDL.** Unfortunately, the Idaho stakeholders believe that they have been systematically ignored by Ecology during the bi-state modeling effort. As a result, Idaho stakeholders were compelled to ask their congressional delegation to intervene, yet Idaho's repeated pleas for use attainability analysis and a reasonable range of scenario modeling went unheeded.

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[32] September 2009 PSU River Modeling Scenarios Report at 24-26.

[33] Draft Report at 36.

CITY OF SPOKANE

WASTEWATER MANAGEMENT
909 E. SPRAGUE AVENUE
SPOKANE, WASHINGTON 99202-2127
(509) 625-7900
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DALE E. ARNOLD
DIRECTOR

RECEIVED
OCT 30 2009
DEPARTMENT OF ECOLOGY
EASTERN REGIONAL OFFICE

October 30, 2009

David Moore
Water Quality Program
Washington State Department of Ecology
4601 North Monroe Street
Spokane, WA 99205

Re: Spokane River & Lake Spokane Dissolved Oxygen TMDL

Dear Mr. Moore:

Thank you for the opportunity to provide comments on this revised draft TMDL, and for your efforts in preparing it. The City of Spokane's comments are as follows:

In general, the TMDL language appears to provide the permit writer with the flexibility we believe is necessary to develop a permit that considers the seasonal nature of the effect of nutrients and which allows for the statistical variability associated with treating phosphorus, CBOD and ammonia to the very low levels identified in the TMDL.

Regarding the model (ref: TMDL Appendix E) numerous issues remain unresolved. While the model may be adequate for purposes of developing the waste load allocations and load allocations in a TMDL, we recommend the model continue to be improved and updated to serve as an effective evaluation tool for purposes of TMDL implementation, including evaluation of delta management plan options and anticipated effects of point source reductions. In addition, as explained in more detail in our specific comments, the model should not be relied upon to determine compliance with the waste load allocations or NPDES permit limits, and it should not be the sole tool used to determine compliance with the water quality standards.

Please refer to the attachment to this letter for specific comments.

Please do not hesitate to call me at 625-7900 if you have any questions about the City's comments, or if you need more information.

Sincerely,

FOR Dale E. Arnold
Director – Wastewater Management

DEA/lhh

Attachment (1)

cc: Mary E. Verner; Mayor
Dave Mandyke; Director – Public Works and Utilities
Howard Delaney; City Attorney
Craig Trueblood; KL|Gates, Seattle, WA
Janet Davey; Wastewater Management Files

COMMENTS BY THE CITY OF SPOKANE
DISSOLVED OXYGEN TMDL FOR THE SPOKANE RIVER
(October 30, 2009)

Role of the Foundational Concepts

The Draft TMDL refers to the Foundational Concepts (FC) and includes a copy as an appendix to the Draft TMDL. As noted in the text of the TMDL at pp. 40 and 45, however, some aspects of the FC may no longer be applicable given changes in approach and new information. Moreover, the TMDL text directly incorporates the relevant portions of the FC. See, e.g., TMDL pp. 40 – 43 and 47 - 49. Finally, the Memorandum of Agreement wherein the City, Ecology and others adopted the FC states that the purpose of the FC was to guide development of the TMDL. That purpose seems to have been accomplished by the incorporation of key aspects of the FC directly into the TMDL. Accordingly, the City of Spokane suggests that the discussion of the FC at p. 3 be retained but that other references either be deleted or clarified in order to avoid confusion where the FC and the TMDL are not identical.

Compliance Determinations

The Draft TMDL clarifies that making determinations of compliance with NPDES permit effluent limits and compliance with the TMDL's load allocations (LA), waste load allocations (WLA) and the water quality standards (WQS) rely on different information and occur on different timelines. TMDL pp. 7 – 8 and 57-59. NPDES permit effluent limit compliance is determined after a permit is issued by sampling effluent at or near the outfall and then comparing the results to effluent limits specified in the permit. Discharge monitoring reports are submitted to Ecology on a monthly basis with the data necessary to determine compliance with NPDES effluent permit limits.

Compliance with the TMDL loadings and the water quality standards, on the other hand, will initially be determined in 2019 or 2020, after existing point sources are upgraded, after the new County facility is built, after non-point source programs are implemented, after Avista implements a water quality attainment plan, and after DO TMDLs are adopted and implemented for the Little Spokane River, Hangman Creek and Coulee Creek. Some point sources will also have determined their "delta elimination" obligations and will have begun to implement programs to address such obligations through phosphorous trades. TMDL and WQS compliance will be based on ambient water quality monitoring data collected over an extended period of time from the "dominant aquatic habitat" and on measurements of actual point source waste loads and actual or modeled non-point source loadings.

Rationale for Scenario 1 vs. Scenario 2

It is not readily apparent from the TMDL that Ecology considered the benefits of Scenario 1 over Scenario 2 in light of the underlying costs of achieving these benefits. For example, in order to achieve the 0.04 mg/L increase in dissolved oxygen (TMDL p. 21) the community may need to spend tens of millions of dollars in addition to what is necessary to achieve Scenario 2. For the City of Spokane to achieve an additional 16% reduction in total phosphorous under Scenario 1 vs. 2, the City's ratepayers may need to spend significant additional resources that might better be spent on CSOs or other water quality projects. In addition, the model predicts that total phosphorous concentrations at River segment 154 would be 10 ug/L under Scenarios 1 and 2 but that the WQS could not be achieved in Long Lake under either scenario. If Ecology did not consider the cost of achieving WLAs, then a statement to that effect should be added to the TMDL or the agency's response to comments. The City understands that the TMDL modeling exercises are merely a tool for developing WLA and LA and, as noted above, compliance with WQS and the TMDL will be determined in 10 years using actual ambient water quality, point source waste loads and non-point source loads, as well as modeling at that time.

Effluent Limit vs. Waste Load Allocation

The Draft TMDL generally makes a clear distinction between a WLA and a permit limit. For example, "effluent limits ... need not be identical to [WLAs] to be consistent with the [WLAs]" in the TMDL. TMDL, p. 27. As another example, "effluent limits [are] derived from the [WLAs] in this TMDL." Draft TMDL, pp. 46 and 56. The WLAs established in the TMDL are expressed in pounds of total phosphorous that may be discharged per day whereas effluent limits will be established in individual permits and expressed as a concentration of total phosphorous, such as ug/L. Under the Draft TMDL, the City of Spokane's WLA is 17.81 lbs/day total phosphorous and 1,780.6 lbs/day CBOD. TMDL, Table 4. Elsewhere in the Draft TMDL, however, the text is confusing and should be clarified. For example, the Draft TMDL, p. 30, refers to a "final wasteload allocation of 36 ug/L" and then refers the reader to Table 4. Table 9 the Draft TMDL also refers to concentrations of total phosphorous as WLAs. The Executive Summary, p. ix, mistakenly refers to 42 ug/L as a "wasteload allocation." The text of the Draft TMDL should be consistent and refer to the lb/day WLAs established in Table 4, such as 17.81 lbs/day total phosphorous for the City of Spokane's wastewater treatment plant and 6.1 lbs/day total phosphorous for the City's point source stormwater discharges to the Spokane River.

Stormwater

The City of Spokane agrees that narrative effluent limits and BMPs are appropriate regulatory mechanisms to address point source stormwater discharges to the Spokane River in the Draft TMDL. See Draft TMDL, p. 51. However, point source stormwater

discharges to tributaries, such as Hangman Creek, should be addressed in the TMDLs Ecology is preparing for those water bodies, not this Draft TMDL for the Spokane River. The third bullet at the top of p. 51 should therefore be deleted. As a practical matter, this may not affect how the City of Spokane manages or monitors its point source stormwater discharges to tributaries, but a decision on WLAs for point sources to the tributaries should be made in TMDLs for the tributaries.

Combined Sewer Overflows (CSOs)

The City of Spokane agrees that point source CSO discharges to the Spokane River should have a WLA in the Draft TMDL, and that CSOs and non-CSO point source stormwater discharges to the Spokane River can be combined for purposes of the TMDL model. See Draft TMDL, pp. 29 and E-5. The City also agrees that the NPDES Permit for Riverside Park Water Reclamation Facility is the appropriate regulatory mechanism for addressing CSOs. *Id.* at 47. However, point source CSO discharges to tributaries, such as Hangman Creek, should be addressed in the TMDLs Ecology is preparing for those water bodies, not this Draft TMDL for the Spokane River. As a practical matter, this may not affect how the City of Spokane manages or monitors its point source CSO discharges to tributaries, but a decision on WLAs for point sources to the tributaries should be made in TMDLs for the tributaries.

Participation by Avista

The City of Spokane is pleased to see that Avista will be participating in implementing portions of the TMDL. One of the weaknesses of the FC was uncertainty regarding participation by Avista. However, it is unclear why Ecology did not list reservoir aeration or oxygenation as one possible strategy for increasing the River's capacity to assimilate nutrients such as phosphorous and ammonia without adversely affecting dissolved oxygen. Eliminating that as an option seems to be premature.

"Delta Reduction" Timing and Opportunities

The Draft TMDL sets targets for nonpoint source controls in the tributaries based on what "can reasonably be expected" but also requires these reductions to occur before any point source, such as the City, could utilize non-point source activities along the tributaries to meet any Delta obligation. TMDL, p. 29. It seems unlikely that these reasonably expected reductions will occur on the tributaries within the next 5 - 10 years, or that any cost-effective actions would remain to be completed after what "can reasonably be expected" has already been done. As a practical matter, this approach eliminates non-point source controls along the tributaries as an option for Delta reductions strategies. Ecology may want to rethink that approach.

The Draft TMDL would require most Delta reduction activities to meet Ecology's offset regulation, which is a rather onerous process. The City of Spokane is not aware of any

offset that has actually been approved by Ecology under this rule in any watershed. It might be useful for Ecology to reference in the TMDL projects that Ecology has approved under the offset rule as examples. The City is, of course, aware of the "conditional approval" provided to Spokane County for its septic tank elimination program. See Draft TMDL, p. 52.

Moore, David (ECY)

From: galenb1@comcast.net
Sent: Friday, October 30, 2009 2:30 PM
To: Moore, David (ECY)
Subject: TMDL comments

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Dave----I support Scott Chaney's remarks on the TMDL.
Galen Buterbaugh

Comments from Gene Welch on Long Lake (L. Spokane) and the Spokane River Draft DO TMDL

October 19, 2009

- Background TP concentrations for Little Spokane River and Hangman and Coulee Creeks may be underestimated, for two reasons; 1) average TP concentrations in streams from the map in Omerik's 1977 EPA report show that in three converging ecoregions from Spokane west for 50 miles or so, values ranged from 71 to > 200 μg/L. Some of that was probably due to anthropogenic influence, but only the forested Cascades have values as low and lower than 10 μg/L and forested northern Idaho is listed at 11 – 15 μg/L. To have background levels that low in the much more productive areas in the Spokane River or tributaries to it is questionable, and 2) extending the observed levels in the headwaters of the Little Spokane and Hangman downstream to the confluence with the Spokane River is unreasonable. Stream concentrations should increase naturally from headwaters downstream due to dissolution from bedrock and soil.

- There has been a large increase in lake hypolimnetic DO already. The effect of AWT in the 1980s was to remove 85% of the effluent TP (effluent concentration decreasing from maybe ~ 5 mg/L to ~ 0.75 mg/L) and that raised summer minimum hypolimnetic (below 15 m) DO from an average of 1.4 mg/L in 1972 – 1977 to 3.6 mg in 1978-1985, and to 4.5 μg/L the last four years, 1982 – 1885 (Patmont, 1987). This suggests that reservoir hypolimnetic DO is sensitive to TP loading. However, continued TP reduction may not achieve that much improvement, despite Patmont's Fig. 20a (attached) that indicates further increase in minimum DO at inflow TP concentrations below about 20 μg/L. Judging from DO profiles (Fig. 2e, DOE 9/09), minimum average DO (> 15 m, to compare with Patmont's values) for existing conditions (8/27) is about 3 mg/L at an inflow TP concentration of about 25 μg/L, thus fitting near the line in Fig. 20a. However, the average minimum DO (8/27) expected from reducing the inflow TP to 10 μg/L (TMDL #1) is only about 4 mg/L (> 15 m), which is similar to the 1982-1985 average minimum.

  The apparent lack of improvement predicted might be because there are other DO demands unaccounted for. Possibly background DO demands may have been underestimated. The no source SOD was set at 0.25 g/m^2 per day and the reasonableness of that rate was questioned earlier. It is the oligotrophic – mesotrophic boundary criterion for AHOD (areal hypolimnetic oxygen deficit rate) in lakes, which includes SOD as well as water column demand. Reservoirs are known to have higher AHODs than lakes, because of larger watershed-to-reservoir area ratios, which means larger water, and hence, nutrient loading, to reservoirs than lakes. Walker (1985) has shown that reservoir AHODs are about 40 % higher than for lakes (see attached). The lowest AHOD in Walker's group of 38 COE reservoirs was, ironically, 0.25 g/m^2 per day and that corresponded to a mean chl concentration of 1.6 μg/L, which is less that one half the oligotrophic

– mesotrophic borderline criterion for lakes, and less than currently in Long Lake (PSU report, 5/09).

- Long Lake was considered to operate more like a lake than a reservoir because expected chl concentration related to TP matched that for lakes (Patmont, 1987, p. 176). That is not unusual; chl-TP relationships from reservoirs are typically similar to those from lakes. However, DO demand matches that for reservoirs more closely than for lakes. An important reason for that is because hypolimnetic temperature is higher in reservoirs than lakes. Long Lake's hypolimnetic temperature was 16 C, compared to natural lakes with 4-8 C (Patmont, 1987). From Walker's regression attached, the expected AHOD for a chl of 8-15 μg/L in Long Lake in 1978-1985 is 0.79-1.16 g/m^2 per day, while the observed was even higher than predicted at 1.8-2.6 g/m^2 per day and that was after waste water P reduction (Patmont, 1987, p. 62). Observed AHOD averaged 2.2 higher than expected. Expected AHOD for a natural lake with 8-15 μg/L chl from Walker's equation is 0.56-0.74. The highest AHOD in Walker's 38 reservoirs is about 1.26 g/m^2 per day. Clearly, Long Lake operates more like a reservoir than a lake. Also, water from up reservoir plunges to below the epilimnion in the lower reservoir during summer causing the slight metalimnetic minimum DO. The plunging forms an interflow that is recognized by conductivity and nitrate and Well's model represents that. That process is less common in lakes.

  DOE (draft report, 9/09) considers lakes to have residence times > 15 days, therefore Long Lake is classified as a lake and not a reservoir, because its water residence time is 5 days to 50 days (0.14 yr) in summer. Thornton et al. (1990) characterize reservoirs as having residence times of days to several weeks, while in lakes it is one to many years. However, reservoirs with residence times much greater than 15 days (1 year is common) have water inflow and distribution patterns of constituents similar to that in Long Lake. Therefore, Long Lake should be considered a reservoir, based on its higher AHOD than lakes, partly due to higher hypolimnetic temperature, as well as its shape and inflow characteristics.

- If there is background SOD unaccounted for in the model, what should be used for "no source"? One approach could be to start with a volume-weighted chl concentration that is considered acceptable; that is, volume weighted from the dam (section 188) through to the riverine zone (section 157). Then calculate an AHOD from Walker's regression for reservoirs. Next, allocate a fraction of that calculated AHOD to SOD. Lake research has shown that most of the AHOD is due to SOD, and the rest to decomposition of settling algae. However, Patmont (1987, p. 62) estimated 40 % of AHOD (2.6 mg/m^2 per day) was due to SOD (1.08 g/m^2 per day in 1981). In reservoirs, there is also the inflowing organic matter from the river and upper reservoir algal production that accounts for some of the AHOD. These are probably taken care of in Walker's equation, given the higher rates in reservoirs than in lakes. Patmont (1987, p. 63) analyzed organic C

inflowing from the river to the reservoir and found it much less important to DO demand than phytoplankton production within the reservoir.

Suppose the oligotrophic-mesotrophic boundary of 3.5 μg/L chl was used to estimate SOD. The related AHOD would be 0.54 g/m^2 per day (from Walker, attached). Then say 40 % (from Patmont) of that AHOD is due to SOD, with the remainder due primarily to decomposition of settling algae produced in the reservoir and a lesser amount to inflowing organic matter. That gives about 0.22 g/m^2 per day as SOD, similar to the no source 0.25 g/m^2 per day rate used in the core model. However, Long Lake AHODs observed in the 1980s were about 2.2 times predicted rates (see above). Therefore, 2.2 x 0.22 gives 0.48 g/m^2 per day, which may be a more reasonable background SOD for Long Lake. That is higher than the calibrated SOD of 0.3 mg/m^2 per day (Table 5, PSU 8/07 report), which is not much higher than the no source rate used in the model. If the calibrated SOD of 0.3 g/m^2 per day is realistic, then Long Lake sediments have recovered considerably since the 1980s when SOD was > 1 g/m^2 per day. But the low minimum hypolimnetic DO (3 mg/L, >15 m) in 2001 suggests that SOD may not have recovered. Although a current (2001) AHOD was not calculated, the 1.8-2.6 mg m^2 per day during 1978-1985, at an average minimum hypolimnetic DO (>15 m) of 3.6 mg/L, may still exist, given the minimum DO of 3 mg/L (>15 m) in 2001 (DOE report, 9/09).

- There also may be unaccounted for DO demand despite continued TP reduction due to underestimated internal P loading in the upper reservoir. The model shows less than 10 μg/L TP at segment 157 for no source, so essentially no net internal loading (Fig. 3, PSU report 9/09). Is that realistic? The TMDL scenarios in Fig. 3 show very high peak TP at 157 and that is considered to be due to wind-blown algae from down reservoir. Could those high TPs be internal loading?

- Is there sediment P flux (internal loading) in the upper reservoir during spring and early summer that causes DO depletion and how much is that effect? The aerobic and anaerobic flux rates that Owens and Cornwell determined in plant beds are quite high; aerobic averaged 3 mg/m^2 per day at sites 3, 4 and 6 and anoxic 20 mg/m^2 per day at site 5, and 7 mg/m^2 per day at site 7.5. Those rates are larger than those determined by similar methods in cores from Moses Lake (outside plant beds), and 30% of the total TP load at the time was <u>net</u> release from sediments, determined by mass balance. No cores were collected from outside plant areas in Long Lake. The problem is, internal loading that actually occurs in shallow, unstratified lakes (and reservoir riverine and transition zones) cannot be estimated from cores in the lab. That has to be done by mass balance or observing the rate of increase in the lake. There are several mechanisms that cause release in shallow lakes; Owens and Cornwell mention only two. There is probably a combination of oxic and anoxic release that goes on, but anoxic conditions at the sediment water interface come and go with mixing conditions and are difficult to detect, as they attest to bottom p. 22 – first bullet – of their report. The fact that Owens and Cornwell got any release at all under oxic

conditions is significant – some shallow lake sediments have no oxic release determined from cores in the lab, yet have relatively high net internal loading determined from mass balance.

- Net sediment P flux should be determined by mass balance using model derived water movement through several of the upper reservoir segments along with observed TP. However, observed data appear to be inadequate. The only data and model output from sta. 4 are for chl (PSU, 5/09, p. 64). The average for the three observed chl values is about 35 μg/L, so TP would have been at least 70 μg/L and maybe higher (a typical chl:TP ratio is ~ 0.35). Most of that TP would have had to come from net sediment flux, given an inflow TP of 20-25 μg/L (if not from wind-blown algae). Riverine and transition zones (without macrophyte beds) are often important sources of TP and organic matter (algae) that affect DO in the lower reservoir's meta and hypolimnion. That effect occurs in Long Lake as represented in the model, according to Scott Wells.

- Another point that has never been discussed is the basis for the delta 0.2 mg/L. What beneficial use is being protected if that delta is met that would not be if the delta were say 1 mg/L? What would make sense for a salmonid and zooplankton refuge is for DO to be ≥ 5 or 6 mg/L in the cooler metalimnion (~ 8 – 15 m). That would actually be exceeded (Fig. 2e, DOE, 9/09): scenario # 1 essentially achieves a volume-weighted average DO below 8 m of near 5 mg/L at most sites, so metalimnetic DO would be higher. Has the ecological basis of a delta DO of 0.2 mg/L been presented? What would doubling the no source SOD, as suggested above, mean in terms of no source hypolimnetic DO and the delta DOs in Table 12 (PSU, 9/09)?

- More data are needed to be confident with the model output, in my opinion. Has minimum hypolimnetic DO changed since the mid 1980s? It varies considerably year-to-year as shown by Patmont, and one or two years of data may not be enough to determine a reliable average minimum. Also, more complete data throughout the reservoir would allow internal P loading in the upper reservoir to be determined by mass balance. Algae produced in the riverine zone from internal loading may be responsible for a significant portion of the meta and hypolimnetic DO demand down reservoir.

October 19, 2009
Gene Welch
Consulting Limnologist

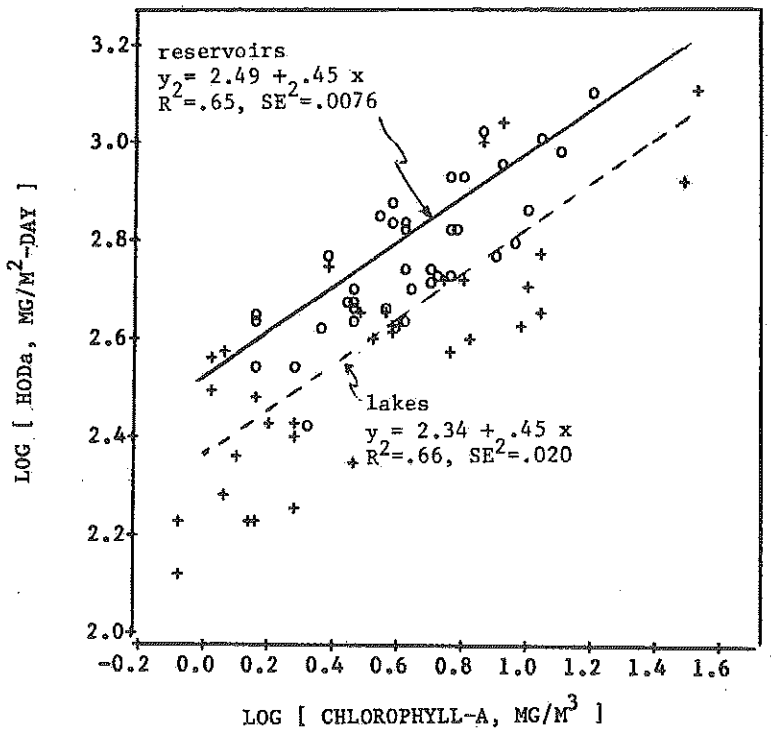
Patmont, C. R. 1987. The Spokane River basin: Allowable phosphorus loading. Harper-Owes, prepared for WADOE.

Thornton, K. W., F. E. Payne and B. L. Kimmel. 1990. Reservoir Limnology. Wiley-Interscience, N. Y.

Walker, W. W. 1985. Empirical methods for predicting eutrophication in impoundments. Report 3. Phase 11: Model Refinements. USACOE Technical Report E-31-9.

Figure 38

Areal HOD Rate vs. Chlorophyll-a



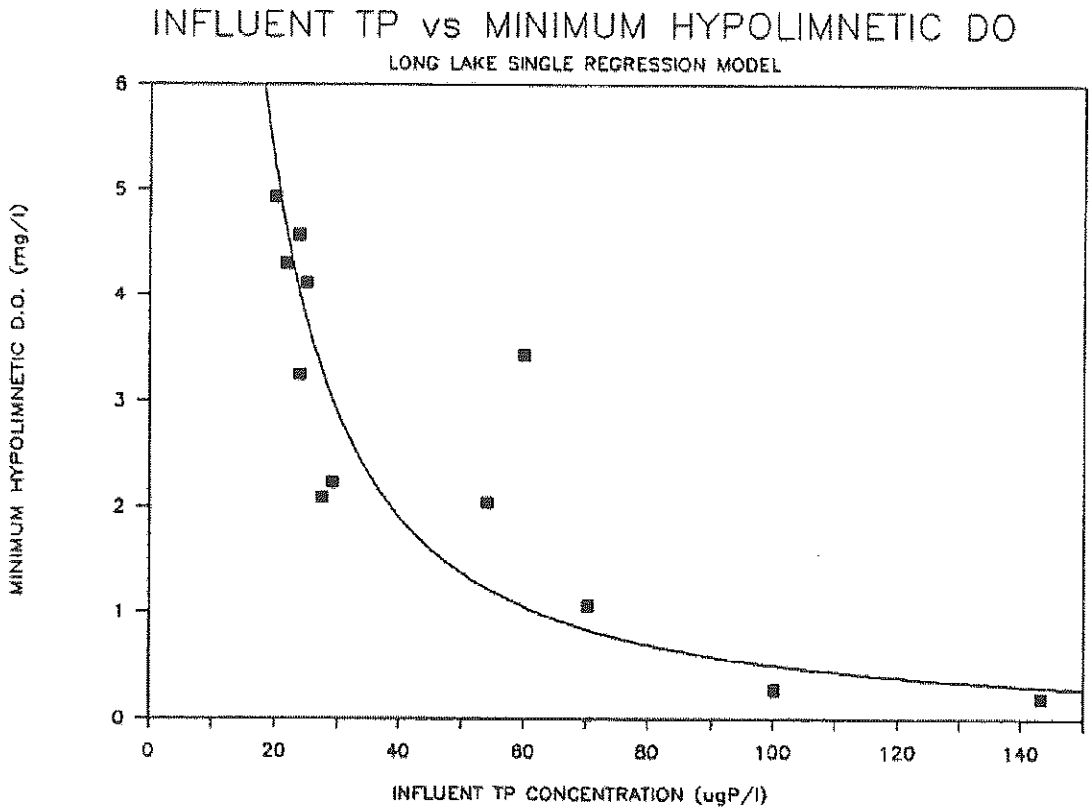
Symbols:

o = CE Reservoir.
+ = Natural Lake, Zh > 2 m

135

from Walker (1985)

FIGURE 20a



135

From Patmont (1987)

Moore, David (ECY)

From: I Purcell [purcell.ian@gmail.com]
Sent: Friday, October 30, 2009 1:07 PM
To: Moore, David (ECY)
Subject: Spokane River cleanup

Mr. Moore

I have been following the health of the spokane river, specifically Long Lake since I moved my family here from the Spokane Valley in 2002. It horrified me to learn the levels of toxic alge as tested earlier this fall in the river. My family and I take great joy in being able to play in this body of water but its always been in the back of our mnds that it is down stream of the Spokane waste water treatment facility and other polluters. My first concern has been the sewage plant for obvious reasons but as I learn more I realize the impact of other polluters as well.
I am not against businesses and understand the past practices of discharging waste into nearby rivers for it to go out of site, out of mind. That was an archaic way of thinking of course and practices need to change. Long lake, Lake Spokane, our name sake as well and the rest of the river are turning into a cesspool. I fear for my family's safety by letting them swim in this lake now! Lets use some common sense, identify the shell game polluters are playing and get some reasonable actions in place to clean up this river. It is our responsibility to be good stewards of our land and resources. I represent a portion of the people YOU work for sir. The government has a responsibility to look out for the people and protect OUR resources.

Lets use some good science and common sense to put into effect a plan to fix this sick river. We owe it to our kids, wherever we live. You owe it to the citizens who put you in place through support of government to look out for our common interest.

--
Respectfully
Ian Purcell

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

2110 Ironwood Parkway • Coeur d'Alene, Idaho 83814 • (208) 769-1422

C.L. "Butch" Otter, Governor
Toni Hardesty, Director

October 30, 2009

David Moore
Water Quality Program-Eastern Regional Office
Washington State Department of Ecology
4601 N. Monroe Street
Spokane, WA 99205-1295

RE: Spokane River and Lake Spokane D.O. TMDL Draft Report, Idaho DEQ Comments

Dear Mr. Moore:

The Idaho Department of Environmental Quality (IDEQ) appreciates the opportunity to comment on the draft report titled "Spokane River and Lake Spokane, Dissolved Oxygen Total Maximum Daily Load, Draft Water Quality Improvement Report, September 2009" prepared by the Washington Department of Ecology (Ecology) . Washington's efforts to improve water quality in the Spokane River downstream of Idaho are important to ensure water quality is preserved, beneficial uses are maintained, and that the Clean Water Act is supported. There are numerous concerns over the draft Total Maximum Daily Load (TMDL) that have been voiced during its development that have not been adequately addressed. IDEQ shares many of those concerns such as the application of the TMDL process, identification of actual beneficial uses in Lake Spokane, compliance points for setting load allocations, and targets for dissolved oxygen in Lake Spokane.

IDEQ requests that Ecology consider the comments listed below before finalizing the TMDL and submitting it to the Environmental Protection Agency (EPA) for approval.

General Comments

1. IDEQ agrees with the statement on page 28 of the TMDL that Ecology lacks the authority to establish wasteload or load allocations for sources of pollutants in Idaho. IDEQ is authorized to determine compliance with Idaho Water Quality Standards and make section 401 certification decisions with respect to National Pollutant Discharge Elimination System (NPDES) permits issued to Idaho point source dischargers. IDEQ reserves its right to determine: (a) actions necessary to meet Idaho Water Quality Standards; (b) whether there is a reasonable potential for Idaho dischargers to cause or contribute to a violation of the downstream Washington Water Quality Standards; and (c) assuming a reasonable potential to exceed, the limits or other actions necessary to attain Washington Water Quality Standards.

2. According to the TMDL, the NPDES permits for Washington dischargers will provide the dischargers with a number of different options to achieve wasteload allocations through the development of a Delta Elimination Plan. These options include treatment technology, conservation, effluent reuse, source control, and contribution to nonpoint source controls in the watershed. This TMDL does not address Idaho dischargers, and Washington has no authority to determine limits for or issue NPDES permits in Idaho. IDEQ intends to work with EPA to ensure that, to the extent allowed by applicable law, Idaho dischargers are afforded the same or equivalent options to meet permitted constituent goals. In addition, Idaho will work with EPA to ensure there is an opportunity for Idaho to allocate responsibility for any needed phosphorus reductions between sources in Idaho in a manner which is reasonable and achievable and reflects the financial and technological capabilities of Idaho sources.

3. The TMDL contains a section to describe the Management Implementation Plan (MIP). The TMDL also contains appendix D, Foundation Concepts for the Spokane River TMDL Managed Implementation Plan. The MIP appears to be redundant with appendix D for several sections such as Target Pursuit Actions and likely includes updated language for some of these actions. However, there are sections in appendix D that are not found in the MIP and it is unclear how to interpret or apply the statements made in Appendix D that are not reconciled in the new MIP. For example, on page D-12, it discusses the new Spokane County Treatment plant and identifies that the new facility will achieve a discharge of Total Phosphorus (TP) equal to 10 µg/L at the time of operation through the application of control technology and offsets (delta management). Table 4 on page 28 identifies that Spokane County will have a Waste Load Allocation (WLA) based on a TP discharge limit of 42 µg/L. The TMDL does not adequately explain how these changes occurred and creates confusion with the inclusion of these older documents.

4. In reference to the point sources, the TMDL repeatedly uses the term "seasonal average" to describe effluent concentrations and waste load allocations. The modeling scenarios that were developed to help identify potential WLA's use terminology such as maximum monthly average and long-term average to describe different concentrations of effluents used in the modeling analysis. Please provide a definition of seasonal average that is consistent with the terminology used in the modeling analysis and better describes how Ecology is using these various terms.

5. The TMDL also repeatedly uses the term "equitable distribution", mainly in context with the development of effluent limits and waste load allocations for point sources. Please provide some definition or guidance on what factors are considered to meet these criteria of equitable distribution. It is not clear how it is "equitable" to give the largest dischargers, the city of Spokane and the city of Spokane Valley, WLAs based on 42 µg/L TP while, based upon the modeling, all the Idaho dischargers will presumably have their permitted mass loadings based on 36 µg/L TP. This appears to be a significant concept used in the TMDL strategy and yet is never adequately described in the document.

6. In the section on nonpoint sources, table 5 shows the percent reductions that were applied to the tributary sources for the modeling scenarios. The TMDL does not provide any documentation on how these reductions were determined or any documentation of what type of best management practices might be utilized to achieve these reductions. Note #1 in Table 5 says, "these reductions must be met prior to assigning credits for nonpoint source reductions as part of a dischargers Delta Elimination Plan." Without documentation available in the TMDL that further describes the controls used in the modeling analysis, it will be very difficult to ascertain whether or not the Best Management Practices included in a delta elimination plan or Avista's Water Quality Action Plan are separate and unique from the reductions identified in the load allocation scenario for nonpoint sources. It appears that there is a great potential for confusion and possible double-counting of proposed nonpoint source control efforts due to the lack of specific details in the TMDL.

7. Please remove the names of John Tindall and Robert Steed from the "Acknowledgements" on page ix. While this is a considerate gesture, the TMDL does not reflect input from IDEQ staff.

Water Quality Issues

8. The designated beneficial uses and associated criteria for the Lake Spokane Reservoir are incorrect. In addition, it is unclear in the TMDL how phosphorus load reductions will ultimately benefit the beneficial uses that are identified in the TMDL as having recurring impairments. The beneficial use of Core Summer Salmonid Habitat and the fish that the Core Summer Salmonid Habitat designation protects have never been attained, nor are they likely to be attained through any pollution reduction effort.

9. The population of salmonids that the Core Summer Salmonid Habitat beneficial use protects has not been described adequately to identify impairment based on dissolved oxygen concentration and DO depth profile. Baseline population data for this water has not been established to show when and how impairment might occur, and without this baseline data, it is not clear how Ecology will determine when the beneficial use is restored. The TMDL focuses on compliance with criteria and bears no documented relationship with the beneficial use of Core Summer Salmonid Habitat.

10. Ecology's concern regarding excess Blue-green algae blooms is valid and should be the basis and the objective of the TMDL. Blue-green algae, however, have also not been adequately described or documented to demonstrate beneficial use impairment. The presence of Lake Spokane Reservoir and the habitat conditions within Lake Spokane Reservoir predates the authorization of the Clean Water Act (1972) and Ecology's subsequent designation of the Core Summer Salmonid Habitat beneficial use. The current dissolved oxygen concentrations (profile) in Lake Spokane Reservoir exceed (better) all other Eastern Washington reservoirs. Current dissolved oxygen concentrations are also completely within acceptable limits for a reservoir being managed for warm water fish and put-and-take (hatchery) trout.

11. It is not reasonable to model Lake Spokane Reservoir as though it were a natural lake for the purposes of TMDL beneficial use impairment, or TMDL load allocation.

12. The scenarios simulated with the CE-QUAL-W2 model that determine load allocations did not accurately account for the newer, increased flow regimes that are required in the Federal Energy Regulatory Commission (FERC) license for the Post Falls Hydroelectric Project. These new flow regimes from Post Falls Dam are significantly higher than those used to develop the TMDL load allocations. Using lower flow regimes discounts dilution effects and minimizes the waters assimilation response to nutrients through the TMDL reach of the Spokane River and Lake Spokane Reservoir. It is not appropriate to attribute different flows than will actually occur to the Margin of Safety (MOS) required in TMDLs. Typically the Margin of Safety accounts for 10% of the load allocation to provide a buffer against uncertainty.

13. In the modeling strategy used to identify dissolved oxygen impairment caused by the operation of Long Lake Dam, Ecology developed a water quality goal or benchmark for total phosphorus in the riverine segment of the water body. Ecology elected to use a criterion of 10 µg/L for total phosphorus. The selection of this criterion influenced the selection of the modeling scenario #1, see page 21, and critically influenced other important decisions that may affect permit limits that EPA develops for the Idaho point sources. The TMDL does not describe the process the Ecology used to select this water quality benchmark and more information is warranted to support the selection of this benchmark value. IDEQ continues to object to the adoption of 10 µg/L water quality goal or benchmark with the following concerns: 1) the upper part of Lake Spokane Reservoir and the area that the water quality goal or benchmark is being applied is in an area that is transitional between EPA's Western Mountains and Xeric West aggregate level III ecoregions. The criteria should also be transitional, somewhere in the range between 10 and 21.88 µg/L; 2) nutrient criteria developers caution the use of reference conditions alone to derive criteria. A weight of evidence approach which addresses all key elements should be pursued; 3) the data base from which EPA's suggested nutrient criteria was developed contains annual medians for some water bodies, and is made from all data available and is not randomly sampled. Random sampling is needed in order to remove bias prior to application of statistics; 4) the data base also contains zeros which EPA assumed is an accurate measurement, and were included in the statistics. Laboratories do not report zero for these types of analysis. Western mountain III aggregate ecoregion has not been peer reviewed and there has not been a determination of how many zero values are affecting statistical applications; 5) the data base contains many values below method detection limit (10.0 µg/L, EPA 365.1); 6) data were combined without regard to data quality objectives (accuracy, precision), or field quality assurance and quality control process; 7) peer review of EPA's suggested nutrient criteria concluded that defensible reference conditions could not be derived and that seasons should limit data analysis; 8) The data used to develop the 10 µg/L water quality goal have not been tested for normality even though normal statistics (%tile) have been applied; 9) the frequency distribution approach used by EPA is arbitrary and results in inappropriate, stringent criteria that do not focus on environmental outcomes. By definition 75% of all water will not meet resulting nutrient standards; 10) Ecology's application of oligotrophic lake criteria to a non-oligotrophic riverine assessment point is inappropriate.

14. The Spokane River TMDL, particularly under Wasteload Allocations, identifies that reductions should be equitably distributed among point sources, with a goal of establishing achievable reductions. It is inappropriate to base wasteload permitted discharges on a technologically based target that lacks consensus and peer review. The technology based targets have no cause and effect relationship to beneficial use support and creates an assumption that nutrient loading from NPDES permitted discharges in Idaho are on parity with Washington dischargers much closer to Lake Spokane Reservoir. The most downstream Idaho discharger (City of Post Falls) is over 40 miles upstream from the start of Lake Spokane Reservoir. Assimilative capacity for the Spokane River is greater between the Idaho border and Lake Spokane Reservoir than assimilative capacity from Spokane to Lake Spokane Reservoir. The assumptions used in the scenario development regarding the reduction in phosphorus loads from Idaho do not, but should, take into account this difference in assimilative capacity that occurs throughout the riverine portion of this waterbody.

15. Implementation of the Spokane River TMDL calls for reductions in phosphorus, carbonaceous biological oxygen demand (CBOD) and ammonia (NH3) to meet WLAs by 2019. Monitoring is slated for 2019 to detect a response in Lake Spokane Reservoir that is manifested by increased DO. Adaptive Management is identified in the TMDL to refine load allocations based on monitoring that would occur within 10 years of the TMDL development (not approval of the TMDL, or completion of TMDL implementation). This response, i.e. increased dissolved oxygen, is not likely to be detected due to the continued impact of nutrients stored in sediments. It is possible that nutrient reductions prescribed in the TMDL or through implementation monitoring could be masked by persistent sediment oxygen demand that would result in future prescribed nutrient reductions beyond reasonable WLA capabilities and economic feasibility.

Engineering and Modeling Issues

16. The current technologies available (not including reverse osmosis or entirely eliminating the discharges from the wastewater treatment plants to the Spokane River) to treat down to the projected 36 µg/L total phosphorous (TP), as shown in Modeling Scenario #1, may not be able to consistently meet this targeted concentration. The model runs of the Idaho discharges at 50 µg/L (scenario #2) and 100 µg/L (discharger model runs) show very small increases in the dissolved oxygen deficits in Lake Spokane Reservoir. Permitted effluent limits based on 70 µg/L to 100 µg/L for TP would be much more achievable based on the current phosphorus control technology and would provide a greater degree of certainty that facilities constructed over the next seven (7) years will comply with the permit limits and waste load allocations.

17. In Appendix E of the TMDL, the term "limit of technology" is used to describe how the effluent limits were established in developing the modeling scenarios. The TMDL does not provide any details on what constitutes the limit of technology. A definition should be provided that is consistent with the delta management strategy discussed in the MIP section. In Appendix D, references to the delta management such as "there is not well-established technology that can reliably treat a variety of wastewater discharges and achieve the River phosphorus levels required to improve DO sufficiently to meet water quality standards" create further confusion about the certainty and availability of technology to achieve the waste load allocations derived from modeling scenario #1.

18. In the section on Load and Wasteload Allocations, Ecology shows equation #1 to describe how waste load allocations are calculated from an effluent concentration. Table 4 lists the effluent concentrations for each point source which were derived from Scenario #1. The TMDL and the modeling report by PSU referenced in the TMDL do not adequately describe the differences between the permit limits and the modeling limits and why Ecology chose to use the lower effluent limits versus the maximum monthly averages to calculate the waste load allocation.

19. The TMDL provides a WLA for a new point source discharge- Spokane County (8 mgd at a TP concentration of 42 µg/L for a load of 2.80 lb./day). It is not clear how this is considered an "equitable" distribution of the point source reductions when it is actually an additional load. The allowance for population growth within Spokane County that this WLA provides takes away from the other existing point sources and the loads that can be discharged in Idaho. Please provide a more complete explanation of the logic behind allowing a new source and load to an already over-allocated watershed.

20. It is recommended that the September 15, 2009 Portland State University report titled "Spokane River Modeling Scenarios Report 2009" be included in the appendix of the final Ecology TMDL report.

21. The September 2009 modeling report from Portland State University contains a model run with higher flows as prescribed by the new FERC license issued to Avista for the operation of the Post Falls dam. The modeling report and the TMDL do not discuss the results of the FERC flow model run nor is there a discussion of how these model results would be used in the waste load allocation process.

Please contact me, John Tindall, or Robert Steed if you have any questions about IDEQ's concerns or comments.

Sincerely,

Daniel Redline
Regional Administrator

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October 30, 2009

Via E-mail: dmoo461@ecy.wa.gov

Mr. David Moore
Water Quality Program
Eastern Regional Office
Washington State Department of Ecology
4601 North Monroe Street
Spokane, WA 99205

Re: 2009 Draft Spokane River and Lake Spokane Dissolved Oxygen TMDL Water Quality Improvement Plan

Dear Mr. Moore:

Thank you for the opportunity to comment on the above-referenced draft TMDL for Dissolved Oxygen (DO) in the Spokane River and Lake Spokane (Draft TMDL). These comments are submitted on behalf of Inland Empire Paper Company (IEP).

As you know, IEP is a party to the March 7, 2007 Memorandum of Agreement (MOA) regarding Foundational Concepts, Managed Implementation Plan, and Dissolved Oxygen TMDL for the Spokane River. (Appendix D). IEP was a participant in the Spokane River collaborative process that led to the adoption of the MOA and has committed to implementing cutting edge technology and source reduction to achieve the highest possible water quality standards in the Spokane River and Lake Spokane. Under the MOA, the Department of Ecology (Ecology) is obligated to adopt a TMDL and implementation plan for the TMDL consistent with the Foundational Concepts document dated June 30, 2007.

IEP regrets that Ecology has fallen so far short of its commitments in the MOA. There is no justification for Ecology's determination that IEP can achieve a seasonal average phosphorus limit of 36 µg/L. IEP is not aware of any water quality treatment technology that would allow it to achieve this limit. Nor is IEP aware of any source reductions or available non-point source reductions that would afford a reasonable opportunity to comply with the proposed waste load

allocation in the Draft TMDL. IEP has asked Ecology in several public and private meetings over the past six weeks to identify where credits for non-point source reductions are available for IEP to achieve its proposed allocation. Ecology has been unable to identify any legitimate opportunities that would provide IEP with confidence that the delta can be achieved.

The Draft TMDL, as proposed, has the potential to eliminate Inland Empire Paper Company as a viable business in the Spokane community. IEP hopes that Ecology will consider the consequences of its decision in this matter as set forth in the following comments, questions and proposed actions.

1. Department's obligation to respond to public comments.

The Department of Ecology is required to respond to all comments submitted on the Draft TMDL. Pursuant to 40 CFR § 130.7(c)(ii) and the 1997 Memorandum of Agreement between the Department of Ecology and EPA, Ecology must ensure that the TMDL submittals to EPA include responsiveness summary to public comments as described in 40 CFR § 25.8. Under 40 CFR § 25.8 the response to comments must include "the agency's specific responses in terms of modifications of the proposed action or an explanation for rejection of proposals made by the public."

Ecology's obligation to respond to public comments is heightened by the lack of transparency in the Draft TMDL as to the source and basis for WLAs. The document does not provide an explanation as to the core decision by Ecology and EPA that dischargers can meet seasonal averages of 36 µg/L in phosphorus loading. The Draft TMDL includes the EPA analysis of treatment technology from March 2009 as Appendix J but does not discuss that document anywhere in the body of the draft. Ecology does not disclose whether it agrees or disagrees with the weak and baseless conclusions of the EPA memorandum. Nor does the Draft TMDL disclose whether Ecology has adopted the EPA conclusions simply as a means to force dischargers to fund non-point source reductions.

2. Legal standard for approval of TMDL.

Ecology cannot legally adopt a TMDL, and EPA cannot approve a TMDL, under the Clean Water Act, 33 U.S.C. §1313(d)(1(C), that is arbitrary and capricious. The TMDL here will be arbitrary and capricious if it does not consider an important aspect of the problem or runs counter to the evidence before the agencies.

A TMDL with load allocations for non-point sources of pollution must also include reasonable assurance that the load allocations can be achieved. *See* EPA Guidelines for Reviewing TMDLs Under Existing Regulations Issued in 1992.

3. Lake Spokane is a reservoir and not a natural lake.

Lake Spokane is a man-made reservoir that is formed by a hydroelectric dam, Long Lake Dam. Constructed in 1915, the dam is the largest hydroelectric development on the Spokane River and is located approximately 25-30 miles northwest of the city of Spokane. It operates with a regulated reservoir, Lake Spokane, which is approximately 23.5 miles long with a

maximum depth of 180 feet and a 5,060-acre impounded surface area at normal full pool elevation of 1,536 feet.[1]

Physical, chemical, and biological processes in the reservoir, even without additional human impacts due to pollution, are different than what they would be if the river were free flowing.[2] The reservoir is usually completely mixed or un-stratified until the beginning of June because of the large amount of inflow water due to spring snowmelt conditions that significantly increase flows in the Spokane River.[3] The reservoir thermally stratifies from June through September and stagnation of deep water results in low DO concentrations near the lower portion of the reservoir in the summer and early fall.[4]

In a free flowing river, without the presence of the Long Lake Dam, the impacts from dischargers including IEP would not cause a violation of the dissolved oxygen criteria.[5]

Please respond to the foregoing comments and the following specific questions:

(1) Does Ecology agree that Lake Spokane is a man-made reservoir?

(2) Does Ecology agree that Lake Spokane thermally stratifies during the late summer months?

(3) Does Ecology agree that low DO levels in Lake Spokane result from the fact that it is a reservoir?

(4) Does Ecology agree that the Spokane River encompassed by Lake Spokane would likely achieve DO criteria if it was a free-flowing river?

(5) If Ecology is in disagreement with any of the preceding questions, please explain the basis of the disagreement.

4. Ecology does not apply natural dissolved oxygen criteria to artificial reservoirs created by hydroelectric projects.

The dissolved oxygen criteria are set forth in WAC 173-201A-200(d) Table (1)(d). In accordance with WAC 173-201A-200(1)(d)(ii), for lakes, "human actions considered cumulatively may not decrease the dissolved oxygen levels more than 0.2 mg/L below *natural conditions*." (Emphasis added.)

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[1] B. Cusimano, Spokane River and Lake Spokane (Long Lake) Pollutant Loading Assessment for Protecting Dissolved Oxygen, at 61 (February 2004)("Cusimano 2004"); A History of The Washington Water Power Company 1889 to 1989 by Steve Blewett, (1989), Spokane River Draft Environmental Assessment, Volume 1 (July 2005) and Spokane River Draft Environmental Assessment, Volume II (February 2005).

[2] Cusimano 2004, at 61.

[3] Cusimano 2004, at 32.

[4] HDR, Preliminary Draft Environmental Assessment, p. 5-125 (2005).

[5] WDOE, Water Quality Certifications for Existing Hydropower Dams, at 28 (March 2005).

Because Lake Spokane results from the operation and maintenance of Long Lake Dam it is not a "natural condition" as defined under the state water quality standards. Ecology has specifically recognized this fact and this interpretation of its water quality standards:

> Reservoirs with a mean detention time of greater than 15 days are treated as lakes under the water quality standards. The water quality standards for lakes are often based on maintaining natural conditions, but the fact is the dam and the "lake" behind it are not natural. This means that Ecology cannot treat dam effects to water quality as natural.[6]

Ecology also made this interpretation clear in its response to comments on a draft guidance document for water quality certifications for hydroelectric projects:

> Dams are held accountable for the water quality of the downstream waters and the requirement is to meet the assigned water quality standards for the river downstream of the impoundment. It is only within the impoundment itself that a different approach is being taken. Within the reservoir the water quality and physical habitat conditions will take on the characteristics of a lake. The requirement to achieve the highest attainable water quality with these reservoirs reflects the requirement in the water quality standards for lakes and reservoirs – where human effects are generally not allowed to cause any substantial changes from natural conditions. **And this requirement is written the way it is because of the recognition that the reservoir itself is not a natural condition**.[7]

The use designation also provides that dissolved oxygen measurements should be taken to "represent the dominant aquatic habitat." WAC 173-201A-200(1)(d)(iv). This requirement for measuring dissolved oxygen is important when considering a reservoir since the deep hypoxic layer created by an impoundment is not likely to have ever been suitable habitat let alone the dominant aquatic habitat. Ecology staff has acknowledged internally that achieving the highest attainable water quality standards in a reservoir requires some assessment of net biological benefits. "[I]f the largest net improvement in water quality was obtained by focusing on creating improvements in a deep hypoxic layer of a reservoir, but most of the species of concern rely on the epilimnion and metalimnion (upper layers), then maximizing the water quality improvement in the hypolimnion may not really represent the highest attainable condition."[8]

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[6] *Id*. at p. 28.

[7] C. Maynard, *WDOE Water Quality Certifications for Existing Hydropower Dams Guidance Manual Comments and Responses*, at 12 (February 2005). (Emphasis added.)

[8] Conceptual Staff Draft, undated.

On October 24, 2008, Ecology issued a letter styled as an "interpretative guidance" on the application of the state water quality standards to reservoirs (Appendix 1). The letter opens with the proposition that "natural conditions" are defined as "the water quality conditions absent any human-caused pollution." The letter then makes an enormous illogical leap by suggesting that because reservoirs can meet the definition of "lakes," that such reservoirs are "treated the same as lakes."

The letter then claims that this syllogism is "consistent with the way we determine natural conditions in temperature TMDLs." This statement is not accurate. IEP has not been able, in fact, to find a single temperature TMDL related to a reservoir that treated the impoundment as a natural condition for water quality modeling. [9]

If there is any doubt as to how Ecology actually interprets its standards, it is made clear on the second page of the letter: "**the dam and the lake behind it are not natural, since they were created by human actions.**" Ecology then admits in the letter that "**Ecology cannot treat the effects of dams on water quality as natural.**"

Is it accordingly unlawful for Ecology to define the effects of the Long Lake Dam impoundment as "natural" for the purposes of the state water quality criteria for dissolved oxygen. The thermal stratification of Lake Spokane in critical summer months results from human actions. The depressed dissolved oxygen levels in the deeper areas of the reservoir are not therefore natural conditions and cannot be used for the application of the dissolved oxygen criteria.

The Draft TMDL confirms that there is no obligation for strict compliance with the DO criteria in the lake. There is no specific assignment of a load allocation to the dam operator and thus no obligation on the part of the dischargers or the dam operator to achieve DO criteria that only apply to natural lakes. The draft TMDL makes clear, at p. 36, that the dam operator is only subject to a requirement to "**improve** dissolved oxygen impairments that occur in the reservoir downstream" of the compliance point for dischargers. Likewise, the implementation plan for the TMDL states, at p. 52, that it is the dam operator's "responsibility to **counteract** the impacts of the impoundment on dissolved oxygen levels."

IEP and other dischargers to the Spokane River are subject to the same standard with respect to dissolved oxygen levels in the reservoir as the dam operator. Ecology may require dischargers to "improve" dissolved oxygen conditions or "counteract" dissolved oxygen sags, but it is not the obligation of dischargers any more than it is an obligation of the dam operator to strictly comply with DO criteria that only apply to natural water bodies.

[9] Braley (Nov. 28, 2007) "The precedence has been NOT to model the reservoir for temperature natural background above the dam when it is treated as a lake. We did not model reservoir temperatures for Baker Lake, the Lewis River dams, Rife Lake (on Cowlitz) and Cushman. According to Chris' Reservoir Table, Packwood Lake is the only reservoir that we are requiring modeling for natural pre-dam temperature."

Please respond to the foregoing comments and the following specific questions:

(1) Does Ecology agree that dam operators are accountable for meeting assigned water quality standards downstream from an impoundment?

(2) Does Ecology agree that a "different approach" is taken within an impoundment?

(3) Does Ecology agree that Lake Spokane is not a natural water body?

(4) Does Ecology agree that Ecology cannot treat the effects of dams on water quality within a reservoir impoundment as a natural condition?

(5) Does Ecology agree that IEP and the dam operator are entitled to the same interpretation and application of DO water quality criteria? If not, please explain any difference in how the dam operator and IEP are treated and the basis for that difference?

5. With advanced treatment technologies IEP does not cause or contribute to a violation of applicable dissolved oxygen criteria in the Spokane River.

On April 30, 2009, EPA Region 10 issued a letter stating that "the predicted water quality at the riverine location will provide us with information to support our decisions on the proper balance of responsibility between upstream sources and Avista." [10] Strict compliance with water quality criteria only applies to IEP above the Long Lake Dam reservoir at the location of the transition from a free flowing river to the reservoir. This location is approximately at the Nine Mile Bridge or Model Segment 154 under Ecology's water quality model. The modeling results at Segment 154 demonstrate that IEP alone and cumulatively with other dischargers and non-point sources will achieve the applicable water quality standards under all three scenarios modeled by Ecology.

Modeling performed with IEP's phosphorus loading at a seasonal average of 200 µg/L demonstrates that there would be no violation of applicable standards at the riverine assessment point and no decrease in DO levels in Lake Spokane compared to the results for Scenario #1.[11] HydroQual performed a sensitivity analysis after correcting several errors in the model as described in the HydroQual document.[12] Setting IEP to a long-term average of 200 µg/L in model Scenario #1 resulted in a maximum decrease in computed Long Lake dissolved oxygen of 0.044 µg/L in model cell 182 during the critical period August 16 through 31. When rounded off

[10] Letter from C. Psyk (April 30, 2009).

[11] HydroQual Evaluation of Change in Long Lake Dissolved Oxygen with Increasing Inland Empire Effluent Phosphorus (October 28, 2009).

[12] *Id*., at 1.

to the nearest 0.1 µg/L of dissolved oxygen, the increase in IEP's effluent phosphorus from 36 µg/L to 200 µg/L would not change the DO impact to Long Lake under model Scenario #1.[13]

Please respond to the foregoing comments and the following specific questions:

(1) Does Ecology agree with the quoted statement by EPA on April 30, 2009?

(2) What factors did Ecology use to determine "the proper balance of responsibility"?

(3) What regulatory standard did Ecology use to determine "the proper balance of responsibility"? Please provide a citation to each and every EPA and Ecology regulation that was relied upon to determine "the proper balance of responsibility".

(4) Did Ecology rely on any manuals, guidance documents or policy statements by EPA or Ecology to determine "the proper balance of responsibility"? If so, please identify the manuals, guidance documents or policy statements.

(5) WAC 173-201A-510(5) states that dam operators are obligated to take "reasonable and feasible" actions to improve water quality within an impoundment. Did Ecology rely on this provision of the state water quality standards to determine "the proper balance of responsibility"?

(6) How does Ecology define "reasonable" as that term is used in WAC 173-201A-510?

(7) How does Ecology define "feasible" as that term is used in WAC 173-201A-510?

(8) Is IEP required to take actions that are not "reasonable" as that term is used in WAC 173-210A-510 to improve DO levels in Lake Spokane? Is so, please explain the basis for your answer.

(9) Is IEP required to take actions that are not "feasible" as that term is used in WAC 173-201A-510 to improve DO levels in Lake Spokane? If so, please provide a basis for your answer.

(10) Does Ecology disagree with any statement, assumption or conclusion in the HydoQual sensitivity analysis described above and submitted with these comments? If so, please explain the basis for your disagreement.

(11) Why does the TMDL establish a 10-year schedule to implement the TMDL when state law allows up to 20 years for implementing the TMDL? When does Ecology intend to adopt a regulation consistent with the legislation?

[13] *Id*., at 2.

6. Ecology has erroneously determined that treatment technology is available to IEP that can achieve a 36 µg/L seasonal average of phosphorus discharges.

The central decision in the Draft TMDL is the conclusion that dischargers including IEP can achieve a seasonal average phosphorus discharge level of 36 µg/L. Ecology must have concluded that imposing this WLA represents the "proper balance of responsibility" as discussed in the previous section. This decision drives the TMDL and yet there is no discussion anywhere in the TMDL as to the basis for this decision. The Draft TMDL does include Appendix J – a memorandum by EPA staff from March 2009 – but the memorandum is not discussed anywhere in the body of the Draft TMDL. Nor is there any discussion as to why Ecology is abandoning its commitments in the 2007 Memorandum of Agreement or the considered conclusions of the Collaborative Process Technical Working Group.

As part of the Collaborative Process, IEP conducted pilot testing of numerous state-of-the-art tertiary treatment technologies at its facility. The results of that testing demonstrated that IEP, with aggressive application of treatment technology and management, could achieve an average effluent level for total phosphorus between 70 and 100 µg/L.[14] IEP may not be able to achieve an average of 50 µg/L even with substantial reductions in water use and water re-use in its industrial processes. It is unreasonable to conclude that IEP can ever achieve a seasonal average of 36 µg/L. During the Collaborative Process IEP argued for a target of 100 µg/L as a reasonably attainable level of treatment at its facility.

The pilot testing demonstrated that IEP will not be able to achieve the same level of phosphorus removal as municipal WWTPs using the same technologies. IEP was orders of magnitude higher in chemical use and was unable to attain equivalent levels of phosphorus reduction. This was confirmed through comparison to the results at other facilities during the collaborative process, two reviews of treatment technology presented to Ecology in a 2005 study of exemplary WWTPs by CH2M Hill and HDR,[15] and in a memorandum dated September 14, 2005, from Ross & Associates (included as Appendix L in the Draft TMDL). IEP argued against a 50 µg/L limit at the time and maintained that it could only achieve 100 µg/L with any confidence.

Ecology cannot rely on the EPA memorandum attached as Appendix J to conclude that treatment technology can routinely achieve a seasonal average of 36 µg/L. It is clear from the public record in this matter that the EPA analysis resulted from a two week effort to justify a number rather than any impartial or professional evaluation of the performance data.[16] The analysis relies, for example, on a marketing statement by a vice president of business

[14] IEP Pilot Study Report, Tertiary WWT Pilot Trials for Ultra-Low Phosphorus Removal by Douglas P. Krapas, June thru July, 2005 and November thru December, 2005.

[15] Technical Memorandum Evaluation of Exemplary WWTPs Practicing High Removal of Phosphorus by CH2M Hill (Nov. 21, 2005).

[16] E-mail from Brian Nickel (Mar. 13, 2009).

development for a contractor. (IEP included this contractor's technology in its pilot testing and the technology averaged two to three times higher than the proposed WLA.)

IEP objects to both the reliance on and use of the Region 10 report on treatment technology principally authored by David Ragsdale, Advanced Wastewater Treatment to Achieve Low Concentrations of Phosphorus (Region 10, April 2007). Mr. Ragsdale was quoted during the Spokane River Collaborative Process that "[t]hey came up with a new process and I'm not supposed to talk about it. I have a difference of opinion than the official agency perspective."[17] The report he authored was prepared without public notice or any involvement by the dischargers or their consultants. The analysis included active participation by an attorney representing the Sierra Club and a vendor of treatment technology.[18]

IEP objects to the biased use of discharge monitoring data in the 2009 EPA memorandum. The 2009 memorandum uses data from a 2008 EPA report on nutrient removal technologies but relies on just three facilities out of 29 full-scale treatment plants. The three plants selected are among the three smallest plants evaluated in the 2008 report and are not representative of the flows or configurations of the plants operating in the Spokane River basin. Furthermore, none of the selected facilities included any industrial or more specifically any pulp and paper mill applications.

IEP objects to cursory dismissal of the Collaborative Process Technology Work Group in the 2009 memorandum. The recommendations of the work group were the result of considerable efforts by professionals responsible for designing and operating water quality treatment plants. In contrast to the 2009 EPA memorandum compiled over a two week period, the Technology Work Group began its work in 2004. The pilot studies encompassed multiple technologies tested at three different facilities included in the Draft TMDL. That work is ongoing and will be the basis for technology selection and design by all dischargers.

Finally, the TMDL will not be legally defensible if the essential regulatory decision in this matter rests on Appendix J. One measure of this document is whether it would ever be accepted as part of an engineering report under WAC 173-240-130. IEP cannot imagine a circumstance where Ecology would accept the use of marketing statements and such selective use of data to establish performance capabilities for a proposed treatment system from a permit applicant.

IEP's objections to the 2009 memorandum rely on the critique of the memorandum by Dave Clark of HDR.[19] In addition to the above comments, IEP incorporates that critique by reference and asks that Ecology respond specifically to each and every comment made therein.

Please respond to the foregoing comments and the following specific questions:

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[17] J. Hagengruber, *Spokesman Review*, "Scientist Departure Taints River Cleanup Plan" (Sept. 10, 2007).

[18] "Advance Wastewater Treatment to Achieve Low Concentration of a Phosphorus," at 2. The document also claims that Ken Merrill, an Ecology employee, was also consulted on the report.

[19] Review of March 24, 2009 EPA Region 10 Memorandum of Wastewater Treatment Plants Achieving Low Effluent Phosphorus Concentrations.

(1) Does Ecology believe that it is feasible for IEP to achieve a seasonal average of 36 µg/L and maximum monthly average of 50 µg/L for TP?

(2) What information did Ecology rely upon to answer the preceding question?

(3) Does Ecology think it is reasonable to expect IEP to achieve 36 µg/L as a seasonal average and 50 µg/L as a maximum monthly average for TP?

(4) What information did Ecology rely upon to answer the preceding question?

(5) Does Ecology disagree with the conclusions of the IEP pilot study? If so, why?

(6) What specific technology is available to IEP to achieve a 36 µg/L WLA?

(7) Please identify each and every pulp and paper mill with processes similar to IEP's that can achieve a seasonal average of 36 µg/L.

(8) Has Ecology independently reviewed the 2007 report authored by Dave Ragsdale?

(9) Was Ken Merrill specifically authorized by Ecology to consult with Dave Ragsdale regarding this report?

(10) Did Ecology ever advise IEP that the Ragsdale report was being prepared?

(11) Does Ecology think it is appropriate to rely on data from the three small WWTPs for the conclusions in the Ragsdale report?

(12) Has the Ragsdale report been subject to peer review? If so, when was that done and who participated in the review?

(13) Why did Ecology include Appendix J in the Draft TMDL?

(14) How much time did Brian Nickel spend drafting Appendix J?

(15) Did Ecology determine IEP can achieve 36 µg/L for TP based on a letter from Veolia's Vice President for Business Development, Appendix J, at 2 n. 4?

(16) Does Ecology agree that data from pilot studies are not useful in determining treatment capabilities as stated in Appendix J?

(17) Has Ecology made any effort to determine the similarity between any facility described in Appendix J and IEP?

(18) What factors are important in determining the capability of technology to achieve low effluent phosphorus?

(19) Did Ecology use the results from local pilot testing to determine that IEP can achieve a WLA of 36 µg/L for TP? If so, please describe how Ecology used the results from local pilot testing.

(20) Please explain how results from treatment technology performance installed at municipal WWTPs can be translated to pulp and paper mill applications.

(21) Please describe each and every technology discussed in Appendix J that has been applied at facilities similar to IEP.

(22) Why did Ecology abandon its commitment to the 2007 Memorandum of Agreement regarding "technical selection protocol" as set forth in Appendix D, at D-9 in the Draft TMDL?

(23) Why did Ecology reject the conclusions of the Collaborative Process Technical Working Group in establishing the wasteload allocations for dischargers?[20]

(24) The memorandum attached as Appendix L to the draft permit sets forth several statements regarding the limitation of data evaluation. Does Ecology disagree with any of the statements? If so, please state the basis for such disagreement.

(25) Does Ecology believe that it is possible to provide accurate, consistent and reliable measurements for total phosphorus at levels below 50 µg/L? If so, please provide supporting data and describe the test methods and equipment available to make such measurements.

7. Ecology has arbitrarily and capriciously imposed a 36 µg/L seasonal average on IEP in Scenario #1 for the water quality modeling.

Even if Ecology could legally justify basing the TMDL on Scenario #1, it is improper to assign IEP a seasonal average of 36 µg/L. IEP demonstrated through the Collaborative Process that aggressive but attainable treatment could achieve a seasonal average between 70 and 100 µg/L.[21] The selective use of data results from small scale publicly owned treatment works (POTWs) in Appendix J is not comparable to what can be achieved at a pulp and paper facility.

Ecology is well aware that IEP will have significant difficulties attempting to achieve a 50 µg/L Total P waste load allocation even with internal water conservation, reclamation and re-use. This was confirmed through extensive pilot testing of a wide cross section of state-of-the-art phosphorus treatment technologies. Testing and optimization of IEP's full-scale Trident HS system has further substantiated the difficulties in attaining phosphorus reduction of IEP's effluent to 50 µg/L.

[20] "The workgroup material Bob cites below that was used to develop the Foundational Concepts was before my time at Ecology but it's pretty clear that 50 µg/L was adopted as the 'objective' to achieve for the TMDL (see Foundational Concepts under 'Target Pursuit Actions')." Email from David Moore (March 11, 2009).
[21] *Id*. at fn. 14.

There was recognition and agreement amongst the stakeholders, EPA and Ecology that IEP's effluent differs significantly from municipal wastewater treatment facilities and that there were limitations to IEP's phosphorus treatment capabilities. This understanding was considered in the previous version of the scenarios that included IEP's Total P WLA at 50 µg/L. To our knowledge, there was no concern expressed by any party to this consideration in the scenarios.

It was understood earlier this year that IEP should not be treated the same as the POTWs in the TMDL modeling assumption. The modeling assumptions under Scenario #1 originally retained a 50 µg/L seasonal average for IEP while the municipalities were assumed to be able to treat to a monthly maximum of 50 µg/L.[22] In May of this year IEP confirmed with both Ecology and EPA that this would be the modeling assumption for Scenario #1.[23] Please respond to the foregoing comments and provide an explanation as to why Ecology changed the assumption for IEP.

8. The water quality model and waste load allocations to IEP are not equitable.

IEP may not be able to achieve a seasonal average of 50 µg/L TP through enhanced wastewater treatment, reductions in water use and water re-use in its industrial processes. It should be evident that IEP cannot reasonably be expected to achieve 36 µg/L. Ecology has acknowledged that the seasonal average is impracticable, but has stated in public meetings that this allocation was adopted in order to force dischargers to participate in non-point source pollution reduction. This rationale is unlawful and inequitable.

- A TMDL is intended to develop allocations to meet water quality standards. Ecology's modeling demonstrates that IEP will meet water quality standards with aggressive treatment based on a seasonal average of 50 µg/L for TP. Ecology has improperly imposed a 36 µg/L WLA to force IEP to fund non-point source reductions that are the responsibility of the state of Washington. This unlawful regulatory action is further complicated by the apparent lack of any non-point source reduction credits actually available to IEP.

- IEP fully supports the flexible approaches to TMDL implementation that are available for the City of Spokane, Spokane County and the dam operator. IEP requests similar flexibility by adjusting its WLA to what is achievable at its facility.

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[22] "Setting Phosphorus Targets in the Spokane TMDL to meet Dissolved Oxygen Criteria," April 1, 2009. See Page 2, Item (3):

> Set the Discharger phosphorus wasteload allocations based on two TMDL scenarios:
> - Scenario #1: 50 µg/L for all sources except Kaiser (35 µg/L)
> - Scenario #2: 35 µg/L for all Washington sources except Inland Empire and Idaho sources (all remain at 50 µg/L)

[23] E-mail exchange between Doug Krapas and DOE (May 2009).

- Spokane County and the City of Spokane have received larger mass loading WLAs based on the frequency of monitoring.

- Spokane County and the City of Spokane have received allocations based on future projected flows. For the City of Spokane, the WLA is based on a flow rate of 50.8 mgd. Since the Spokane WWTP has a design flow of 44 mgd and may reduce its flow to 30-35 mgd, the City of Spokane will have some flexibility in achieving its WLA.

- The City of Spokane and Spokane County also have readily available non-point source credits. Ecology has already agreed to grant Spokane County up to 12 to 20 lbs/day of TP credit for septic tank conversions. The City has also been provided with credit opportunities for CSO reductions that will afford significant flexibility to meets its WLA.

- IEP has repeatedly asked Ecology where it can obtain similar non-point source reduction credits to meets its WLA. As described in the email by David Moore dated March 11, 2009, quoted in footnote 20, the WLAs of 36 µg/L are not achievable without the availability of nonpoint source reduction offset credits. The Draft TMDL does not identify any specific non-point source credit reductions available to IEP. IEP cannot receive credit for septic tank removal or CSO reductions. The Draft TMDL does not provide IEP with credits for tributary non-point source reductions.

- The dam operator is afforded the option of contributing towards non-point source reductions in tributaries where the TMDL already assumes significant nutrient reductions in the water quality modeling. Similar offsets for non-point source reductions are not available to the Dischargers (WAC 173-201A-450), unless they are above and beyond the reductions stated in the TMDL and that the reductions stated in the TMDL have been previously accomplished.

It is fundamentally unfair to assign a WLA to IEP based on forcing IEP to engage in non-point source reductions where there are no non-point source credits available to IEP. Furthermore, IEP is a taxpayer and ratepayer and will be indirectly funding the nonpoint source reduction efforts by Spokane County, the State of Washington and Avista. Ecology should acknowledge these facts and revise the WLA for IEP to a level that is reasonably achievable.

Please respond to the foregoing comments and the following specific questions:

(1) Why is IEP not afforded the same basis for calculating a mass loading WLA as the City of Spokane and Spokane County?

(2) Does Ecology believe that the TMDL numerically accounts for all significant non-point sources contributing to the watershed?

(3) Are non-point sources that are not numerically identified in the TMDL available to dischargers for delta elimination?

(4) Please identify and quantify each and every non-point control effort specifically available to IEP to achieve its proposed WLA.

9. Ecology has violated state and federal law by adopting a new phosphorus criteria for the Spokane River without rule making or federal approval of changes to the state water quality standards.

Washington State Water Quality Standards have a specific phosphorus criterion in the Spokane River. WAC 173-201A-602 Table 602 WRIA 54 states that the average euphotic zone concentration of total phosphorus (as P) shall not exceed 25 µg/L during the period June 1 to October 1. Ecology cannot disregard this criterion without rule making under the state Administrative Procedures Act and approval by EPA under the Clean Water Act. Ecology is also legally barred from imposing EPA eco-region criteria as water quality criteria in Washington without rule making and formal EPA approval of a revision to the state water quality standards under the provisions of the Clean Water Act.

The Draft TMDL imposes an entirely new criteria based on EPA eco-region criteria that has never been adopted as state water quality criteria. Ecology has not followed its own regulations regarding the development of nutrient standards under WAC 173-201A-230 or complied with the requirements of the state Administrative Procedure Act and Clean Water Act for adopting new water quality standards.

10. The Draft TMDL improperly applies the EPA eco-region criteria to the Spokane River.

Even if Ecology was able to use the EPA eco-region criteria in developing the TMDL, it is apparent that the criteria has not been properly applied. The Spokane River at Nine Mile Dam is on the border of two EPA eco-regions: the Columbia Plateau and Northern Rockies. It is inappropriate however to derive a standard from this guidance based on mapping alone. More important is the contrast between actual ecological conditions. The data used for the EPA guidance and the accuracy of the results have not been verified. More important, EPA cautions that States need to evaluate the guidance criteria in light of specific designated uses that need to be protected. As such, it is improper for Ecology to simply apply the guidance criteria without a more specific analysis of how it applies to the Spokane River.

These concerns are set forth in two e-mail messages from Idaho DEQ staff and incorporated herein by reference. IEP requests that Ecology respond to the specific concerns raised in these e-mail messages.[24]

Ecology should also explain the justification for how the eco-region criteria are actually applied in the TMDL analysis. Scenario #1 is justified because it meets a 10 µg/L eco-region criterion 65% or 106 days during the critical times of the year. Scenario #2 meets the same criterion 62% of the time, a difference of less than five days compared to Scenario #1. Why is this slight difference in achieving the ad-hoc phosphorus criterion a deciding factor in the

[24] E-mail exchange between Robert Steed and John Tindall (April 13, 2009).

selection of Scenario #1 for establishing WLAs? Ecology should acknowledge that the modeling results for both scenarios demonstrate achievement of the legally established phosphorus criteria for total phosphorus under the EPA approved water quality standards. WAC 173-201-602, Table 602.

Please respond to the foregoing comments and the following specific questions:

(1) Does Ecology agree that the Spokane River at Nine Mile Bridge is in a transitional area between Western Mountain and Xeric West aggregate nutrient regions?

(2) If so, does Ecology agree that the applicable criteria using the EPA document should also be transitional?

(3) Does Ecology agree with EPA that caution should be used in relying on reference conditions to derive nutrient criteria?

(4) Does Ecology agree that a weight of evidence approach should be used which addresses all key elements to derive a site specific criteria? Did Ecology do that for the Draft TMDL?

(5) Did Ecology analyze the database EPA used to develop the eco-region criteria? Did Ecology determine that the data was not biased? Did Ecology determine whether the data was randomly sampled?

(6) Did Ecology determine whether the data used by EPA included values that were below detection limits?

(7) Did Ecology evaluate any peer review of the EPA document?

(8) Does Ecology agree with the frequency distribution approach in the EPA document?

(9) Has Ecology ever provided public notice that it was adopting the EPA eco-region criteria?

(10) What independent analysis, if any, has Ecology performed on the EPA documents?

(11) Does Ecology believe it is appropriate to apply Oligiotrophic Lake criteria to a non-Oligiotrophic riverine assessment point? And if so, why?

11. Additional modeling comments.

The CE-QUAL-W2 model used in the DO TMDL should only be used as a diagnostic tool to guide watershed management, and is inadequate to establish NPDES permit effluent limitations or compliance requirements for 401 Water Quality Certification. The model contains

significant errors, is dependent upon insufficient data, grossly underestimates contributions from all sources, and does not provide consistent results. The extent of concerns associated with the model are detailed in comments from HydroQual and Esvelt Environmental Engineering.

IEP requests that Ecology address each item below and those specified in the HydroQual[25] comments on the CE-QUAL-W2 model and Esvelt Environmental Engineering comments[26] submitted with this letter.

(1) The point source flows for IEP and Kaiser were reversed, resulting in overstatement of the total BOD contribution by as much as 25% in the Scenarios.

(2) Data availability for model calibration is grossly inadequate, resulting in uncertain and unreliable model results.

(3) Insufficient sediment oxygen demand (SOD) and sediment phosphorus flux data in Lake Spokane.

(4) Underestimation of NPS loads due to the use of the low-flow year for calibration.

(5) Underestimation of NPS loads apparent from recent groundwater and surface water data.

(6) Mass balance concerns that do not account for the blue-green algal blooms.

(7) Underestimation of background TP concentrations due to improper selection of the eco-region criteria (see discussion under Item 10 of these comments).

(8) Insufficient and unreliable chlorophyll-a calibration results.

(9) Additional unidentified errors that result in illogical and inconsistent modeling results.

(10) The P04 ratio for IEP is misstated in the PSU Modeling Report, Table 2, at 0.70. The correct ratio is in the range of 0.20 to 0.25 based on pilot testing and full-scale operation of the Trident HS system.

(11) The “Estimated Limit Factors” (PSU Modeling Report, Table 2) should be 1.2 for all dischargers. The lower factor used for the City of Spokane and Spokane County should be the same for all dischargers. Using different values results in inequitable WLAs based on mass loading.

[25] HydroQual Comments on the CE-QUAL-W2 Model of the Spokane River and Long Lake (Oct. 28, 2009).

[26] Esvelt Environmental Engineering Comments by Larry A. Esvelt PhD and Mark H. Esvelt P.E. (October 30, 2009).

12. The waste load allocation assigned to IEP must consider the non-reactive fraction of phosphorus in IEP's effluent.

IEP supports the inclusion of the bio-available phosphorus loading in the "Target pursuit actions – delta elimination section of the Managed Implementation Plan" (Draft DO TMDL, at 49). The modeling used to develop the TMDL does not accurately consider the fraction of phosphorus in IEP's effluent that is reactive and therefore biologically available in the Spokane River and Lake Spokane.

IEP's inability to obtain ultra-low TP levels with tertiary treatment is due to a significant fraction of non-reactive phosphorus in its pulp and paper mill effluent. This characteristic of IEP's effluent was repeatedly confirmed during IEP's pilot testing of eight different state-of-the-art tertiary treatment technologies, long-term operation of IEP's full-scale tertiary treatment system, research conducted at other pulp and paper mills, and through several bio-availability studies.

IEP's pilot test results that first documented this observation were submitted to Ecology and EPA for consideration.[27] NCASI Technical Bulletin No. 879 "Biodegradability of Organic Nitrogen and Phosphorus in Pulp Mill Effluents was submitted to Ecology and a Technical Subcommittee for further consideration.[28] IEP also furnished Ecology and the Technical Subcommittee, the results of two studies that were commissioned by IEP to study this issue. A memorandum by the National Council for Air and Stream Improvement, Inc. (NCASI) dated August 30, 2006, reports the results of a 133-day study of reactive potential of phosphorus in the IEP effluent.[29] The report states that "essentially no organic nitrogen or phosphorus was converted to bio-available (inorganic) forms."[30] A more recent phosphate biodegradation report by researchers at Washington State University provides more conclusive evidence that a significant portion of the phosphorus in IEP's effluent is not bio-available.[31] That report found in an 87-day test that Total Phosphorus (TP) concentrations remain relatively constant over time. IEP is currently participating in a watershed-wide "Phosphorus Bioavailability Study" in conjunction with Ecology and the University of Washington.

IEP's inability to remove the non-reactive fraction of phosphorus from its pulp and paper mill effluent is well documented and restricts its ability to achieve the effluent limits defined in the TMDL. In order to meet the WLAs, the TMDL must include an offset of this non-reactive phosphorus.

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[27] *See* n. 14, at 28.

[28] National Council for Air and Stream Improvement Biodegradability of Organic Nitrogen and Phosphorus in Pulp Mill Effluents, Technical Bulletin No. 879 (June 2004).

[29] National Council for Air and Stream Improvement memorandum to Rick Fink from Barry Malmberg re Biodegradability of Organic Nitrogen and Phosphorus in Inland Empire Paper Company's Final Effluent (Aug. 30, 2006).

[30] *Id*., at fn. 2.

[31] Data Report for Total Phosphorus and Reactive Phosphorus (Phosphate) Biodegradation Experiments (May 1, 2008).

Will Ecology provide IEP a credit for non-reactive phosphorus as a result of the study that is still being performed in cooperation with Ecology?

13. The TMDL should include CBOD in the Delta Management Program

The TMDL specifically provides credit towards meeting phosphorus WLAs from target pursuit actions under the delta management plan (see pages 45 - 54, Managed Implementation Plan). Attainment of the WLAs for other nutrients of concern (CBOD and ammonia) are equally, or potentially even more difficult for specific dischargers. Since delta management efforts, such as non-point source control actions in the tributaries, will likely result in CBOD reductions as well, such CBOD reductions must also be considered towards the dischargers' delta.

14. Ecology does not have reasonable assurance that tributary reductions can be achieved as assumed in the water quality model.

EPA guidance for approval of a TMDL requires that there be reasonable assurance that load allocations for non-point sources will be achieved. The Draft TMDL assumes very aggressive nutrient reductions for tributaries such as Hangman Creek and the Little Spokane River. The document does not describe, however, any program that will achieve the assumed reductions. Ecology has publicly stated that it has no current funding and no current program to implement TMDLs in these tributaries.

(1) How can Ecology have reasonable assurance that the reductions will be achieved without funding for specific programs to implement TMDLs on the tributaries?

(2) Where does Ecology envision finding the funding and resources for achieving the required load allocations for non-point source reductions by the required compliance date?

(3) What actions will occur if Ecology fails to achieve the stated reductions in the tributaries by the required compliance date?

(4) Who will be held responsible if Ecology fails to achieve the stated reductions in the tributaries by the required compliance date?

Proposed Actions

In addition to the foregoing comments and questions, IEP requests that Ecology provide IEP with a technologically achievable waste load allocation. Sensitivity analysis modeling conducted by HydroQual[32] concludes that an IEP effluent TP of 200 µg/L will have no measurable impact on the output of the model in the reservoir.

IEP appreciates the opportunity to submit these comments and proposals for Ecology's consideration. IEP has been an active participant in the Collaborative Process and remains

[32] *See* n. 11.

willing to participate in efforts to improve water quality in the Spokane River and Lake Spokane. Ecology must, however, recognize the limits on available technology and provide a wasteload allocation for IEP that is reasonably attainable.

Sincerely,

Kevin D. Rasler
General Manager

Enclosures

John Gross
636 West 20th Avenue
Spokane, WA 99203

October 30, 2009

David Moore
Washington State Department of Ecology
4601 North Monroe Street
Spokane, WA 99205

re: Spokane River Dissolved Oxygen Total Maximum Daily Load

Dear Mr. Moore:

Thank you for the opportunity to provide comment on the above-referenced document. I sincerely hope that Ecology's latest effort to provide a road map to a cleaner Spokane River is successful.

As you are likely aware, the Spokane was once home to a diverse assemblage of native cold-water fish and invertebrates. Abuse of the Spokane has led to the demise of some of these animals and steep decline in others. Fish and invertebrate assemblages are quite altered relative to historical conditions and similar, less impacted rivers.

All efforts at restoration of water quality and habitat in the Spokane should recognize that, despite any applicable legal standard of "natural conditions," the Spokane did historically support an assemblage of native cold-water fish and invertebrates. Current conditions throughout the Spokane are altered from natural.

The TMDL mentions that EPA issues NPDES permits in Idaho and leans on EPA to issue these permits in concordance with the Washington TMDL. It seems incumbent on EPA, at this point, to provide assurance to this effect in any approval issued of the Washington TMDL. Ideally, this would include incorporating the 401 certification for Post Falls Dam with the Washington TMDL.

I am unsure that the Margin of Safety or Reserve Capacity is sufficient given the historically declining flow rates in the Spokane. Additionally, the low flows of 2001 are relatively recent. Given that water consumption in the basin continues to increase and given that climate change continues to affect snow pack and summer low flows in the region, then a responsible Margin of Safety and Reserve Capacity should be incorporated. Although ancillary to this document, this is opportunity to revive discussion of a minimum instream flow on the Spokane. It is important to bear in mind that not all users of the Spokane hold permits to that use.

Given that low flows affect temperature and temperature and dissolved oxygen are correlated, low flows should be given greater scrutiny. The effects of Avista's dams on temperature cannot

be ignored. Inasmuch as the document is a dissolved oxygen TMDL, it should incorporate temperature to a greater extent.

Given the failed effort at a UAA for the Spokane, discussion of water quality offsets seems premature and misplaced at this time. Development of a responsible TMDL for the Spokane has been delayed for too long as it is.

The brief discussion of water conservation programs is valuable. It is unfortunate that more effort is not going into water use reduction. The City of Spokane has long ignored the opportunity for leadership in this regard.

Again, thank you for the opportunity to comment on the TMDL. May it finally succeed.

Sincerely,

/s/

John Gross

David Moore
Water Quality Program - Eastern Regional Office
Washington State Department of Ecology
4601 N. Monroe Street
Spokane, WA 99205-1295
Phone: (509) 329-3514
Email: dmoo461@ecy.wa.gov

10/6/09

RECEIVED
OCT 7 2009
DEPARTMENT OF ECOLOGY
EASTERN REGIONAL OFFICE

Dear Mr. David Moore,

Again, I have the opportunity to comment on the Department of Ecology's Spokane River Plan, to bring the River back to a healthy condition. I found it interesting that across the State, the Spokane River is but one listed water body of 643 polluted State water bodies needing implementation of clean up plans. I appreciate what a challenge bringing community involvement from local governments, tribes, Utility companies, and other businesses could be like with the technical nature of restoring Spokane River's health.

Best of all, I appreciate how far we have come, especially being from Idaho in gaining EPA's attention to reconsider Bistate pollution allocations, thus pulling dischargers from Idaho into greater accountability for our share of upstream point sources. Unfortunately locally, we have much improvement to make regarding non-point sources. Limited regulatory oversight and funding, with voluntary BMP's coupled with aggressive property rights advocates in Idaho, have made the accumulation of non-point discharges all too common upstream. Efforts to reform outdated mining laws and forest practices are ongoing, but not the subject priority for the broader context of the problematic Coeur d'Alene watershed that feeds into the Spokane River.

I support moving forward with the phosphorus clean up plan, yet the time table to reach compliance could be pushed up from 10 years. While predicting realistic compliance expectations has many variables, both with the new Spokane County Plant and Avista, their interim tasks have goals that could contribute somewhat in moving ahead compliance target schedules.

In reviewing foundation concepts with the MIP from 2006, I note the new Spokane County Plant, once it reaches peak operations, may require 2 years, assuming conditions like flows and temperature are average during both years. While considering the combination of offset actions and the Counties water treatment for the volume to be discharged achieving 10ug/l phosphorus. The reasonableness for compliance of interim discharge limits has a relatively short duration proposed.

On the TMDL draft (pg 52/220), Avista is required to develop a WQAP within 2 years of their hydroelectric project 401 permit amendment.

Since listed water bodies, including the Spokane River, are affected by more than one pollutant (TP), coordination in limits for PBDE's, (found in waste water and sludge from wastewater treatment plants) and for PCB's, (largely from historical contamination, stormwater, and paper mills) need further attention in the Draft plan. However, I have reviewed the TMDL goals, which set limits on three nutrients: NH3, TP, and CBOD. There is a clear objective to prevent degradation of down stream water quality. So, I'm not sure where the cross-over language to include PBDE's and PCB's will fall in the final plan, but it is essential to include within this long awaited plan, which is so progressive in multiple aspects in setting some of our Nations strictest discharge standards. Our unique River and history, requires this point be further addressed please.

Lastly, looking ahead at long term monitoring and compliance toward defining success, we need to include the global warming affect on Rivers, then more specifically the Spokane River. How will the final TMDL plan be affected by floods, drought, or drastic swings in rain fall amounts? Rain will fall in different amounts and different locations as the atmosphere warms. I'm assuming the global warming effects are factored somewhere into the modeling, yet we all realize planning for these changes will be unpredictable. It was unclear how the plan considers upcoming climate changes predicted in the near future.

Thanks for the opportunity to follow the planning process and comment. Stay with it, we are improving with each draft and so very close now… one plan almost down and 642 remaining.

Sincerely,

Julie Dalsaso

Julie Dalsaso
743 Fairmont Loop
Coeur d'Alene, ID 83814

KAISER ALUMINUM
FABRICATED PRODUCTS
Best in Class

Flat Rolled Products

Trentwood Works

October 29, 2009

Mr. David Moore
Department of Ecology
4601 N Monroe
Spokane, WA 99205-1295

RE: Comments on Spokane River Draft DO TMDL

Dear Mr. Moore:

Kaiser Aluminum Fabricated Products, LLC appreciates the opportunity to comment on the Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load Draft Water Quality Improvement Report dated September 2009.

Kaiser Aluminum provides the following comments on the draft Water Quality Improvement Plan.

Allocation of Responsibility

Kaiser supports Ecology's effort to allocate responsibility for water quality improvement among all contributors that is point source dischargers, non-point source dischargers, and Avista. Kaiser is concerned however that with respect to non-point sources, no entities are identified that will "have their feet held to the fire" to address these sources. In addition, no enforcement mechanisms such as permits for point sources or Avista FERC license requirements are identified that will force the actions to achieve the Load Allocations for the non-point sources. In addition, Kaiser is concerned that non-performance with respect non-point sources not achieving the identified reductions in phosphorous will eventually place further burdens for reductions on point sources and Avista.

Stormwater

The Water Quality Improvement Plan identifies Stormwater as a contributor and assigns a Load Allocation to it. The Load Allocation is based on current conditions and does not apply and reduction factors to current loading even though new Stormwater permits will require Best Management Practices to reduce discharges. Since stormwater discharged from the industrial facilities covered by the Water Quality Improvement Plan must meet new, more stringent limitations it would appear that stormwater dischargers are not being equitably treated.

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(509) 924-1500

TMDLs Establish Waste Load Allocations and Do Not Set Permit Limitations

The Water Quality Improvement Plan should not contain language that might be misconstrued as requiring that permit limitations be established in a certain way. In the second paragraph on page 27, the document does a good job of acknowledging that permit writers have flexibility in establishing permit limits based on facility specifics. However, in two other paces, the document appears to dictate limitation related requirements. In the third paragraph on page 27, the last sentence specifies how permits will demonstrate compliance with the waste load allocations. In the third paragraph on page 56, the last sentence specifies an effluent limitation.

Foundational Concepts

With respect to the Foundational Concepts, Ecology has extracted portions and advanced them as being discharger commitments while setting aside key elements. The Foundational Concepts are based upon all elements being in place. For example, the original document was based on a 20-year period to achieve compliance with final effluent limitations and the concept of meaningful opportunities for delta elimination. The Water Quality Improvement Plan drops both of these key elements, but pulls other elements into its Reasonable Assurance demonstration. Ecology cannot claim the Foundational Concepts as being in place when it has eliminated key elements that are important to the dischargers and retaining only those elements that support an Ecology need.

Mandatory Actions

In several places the Water Quality Improvement Plan states that dischargers will be required to take certain actions when in fact the actions are only required to be taken if technology alone does not allow a facility to comply with its waste load allocation. For example, in the fifth paragraph of page xii, states that both the implementation of technology and actions to reduce point source discharges are required. In addition, on pages 40, 48, and 55 references are made to facilities being required to develop Delta Elimination Plans. Delta Elimination Plans are only required if technology alone does not provide for compliance with a facility's waste load allocation.

Applicability

In the first paragraph on page 13, the reference to the Spokane Tribe's Reservation should be eliminated since the Water Quality Improvement Plan is not applicable beyond Lake Spokane. Any other similar references should also be eliminated.

Water Quality Model

The computer model used in the development of the waste load allocations on a going forward basis should not be used for compliance determinations. The model is only a tool for evaluating conditions or changes.

Availability of Potential Non-point Source Sources for Delta Elimination Plans for Privately Owned Point Sources

Based upon the inventory contained in Table 5, only reductions in these identified sources of nutrients are available for Delta Elimination Plans since no others are model inputs. Since Ecology's view is that the reductions being sought on tributaries are very aggressive, groundwater is the only potentially meaningful non-point souce source of offsets. As a practical matter there are no accessible sources for privately owned dischargers to include in a Delta Elimination Plan.

Kaiser appreciates the opportunity to comment on this Water Quality Improvement Plan and supports the comments provided by the Spokane River Stewardship Partners. If you should have any questions concerning these, please feel free to contact me at (509) 927-6554.

Sincerely,

Bernard P. Leber Jr.

Bernard P Leber, Jr.
Environmental Engineering Manager

Moore, David (ECY)

From: Kenneth Schueler [kcschueler2@msn.com]
Sent: Saturday, October 31, 2009 7:51 AM
To: Moore, David (ECY)
Subject: Lake Spokane Cleanup

Dear Mr. Moore,

My family and I are residents of Suncrest. I wanted to voice my concern about the Toxic algae bloom and insist that something be done to clean up the Spokane River! I agree with Mr. Scott Chaney that the nutrient load needs to be dramatically reduced to prevent future toxic algae blooms. The safety of my family and many others depends on your help and hard work. We appreciate your effort in this work. Thank you.

Sincerely,
Dr. Chris Schueler

RECEIVED
NOV - 3 2009
DEPARTMENT OF ECOLOGY
EASTERN REGIONAL OFFICE

October 30, 2009

David Moore
Washington State Department of Ecology
Water Quality Program
4601 North Monroe Street
Spokane, WA 99205-1295

RE: Comments on the Draft Spokane River and Lake Spokane Dissolved Oxygen TMDL

Dear Department of Ecology,

Please accept these comments from The Lands Council on the Spokane River TMDL. We appreciate all the work that has gone into this document and the TMDL process and recognize the challenge of restoring a river that is heavily used by a quarter million people, with more on the way. Many of our 1400 members rely on a protected aquifer and restored Spokane River as an important part of their quality of life and are keenly interested in the outcome of this TMDL.

The 2009 draft TMDL is very different from the 2004 and 2007 versions and one general comment we have is that where possible a side by side comparison could be made, especially with the 2004 TMDL. We also understand that the EPA and Idaho are working on load allocations and limits for the Idaho dischargers, but it would still be useful to see how anticipated limits, expressed as concentration and pounds per day, fit in with the overall waste load allocations. We also remain keenly concerned about how this plan meets the water quality requirements of the Spokane Tribe. Here are specific comments to the TMDL:

1. The draft TMDL states that "Implementation of these wasteload allocations will result in an average total phosphorus concentration in Lake Spokane (model segment 154) of 10µg/L from June through September (see Figure 3) and " TMDL Scenario #1 reduces the average total phosphorus load of 350 lbs/day to Lake Spokane (model segment 154) by approximately 66 percent from March to October under TMDL Scenario #1. The human caused total phosphorus load is reduced by an average of 85 percent over the same time period." Yet on page 25, in the Section title Loading Capacity, it states that "Total phosphorus from point sources will be reduced by up to 94 percent (Figure 4)" - why is this?

   The 2004 and 2007 documents compared current and proposed in the same chart, and included both Washington and Idaho sources, we would like to see this in the 2009 document, and an explanation of any differences in current and proposed loading from the

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Earth Share of Washington

2004 document. The chart below, which was developed during the Foundational Concepts indicates a very different set of waste load allocations (WLA) than Table 4 in the 2009 draft TMDL, there needs to be an explanation about this, since it appears as though the City is now given a WLA of 17.81 pounds per day vs the target level of 3.40 in 2007.

Discharger	Projected 2017 WWTP Influent (mgd) [a]	2018 Target Phosphorus (lbs/day) [b]	Projected 2027 WWTP Influent (mgd) [a]	2028 TMDL WLA Phosphorus (lbs/day) [b c]
Liberty Lake	1.41	0.12	1.51	0.13
Kaiser Aluminum	15.4	1.29	15.4	1.29
Inland Empire Paper	4.1	0.34	4.1	0.34
City of Spokane:				
- from City of Spokane only	36		41.77	
- from Spokane County	5.76		9	
- from Airway Heights	0		0	
Total City of Spokane	41.76	3.49	50.77	4.24
Spokane County (new plant)	8	0.67	8	0.67

NOTES:
[a] Influent flow projections based upon data from Flow and Loading Work Group and Dischargers
[b] lbs/day for point sources = Influent MGD x 10 µg/L P x 0.0083454
[c] MIP achieves Waste Load Allocation by 2027

2. We realized that Avista is now given some of the responsibility of cleanup, but the way this was done concerns us. It appears as though the WLA for the dischargers is significantly higher and that Avista needs to make up the rest, but that is not clear since Avista is only give, target levels for dissolved oxygen in Lake Spokane and not pounds per day. While it seems logical and correct that Avista should share responsibility for some of the river clean-up, it is not clear how that translates to actual actions. The issue of who gets to claim which offsets as a credit is unclear, as is the timing and dollar commitments for those offsets. Since the hunt for offsets will also involve the dischargers, and the cost of removing non-point phosphorus will become more difficult as the easier tasks are completed, we believe the TMDL should have a more coordinated approach with guaranteed funding and commitments.

3. Offsets are allowable under Washington Code. The Lands Council participated in the TMDL collaboration and given the circumstances of pollutant sources, cost, and effectiveness of treatment we support the concept. However, the nature of offsets coming from non-point sources makes them less predictable and we feel the language in the draft TMDL should be tightened up. For example, the draft 2009 TMDL states "The Dischargers and Ecology will work together to seek funding of up to two million dollars per year for a regional nonpoint source reduction program. The program will identify cost-effective phosphorus reduction

strategies and verify actual phosphorus reductions." A legal interpretation of that sentence could the program without any actual money or commitment for cleanup. We would prefer that the TMDL have an actual two million dollar value, with a clause that if the target levels for offsets were met, by actual monitoring results, the funding for the source reduction program would be reduced. That way the dischargers could include that cost in their overall treatment program and it could be guaranteed, giving greater certainty of success.

In the 2004 and 2007 documents the portion of non-point source phosphorus that was available to be used as an offset was less that the 2009 document, what caused this change? Any change in groundwater phosphorus above background levels is now available to be used as offsets, this also seems like a change from the earlier document and we have concerns about the scientific justification for a groundwater WLA – the interaction between groundwater flow and septic tanks needs further clarification.

4. We still have questions about the modeling that was done for septic tank elimination offsets. The 2009 draft assumes that the Spokane County report on those non-point offsets is suitable. In 2008 was a critique of the Spokane County calculations that calls this program into question. Given the importance of this offset, we would like to see a peer reviewed study, rather than the calculations submitted by Spokane County and Center for Justice/Sierra Club being at odds. We ask that this be reconciled before the county is given permission to use these offsets.

5. Water Conservation and Reclamation - The draft 2009 TMDL states:

   The publicly-owned NPDES permit holders, in cooperation with water purveyors, will develop individual household and regional water conservation programs. The programs' goal will be to reduce indoor and outdoor water consumption by 10 to 20 percent. Spokane County already developed a conservation program.

   We support this program of water conservation, but indoor conservation of water of 20 percent in older neighborhoods and 10 percent in newer is not very ambitious. Where are the targets for outdoor conservation, commercial, industrial, and government water users. It should also be clarified how this water conservation will help improve dissolved oxygen in the Spokane River. We can assume that less pumping in the summer will improved flow from the aquifer to the Spokane River, and it may also slow the flow of septic tank effluent into the aquifer, but are there other benefits?

   We are also supportive of the steps that Spokane County will take to develop a comprehensive program for reclaimed water production, re-use and aquifer recharge of effluent that will be produced from their new wastewater treatment facility. How will this impact the phosphorus loading into the Spokane River

6. Management Implementation Plan - The 2009 draft TMDL states:

Ecology recognizes that the investment in phosphorus removal technology has a 20-year life. Following the installation of the most effective technology for removing phosphorus, Ecology will not require significant modifications or replacements of phosphorus removal facilities for 20 years, except in cases where the best available data indicate that modifications to installed technology would enhance phosphorus removal performance and are efficient and cost-effective (Chapter 90.48.010 RCW).

What if the MIP does not actually work and increase oxygen in the river, this seems like a guarantee ? While we understand the need for stability in the financial markets, we would like to see a commitment from Ecology and the dischargers and Avista that they will continue to reach for attainment of the goal of increasing dissolved oxygen to meet the legal requirements.

7. Bio-available Phosphorus - The Draft 2009 TMDL states: *NPDES permit holders may seek to prove to Ecology that a certain stable fraction of their phosphorus discharge is not bio-available in the river environment for a time sufficient to consider it not bio-available and not a nutrient source. If Ecology agrees, the pounds of phosphorus that are not bio-available will be recognized as contributing toward achieving the total phosphorus wasteload allocation.*

   This is not a clear statement and should be reworded to say the phosphorus that is found to be not bioavailable will not count as part of the allowed pounds.

8. We note with interest that Stormwater is now given a Waste Load Allocation, but the remedy for decreasing phosphorus does not mention the fact that Stormwater Permits should be required of industrial dischargers and a schedule be established to issue those permits. Perhaps Ecology considers that issuing stormwater permits falls under the goal of *Illicit discharge detection and elimination*, but in any case it should establish funding and a compliance schedule to find and permit industrial stormwater sources.

Thank you again for the opportunity to comment, we hope that our input will be helpful in moving the cleanup forward, we do not want to see further delays in this important work. Please let me know if you need clarification on any of our points.

Sincerely,

Mike Petersen

Mike Petersen
Executive Director

Water Quality & Treatment / Wastewater Treatment: Studies, Design, Operation / Industrial Wastewater Management
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October 30, 2009

Spokane River and Lake Spokane
Dissolved Oxygen Total Maximum Daily Load
Draft Water Quality Improvement Report
September 2009, Department of Ecology Publication no. 07-10-073 (Revised)

Comments by: Larry A. Esvelt PhD PE DEE; Mark H. Esvelt PE

1. Table 3. p. 18, Note 4 – Note indicates "ammonia limits = 1 mg/l in March, May and October. All other months = 0.25 mg/l" and "Spring (sp.) values apply to March, May and October." April is left out. Should these read March-May and October? Shown as March-May, October on p. 28.

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    The Input Files contained the following concentration inputs:

Discharger	PO4 Full Year	NH4, days 1-151, 274-366	NH4, days 152-273	$CBOD_{ult}$ Full Year
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Spokane Riverside Park Water Reclamation Facility	0.0150	0.8300	0.2100	18.80

    The P input values for the model run for TMDL Scenario Alternate #1 do not correspond with values shown in Table 3 for Scenario #1, which are as follows:

Discharger	TP Full Year	NH4, days 1-151, 274-366	NH4, days 152-273	$CBOD_{ult}$ Full Year
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    - LLSWD and Spokane RPWRF = 0.0014; Kaiser Aluminum = 0.0027; IEPCo = 0.0003

These apparent ratios of "organic P" to "$CBOD_{ult}$" are significantly different, and should be explained in the TMDL text.

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5. Page 24, last paragraph – It is unlikely that Long Lake reservoir has ever been, or could be expected to be lower mesotrophic or oligotrophic in character on a year round basis. It is highly doubtful that it will achieve this character even if all phosphorus is eliminated in discharges, and reduced by the assumed amounts of the TMDL in other tributary waters. It should not be implied that this could happen, as it merely misleads the public into believing in the unattainable.

6. Table 4. p. 28 – Ammonia is abbreviated NH3. This should be NH3-N?

7. Table 4. p. 28 – WLA Mass Emission Rates (MERs) for dischargers in the same class are not equivalent. Liberty Lake SWD and Inland Empire Paper Co. have lower TP concentration (mg/l) used in calculation of the WLA MER than Spokane or Spokane County, while it is probable that similar technology will be used for reduction of TP in the effluents from each. When asked about this discrepancy by the dischargers, an explanation regarding statistical requirements for permits based on sampling frequency was offered. This is an unacceptable explanation. If MER WLAs are to be calculated using "attainable" effluent concentrations (apparently in order to avoid implications that concentration is the regulated value), then the same concentration should be used for MER calculations for all dischargers. In other words, an MER WLA for all dischargers should be determined, and divided equivalently among the dischargers (e.g., according to flow). Permits should not be developed, or even recommended in the TMDL, but should be the subject of an application and subsequent deliberation between DOE and the dischargers as to how to meet the WLA. (Note: The different concentration for Kaiser was explained as being due to dilution by ground water used for non-contact cooling, although no specific information was included to justify the calculation difference.) All information tied to or derived from potential permits should be taken out of this document. Inclusion only impedes the permit writer's flexibility and ability to consider innovative ways to comply with WLAs. Also inclusion of this information here may impede ability to implement pollutant trading.

8. Page 46, Last ¶ in "Managed Implementation Plan" Introduction – Discussion regarding ten-year compliance vs potential for changes in 10 years is not clear. It is stated in this TMDL that the Foundational Concepts agreed among the dischargers and DOE would be a part of this document. This paragraph refutes that statement. As noted in this paragraph, the Washington Legislature has directed DOE to develop regulations making compliance with directives (effluent limits) resulting from TMDLs effective over a longer period than 10 years, whereas this paragraph appears to mandate compliance within a ten year period. (See below regarding Table 9)

9. Page 48-49 – *Conservation*. Water use reduction and its affect toward management of P discharge to the river has not been clearly demonstrated. Incorporation of a recommendation that this be investigated may be justifiable, but this recommendation, which appears to read like a mandate, of implementation of water reduction measures just adds more cost without demonstrated value.

10. Page 49 – *Class A Effluent.* It is not necessarily in the interest of reducing oxygen demanding substances to the River to discharge Class A (Reuse Standards) effluent. Once again this should not be mandated in the TMDL. Treatment technology to reduce TP to the degree necessary to meet the proposed WLAs may include some unit processes common to production of Class A reclaimed effluent, but all unit processes needed for Class A reclaimed effluent production will not be required to meet TP WLAs (assuming that there are processes that can meet WLAs). Production of Class A effluent will be needed where reuse is a strategy of the individual dischargers toward meeting WLAs, but the decision to reuse effluent should be based on the specific plan for each POTW to reach intended effluent goals or requirements.

11. Page 52, *Septic Tank Elimination Program*, and Table 8, p. 56 – Septic tank elimination by sewer installation by Spokane County, the City of Spokane, and Liberty Lake Sewer and Water District have been the policy established pursuant to the Spokane Rathdrum Aquifer studies and *Spokane Aquifer Water Quality Management Plan* (208) for many years. It should not be confused with attempts to reduce phosphorus loading to the Spokane River, even though that may be an ancillary benefit. Crediting one entity with "Delta" credit for this action toward meeting river water quality goals is of questionable justification, when the overall program is community-wide toward meeting a different objective, protection of the Spokane Aquifer water quality. Other entities appear to have progressed further toward achieving protection of aquifer water quality due to more aggressive compliance with the '208' program objectives without receiving complimentary credit toward river water quality objectives. 'Credit' for removal of P input to the river from this source should be shared among all entities, as overall community resources have been expended toward the effort (e.g., State CCWF is an overall community funded program. Aquifer cleanup funds generated from water user assessments and septic tank assessments are an overall community funded program.).

12. Table 8, p. 55 and 56 – Some of the "commitments" included in this table are either presumptions or inappropriate:

    - Conservation by reduction of household flows should not be mandated. Any policy decisions in this regard should be up to entities based on cost-effectiveness compared to other available strategies to reduce loading and meet WLAs.
    - Participation in nonpoint source reduction appears to be a burden that is not a direct responsibility of the dischargers. In addition, other provisions in this TMDL indicate that dischargers would not be eligible for any "delta credit" until the non-point reduction goals are achieved.
    - Meeting Class A reclaimed water quality standards for POTW is not necessary nor helpful in assisting DO compliance in the Spokane River for discharges. It adds cost for construction and operation that may not be justifiable toward meeting P discharge limits.

- Aquifer recharge (by Spokane County) should not be suggested, and certainly not mandated by this TMDL. There are other potentially health related factors surrounding the potential for "indirect reuse" that have not been adequately addressed to include this option at this time. It may be many years before these questions have been adequately addressed to include this as an alternative. Furthermore, the *Spokane Aquifer Water Quality Management Plan* (April 1979) as adopted by Spokane County, the Cities of Spokane, Millwood and Liberty Lake, and approved by the Department of Ecology precludes wastewater discharge to the aquifer unless it has been treated to "potable water standards". Class A reclaimed water does not meet "potable water standards" according to the *Water Reclamation and Reuse Standards* (Washington State Departments of Health and Ecology, September 1997).
- "Credit" for P reduction as a result of the Septic Tank Elimination Program should not be accorded only to Spokane County. Any potential credit should be accorded to the community at large since all residents have participated and are participating in this program through imposed fees and taxes. (Note: No documentation of quantitation for this potential credit has been presented in this document.)

13. Table 9, p. 57 – This time schedule does not appear to comply w/ the legislative mandate to extend compliance schedules for ordered improvements resulting from TMDL actions (see comment regarding page 46, and reference on page 46). Subsequent discussion that "compliance with permit requirements within ten years are required" gives the impression of urgency, when urgency is not necessary given that there will be no deterioration of river environment if a 20 year period is allowed, as apparently legislatively directed. The TMDL is intended to provide beneficial effects in the river environment, but the rate of recovery from the current annual seasonal low DO conditions after implementation of the discharger P reduction is uncertain given the uncertainty of the model, and uncertainty of the affect of sediment P release and other factors. There is no health and safety issue requiring that these effluent control projects should be placed on a higher than necessary (e.g., emergency) compliance schedule.
14. Page 57, ¶ following table - The TMDL report should **not** comment on schedules, as that is the purview of subsequent actions, including **completion** of pilot testing to determine feasibility for removing P to the levels called for by the WLAs in the TMDL. Funding availability and time-related funding uncertainties make it necessary to allow the dischargers to proceed at a normal rate instead of mandating an emergency when none exists. The discussion in this paragraph regarding efforts to ascertain P removal feasibility by dischargers (pilot studies) is irrelevant to the TMDL at this time, and should be eliminated from this document. All pilot efforts underway are only now yielding preliminary results, with no assurance that the pilot results will be implementable to achieve the levels of phosphorus removal required. Pilot treatment projects to date have made only preliminary progress toward determining if P removal to low levels can be achieved, and how consistently. Other effects of implementation of the technologies piloted, such as initial cost, life cycle cost, environmental cost (e.g., "carbon or energy footprint", depletion of resources, residuals disposal cost, etc.), and the implications of the technology toward meeting other water quality objectives (e.g., micro-contaminants) are yet to be assessed.

Moore, David (ECY)

From: Laura & Larry [Simahafarm@ieway.com]
Sent: Sunday, October 25, 2009 9:36 PM
To: Moore, David (ECY)
Subject: Spokane River Cleanup Comments

To David Moore, DOE, Oct. 25, 2009

Mr. Moore, Please accept these comments into the official public record:

The Tributary streams can't make up for the relaxing of the limits that the sewage and industrial polluters want. Avista is also being asked to be responsible for more clean up that it can realistically do. The plan still allows the polluters to get away with doing nothing substantial as far as cleanup goes. This isn't "reasonable assurance" that the plan calls for in meeting water quality standards. Stop giving the polluters a break! They have had one for too long.

The plan can't continue to allow the County of Spokane to discharge sewage into the river based on removing septic systems from the Aquifer. That doesn't remove phosphorus to the river. The plan also needs to actually give the total maximum daily load of pollution. It doesn't. That's something even a non-scientist can figure out is a screw-up. It's also totally unscientific!

Enough is enough. The polluters can't have another 10 years or more to clean up the phosphorus in the river. Citizens and taxpayers have already waited 11 years. The plant also needs to clean up PCBs and that clean up has to coordinate with phosphorus cleanup.

It's up to Ecology to monitor the water quality, especially if they have the potential to harm the public. The polluters and the DOE need to legally monitor the pollutants in the river. Monitoring a plan to see if it works is just good science. Not requiring that is like the FDA just approving some new medication without any drug trials simply based on the assurances of the company who is making the drugs.

Thank you for reading these comments.

Sincerely,

Laura Ackerman
Larry Hampson
3118 S. Windsor Rd.
Spokane, WA 99224
simahafarm@ieway.com

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(509) 922-5443 District Office • (509) 928-6123 Treatment Facility • (509) 926-7691 FAX

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OCT 30 2009
DEPARTMENT OF ECOLOGY
EASTERN REGIONAL OFFICE

October 30, 2009

David Moore
Eastern Regional Office
Washington Department of Ecology
N. 4601 Monroe
Spokane, WA 99205-1295

RE: Comments on Spokane River Draft DO TMDL

Dear Dave,

The Liberty Lake Sewer and Water District has reviewed the Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load, Draft Water Quality Improvement Report of September 2009. Please find attached comments from the District's consultant Larry Esvelt, Esvelt Environmental Engineering, regarding the draft water quality improvement report. Additional comments were also made by the District at the public hearing on October 20, 2009 and in the letter from the Spokane River Stewardship Partners dated October 29, 2009.

The District has been and will continue to be committed to the water quality improvements to the Spokane River and Lake Spokane. The District in 2006 completed a $12 million dollar upgrade to its wastewater treatment plant which reduced phosphorus discharge from approximately 4 mg/l to .2 mg/l. To meet proposed TMDL targets, the District will need to conduct further expensive upgrades to the plant estimated at 2009 dollars to be around $10 million dollars. These are large costs for a small discharger and a small community. Table 9 page 57 has the TMDL schedule and NPDES permit schedule for LLSWD to meet target pursuit actions by 2019. Any reduction in this schedule would create extreme hardships on the District and its ratepayers.

Your review and consideration of the enclosed comments is appreciated.

Sincerely,

F. Lee Mellish, Manager

Cc: LLSWD Commissioners
Dennis Fuller
Larry Esvelt
Enclosure

Tom Agnew
President

Frank L. Boyle
Commissioner

Steve Skipworth
Commissioner

Water Quality & Treatment / Wastewater Treatment: Studies, Design, Operation / Industrial Wastewater Management
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5. Page 24, last paragraph – It is unlikely that Long Lake reservoir has ever been, or could be expected to be lower mesotrophic or oligotrophic in character on a year round basis. It is highly doubtful that it will achieve this character even if all phosphorus is eliminated in discharges, and reduced by the assumed amounts of the TMDL in other tributary waters. It should not be implied that this could happen, as it merely misleads the public into believing in the unattainable.

6. Table 4. p. 28 – Ammonia is abbreviated NH3. This should be NH3-N?

7. Table 4. p. 28 – WLA Mass Emission Rates (MERs) for dischargers in the same class are not equivalent. Liberty Lake SWD and Inland Empire Paper Co. have lower TP concentration (mg/l) used in calculation of the WLA MER than Spokane or Spokane County, while it is probable that similar technology will be used for reduction of TP in the effluents from each. When asked about this discrepancy by the dischargers, an explanation regarding statistical requirements for permits based on sampling frequency was offered. This is an unacceptable explanation. If MER WLAs are to be calculated using "attainable" effluent concentrations (apparently in order to avoid implications that concentration is the regulated value), then the same concentration should be used for MER calculations for all dischargers. In other words, an MER WLA for all dischargers should be determined, and divided equivalently among the dischargers (e.g., according to flow). Permits should not be developed, or even recommended in the TMDL, but should be the subject of an application and subsequent deliberation between DOE and the dischargers as to how to meet the WLA. (Note: The different concentration for Kaiser was explained as being due to dilution by ground water used for non-contact cooling, although no specific information was included to justify the calculation difference.) All information tied to or derived from potential permits should be taken out of this document. Inclusion only impedes the permit writer's flexibility and ability to consider innovative ways to comply with WLAs. Also inclusion of this information here may impede ability to implement pollutant trading.

8. Page 46, Last ¶ in "Managed Implementation Plan" Introduction – Discussion regarding ten-year compliance vs potential for changes in 10 years is not clear. It is stated in this TMDL that the Foundational Concepts agreed among the dischargers and DOE would be a part of this document. This paragraph refutes that statement. As noted in this paragraph, the Washington Legislature has directed DOE to develop regulations making compliance with directives (effluent limits) resulting from TMDLs effective over a longer period than 10 years, whereas this paragraph appears to mandate compliance within a ten year period. (See below regarding Table 9)

9. Page 48-49 – *Conservation.* Water use reduction and its affect toward management of P discharge to the river has not been clearly demonstrated. Incorporation of a recommendation that this be investigated may be justifiable, but this recommendation, which appears to read like a mandate, of implementation of water reduction measures just adds more cost without demonstrated value.

10. Page 49 – *Class A Effluent.* It is not necessarily in the interest of reducing oxygen demanding substances to the River to discharge Class A (Reuse Standards) effluent. Once again this should not be mandated in the TMDL. Treatment technology to reduce TP to the degree necessary to meet the proposed WLAs may include some unit processes common to production of Class A reclaimed effluent, but all unit processes needed for Class A reclaimed effluent production will not be required to meet TP WLAs (assuming that there are processes that can meet WLAs). Production of Class A effluent will be needed where reuse is a strategy of the individual dischargers toward meeting WLAs, but the decision to reuse effluent should be based on the specific plan for each POTW to reach intended effluent goals or requirements.

11. Page 52, *Septic Tank Elimination Program*, and Table 8, p. 56 – Septic tank elimination by sewer installation by Spokane County, the City of Spokane, and Liberty Lake Sewer and Water District have been the policy established pursuant to the Spokane Rathdrum Aquifer studies and *Spokane Aquifer Water Quality Management Plan* (208) for many years. It should not be confused with attempts to reduce phosphorus loading to the Spokane River, even though that may be an ancillary benefit. Crediting one entity with "Delta" credit for this action toward meeting river water quality goals is of questionable justification, when the overall program is community-wide toward meeting a different objective, protection of the Spokane Aquifer water quality. Other entities appear to have progressed further toward achieving protection of aquifer water quality due to more aggressive compliance with the '208' program objectives without receiving complimentary credit toward river water quality objectives. 'Credit' for removal of P input to the river from this source should be shared among all entities, as overall community resources have been expended toward the effort (e.g., State CCWF is an overall community funded program. Aquifer cleanup funds generated from water user assessments and septic tank assessments are an overall community funded program.).

12. Table 8, p. 55 and 56 – Some of the "commitments" included in this table are either presumptions or inappropriate:

    - Conservation by reduction of household flows should not be mandated. Any policy decisions in this regard should be up to entities based on cost-effectiveness compared to other available strategies to reduce loading and meet WLAs.

    - Participation in nonpoint source reduction appears to be a burden that is not a direct responsibility of the dischargers. In addition, other provisions in this TMDL indicate that dischargers would not be eligible for any "delta credit" until the non-point reduction goals are achieved.

    - Meeting Class A reclaimed water quality standards for POTW is not necessary nor helpful in assisting DO compliance in the Spokane River for discharges. It adds cost for construction and operation that may not be justifiable toward meeting P discharge limits.

- Aquifer recharge (by Spokane County) should not be suggested, and certainly not mandated by this TMDL. There are other potentially health related factors surrounding the potential for "indirect reuse" that have not been adequately addressed to include this option at this time. It may be many years before these questions have been adequately addressed to include this as an alternative. Furthermore, the *Spokane Aquifer Water Quality Management Plan* (April 1979) as adopted by Spokane County, the Cities of Spokane, Millwood and Liberty Lake, and approved by the Department of Ecology precludes wastewater discharge to the aquifer unless it has been treated to "potable water standards". Class A reclaimed water does not meet "potable water standards" according to the *Water Reclamation and Reuse Standards* (Washington State Departments of Health and Ecology, September 1997).
- "Credit" for P reduction as a result of the Septic Tank Elimination Program should not be accorded only to Spokane County. Any potential credit should be accorded to the community at large since all residents have participated and are participating in this program through imposed fees and taxes. (Note: No documentation of quantitation for this potential credit has been presented in this document.)

13. Table 9, p. 57 – This time schedule does not appear to comply w/ the legislative mandate to extend compliance schedules for ordered improvements resulting from TMDL actions (see comment regarding page 46, and reference on page 46). Subsequent discussion that "compliance with permit requirements within ten years are required" gives the impression of urgency, when urgency is not necessary given that there will be no deterioration of river environment if a 20 year period is allowed, as apparently legislatively directed. The TMDL is intended to provide beneficial effects in the river environment, but the rate of recovery from the current annual seasonal low DO conditions after implementation of the discharger P reduction is uncertain given the uncertainty of the model, and uncertainty of the affect of sediment P release and other factors. There is no health and safety issue requiring that these effluent control projects should be placed on a higher than necessary (e.g., emergency) compliance schedule.
14. Page 57, ¶ following table - The TMDL report should **not** comment on schedules, as that is the purview of subsequent actions, including **completion** of pilot testing to determine feasibility for removing P to the levels called for by the WLAs in the TMDL. Funding availability and time-related funding uncertainties make it necessary to allow the dischargers to proceed at a normal rate instead of mandating an emergency when none exists. The discussion in this paragraph regarding efforts to ascertain P removal feasibility by dischargers (pilot studies) is irrelevant to the TMDL at this time, and should be eliminated from this document. All pilot efforts underway are only now yielding preliminary results, with no assurance that the pilot results will be implementable to achieve the levels of phosphorus removal required. Pilot treatment projects to date have made only preliminary progress toward determining if P removal to low levels can be achieved, and how consistently. Other effects of implementation of the technologies piloted, such as initial cost, life cycle cost, environmental cost (e.g., "carbon or energy footprint", depletion of resources, residuals disposal cost, etc.), and the implications of the technology toward meeting other water quality objectives (e.g., micro-contaminants) are yet to be assessed.

Moore, David (ECY)

From: lynnfwells@juno.com
Sent: Friday, October 30, 2009 1:45 PM
To: Moore, David (ECY)
Subject: Lake Spokane TMDL

I would like to add my comments to Scott Chaney's Letter.
Information given to Lake Spokane Advisory Group members is that existing septic systems in the Subdivisions of Suncrest (Lake Spokane UGA) do not contribute measurably to the phosphorus load in Lake Spokane.

The Stevens PUD has purchased land to allow for the building of a treatment system for any new subdivisions in the Lake Spokane UGA. Having a sewer treatment system would allow for higher density than presently allowed. The proposal would not sewer existing lots in the Lake Spokane UGA.

The upstream dischargers need to be held accountable for the phosphorus load they contribute to the Lake Spokane area.
Lynn F. Wells
Stevens County Planning Commission

Moore, David (ECY)

From: Rico & Terri (Myrna) Reed [ricoterrimyrna@gmail.com]
Sent: Friday, October 30, 2009 12:47 PM
To: Moore, David (ECY)
Subject: URGENT: Lake Spokane TMDL cleanup

---------- Forwarded message ----------
From: **Scott Chaney** <scott.chaney@gmail.com>
Date: Fri, Oct 30, 2009 at 8:33 AM
Subject: URGENT: Lake Spokane TMDL cleanup
To:

Hello all,

I endorse Scott Chaney's comments below. I want to stress that we are not just talking about fishing quality here. It is literally a matter of life and death for PEOPLE. Pretending that you are going to reduce the natural background phosphate content of The Little Spokane River is laughable. It is likewise absurd to expect to obtain enough reduction from Inland Paper to be able to permit another municipal discharge into the River.
Richard Reed
36009 N Milan Elk Rd.
Chattaroy, WA 99003
(509) 280-1845

We had an extremely toxic algae bloom in Lake Spokane this summer. The sample was taken in an area where less than a week earlier a large number of the public were enjoying the 90 degree weather by boating, tubing, water-skiing, and swimming in the lake.

I have attached an email I received from Dr Joan Hardy, WA state DOH toxicologist which shows that the levels of microsytin in Lake Spokane were the highest ever recorded in the state - THREE THOUSAND TIMES THE LEVEL THEY CONSIDER UNSAFE (15,700 ug/L vs 6 ug/L). Microsytins are extremely toxic and can result in permanent liver damage and death.

And yet, it seems to me that the major polluters are doing everything in their power to avoid spending the money needed to reduce the nutrients they discharge into the river that feed these toxic algae blooms, and Ecology thru the current TMDL, is aiding them.

Although not directly related to the TMDL, I have heard that tens of millions are being considered to be spent to get Suncrest onto a septic system without any knowledge about what, if any, contribution this non-point source contributes to the nutrient loading of the lake. I've heard that studies done in the 1990s showed the contribution was negligible. Seems to me like a play to displace blame.

Yet, another red herring as explained by the Sierra Club: "The draft plan claims credit for cleaning up the Little Spokane River and Hangman Creek. But the Little Spokane River is aquifer-fed during summer months, and phosphorus is at natural background levels. The plan calls for 36% clean-up – an impossible target. Hangman Creek cleanup is equally unrealistic. These tributary pollution targets are not realistic – but on paper *the draft plan claims tributary credits to relax pollution limits for the sewage and industrial dischargers.*"

And another: " *The draft plan also relaxes pollution quotas for the sewage and industrial plants by shifting major cleanup responsibility to Avista.* But Avista has been saddled with a huge cleanup quota that cannot be met..... This plan gives the dischargers a green light to make major investments in substandard technology based on unrealistic assignments to Avista. It's a shell game and it won't clean up the river."

And yet another: "Removing septic tanks from the Aquifer is good, but will not reduce phosphorus loading to the Spokane River. *The draft plan would allow Spokane County to stick another pipe into the River and discharge from its new sewage plant based on the incorrect assumption that septic removal equates to phosphorus reduction in the River.*"

Once again, from the Sierra Club: "Despite the name "total maximum daily load," Draft No. 4 does not actually identify the total amount of pollution that can be discharged into the river. Incredible!" Incredible doesn't go far enough. How can you possibly have a TMDL that doesn't establish a TMDL?

There is certainly no "reasonable assurance" that water quality standards can be met, especially in light of the issues discussed above.

I cannot adequately express how much this angers me. Clearly this TMDL aids the shell game being played by the major polluters to avoid the costs of cleaning up the river. While the science is not developed enough to know how much of the toxic algae found in Lake Spokane would need to be ingested or absorbed to cause serious permanent injury or death, is it unreasonable to assume that concentrations 3000 times the level of concern might meet that threshold? Algae blooms are a direct result of nutrient loading. The law demands that those who discharge those nutrients be held responsible. While it is important that fish get the oxygen they need to survive, it is nothing compared to assuring the safety of our children. It's time to quit these shell games and get serious about cleaning up the river.

Scott Chaney

Moore, David (ECY)

From: Rush, Richard [rrush@spokanecity.org]
Sent: Saturday, October 31, 2009 4:09 PM
To: Moore, David (ECY)
Subject: FW: TMDL Comment

David,

Since I last wrote, I have learned Spokane County expects to earn "offset credits" by sewering the ~9,000 septic installations in the SVRP aquifer watershed. Spokane County expects these offsets to be credited toward the County's anticipated phosphorus emissions from a new wastewater treatment facility on the Spokane River. Without weighing in on the merits of whether offset credits should be allowed for this purpose, I would like to request that, should offset credits be allowed, this offset agreement also include the provision that the County not allow any additional septic installations in the watershed. It seems only equitable that if the offset credits are to genuinely mitigate additional phosphorus loading from a waste treatment facility, that no additional phosphorus loading from septic installations be permitted.

Thank you for this additional opportunity to comment.

Richard Rush
Spokane City Council
District 2, Position 1
625-6255

From: Rush, Richard
Sent: Friday, October 23, 2009 9:16 PM
To: 'dmoo461@ecy.wa.gov'
Cc: Doug Pineo
Subject: TMDL Comment

David,

If Ecology is requiring the City of Spokane (and others) to meet strict phosphorus limits in discharges into the Spokane River (at a reported cost of $157M for the City of Spokane alone), I hope you will be consistent with this requirement and not allow Spokane and/or Stevens County to relax Shoreline Master Plan standards to allow septic installations near the river, particularly around Long Lake. It seems only reasonable not to undo the effort and expense to meet TMDL standards only to have that work undermined by permitting a new source of phosphorus on the river.

Thanks for your consideration.

Richard Rush
Spokane City Council
District 2, Position 1
625-6255

Moore, David (ECY)

From: Scott Chaney [scott.chaney@gmail.com]
Sent: Friday, October 30, 2009 11:20 AM
To: Moore, David (ECY)
Subject: Comments on the TMDL
Attachments: doh.txt

Dear Mr Moore,

The following are my comments on the current TMDL draft. Please let me know if you received them.

Thank you,

Scott Chaney

We had an extremely toxic algae bloom in Lake Spokane this summer. The sample was taken in an area where less than a week earlier a large number of the public were enjoying the 90 degree weather by boating, tubing, water-skiing, and swimming in the lake.

I have attached an email I received from Dr Joan Hardy, WA state DOH toxicologist which shows that the levels of microsytin in Lake Spokane were the highest ever recorded in the state - THREE THOUSAND TIMES THE LEVEL THEY CONSIDER UNSAFE (15,700 ug/L vs 6 ug/L). Microsytins are extremely toxic and can result in permanent liver damage and death.

And yet, it seems to me that the major polluters are doing everything in their power to avoid spending the money needed to reduce the nutrients they discharge into the river that feed these toxic algae blooms, and Ecology thru the current TMDL, is aiding them.

Although not directly related to the TMDL, I have heard that tens of millions are being considered to be spent to get Suncrest onto a septic system without any knowledge about what, if any, contribution this non-point source contributes to the nutrient loading of the lake. I've heard that studies done in the 1990s showed the contribution was negligible. Seems to me like a play to displace blame.

Yet, another red herring as explained by the Sierra Club: "The draft plan claims credit for cleaning up the Little Spokane River and Hangman Creek. But the Little Spokane River is aquifer-fed during summer months, and phosphorus is at natural background levels. The plan calls for 36% clean-up – an impossible target. Hangman Creek cleanup is equally unrealistic. These tributary pollution targets are not realistic – but on paper *the draft plan claims tributary credits to relax pollution limits for the sewage and industrial dischargers*."

And another: " *The draft plan also relaxes pollution quotas for the sewage and industrial plants by shifting major cleanup responsibility to Avista.* But Avista has been saddled with a huge cleanup quota that cannot be met..... This plan gives the dischargers a green light to make major investments in substandard technology based on unrealistic assignments to Avista. It's a shell game and it won't clean up the river."

And yet another: "Removing septic tanks from the Aquifer is good, but will not reduce phosphorus loading to the Spokane River. *The draft plan would allow Spokane County to stick another pipe into the River and discharge from its new sewage plant based on the incorrect assumption that septic removal equates to phosphorus reduction in the River*."

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There is certainly no "reasonable assurance" that water quality standards can be met, especially in light of the issues discussed above.

I cannot adequately express how much this angers me. Clearly this TMDL aids the shell game being played by the major polluters to avoid the costs of cleaning up the river. While the science is not developed enough to know how much of the toxic algae found in Lake Spokane would need to be ingested or absorbed to cause serious permanent injury or death, is it unreasonable to assume that concentrations 3000 times the level of concern might meet that threshold? Algae blooms are a direct result of nutrient loading. The law demands that those who discharge those nutrients be held responsible. While it is important that fish get the oxygen they need to survive, it is nothing compared to assuring the safety of our children. It's time to quit these shell games and get serious about cleaning up the river.

Scott Chaney
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Nine Mile Falls, WA 99026
(509) 276-9760

SIERRA CLUB
FOUNDED 1892

Upper Columbia River Group
Box 413
Spokane, Washington 99210
www.idaho.sierraclub.org/uppercol/

October 30, 2009

James Bellatty & David Moore
Water Quality Section
Washington Department of Ecology
4601 N. Monroe
Spokane, WA 99205

Re: Sierra Club & CELP comments
Draft Spokane River and Lake Spokane Dissolved Oxygen TMDL
(Pub. No. 07-10-073 (rev. 9/09))

Mr. Bellatty and Mr. Moore,

These comments, submitted on behalf of Sierra Club and the Center for Environmental Law & Policy, are addressed to the latest draft of the Spokane River/Lake Spokane Dissolved Oxygen TMDL. Sierra Club and CELP have commented extensively on previous drafts of the Spokane River Dissolved Oxygen TMDL. We presume that previous comments are included as part of the administrative record for the September 2009 draft. Because those documents number in the thousands of pages, we incorporate by reference all previous comments and all attachments, including:

- Sierra Club comments on Spokane River Dissolved Oxygen TMDL (12-28-04)
- Sierra Club/CELP comments on 2007 draft DO TMDL for Spokane River (11/13/07)
- Sierra Club/CELP comments on May 2008 draft Dissolved Oxygen TMDL for Spokane River and Lake Spokane (6/24/08)

General Comments

1. The draft TMDL fails to set forth a "total maximum daily load."

The draft TMDL does not identify the pollutant loading capacity for the Spokane River Lake Spokane, daily or otherwise, and is therefore incomplete. The load allocation (termed "responsibility") assigned to Avista appears to represent a third of the pollutant loading to the Lake, but is not calculated. The document also fails to quantify and analyze Idaho-based phosphorus/nutrient loading to the Spokane River to establish boundary conditions.

2. The draft TMDL fails to provide reasonable assurance that the dissolved oxygen water quality standard will be attained.

    a. Overall assumptions of the TMDL are flawed.

Waste load allocations (WLAs) assigned to dischargers are premised on reduction of phosphorus (P) loading in the tributaries and P reduction or oxygen improvements to be accomplished by Avista. As discussed below, the load reductions assigned to the tributaries and Avista are unrealistic and unattainable. Nonetheless, these LAs will drive (are driving) the dischargers toward selection of less-than-optimal treatment technologies.

The Table 4 "projected flow rates" include as-yet unauthorized increase in flows at the City of Spokane WWTP and a new discharge permit for the Spokane County. It is improper for the draft TMDL to assign WLAs for this new loading to the Spokane River when the plan itself does not include reasonable assurance that water quality standards can be achieved.

b. Avista & Long Lake Dam

Sierra Club & CELP support the allocation of partial responsibility for the Lake Spokane dissolved oxygen deficit to Avista Corp. However, it appears that the allocated "responsibility" is exceptionally large and not attainable.

As noted in Comment 1 above, the draft TMDL is deficient for its failure to identify the quantity of phosphorus loading that equates to the dissolved oxygen deficit. We estimate through back-calculations that the load that is effectively being assigned to Avista equates to about 111 pounds per day. The TMDL states that the current load (2001 conditions) equals about 350 lbs/day of total P and that a 66% reduction (i.e., 231 lbs/day) will be achieved in 10 years. (TMDL, p. 24). Summing the WLAs (Table 4) and LAs (Table 5), the total reduction from those sources will equate to 120 lbs/day. Subtracting 120 from 231 indicates that Avista's responsibility will be 111 lbs/day. As an initial problem, the TMDL is deficient for failure to provide even this basic analysis. Avista's "responsibility" is in reality a load allocation or LA. Ecology is opening itself up to challenge by failing to properly identify and calculate this load as part of the standard TMDL equation (i.e., LA + WLA + MOS = TMDL).

Avista cannot reasonably be expected to reduce phosphorus inputs into the Spokane River by 111 lbs/day. Avista is not a discharger and has no control over phosphorus (and other oxygen-depleting substances) in the Spokane River. This is critical because there are no examples of nonpoint source reduction or lake oxygenation at the levels that this draft would require of Avista. The TMDL, and particularly the WLAs, should not based on unrealistic assumptions about Avista's ability to reduce P or oxygenate, absent data and analysis that demonstrates that Avista's "responsibility" can in fact be accomplished.

Based on the allocation of this large "responsibility" to Avista, the TMDL has reduced the waste load allocations (WLAs) to the dischargers and created a WLA for Spokane County's new treatment plant. If Avista is unable to remove 111 lbs/day of phosphorus from the system (or offset the oxygen deficit caused by that loading), then the WLAs assigned to the dischargers are too high.

The draft TMDL asserts that reasonable assurance is achieved because the terms of implementation for Avista's "responsibility" are set forth in the Managed Implementation Plan section of the document. But the MIP section does not identify or describe how Avista is expected to reduce phosphorus loading to Lake Spokane by 111 lbs/day. In fact, Avista is not required to produce a WQAP for two years. By deferring discussion of Avista's plan for phosphorus reduction (or oxygen induction), the TMDL effectively defers the day when it will become clear that Avista cannot achieve its assigned "responsibility."

Sierra Club and CELP support assigning an enforceable phosphorus reduction/oxygen improvement LA to Avista and included such a provision in our settlement of the Avista 401 Certification appeal earlier this year. What our organizations did not agree to was a shift of

responsibility for phosphorus control from the dischargers to Avista to such a degree that water quality standards cannot be attained.

c. Little Spokane River Load Allocation

When the Little Spokane River is flowing near baseline conditions, flow is largely derived from groundwater, and phosphorus concentrations are usually less than 10 ug/l. See Cusimano 2004, Table B-3. The draft TMDL estimate for Little Spokane phosphorus concentrations at 0.019 µ/l are inconsistent with Ecology's ambient data, and likely inaccurate. Moreover, the draft TMDL contains no analysis to support the conclusion that a 36% reduction from the actual low groundwater P concentrations could be achieved during the critical period. As a result, the draft TMDL does not contain reasonable assurance that phosphorus loading from the Little Spokane River can be reduced as set forth in Table 5 and as required to achieve attainment of water quality standards (and to allow liberal WLAs for and increased loading from the point source dischargers).

d. Hangman (Latah) Creek Load Allocation

The draft TMDL does not contain reasonable assurance that phosphorus loading from Hangman Creek can be reduced by up to 50% as set forth in Table 5, as required to achieve attainment of water quality standards for dissolved oxygen (and to allow liberal WLAs for and increased loading from the point source dischargers).

Department of Ecology water quality monitoring data for the station at the mouth of Hangman Creek reveal that phosphorus concentrations are very low. See http://www.ecy.wa.gov/apps/watersheds/riv/station.asp?sta=56A070, incorporated by reference.

The low concentrations (and associated P loading to the Spokane River) as measured in Hangman during the typical low flow, critical condition period raises the question of whether pollutant loading from Hangman could be significantly reduced as called for in the Spokane TMDL. Pollutant loading is a function of flow and concentration. Because flow in Hangman Creek will not be changed by any implementation activity, the only way to reduce loading by 50% is to reduce the concentration of P by 50%. The measured concentrations are already very low during dry conditions, and as a consequence, there is no reasonable assurance that the TMDL-mandated reductions can be achieved.

The June 2009 Hangman Creek Fecal Coliform, Temperature and Turbidity Water Quality Improvement Report (Ecology Publication No. 09-10-030, available at http://www.ecy.wa.gov/biblio/0910030.html and incorporated herein by reference), provides a detailed review of BMPs and other activities that may be used to control non-point source pollution in that watershed. The Hangman Creek TMDL, at Tables ES-8 and ES-9, pp. 29-30, indicates that best estimates for reduction in total suspended solids, which may serve as a surrogate for reductions in phosphorus, top out at 26% in the upper Hangman area (which is in Idaho and outside the reach of the DO TMDL) and average around 16% in the lower Washington reaches. The draft TMDL does not discuss these findings or indicate how Ecology has arrived at its estimates of up to 50% phosphorus reductions in Hangman Creek that are used as a basis for concluding that water quality standards in the Spokane River and Lake Spokane can be met. Reasonable assurance is not only absent, it is contra-indicated.

Finally, the new expansion of the critical season into March incorporates substantial new loading from Hangman Creek, inflating phosphorus loading presumably to support water quality trading or offsets However, March loading has not been shown to affect water quality in Lake Spokane. Moreover, averaging March loading from Hangman Creek over the course of several months (rather than month-by-month loads as was set forth in the 2004 TMDL) allows an averaging of tributary non-point source reduction benefits, which will not actually help reduce the harm to Lake Spokane.

3. The margin of safety is improper.

The "implicit margin of safety" (TMDL p. 40) is not rationally related to and does not address the actual and significant uncertainties in the plan, i.e., the questionably large load allocations assigned to the tributaries and Avista. Because there are serious questions as to whether these allocations can be reduced to the levels called for, the margin of safety should identify additional methods for pollutant load reductions. Use of the 10% exceedance flow as a margin of safety is irrelevant to the pollutant reduction uncertainties raised in the draft plan.

4. The "reasonable assurance" discussion is inadequate.

Despite excessive verbiage, the "reasonable assurance" section does not describe or analyze a basis for asserting that the phosphorus reduction percentages called for in the tributaries and the oxygen-deficit reduction activities assigned to Avista can in fact be accomplished. Flaws in this section include:

- The continuing reliance on the "Delta Elimination Plan" concept is misplaced, given that dischargers are not eligible for non-point source reduction credit until after tributary LAs are met. (Sadly, this new rule excluding discharger participation in non-point control is appropriate, given that this draft TMDL increases the WLAs for the point sources.) Given the improbability of reducing tributary phosphorus in the percentages called for in Table 5, Delta Elimination is now out of reach, and is certainly not a basis for finding reasonable assurance.
- While Sierra Club agrees with implementing a strategy of influent source reduction (e.g., dish detergent phosphate and fertilizer bans) as a strategy, no analysis is provided to indicate that such reductions translate to effluent reductions.
- Spokane County has prepared a reasonable study of reclaimed water, but, as discussed below, this program is undermined by allocation of an illegal WLA to the County plant. Likewise, the septic tank offset program will not comply with Washington's water quality offset regulation.
- Reference to the new Hangman Creek TMDL is appropriate, but there is no mention that that document indicates maximum reductions in TSS (which may serve as a surrogate for phosphorus) considerably less than what is required in this TMDL to achieve water quality standards.
- There is no analysis to connect the Lake Coeur d'Alene Lake Management Plan to phosphorus reductions in the Spokane River and Lake Spokane. Boundary conditions at Lake CdA indicate natural background concentrations, so it is unclear how nutrient reductions in that Lake will reduce Spokane River concentrations.
- Continued monitoring and assessment to determine whether water quality standards are or are not being achieved does not equate to reasonable assurance that they will in fact be achieved.

- The general reference to Avista's responsibilities under the 401 Certification does not provide reasonable assurance that Avista will be capable of meeting the requirements of this TMDL.
- The increase in Post Falls Dam spill is not a guarantee that those flows will remain in the River over time. Other factors, notably increased water right permitting in Idaho and increased groundwater pumping under Washington's municipal water rights is not discussed and will have a negative effect on instream flows.

In sum, the "reasonable assurance" section makes numerous unsupported statements about the benefit of various activities without providing analysis to demonstrate that most of the identified activities will have a positive impact on phosphorus concentrations or dissolved oxygen deficits. Feel good language does not equate to reasonable assurance, especially in this circumstance in which the dischargers have been granted higher effluent limits, future loading capacity, a new permitted source – all based on assumptions about non-point source reductions.

5. The WLAs must be water quality-based, not technology-based, limitations.

Because the TMDL does not demonstrate with reasonable assurance that water quality standards can be met through load reductions in the tributaries and through Avista's "responsibility," the WLAs assigned to the dischargers must be based on water quality-based limitations, not treatment technology capabilities (which are underestimated in the draft TMDL). The assignment of WLAs for projected (year 2027) flows and for a new county treatment plant is illegal.

6. Technology selection must be more stringent.

Notwithstanding that the WLAs should be based on water quality limitations, the WLAs assumed in this draft of the TMDL for the municipal wastewater treatment plants do not represent the performance of existing treatment technology. It is essential that this TMDL force the use of the best possible technology in order to (1) achieve the substantial phosphorus reductions necessary to attain water quality standards, and (2) minimize reliance on questionable LAs assigned to the tributaries and Avista.

Per Appendix J (EPA memo re treatment technology) facilities around the country are routinely achieving phosphorus effluent reductions substantially lower than the target 50 µ/l called for in this TMDL. As App. J notes, a number of these facilities are not required to achieve lower P limits and could possibly do better if such were required in the NPDES permits. The report also equates "less-than" values with reported values, leading to the assumption that plants are achieving worse performance than reported. Finally, it appears that analysis of P-reduction at other plants is based on year-round performance data, another factor that would tend to make average values worse. Because the Spokane River dischargers will be subject only to spring-summer effluent limits for P, assumptions about available technology should be based on appropriate seasonal data that is analyzed for best performance capability.

7. Spokane County is not eligible for a waste load allocation.

As set forth in Sierra Club's comments on the second draft of the DO TMDL, dated 11/13/07 at pp. 45-48, Spokane County cannot obtain a new NPDES permit to discharge into the Spokane River. It is improper to assign a waste load allocation or compliance schedule to

Spokane County, or to assume the efficacy of water quality offsets, for its as-yet un-built wastewater treatment plant. Given the assignment of unattainable load reductions to the tributaries and Avista, there is no new capacity for NPDES discharges into the Spokane River. Absent affirmative showing of new capacity, the draft TMDL improperly assigns a WLA to Spokane County.

From a policy perspective, it is particularly disappointing that the draft TMDL assigns a WLA to Spokane County because the County has recently issued its Reclaimed Water Use Study (Final Report, June 26, 2009) indicating good potential for end uses of reclaimed water from the proposed new treatment plant. See Spokane County Utilities Water Reclamation Program webpage, which includes substantial information, including the cited report, concerning reclamation and reuse of County WWTP wastewater, incorporated by reference, at http://www.spokanecounty.org/utilities/waterreclamation/content.aspx?c=2224. Assigning a WLA to the County raises false hopes that a critical season discharge permit is available and provides a major disincentive for aggressive pursuit of a zero discharge reclaimed water program.

8. Spokane County's water quality offset proposal is flawed.

The Spokane County offset proposal, premised on the "septic tank elimination program" is an improper basis for assigning a waste load allocation for the County's new wastewater treatment plant. As set forth in Sierra Club's 11/13/07 comments, the septic tank program does not qualify for water quality offsets as defined under Washington state's water quality standards, WAC 173-201A-450. Assumptions contained in the draft TMDL regarding existence, fate and transport of phosphorus in groundwater and consequent groundwater phosphorus loading to the Spokane River are incorrect. It appears that these assumptions derive from a recent Spokane County study, which contradicts and is unsupported by Ecology's own Dissolved Oxygen TMDL Technical Analysis and ambient data collection (Cusimano 2004).

For technical and legal reasons, the County's septic elimination proposal for water quality offsets is insufficient and will not support issuance of an NPDES discharge permit for the proposed new treatment plant.

Even assuming that the septic elimination program could overcome its technical and legal deficiencies, and would reduce phosphorus loading in groundwater and therefore in the Spokane River, the program represents "double-dipping" in the Little Spokane River (LSR) basin. LSR phosphorus is derived from SVRP Aquifer groundwater during the critical months. The 36% reduction of the LSR load allocation called for in Table 5 (even if possible and we do not believe it is) will require reduction in groundwater phosphorus concentrations. If the County is capable of reducing groundwater phosphorus discharges from the SVRP Aquifer to the LSR, it cannot claim offset credit for those reductions, because such reductions are already assumed to be a basis for assigning a WLA to the County in the first place.

We would further ask, if septic tanks are considered to be contributing phosphorus to surface water via groundwater, why are they not subject to NPDES permitting?

And further, why is Spokane County not required to impose a ban on construction of new septic systems? Instead, the County has moved in the opposite direction, loosening standards for requiring septic systems to connect to sewer lines and proposing an

amendment to the Spokane County Shoreline Master Program to allow septic systems to built closer to groundwater tables.

Thank you for the opportunity to provide comments on the September 2009 Draft Spokane River and Lake Spokane Dissolved Oxygen TMDL.

Sincerely,

Rachael Paschal Osborn
Spokane River Project Coordinator, Sierra Club

cc: U.S. Environmental Protection Agency
Spokane Tribe Water Quality Program

SPOKANE COUNTY

UTILITIES DIVISION
N. BRUCE RAWLS, P.E., DIRECTOR
A DIVISION OF THE PUBLIC WORKS DEPARTMENT

October 30, 2009

David Moore
Washington State Department of Ecology
4601 North Monroe
Spokane, WA 99205

SUBJECT: COMMENTS ON DRAFT WATER QUALITY IMPROVEMENT PLAN FOR THE SPOKANE RIVER DO TMDL

Dear Mr. Moore:

Thank you for the opportunity to provide comments on the Draft Water Quality Improvement Plan. Spokane County appreciates the Department of Ecology's hard work on the Spokane River and Lake Spokane draft Water Quality Improvement Plan (draft TMDL). Overall, we are pleased with the draft TMDL, and appreciate that this plan includes capacity for the County's new regional water reclamation facility. We thank Ecology for allocating Avista a proportionate share of responsibility for improving water quality. Because the Lake Spokane reservoir was formed by Long Lake Dam, which is operated by Avista, it is reasonable and appropriate for Avista to participate in this water quality cleanup plan. We also thank Ecology for authorizing the use of target pursuit actions, including offsets and trading, as tools available to achieve compliance with the TMDL's objectives. Finally, we appreciate the TMDL's adaptive management approach, including the 10-year review process.

Spokane County requests that Ecology proceed expeditiously with completion of the Plan, and submission to the Environmental Protection Agency for approval. Any further delay will unnecessarily extend the impairment of water quality in Lake Spokane, and will delay the County's efforts construct a new state of the science water reclamation facility that will enable the County to remove septic tanks over the Spokane Valley-Rathdrum Prairie Aquifer. The County has only a few suggested revisions to the draft TMDL, which are designed to provide additional clarity and maximize the opportunity for successful implementation.

General Comment: The plan should clearly state that this TMDL does not establish effluent limitations for NPDES permits. While the TMDL uses assumptions in modeling to establish waste load allocations, those assumptions and the waste load allocations are not themselves NPDES permit effluent limitations.

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Page xi, Paragraph 7

At this location and other places in the plan, there are references to options for offsets by Avista and by wastewater agencies. Spokane County suggests that reservoir aeration/oxygenation be specifically identified in the plan as an available target pursuit action that can be considered by Avista or a wastewater agency.

Page xii, Paragraph 5; Page 46, Paragraph 2, and Page 58, Paragraph 2 & 3

The text suggests that waste load allocations and NPDES permits may be reviewed and revised over the course of the 20-year plan. Appropriately, however, the plan also states on page 48 that Investment Stability is a recognized necessity for wastewater agencies. Because imposing more stringent requirements is contradictory with investment stability, we request that the language be revised to clarify that waste load allocations and NPDES permit requirements based on WLA's will not be made more stringent over the 20-year life of the plan. Also, the County requests that Ecology include additional language specifically acknowledging that a Use Attainability Analysis or Site Specific Criteria may be used to modify or adjust this TMDL in the future, if the water quality in Lake Spokane does not meet the state's water quality standards.

Page 14, Bullet # 5 and Bullet # 6

These bullet points state that DO in the hypolimnion is most impacted by non-point source pollution, and that DO in the metalimnion during the summer is most impacted by point source pollution. Please include an explanation and/or data in the plan to support these statements.

Page 16, Paragraph 4

In reference to Lake Coeur d'Alene, the text states that *"The current concentrations of nutrients in the lake, while not natural, are very low at the lake outlet forming the Spokane River;"* however, we do not believe that this statement is accurate. Although the concentrations of phosphorous coming out of Lake Coeur d'Alene are relatively low, the initial findings of the Regional Non-Point Source Study have determined that the volume of water and the phosphorus mass loading from the lake are very significant, especially during several key months of the year. We request that Ecology revise the language to state that significant mass loading of phosphorus into Lake Spokane is contributed by Lake Coeur d'Alene during some key months.

Page 16, Paragraph 5

The plan states that *"Nonpoint source pollution in groundwater is defined in this TMDL as concentrations of phosphorous in groundwater above 6 ug/L, which was the lowest measured value in valley aquifer wells".* We are unaware of any study or analysis that supports this conclusion. We believe that it is inaccurate to assume that the lowest measured level of phosphorus in the ground water should be assumed to have no anthropogenic contributions. There are numerous septic tanks in the Spokane Valley and upgradient in Idaho that contribute phosphorous to groundwater. There are also significant contributions of phosphorous to groundwater from the Spokane River and from upgradient lakes. Therefore, it is equally reasonable to assume that the natural level of phosphorus in the groundwater is nearly zero, and that all concentrations above zero are attributable to non-point source pollution. By assuming a natural background level of 6 ug/L in groundwater, it is establishes an erroneous baseline for non-point source reduction that reduces the available loading for offsets.

Page 17, Table 3

The TMDL would benefit from an explanation of the derivation of the specific WLA's in the table, especially the numbers for NH_3 and CBOD. In the past, Spokane County has provided model results to Ecology to demonstrate that higher concentrations of NH_3 and CBOD can be discharged to the Spokane River in compliance with the water quality standards in the river. Past water quality modeling work demonstrated the insensitivity of Lake Spokane water quality to upstream NH_3 and CBOD loadings.

Page 21, Bullets 2 & 3

As previously discussed with Ecology, the County continues to believe that Scenario # 2 should be the preferred solution because it appears that there is very little difference in the amount of phosphorous discharged to the river between Scenario #1 and #2, and we understand that Scenario # 2 meets the criteria in the River at Segment 154. Because the difference between the two scenarios is minor as compared to the burdens imposed on the dischargers by selecting Scenario #1, the County again requests that Ecology select Scenario #2 for this TMDL.

Page 27, Paragraph 2; and Page 28, Table 4

The text in this paragraph, and the text above Table 4 discuss the translation of WLA's to NPDES permit limits, but the references are confusing. In particular, the sentence in the table which states that *"Average concentrations can be converted to appropriate monthly and maximum daily loads in the Dischargers NPDES permits."* appears to be completely unnecessary to state in the TMDL and presumes structural aspects of NPDES permits that are impracticable. Please edit the text to state that seasonal limits are appropriate in NPDES permits for phosphorus and to state that seasonal limits are also appropriate for NH_3 and CBOD, with appropriate consideration of chronic and acute toxicity for NH_3 in the immediate vicinity of outfalls to the River.

Spokane County has provided substantial information to Ecology and to EPA, demonstrating the anticipated seasonal and monthly variability of treatment plants at the very low phosphorus concentrations associated with the WLA's in the TMDL. As we have explained, and consistent with the TMDL modeling, a seasonal average for phosphorus is appropriate. After one NPDES permit cycle, operational results may be available to run a statistical analysis to determine reasonable monthly limits. Prior to that, trying to guess about effluent variability creates a high risk of imposing even more stringent seasonal performance limitations on the plant than are included in the TMDL. Imposition of inappropriate monthly limits that result in a more stringent seasonal performance limit than is required by the TMDL is arbitrary and unreasonable..

Page 29, Paragraph 3

The text states that Spokane County does not have any stormwater outfalls. That statement is inaccurate because Spokane County has at least one known outfall that discharges to the Spokane River. The County is covered under the Phase II Municipal Stormwater General Permit for Eastern Washington and is in the process of implementing that Permit. As part of the inspection and mapping process required by that Permit, the County may discover other outfalls that discharge to the Spokane River. Also, the County is currently aware of several County stormwater outfalls that discharge to Latah Creek and the Little Spokane River. The text should be revised to include these facts. Also, the current text uses several different references when discussing the Phase II Municipal Stormwater Permit for Eastern Washington. For clarity, we suggest that the TMDL consistently use the same name for this Permit.

Page 35, Paragraph 5

The Draft TMDL makes reference to the use of EPA's Clean Water Act Section 304(a) recommended criterion for phosphorus and cites a 10 µg/L value for Ecoregion II as a quality benchmark for the Spokane River as it enters the reservoir. However, it appears that the water quality benchmark could as easily be 21.88 µg/L as 10 µg/L using the same Ecoregion statistics cited as a reference in the Draft TMDL. Washington state has not developed numeric nutrient water quality standards, and eco-region guidance criteria falls on the boundary of two subregions requiring interpretation and rulemaking for proper application.

EPA's ecoregion criteria have been reviewed for the Spokane River. It appears that the Spokane River falls geographically between two ecoregions mapped by EPA with widely different in-stream phosphorus target concentrations:

- Ecoregion II Western Forested Mountains: 25th percentile TP of 10 ug/l
    - Subregion 15. Northern Rockies: 25th percentile TP of 7.75 ug/l
- Ecoregion III Xeric West: 25th percentile TP of 21.88 ug/l
    - Subregion 10 Columbia Plateau: 25th percentile TP of 30 ug/l.

The resolution of EPA's ecoregion maps is coarse, but it appears that the Spokane River near Lake Spokane in Washington falls on the dividing line between Ecoregion II and III. The southern side of the lake is in Ecoregion III Xeric West, Subregion 10 Columbia Plateau. The northern side of the lake is in Ecoregion II Western Forested Mountains, Subregion 15 Northern Rockies.

Page 48, Bullet # 5

Thank you for acknowledging that state of the science facilities may require a start-up period to achieve maximum performance. The Foundational Concepts specifically recognized that the County would require a start-up period for its new regional water reclamation facility (Draft TMDL Appendix D-13). Spokane County requests that this portion of the TMDL state that the County facility will be given a two-year period in its first NPDES permit to optimize performance.

The County plant will start up in 2012, which will be approximately 3 years before the City of Spokane's Riverside Water Reclamation Facility will operate with effluent filtration. During that period, the County plans to divert approximately 6 million gallons of flow from the City plant, and will decrease the effluent phosphorus concentration from approximately 0.50 mg/L to approximately 0.050

mg/L. At that level of performance, this is a reduction of 22.5 pounds per day of phosphorus into the Lake.

Page 53, Paragraph 1

The language contained in this paragraph could make it difficult to actually obtain an offset for nonpoint source reductions in the tributaries. While this may not be Ecology's intent, the language of the TMDL appears to imply that result. In order to be able to actually use the offsets that are contemplated and encouraged in the TMDL, we believe that it is very important that the TMDL make it clear that dischargers and Avista can obtain offsets for any reductions in nonpoint source loading in the tributaries.

Appendix G

The modeler's agreement, included in this Appendix does not seem to be appropriate for inclusion in the TMDL. All of the modeling efforts that were conducted for the previous draft TMDL have been superceded by the modeling efforts conducted since September 2008. In addition, Spokane County did not sign the modeler's agreement, and sent a letter to Ecology following the modelers meeting taking specific exception to the process and conclusions of the modelers meeting. If Ecology continues to include this document in the TMDL, then the County requests that its letter also be included.

Appendix J

The County does not believe that this memorandum should be included in the TMDL. Spokane County, as a member of the Spokane River Stewardship Partners, has provided Ecology with substantial comments explaining its concerns with this memorandum. For reasons stated in the Spokane River Stewardship Partners' letter, the County requests that the memorandum be removed. If Ecology does not remove the memorandum, then the County requests that the Spokane River Stewardship Partners' letter be included as well.

The EPA Memorandum presents a review of effluent performance from a select group of low phosphorus treatment facilities. The memorandum suggests that effluent phosphorus of less than 50 ug/l can be attained and calculates the median effluent concentration of the plants selected for the memorandum as 35 ug/l. Generally, the facilities selected in the EPA Memorandum are smaller and do not include the solids processing facilities and recycle return loadings that full scale facilities for discharge to the Spokane River will include which may impact effluent performance. Key Spokane River dischargers such as the City of

Spokane, Spokane County, and the City of Coeur d'Alene are all larger than the largest of the facilities included in the EPA Memorandum, which ranged from 0.5 to 4 mgd. These Spokane River dischargers all include anaerobic digestion for solids stabilization and will have solids processing recycle loadings. None of the facilities in the EPA Memorandum include anaerobic digestion. Consequently, the suggestion that effluent phosphorus of less than 50 ug/l can be achieved by Spokane River dischargers based on dissimilar reference facilities does not appear to be appropriate.

The plants selected in the EPA Memorandum do not have daily effluent phosphorus data for review and analysis. Phosphorus data from the plants analyzed in the EPA Memorandum are from sampling conducted twice per week, one per week, or at an unknown frequency.

Variability in well run low effluent phosphorus treatment facilities has long been a part of TMDL discussions on the Spokane River and several analyses of reference facility performance have been prepared and presented to EPA and Ecology. The concern presented by Ecology's selection of TMDL Alternative #1 is that actual effluent data from other low phosphorus facilities strongly suggests that the variability between average performance and the maximum month, or a 95th percentile statistic, is much larger than the ratio of 0.050/0.042 (1.19). In the review of the March 24th EPA Memorandum to Ecology (April 10, 2009 Stakeholder Group letter to EPA and Ecology), it was noted that the Clean Water Services Durham facility that has been used as a reference in past discussions has a monthly median limit of 0.110 mg/l and the 95th percentile of the 2004 data set is 0.284 mg/l. The ratio of 95th percentile to median is 0.284/0.110 = 2.58.

In recent discussions on effluent discharge permitting for with Ecology (Eastern Regional Office, June 26, 2009) and EPA (Region 10, July 16, 2009) additional data analysis of low nutrient treatment facilities was discussed. A recent survey of some of the premier low phosphorus facilities in the U.S. showed the ratio of 95 percentile to median effluent phosphorus ranged from 2.0 to 4.6 ("What is the Limit of Technology (LOT)? A Rational and Quantitative Approach," JB Neethling, D. Stensel, C. Bott, D. Parker, S. Murthy, A. Pramanik, and D. Clark, Water Environment Federation (WEF), June 2009). This suggests that for the Spokane River, a long term average total phosphorus of 0.036 to 0.042 mg/l in TMDL Alternative #1 would result in 95th percentile values would be expected to be in the range of 0.072 to 0.193 mg/l. Effluent discharge permits based on a TMDL with long term average effluent phosphorus of 0.036 to 0.042 mg/l and an unrealistic Maximum Monthly Average of 0.050 mg/l is no more protective of water quality than just specifying the long term average in the discharge permit.

Over-specifying the effluent limits in the discharge permit just makes compliance difficult, or impossible.

Appendix L

The September 28, 2005 TMDL workgroup information included as Appendix L is outdated and has been superseded by more contemporary analysis and discussions on low phosphorus treatment performance. An important treatment technology workshop was held with Spokane River stakeholders including Ecology, EPA and Idaho DEQ on August 16, 2006. This workshop included industry experts who summarized low phosphorus treatment performance, local pilot treatment studies, and exemplary plants nationally that perform at the lowest effluent levels. More recent studies and publications have addressed low phosphorus treatment performance with unified statistical techniques that provide new reference points for the wastewater industry, including:

- Water Environment Federation WEFTEC Conference Workshops by the Water Environment Research Foundation (WERF) on low nutrient effluent performance:
    - Workshop 216 WEF/WERF: "Real World LOT Nutrient Removal: Achievable Limits and Statistical Reliability" Sunday, October 11, 2009, Orlando, Florida
    - Workshop 101 WEF/WERF: "Demonstrated Processes for Limit of Technology Nutrient Removal: Achievable Limits & Statistical Reliability" Sunday, October 18, 2008, Chicago Illinois
- "What is the Limit of Technology (LOT)? A Rational and Quantitative Approach," JB Neethling, D. Stensel, C. Bott, D. Parker, S. Murthy, A. Pramanik, and D. Clark, Water Environment Federation (WEF), June 2009).

Sincerely,

N Bruce Rawls

N. Bruce Rawls, P.E.
Spokane County Utilities Director

cc: Board of County Commissioners of Spokane County

Spokane River Stewardship Partners

Working every day for a healthy river

Spokane County • City of Spokane • Liberty Lake Sewer & Water District • City of Coeur d'Alene • City of Post Falls • Hayden Area Regional Sewer Board
Avista • Inland Empire Paper Company • Kaiser Aluminum

October 29, 2009

Via US Mail and e-mail: dmoo461@ecy.wa.gov

Mr. David Moore
Eastern Regional Office
Washington Department of Ecology
N. 4601 Monroe
Spokane, WA 99205-1295

Subject: Comments on Spokane River Draft DO TMDL

Dear Dave,

The Spokane River Stewardship Partners (SRSP) have the following comments on the Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load, Draft Water Quality Improvement Report (Draft DO TMDL) that was issued on September 15, 2009:

1. The Water Quality Improvement Report should state that the DO TMDL model uses assumptions to establish waste load allocations, however those assumptions and the waste load allocations are not themselves NPDES permit effluent limitations. The Water Quality Improvement Report should also state that the model should not be used to establish compliance requirements for 401 Water Quality Certification. During implementation, the DO TMDL model should be used only as an evaluation tool, and not for determining compliance.

2. All of the information and comments provided in the Spokane River Stakeholder Group / SRSP letters to Ecology and EPA during the development of the Draft DO TMDL should be considered as comments to the Draft DO TMDL. All of these letters (dated February 25, 2009; April 3, 2009; April 10, 2009; May 6, 2009; May 29, 2009; and August 27, 2009) are attached to ensure they are part of the official comment record.

3. As the water quality improvement plan is implemented, and to prepare for the 10 year review, it will be important to better understand the beneficial uses and dominant aquatic habitat in Lake Spokane. This improved understanding will be critical to accurately assess the effects of actions taken to improve water quality in Lake Spokane by reducing point and non-point source phosphorus.

In addition, members of the SRSP will be submitting individual comments. The SRSP appreciate the continued opportunity to collaborate with you on the development of the Spokane River DO TMDL. If you have questions please feel free to contact Sarah Hubbard-Gray at GeoEngineers (541-389-1926 or shubbardgray@geoengineers.com) and she will coordinate with our group and get back to you.

Sincerely,

Executive Committee Members
Spokane River Stewardship Partners

Signed by Sarah Hubbard-Gray, GeoEngineers Facilitator for Spokane River Stewardship Partners, on behalf of the Executive Committee members, which include:

Dale Arnold - City of Spokane
Bruce Rawls – Spokane County
Sid Fredrickson – City of Coeur d'Alene
Ken Windram – Hayden Area Regional Sewer Board
Tom Agnew – Liberty Lake Sewer and Water District
Terry Werner – City of Post Falls
Speed Fitzhugh – Avista
Doug Krapas – Inland Empire Paper Company
Bud Leber – Kaiser Aluminum

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2928 Fuhrman Avenue East, Seattle WA 98102
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October 30, 2009

David Moore
Water Quality Program - Eastern Regional Office
Washington State Department of Ecology
4601 N. Monroe Street
Spokane, WA 99205-1295

RE: Spokane Tribe's Comments on Ecology's September 2009 Draft Dissolved Oxygen Total Maximum Daily Load (Transmitted via email and first-class mail)

Dear Mr. Moore:

Please accept these comments on Ecology's Draft Dissolved Oxygen Total Maximum Daily Load ("DO TMDL"). These comments are submitted on behalf of the Spokane Tribe of Indians ("Tribe"). These comments were prepared with the invaluable assistance of Brian Crossley and staff at the Tribe's Department of Natural Resources ("DNR"). The Tribe has grave concerns about the DO TMDL in its current form, and cannot support it. Described in detail below are the Tribe's concerns, comments, and suggested changes.

Introduction

The health and well-being of the Spokane River ("River") is a paramount interest of the Tribe. The Tribe is concerned not only with the health of the River within its Reservation, but also with the entirety of the River as it flows through the Tribe's ancestral lands. (Ex. 1). The Tribe's Reservation was established in 1877, after the Tribe was removed by force from its domain. *Northern Pac. Ry. Co. v. Wismer*, 246 US 283, 288 (1918). The Reservation's southern boundary is set to the south bank of the Spokane River, which was done to protect the Tribe's subsistence and cultural uses of the River. (Ex. 2). For many decades now, the Tribe's subsistence use of the River has been thwarted by upstream pollution, raised water temperatures, and during certain times of the year portions of the River are uninhabitable for aquatic life due to depressed oxygen levels (Ex.3,4) and high levels of total dissolved gas ("TDG").

In response to the infringement on the Tribe's fishing, cultural, and agricultural rights in the River, the Tribe applied for and received treatment in the same manner as a state status ("TAS") under the Clean Water Act ("CWA"), 33 U.S.C. § 1377, on July 23, 2002. The Tribe's first water quality standards were approved on April 22, 2003. However, projects to improve water quality and control water pollution within the Reservation have not been successful in bringing the River back to health due to upstream pollution and hydropower facilities within the River.

Fortunately, for the Tribe, the CWA protects downstream sovereigns in this very situation. The final DO TMDL will determine the waste load allocations ("WLA") for the pollution discharges within Washington State that are subject to National Pollutant Discharge Elimination System ("NPDES") permits. The Environmental Protection Agency's ("EPA") regulations require that NPDES permits cannot be issued "when the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States." 40 C.F.R. § 122.4(d). In addition, downstream Tribes and States are free to adopt more stringent standards than upstream States, and the EPA can require that upstream sovereigns comply with the downstream standards. *Albuquerque v. Browner*, 97 F.3d 415, 423-24 (10th Cir. 1996); *See also Montana v. EPA*, 137 F.3d 1135, 1141(9th Cir. 1998). As Ecology is aware, the non-point and point source pollution upstream from Reservation waters causes degradation of the Tribe's water quality. (DO TMDL, P.13). For this reason, the Tribe is very concerned with the load and wasteload allocations planned for in this Draft DO TMDL. Current versions of the modeling performed on the lower arm of the Spokane River indicate that the TMDL's WLAs and load allocations ("LA") fail to ensure that the Tribe's standards will be met. Improvements in the Tribe's water quality depend on improvements upstream.

COMMENTS

These comments are organized in the following manner. Several major concerns are detailed first, followed by technical and grammatical concerns that correspond to specific pages.

1. Description of the Tribe's Involvement

The Tribe appreciates Ecology's efforts to implement the principles of the Centennial Accord, and the Tribe is committed to improving and strengthening its government-to-government relationship with the State. However, this DO TMDL overstates the Tribe's and the State's relationship in this situation by the use of the term "collaborated". In various locations throughout the DO TMDL, Ecology states, "the Spokane Tribe of Indians collaborated" with the other agencies and Ecology in developing the TMDL. (DO TMDL P. 14). "Collaborated" does not properly describe what occurred throughout the development of the DO TMDL. Tribal DNR and legal staff were kept informed and consulted with during Ecology's development of this draft, but in the end, the Tribe did not help write the DO TMDL, nor did it have any decision making power within the process.

Suggested Change: Ecology should change this and other similar language referring to the Tribe. For example, it could be changed to, "The Spokane Tribe was kept informed and consulted with throughout the process, but it did not have decision-making power within Ecology's development of the DO TMDL."

2. New Discharger

The DO TMDL outlines a method by which Spokane County can be issued a new NPDES permit that is contrary to Federal and State regulations. First, a new permit based on this DO TMDL will violate 40 C.F.R. § 122.4(i). Second, Ecology's planned use of "offsets" or "delta

management" to allow the new discharger will not comply with Washington State offset regulations.

First, 40 C.F.R. § 122.4(i) as interpreted in the Ninth Circuit likely bars the County NPDES permit under the described method in this DO TMDL. The Regulations state:

> No permit may be issued:
> (i) To a new source or a new discharger, if the discharge from its construction or operation will ***cause or contribute*** to the violation of water quality standards. The owner or operator of a new source or new discharger proposing to discharge into a water segment which does not meet applicable water quality standards or is not expected to meet those standards even after the application of the effluent limitations required by sections 301(b)(1)(A) and 301(b)(1)(B) of CWA, and for which the State or interstate agency has performed a pollutants load allocation for the pollutant to be discharged, must demonstrate, before the close of the public comment period, that:
>
> (1) There are sufficient remaining pollutant load allocations to allow for the discharge; and
> (2) The existing *dischargers* into that segment are subject to *compliance schedules designed to bring the segment into compliance* with applicable water quality standards. The Director may waive the submission of information by the new source or new discharger required by paragraph (i) of this section if the Director determines that the Director already has adequate information to evaluate the request. An explanation of the development of limitations to meet the criteria of this paragraph (i)(2) is to be included in the fact sheet to the permit under § 124.56(b)(1) of this chapter.

40 C.F.R. § 122.4(i).

Recently, the Ninth Circuit Court of Appeals in a situation very similar to what is occurring here interpreted this portion of the Regulations. In *Friends of Pinto Creek v. United States Environmental Protection Agency*, 504 F.3d 1007 (9th Cir. 2007), the court reviewed a decision by the EPA that approved a new discharger's NPDES permit for a water body on the 303(d) list in Arizona. The EPA prepared a TMDL for the waterway that provided for a plan where the waterway "*could* meet the water quality standards if all of the load allocations in the TMDL were met, not that there were sufficient remaining pollutant load allocations under existing circumstances." *Id.* at 1012. Based on this TMDL, the EPA approved a new discharger's NPDES permit, stating that the new permit met the legal requirements of 40 C.F.R. § 122.4(i). *Id.* However, the court found that the requirements of 40 C.F.R. § 122.4(i) were not met.

The court first found that there were not remaining load allocations under 40 C.F.R. § 122.4(i)(1). It then went onto find that the TMDL described a scenario where water quality standards could be met, but that not all existing dischargers were "subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards." The court found that 122.4(ii) was not satisfied because not all point sources on the

waterway were subject to compliance schedules. Based on this, the court vacated and remanded the permit to the EPA.

As is here, Ecology contemplates approving a new NPDES permit for the County even though the existing point source dischargers will not be subject to compliance schedules to bring Long Lake in compliance with applicable water quality standards. The compliance schedules and corresponding WLAs will only bring the Spokane River in compliance with applicable water quality standards, if unrealistic non-point source pollution reductions occur. The court in *Pinto Creek* described this very situation. "If there are not adequate point sources to do so, then a permit cannot be issued unless the state or Carlota (the discharger) agrees to establish a ***schedule*** to limit pollution from a nonpoint source or sources sufficient to achieve water quality standards." *Pinto Creek*, 504 F.3d at 1015.

Here, there is no fixed schedule in the DO TMDL for the non-point sources to reach their LAs. Until the non-point LAs are met, any new discharge will cause or contribute to water quality violations in both Washington State and the Tribe's waters. The DO TMDL lists many potential activities that could allow non-point sources to reach their LAs, but there are no specifics, no fixed schedule, and no designated funds. If the proposed reductions of non-point source pollution for the tributaries are to have any reasonable assurance of occurring a schedule must be set, funding must be designated, and Washington State must begin aggressive enforcement actions against landowners of non-point source pollution. None of these activities are planned for or have any reasonable assurance of occurring via this DO TMDL. Like in *Pinto Creek*, this TMDL describes a plan where water quality standards could be met, not that they will be met. For these reasons, the Tribe posits that the proposed method for Spokane County to be granted a NPDES permit is flawed and contrary to 40 C.F.R. § 122.4(i).

Second, the DO TMDL states, "[c]ompliance with the wasteload allocations for this new facility will be met through a combination of advanced treatment and target pursuit actions." (DO TMDL P.47). 'Target pursuit actions" are delta management. (*Id.*) "As described earlier, the term "delta" refers to the difference between what technology improvements can currently achieve and the remaining phosphorus that needs to be reduced through conservation, reduction of nonpoint source pollution and other target pursuit actions to meet the final wasteload allocation." (*Id.*) In short, "target pursuit actions" or "delta management" are identical to "offsets" described in WAC 173-201A-450 (Ex. 5), and should be treated accordingly.

WAC 173-201A-450, the offset regulation, provides a method by which a ***new*** discharger can obtain a permit for a water body that does not currently meet the applicable WQS. The regulation states: "The purpose of water quality offsets is to sufficiently reduce the pollution levels of a water body so that a proponent's actions do not cause or contribute to a violation of the requirements of this chapter and so that they result in a net environmental benefit." *Id* at (1). Most importantly the regulation states, "[t]he improvements in water quality associated with creating water quality offsets for any proposed new or expanded actions **must be demonstrated to have occurred in advance of the proposed action**." *Id* at (b). This regulation creates two hurdles for Ecology and Spokane County to overcome prior to permitting a new discharger. The proponents actions must not "cause or contribute to a violation" of water quality standards, which any discharge by the county prior to all of the reductions described in the Draft TMDL

will do. Second, the "offsets", "delta management," or "target pursuit actions" whichever label Ecology wants to use, must be demonstrated to have occurred **prior to** the proposed new discharge. The Draft TMDL describes how the County will get a permit long before the pollution is reduced in the Spokane River so that the new discharge will not "cause or contribute" to water quality violations. In addition, it contemplates a situation where the County and all the dischargers get to "offset" their dischargers prior to when the "offsets" are proven to have worked. This is in direct conflict with WAC 173-201A-450.

Furthermore, it is legally questionable whether these "target pursuit actions, "delta elimination plans," or "offsets" are allowed under the Clean Water Act. The Court in *Pinto Creek* clearly pointed out, **"there is nothing in the Clean Water Act or regulation that provides an exception for an offset when the waters remain impaired and the new source is discharging pollution into the impaired water."** *Id* at 1012. In short, it is the Tribe's position that for the County to receive an NPDES permit, it must first show that the offsets have occurred and that they have been successful in creating enough loading capacity in the River to allow for a new pollution source under WAC 173-201A-450.

Suggested Change: (1) The Draft DO TMDL should unequivocally state that the proposed Spokane County wastewater treatment plant will not be granted an NPDES permit until such time when Spokane River has the capacity to accept such pollutant loading, while continuing to meet applicable water quality standards. **(2)** Ecology should explain the legal authority and legal difference between "target pursuit actions" and "Delta Management" when they appear to be just different terms for water quality "offsets."

3. Margin of Safety

The Margin of Safety ("MOS") described in the Draft DO TMDL is not legally sufficient. It fails to abide by the following EPA Guidance.

> The statute and regulations require that a TMDL include a margin of safety (MOS) to account for any lack of knowledge concerning the relationship between load and wasteload allocations and water quality (CWA §303(d)(1)(C), 40 C.F.R. §130.7(c)(1)). EPA's 1991 TMDL Guidance explains that the MOS may be implicit, i.e., incorporated into the TMDL through conservative assumptions in the analysis, or explicit, i.e., expressed in the TMDL as loadings set aside for the MOS. If the MOS is implicit, the conservative assumptions in the analysis that account for the MOS must be described. If the MOS is explicit, the loading set aside for the MOS must be identified.

http://www.epa.gov/owow/tmdl/guidance/final52002.html (last visited October 15, 2009). Ecology's MOS is only the use of the 2001 critical flow year within the modeling to develop the WLAs and LAs. (DO TMDL P. 40). In addition, Ecology mentions the possible beneficial effects the increase flows Avista will be required to achieve under its FERC license. (*Id* at 43). The MOS only takes into account flow conditions. It does not adequately address climate change; the continued development and expansion of groundwater withdrawals from the Rathdrum Prairie Aquifer within Washington and Idaho; and how SOD levels are affected by the year round discharge of CBOD, TP, and Ammonia.

a. Climate Change

Ecology states in this Draft DO TMDL, "[b]y using a critical flow year like 2001 that has seasonal and August low flows that correspond to about a 0.01 exceedance probability to establish pollutant allocations, the water quality in Lake Spokane and the Spokane River should be adequately protected." (P. 40). Using the data from 2001, may add some measure of protection, it does not acknowledge the likelihood that flows could become much lower due to climate change.

Ecology's previous Director, Jay Manning, in a recent presentation, described the following as likely effects of global warming on stream flows across the state:

> UW Climate Impact Group projects: Nearly 30% reduction in spring snowpack by 2020s, 40% by the 2040s, and 65% by the 2080s. Decrease in April 1 snow water equivalent, across the State on average, of 28-29% by the 2020s, 37-44% by the 2040s and 53-65% by the 2080s.

http://www.westgov.org/wswc/manning.pdf (last visited October 15, 2009, P. 6). Utilizing a low flow year like 2001 does not provide an adequate MOS against the very likely threat that low flows become normal events. (*See* Ex. 7). This Draft DO TMDL does not contain an adequate MOS in light of the effects of climate change on future flow levels, and the effect that will have on Avista's ability to meet the flow requirements of its FERC license.

Suggested Change: The DO TMDL should revisit the MOS, and develop an MOS that addresses climate change.

b. Increased Groundwater Withdrawals

The use of flow year 2001 and the corresponding WLAs and LAs does not provide an adequate MOS for the ever-increasing groundwater withdrawals in both Washington and Idaho. It is widely known that groundwater inflows into the River increase surface flows during the critical low flow times of the year. Without these groundwater inputs flows could be further diminished. As Washington and Idaho have allowed the development of groundwater withdrawals to be virtually unchecked, flows have decreased. (Ex. 6, 7). Again, these increased withdrawals are widely known within DOE and were discussed by Mr. Manning at a recent conference discussing the threats to water bodies within the State. (Ex. 8, available at http://www.westgov.org/wswc/manning.pdf (last visited October 15, 2009). Without explanation by Ecology, the MOS fails to address the future decrease in groundwater inputs caused by the increased withdrawals in Washington and Idaho.

Suggested Change: The MOS should be redeveloped to address the increased withdrawals of groundwater and such withdrawals effect on flows and the River's loading capacity.

c. SOD and year-round discharges

The relationship between the pollutant discharges in the non-critical months and the discharges effect on DO impairments in the critical months is not well understood. EPA regulations require that an MOS "takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality." 40 C.F.R. 130.7(c)(1). Additionally, Ecology acknowledges in this DO TMDL that oxygen impairments occur well within the non-critical months. For example, "Calculated dissolved oxygen values for the reservoir show dissolved oxygen impairments from June 17 through December 31." (DO TMDL P. 36). However, Ecology considers in this TMDL only March-October as the critical season. Given the uncertainty surrounding SOD and winter discharges, Ecology should explicitly describe in this TMDL the WLAs being considered for November-February, and should consider extending the very low WLAs year round. The Tribe's modeling shows significant phosphorus loading in the spring and winter as shown in the graph below. (Attachment 1, P. 99).

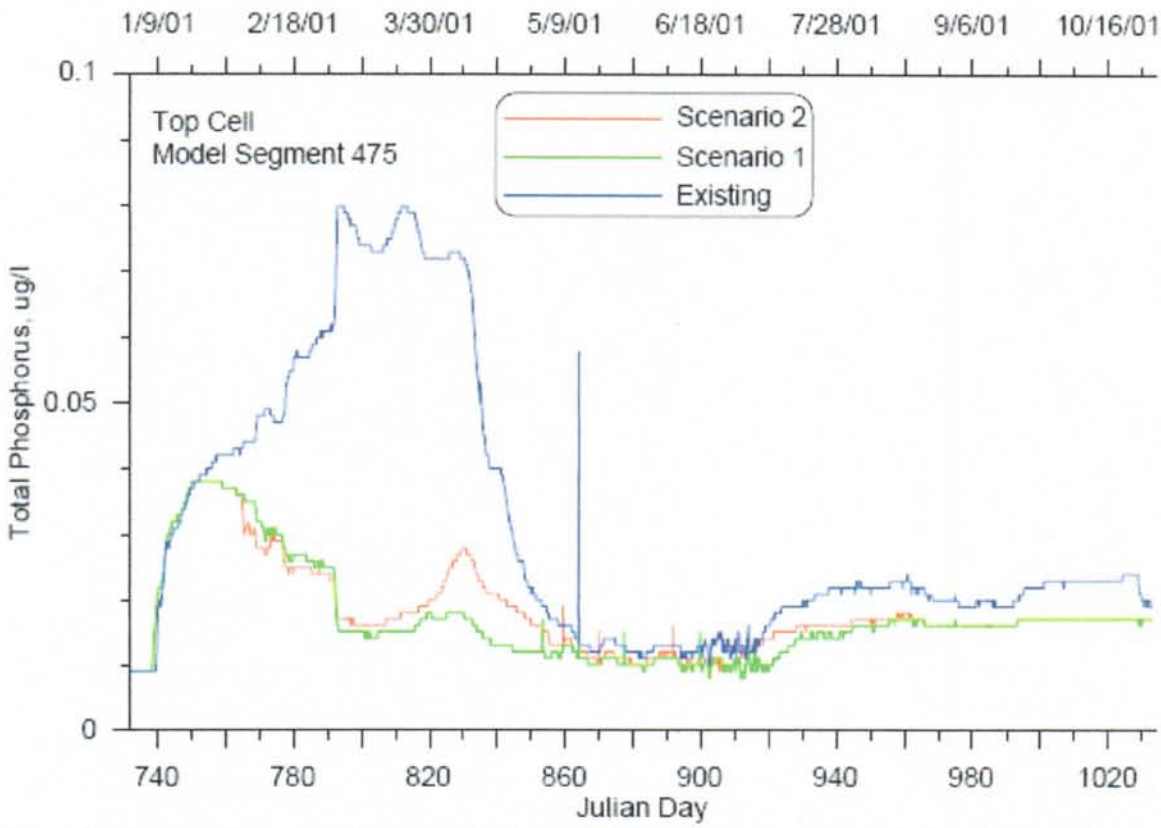


Figure 63. Scenario total phosphorus predictions for surface layer of segment 430 (station SA2).

Suggested Change: Ecology should provide an explanation as to why the WLAs are not set year round, or change the WLAs to year round to provide a better MOS.

4. Reasonable Assurance

EPA guidance provides the following requirements for approval of TMDLs.

> When a TMDL is developed for waters impaired by point sources only, the issuance of a National Pollutant Discharge Elimination System (NPDES) permit(s) provides the reasonable assurance that the wasteload allocations contained in the TMDL will be achieved. This is because 40 C.F.R. 122.44(d)(1)(vii)(B) requires that effluent limits in permits be consistent with "the assumptions and requirements of any available wasteload allocation" in an approved TMDL.
>
> When a TMDL is developed for waters impaired by both point and nonpoint sources, **and the WLA is based on an assumption that nonpoint source load reductions will occur**, EPA's 1991 TMDL Guidance states that **the TMDL should provide reasonable assurances that nonpoint source control measures will achieve expected load reductions in order for the TMDL to be approvable.** This information is necessary for EPA to determine that the TMDL, including the load and wasteload allocations, has been established at a level necessary to implement water quality standards.
>
> EPA's August 1997 TMDL Guidance also directs Regions to work with States to achieve TMDL load allocations in waters impaired only by nonpoint sources. However, EPA cannot disapprove a TMDL for nonpoint source-only impaired waters, which do not have a demonstration of reasonable assurance that LAs will be achieved, because such a showing is not required by current regulations.

http://www.epa.gov/owow/tmdl/guidance/final52002.html (Last visited October 27, 2009).

The DO TMDL fails to provide a reasonable assurance that the non-point source load reductions will be achieved. (DO TMDL P. 40-43). The TMDL lists several actions that have taken place or may take place in the future, but fails to provide funding mechanisms, enforceable agreements, timelines, or a plan on how the State will overcome its historic reluctance to pursue non-point source polluters for violations. *See Id.* The WLAs within the DO TMDL are based upon the reductions of non-point source pollution within the tributaries. Accordingly, Ecology must show more than a hope that reductions in non-point source pollution will take place.

Suggested Change: Ecology's Reasonable Assurance section relies on a mixture of actions that have already occurred (i.e. ban on phosphate detergent) and actions that may occur in the future. Ecology should revisit this section, and provide a detailed list and schedule for actions Ecology and others will do to meet the LAs for the tributaries.

5. Tribe's Draft Modeling

As Ecology and most of the Stakeholders are aware, PSU has performed modeling on the lower arm of the Spokane River. (Attachment 1). This modeling is still in draft stage and was

readjusted just on October 26, 2009. The Tribe, along with EPA's input, requested that with the limited time and funds available two scenarios for the lower arm be modeled. The existing conditions modeled year 2001 with 2006 water quality data. The first scenario modeled the current draft of the DO TMDL and reset the DO levels to 8mg/l at the tailrace of Long Lake Dam. The second scenario utilized the current draft of the DO TMDL, but dialed back the tributary reductions to 2001 levels and reset the DO levels to 8mg/l at the tailrace of Long Lake Dam. The scenarios utilized DO levels at 8mg/l at the tailrace of Long Lake Dam because Avista has indicated that this is an achievable level. The second scenario utilized 2001 tributary numbers because the reductions in tributary loading upstream do not appear to be achievable at this time. Both scenarios show troubling results for the Tribe's water quality.

For example, the modeling shows that under both scenarios the Tribe's water quality standards are not met during the critical time of the year in the deeper portions of the lower arm of the Spokane River. The following graphs are located on page 94-96 of the Draft Lake Roosevelt/Spokane River Arm Modeling Project. (Attachment 1).

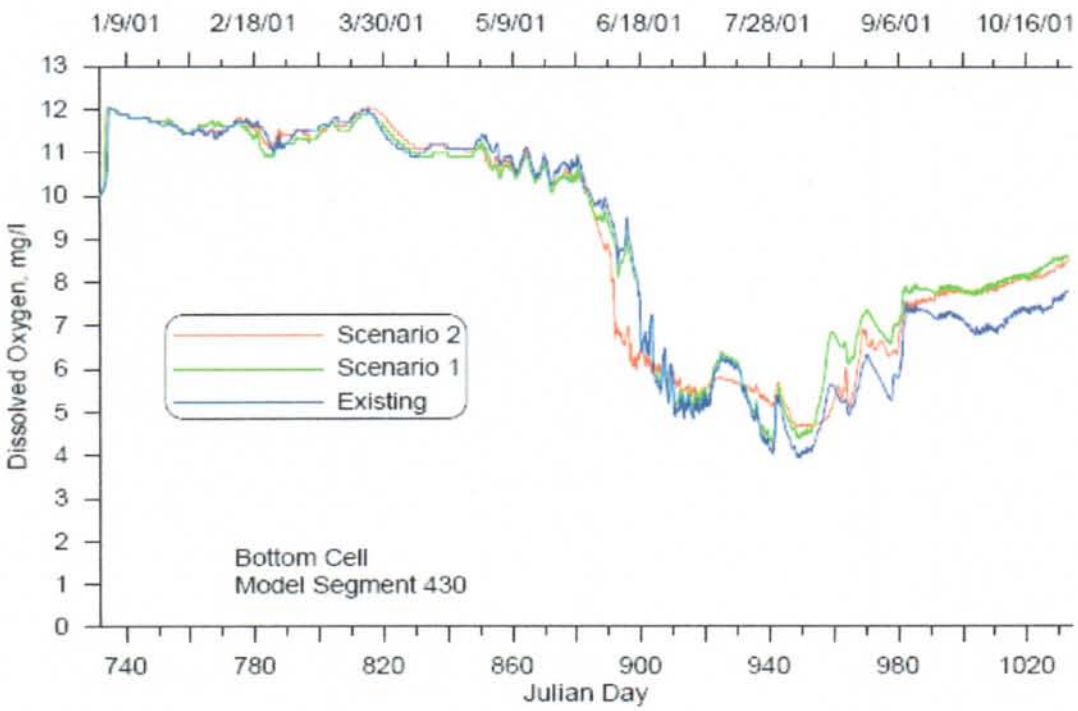


Figure 54. Scenario dissolved oxygen predictions for bottom layer of segment 430 (station SA2).

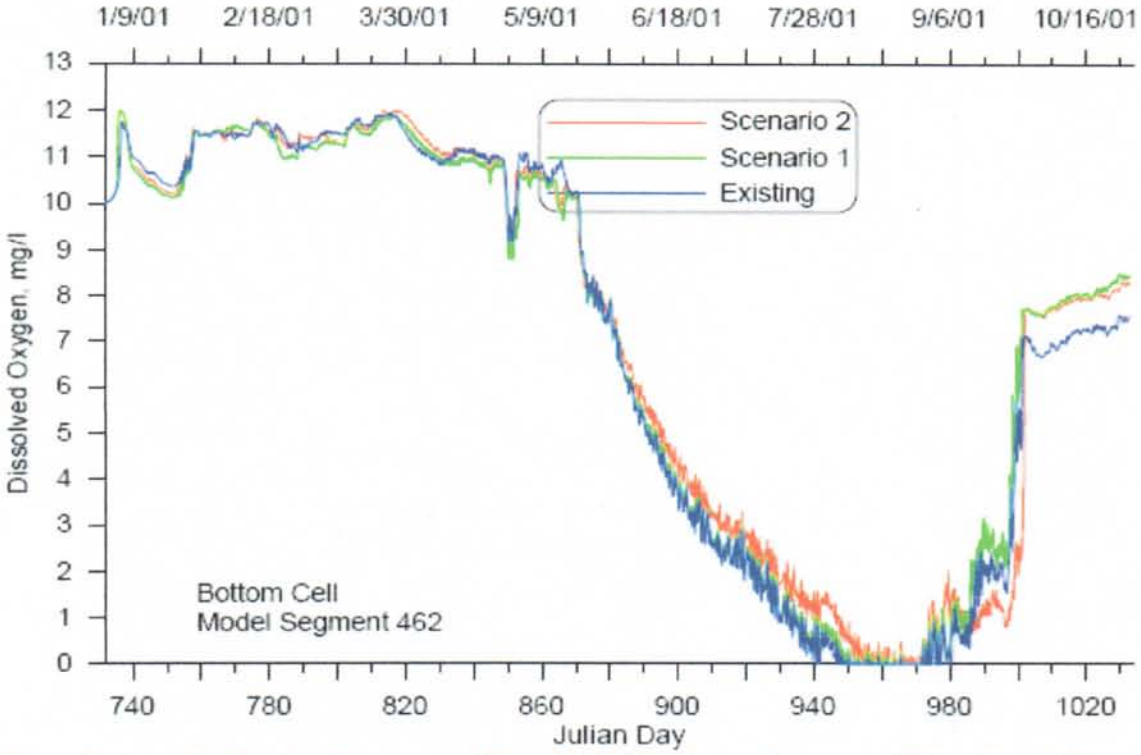


Figure 56. Scenario dissolved oxygen predictions for bottom layer of segment 462 (station SA3).

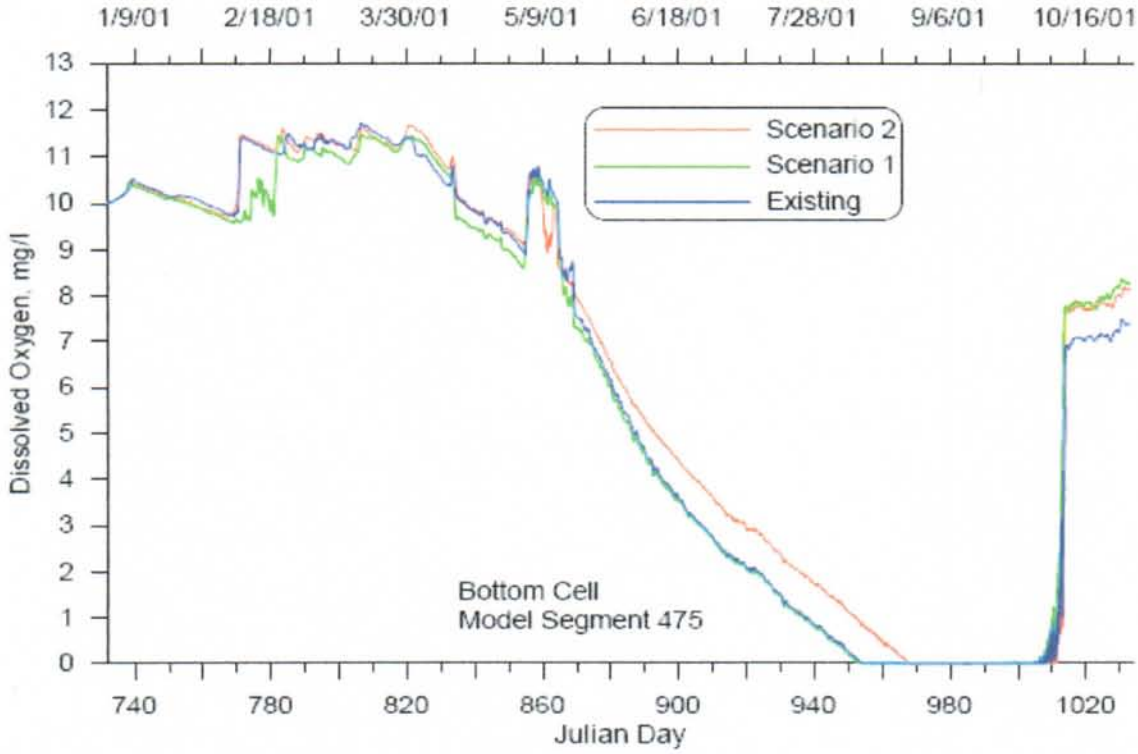


Figure 58. Scenario dissolved oxygen predictions for bottom layer of segment 475 (site 4).

These preliminary results indicate that the WLAs and LAs upstream from the Tribal waters will not be adequate to meet the Tribe's water quality standards. As the Tribal representatives suggested on numerous occasions, Ecology should utilize the lower arm model and the upstream model to develop WLAs and LAs in this TMDL. Such use of the modeling could allow for more assurance that the Tribal standards will be met. In addition, the modeling suggests that any NPDES permits issued under this DO TMDL will fail to meet the requirements of 40 C.F.R. § 122.4(d) & (i).

Suggested Change: Ecology's modeling efforts should be adjusted so that the WLAs and LAs in this TMDL meet the downstream water quality standards of the Tribe.

6. Offset use for existing dischargers

The DO TMDL contemplates the use of offsets by the existing dischargers to meet their WLAs. (DO TMDL P.40-41, 47-48). However, the offset regulations clearly state that offsets are designed, "for the purpose of creating sufficient assimilative capacity to allow **new or expanded discharges**...." WAC 173-201A-450(1) (Ex. 5). Ecology in this DO TMDL describes the use of offsets by existing dischargers that are reducing their discharges, not increasing them. The Regulations do not appear to give Ecology the authority to take such measures when working with existing dischargers.

Suggested Change: Ecology should explain its legal authority to allow for the use of offsets by existing dischargers in this DO TMDL.

The following are the Tribe's comments and suggestions that correspond to specific pages.

Page 1: "A TMDL is a numerical value representing the highest pollutant load a surface water body can receive and still meet water quality standards. Any amount of pollution over the TMDL level needs to be ***reduced or*** eliminated to achieve the water quality standard." In the second sentence, "reduced or" should be deleted.

Page 7-8: DO concentrations may not decrease "more than .2 mg/L below estimated natural conditions." Then again, on Page 8 Table 2 "No measurable (0.2mg/L decrease from natural conditions." However, nowhere in this DO TMDL is the estimated natural condition clearly stated. On **Page 16**, the Draft TMDL states, "The dissolved oxygen water quality standard for Lake Spokane is the No Source scenario minus 0.2mg/l." Then on **Pages 22-23,** Ecology provides a chart that hints at what the standard will be at the various depths. However, nowhere is the numeric goal and sampling location clearly stated. Ecology should insert into either Table 2 the numeric value of the estimated natural condition and where that numeric value applies, or create a new Table that explicitly states, the DO standard for Lake Spokane is X at this location. This would allow all parties involved to know the numeric goal for Lake Spokane. In addition, it will allow interested parties to determine if actions are successful.

Page 13: Ecology should change a portion of the first sentence from "and contribute to degradation of downstream water quality on the Spokane Tribe of Indian's Reservation" to

"cause and contribute to the violation of the Spokane Tribe's Water Quality Standards for the Spokane River."

As Ecology is aware, very little, if any, of the nutrient loading resulting in the violation of Tribal Water Quality Standards comes from sources between the tail race of Long Lake Dam and the Reservations Boundary or from within the Reservation.

Page 14: Ecology should change "Spokane Tribe of Indians collaborated" to "the Spokane Tribe was kept informed and consulted with throughout the process, but it did not have decision-making power within Ecology's development of the TMDL."

Page 16: Ecology states the following, "Nonpoint source pollution in groundwater is defined in this TMDL as concentrations of phosphorous in groundwater above 6µg/L, which was the lowest measured value in valley aquifer wells." Upon review of the groundwater data, there are 849 samples with phosphorous data less than 6µg/L. Accordingly, Ecology's use of the 6µg/L over-estimates phosphorous loads under natural conditions. Ecology should explain its use of 6µg/L in groundwater when the data shows concentrations much lower in the samples.

Page 18: Footnote 6 describes the percentage reduction in tributary nutrient loads. Ecology should clearly explain how the reductions were reached and their scientific support.

Page 21: "Lower phosphorous levels benefit dissolved oxygen in Lake Spokane and Tribal waters downstream." As Comment #5 discusses above, the reductions in this proposed TMDL minimally improve the Tribe's water quality, and this sentence should be altered to indicate that the Tribal water quality standards would not be met by the proposed reductions.

Page 24: "In other words, Long Lake Dam causes Lake Spokane to violate water quality standard for dissolved oxygen by making the lake more sensitive to pollutants than the River." This sentence is confusing and the presumed premise should be more closely analyzed. The Tribe observes in Lake Roosevelt much better DO conditions throughout the Lake, which is created by a dam. This DO condition is a result of very little anthropogenic phosphorus loading upstream from Tribal waters.

In addition, on **Page 24** the Draft states: "The TMDL ***contemplates*** reducing this load by an average of approximately 66 percent during the March to October within ten years." This should be changed to ***requires***.

Page 27: Wasteload allocations are only set for March-October. On **Page 36** the TMDL states: "Calculated dissolved oxygen values for the reservoir show dissolved oxygen impairments from June 17 through December 31." It is fair to say that it is not well understood how winter discharges of TP, CBOD, and Ammonia affect the critical periods dissolved oxygen levels. Furthermore, the Tribe is very concerned about how winter discharges of TP, CBOD, and Ammonia affect oxygen levels in Tribal waters during the months dissolved oxygen is at its lowest. Given this uncertainty, Ecology should set stringent year-round LAs and WLAs in this TMDL.

Page 31: Table 5 should be explained in more detail. It appears that Groundwater allocation is significantly increased. Table 5 sets load allocation for groundwater at 103lbs/day during the months of March-May, June is set to 59lbs/day, and July-October 47lbs/day. However, on **Page M-3** a chart describing groundwater flows per month states that March is 53.8lbs per day, April is 51.6 lbs/day, and May is 202.5lbs/day. Under the proposed allocations, TP pollution would be increased for the months of March and April, and decreased only in May. What is the scientific reason for this? The same type of increase is set out for Aug-Oct. Again, within the TMDL there is no explanation for such monthly increases.

Page 45: Ecology states: "reductions in ammonia may be used to offset equivalent loads of phosphorous as a target pursuit action." Ecology should explain the reasoning behind this statement.

Page 47: In the first full paragraph, "downstream of Lake Spokane by the Spokane Tribe of Indians" should be changed to "by EPA."

Page 52: Data surrounding the phosphorous levels in the groundwater is not fully understood and has been exaggerated by Ecology's use of older data and the use 6µg/L within the modeling as "natural." No entity on the River should be given offset credit until the Septic Tank Elimination program is proven scientifically defensible.

Page 56: Ecology states: "The TMDL considers that Dischargers will meet the wasteload allocations in Table 4 within ten years (2019)." Ecology should change "considers" to "requires."

Page 57: "In addition, the Spokane County's new wastewater treatment plant is currently under construction and will be in operation after this TMDL is approved." This sentence is under the section: "What is the schedule for achieving water quality standards?" This sentence should be removed from this section. Construction of the new plant will increase pollution discharges in the River, and should not be listed as a scheduled action item for achieving the opposite goal.

Page 56-58: Ecology discusses schedules in this section, but there is no fixed schedule as required by *Pinto Creek* for the non-point source reductions "sufficient to achieve water quality standards". *See* 504 F.3d at 1014. Ecology should develop schedules for the non-point source reductions.

In conclusion, because of upstream pollution the Tribe's water quality is degraded and portions of the Tribe's waters are left uninhabitable for aquatic life. The Tribe is hopeful that Ecology will make the necessary changes to this DO TMDL to make it a legally and scientifically defensible document.

Sincerely,

Ted C. Knight
On behalf of the Spokane Tribe of Indians

cc: Polly Zehm, Interim Director, Department of Ecology
Laurie Mann, EPA, Washington TMDL Program Manager

Exhibit 1

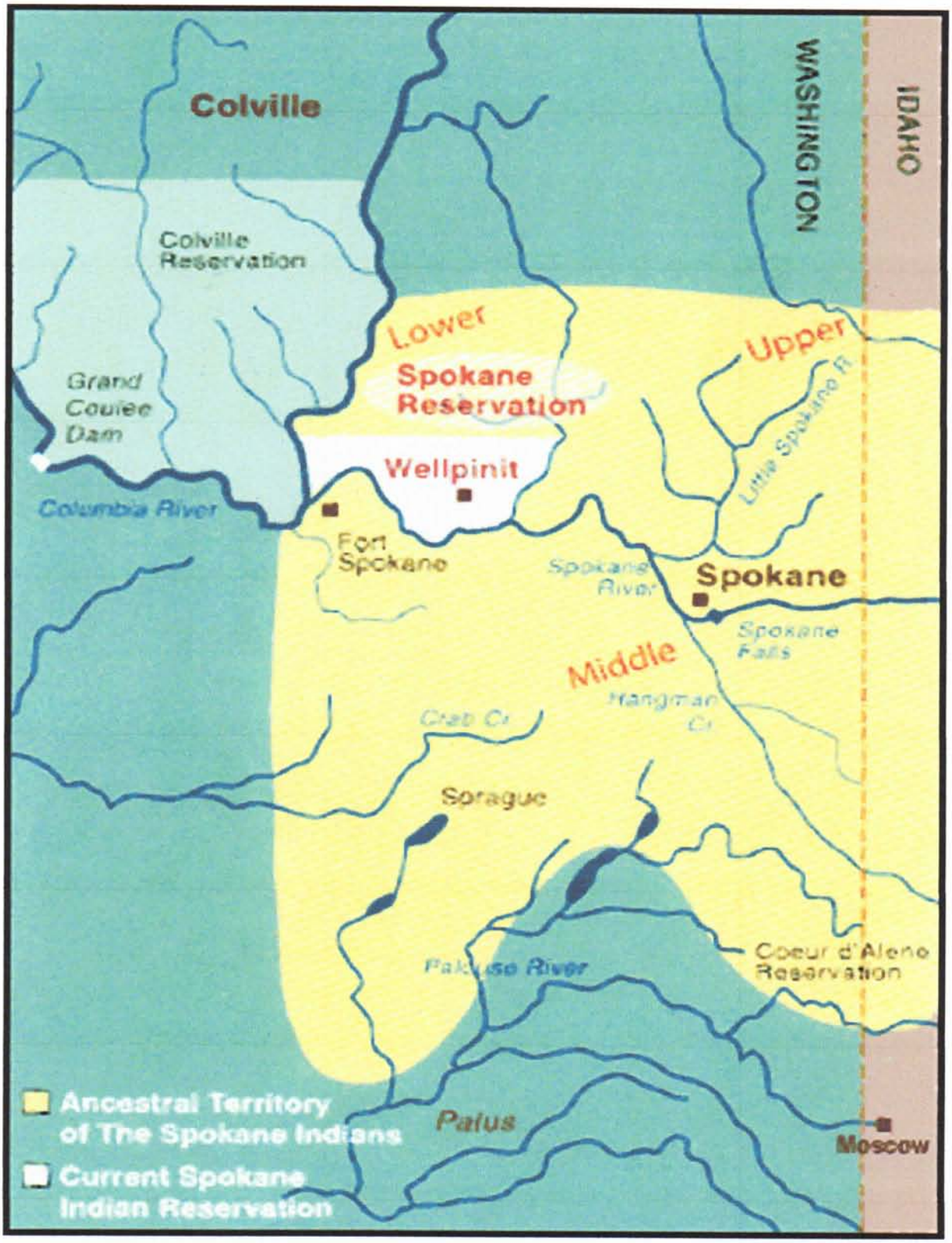

Colville
Colville Reservation
Grand Coulee Dam
Columbia River
Lower
Spokane Reservation
Wellpinit
Fort Spokane
Upper
Little Spokane R
Spokane River
Spokane
Spokane Falls
Middle
Hangman Cr
Crab Cr
Sprague
Palouse River
Coeur d'Alene Reservation
Palus
Moscow
WASHINGTON
IDAHO
Ancestral Territory of The Spokane Indians
Current Spokane Indian Reservation

Exhibit 2

The Office of the President of the United States

(Executive Order)

WASHINGTON

SPOKANE RESERVE

September 3, 1880

(Colville Agency; area, 240 square miles.)

(Special Field Orders No. 3.)

Whereas in consequence of a promise made in August, 1877, by E. C. Watkins, inspector of the Interior Department, to set apart, or have set apart, for the use of the Spokane Indians the following-described territory, to wit: Commencing at the mouth of Cham-a-kane Creek, thence north 8 miles in direction of said creek, thence due west to the Columbia River, thence along the Columbia and Spokane Rivers to the point of beginning - - the Indians are still expecting the Executive order in their case, and are much disturbed by the attempts of squatters to locate land within said limits: It is hereby directed that the above-described territory, being still unsurveyed, be protected against settlement by other than said Indians until the survey shall be made, or until further instructions. This order is based upon plain necessity to preserve the peace until the pledge of the Government shall be fulfilled, or other arrangements accomplished.

The commanding officers of Forts Coeur d'Alene and Colville and Camp Chelan are charged with the proper execution of this order.

By command of Brigadier-General Howard.

H. H. PIERCE, First Lieutenant, Twenty-first Infantry, Acting Aid-de-Camp.

EXECUTIVE MANSION, January 18, 1881.

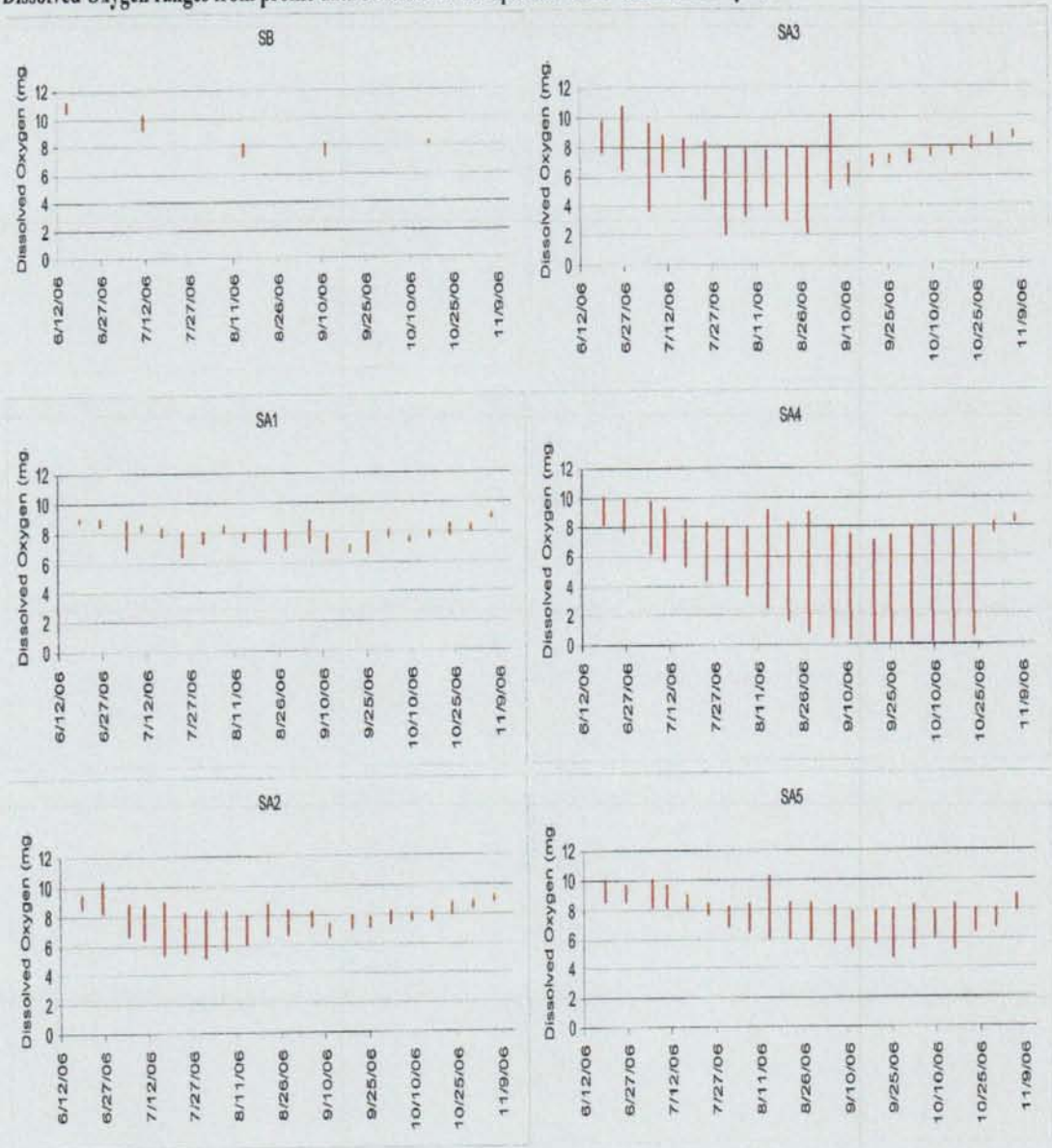
It is hereby ordered that the following tract of land, situated in Washington Territory, be, and the same is hereby, set aside and reserved for the use and occupancy of the Spokane Indians, namely: Commencing at a point where Chemakane Creek crosses the forty-eighth parallel of latitude; thence down the east bank of said creek to where it enters the Spokane River; thence across said Spokane River westwardly along the southern bank thereof to a point where it enters the Columbia River; thence across the Columbia River, northwardly along its western bank to a point where said river crosses the said forty-eighth parallel of latitude; thence east along said parallel to the place of beginning.

R. B. HAYES

1880 WL 32483 (Exec.Ord.)

Exhibit 3

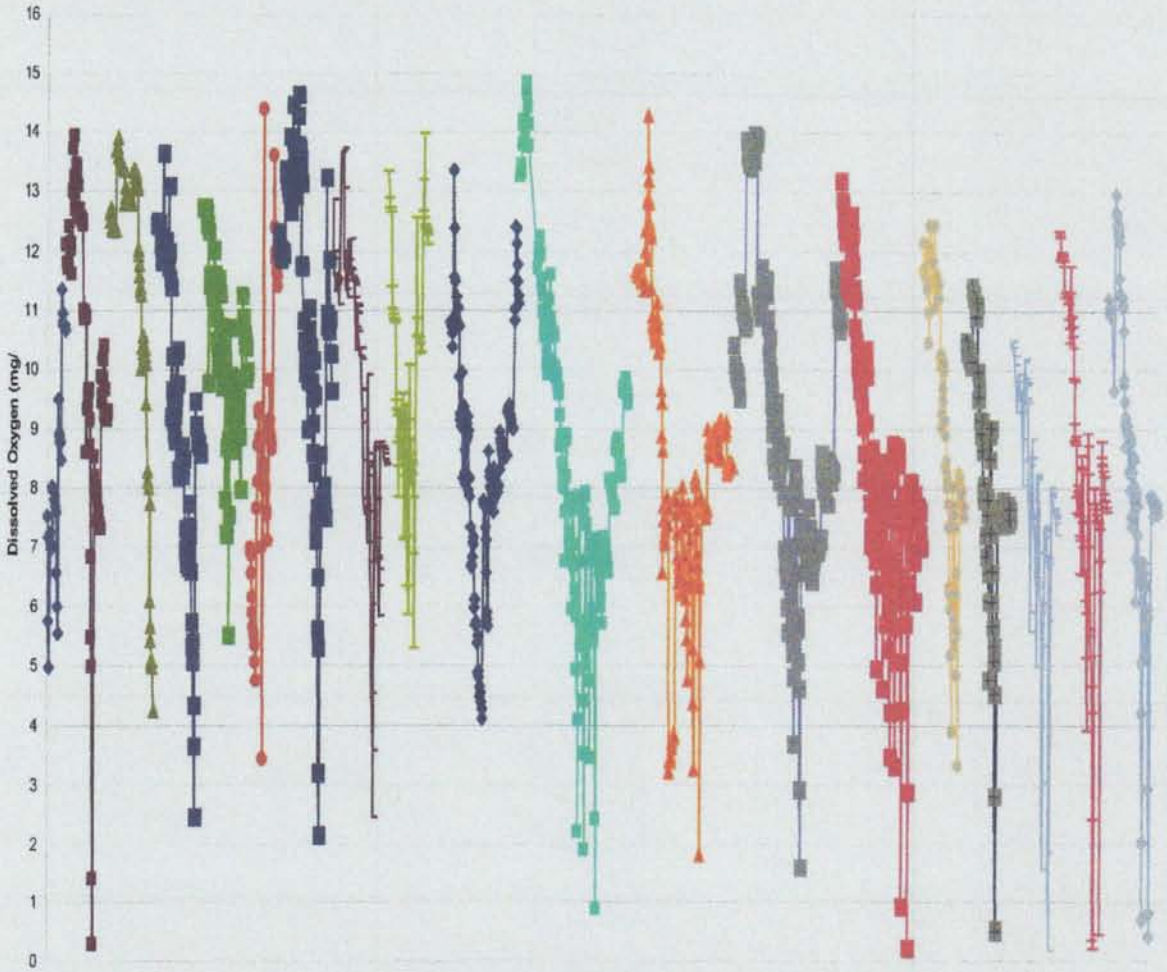
Dissolved Oxygen ranges from profile data collected in the Spokane River and Seven Bays 2006.



Water and Fish Program
Page 14 of 14

Exhibit 4

Dissolved Oxygen ranges from profiles collected from 1988 to 2006 at Porcupine Bay.



Water and Fish Program
Page 13 of 14

Exhibit 5

WAC 173-201A-450
Water quality offsets.

(1) A water quality offset occurs where a project proponent implements or finances the implementation of controls for point or nonpoint sources to reduce the levels of pollution for the purpose of creating sufficient assimilative capacity **to allow new or expanded discharges**. The purpose of water quality offsets is to sufficiently reduce the pollution levels of a water body so that a proponent's actions do not cause or contribute to a violation of the requirements of this chapter and so that they result in a net environmental benefit. Water quality offsets may be used to assist an entity in meeting load allocations targeted under a pollution reduction analysis (such as a total maximum daily load) as established by the department. Water quality offsets may be used to reduce the water quality effect of a discharge to levels that are unmeasurable and in compliance with the water quality antidegradation Tier II analysis (WAC 173-201A-320).

(2) Water quality offsets may be allowed by the department when all of the following conditions are met:

(a) Water quality offsets must target specific water quality parameters.

(b) The improvements in water quality associated with creating water quality offsets for any proposed new or expanded actions must be demonstrated to have occurred in advance of the proposed action.

(c) The technical basis and methodology for the water quality offsets is documented through a technical analysis of pollutant loading, and that analysis is made available for review by the department. The methodology must incorporate the uncertainties associated with any proposed point or nonpoint source controls as well as variability in effluent quality for sources, and must demonstrate that an appropriate margin of safety is included. The approach must clearly account for the attenuation of the benefits of pollution controls as the water moves to the location where the offset is needed.

(d) Point or nonpoint source pollution controls must be secured using binding legal instruments between any involved parties for the life of the project that is being offset. The proponent remains solely responsible for ensuring the success of offsetting activities for both compliance and enforcement purposes.

(e) Only the proportion of the pollution controls which occurs beyond existing requirements for those sources can be included in the offset allowance.

(f) Water quality offsets must meet antidegradation requirements in WAC 173-201A-300 through 173-201A-330 and federal antibacksliding requirements in CFR 122.44(l).

[Statutory Authority: Chapters 90.48 and 90.54 RCW. 03-14-129 (Order 02-14), § 173-201A-450, filed 7/1/03, effective 8/1/03.]

Exhibit 6

Water Warning: The Spokane River is Gradually Disappearing

August 27th, 2009

Inlander, William Stimson

Spokane has been measuring the flow of water under the Monroe Street Bridge for over 100 years, and for over 100 years the level of that flow has been falling.

In 1900, even a dry summer still saw a presentable plunge of about 1,500 cubic feet per second going past the old wooden bridge. Today a dry summer produces only a third of that — the relative trickle we see in August.

The gradual drying of the river is, surprisingly, a relatively recent discovery. People knew, of course, that the river canyon looked parched in the summer months. But particularly dry years were always traceable to some immediate explanation: less snowfall, hotter weather, new pumpers and the like. And then there were occasionally wet summers to blur the picture.

Measurements kept since 1891 of the "7-Day Low Flow" of the river — the stretch of seven days each summer when the least water is coming down — gives a very reliable picture of what's going on with the river. When John Covert and other hydrologists with the Washington Department of Ecology stepped back and saw all the measurements of a century as one chart, an unsettling pattern was clear. The lines bounced up and down each decade, all right, but overall they sloped relentlessly downward.

What's happening to the water? Over the last century, it's been trimmed away for various human uses.

The wild mountain river that pioneers found disappeared with the construction of the Post Falls Dam in 1906. No one thought anything of it at the time because the dam still allowed plenty of water to flow down river.

Then in 1941, the emergency of World War II required raising the level of Lake Coeur d'Alene to facilitate the floating of logs needed for the war effort. It turned out that raising the lake level just 1.5

feet kept a great deal of water out of the Spokane River basin. The change was supposed to be temporary, but people built docks at the new level and consequently lobbied to keep the lake where it was. There's no chance of reversing it now.

In the meantime, agriculture grew up in the Spokane Valley and began pumping the aquifer, one of the sources of river water.

Then came the insatiable lawns of urban sprawl. The average amount of water each person in Spokane uses increases five-fold in the summer because of soaking and over-soaking lawns. Because water is cheap here, Spokane uses more water per capita than almost any city in the country. Spokane people even water at mid-day, when much of the water poured on grass goes straight up in evaporation.

While this water comes from the aquifer, which eventually recharges itself, the river is indirectly affected because some of its flow comes from the aquifer.

For the average Spokanite, Covert concedes, the lowering of the river is — for the moment — mostly an aesthetic problem: We don't get to see the plunging water in the summer.

But as he points out, it's more serious for other species that rely on the river water. A shallower river is warmer, and warmer water stresses the plant life and insects at the bottom of the food chain. That stress works its way up from insects to fish and hawks and all other life dependent upon open water. For land animals, it's harder to find the tiny ponds and ribbon streams that are their water supply in the summer.

Spokane is exceptional in that it is better off than most places in the world. Seven southwest states (including California, where most of the nation's fruit is grown) are facing absolute water shortages. Towns as close as Pullman and Walla Walla are lowering their aquifers, a situation that cannot continue for long.

When Covert and other water specialists (such as Geoff Glenn, a pollution analyst for the city of Spokane) talk about the charts and trends, you can detect a tone of urgency and even dread. If Spokane, a city with a relatively small population, surrounded by snow packs, rivers and streams, and underlain by a gigantic aquifer, notices diminishing water, it does not bode well for the future. Says Covert: "It's the canary in the mine shaft."

William Stimson is director of the Journalism Program at Eastern Washington University.

Available at http://www.spokaneriver.net/?p=2088 (Last visited October 23, 2009).

Exhibit 7

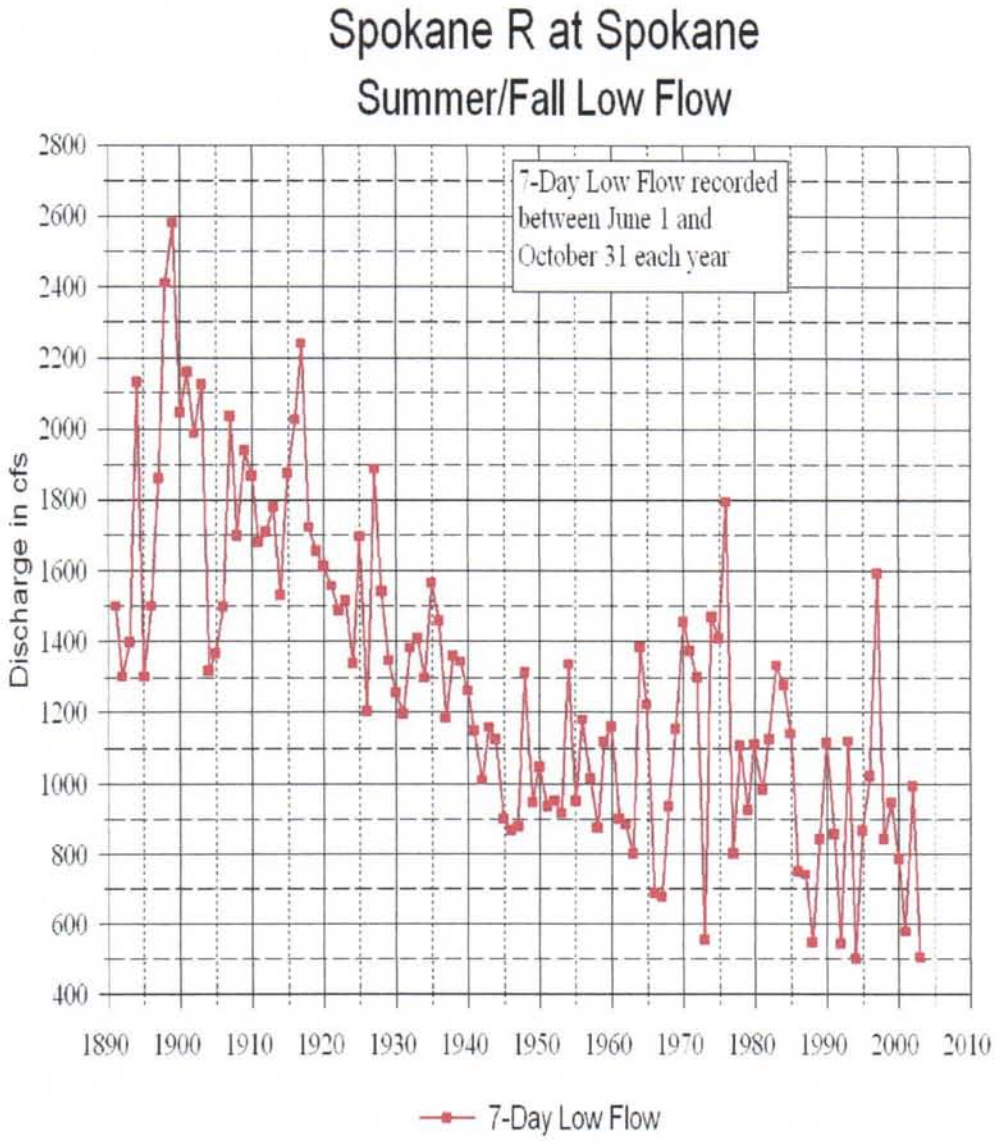
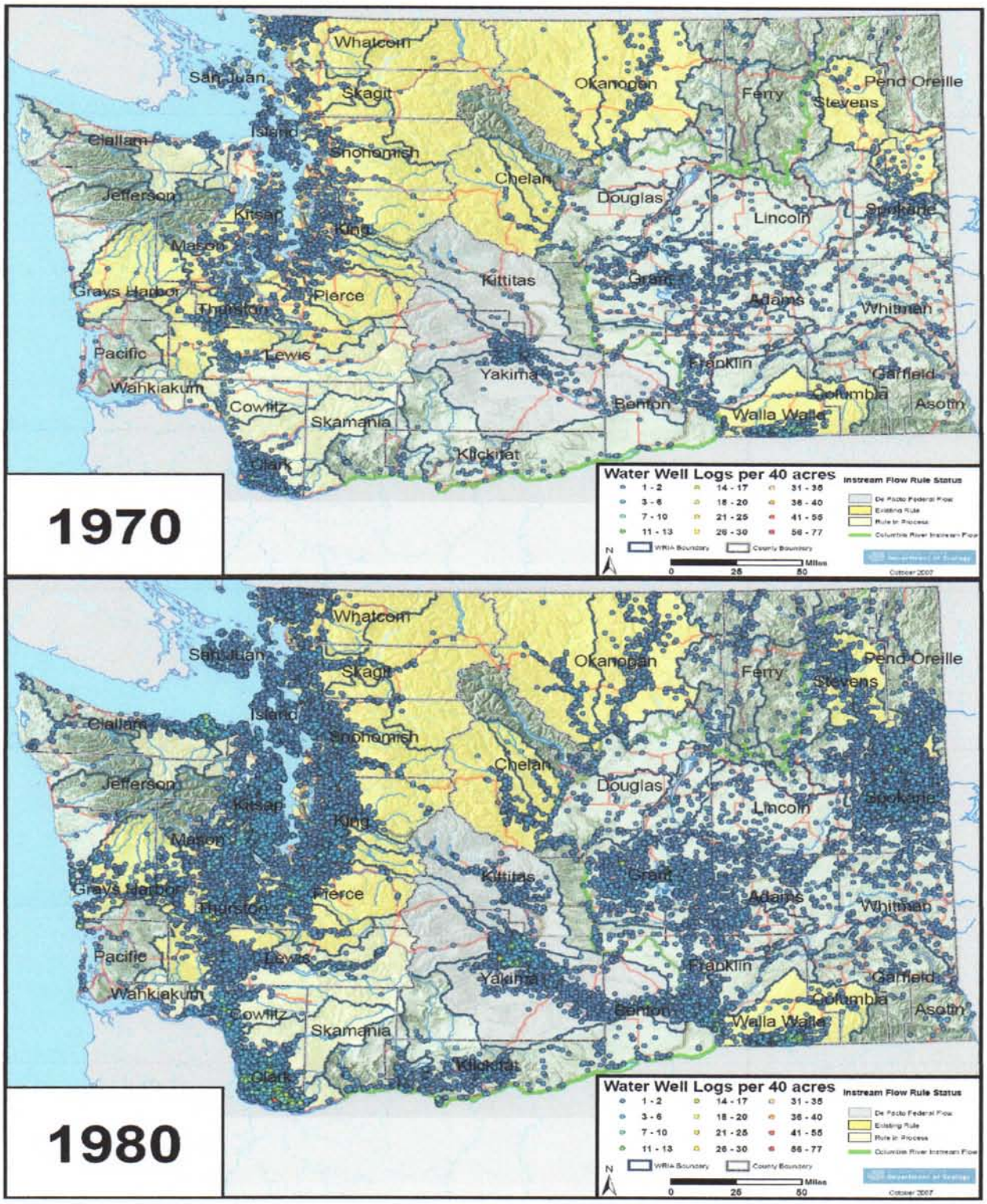
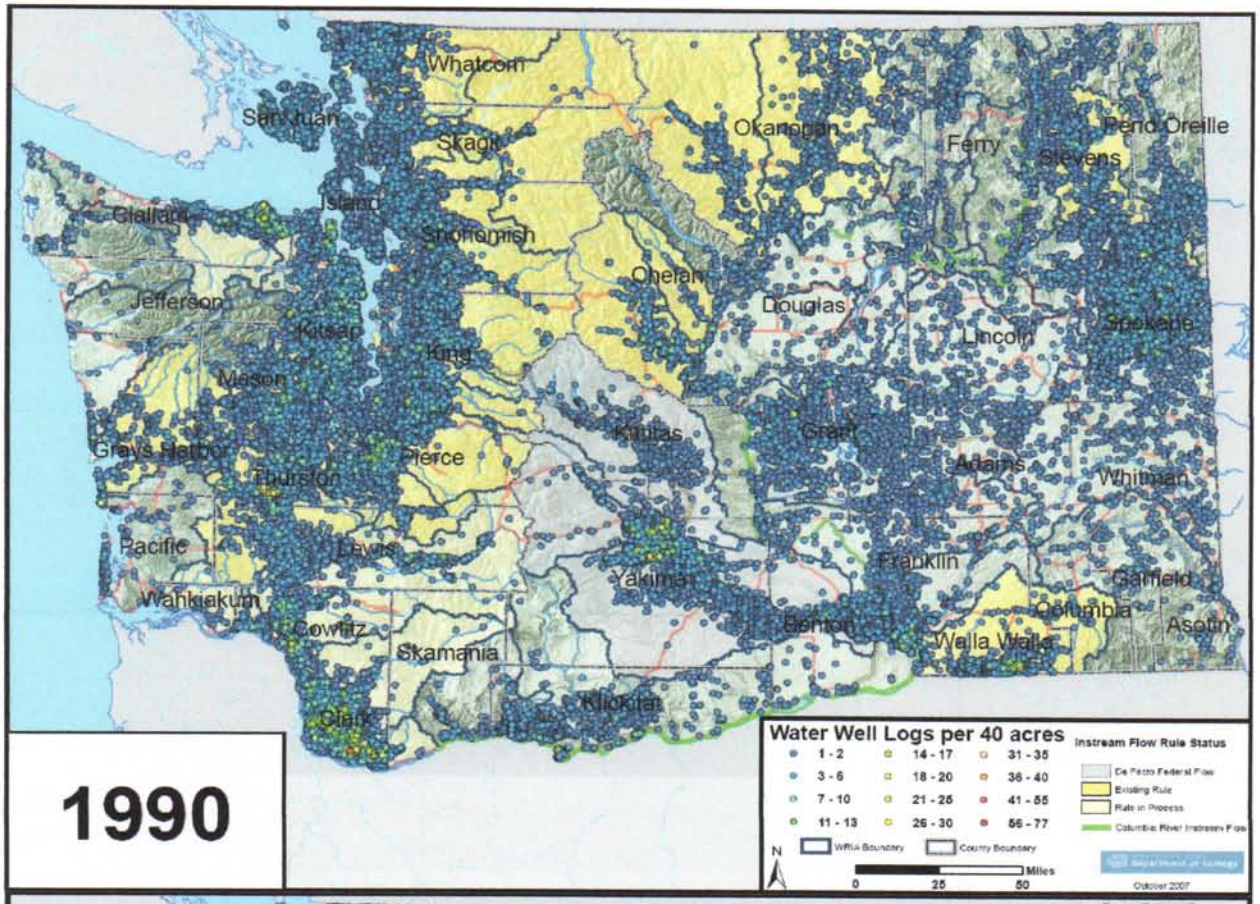


Exhibit 8: Growth of Groundwater Withdrawals

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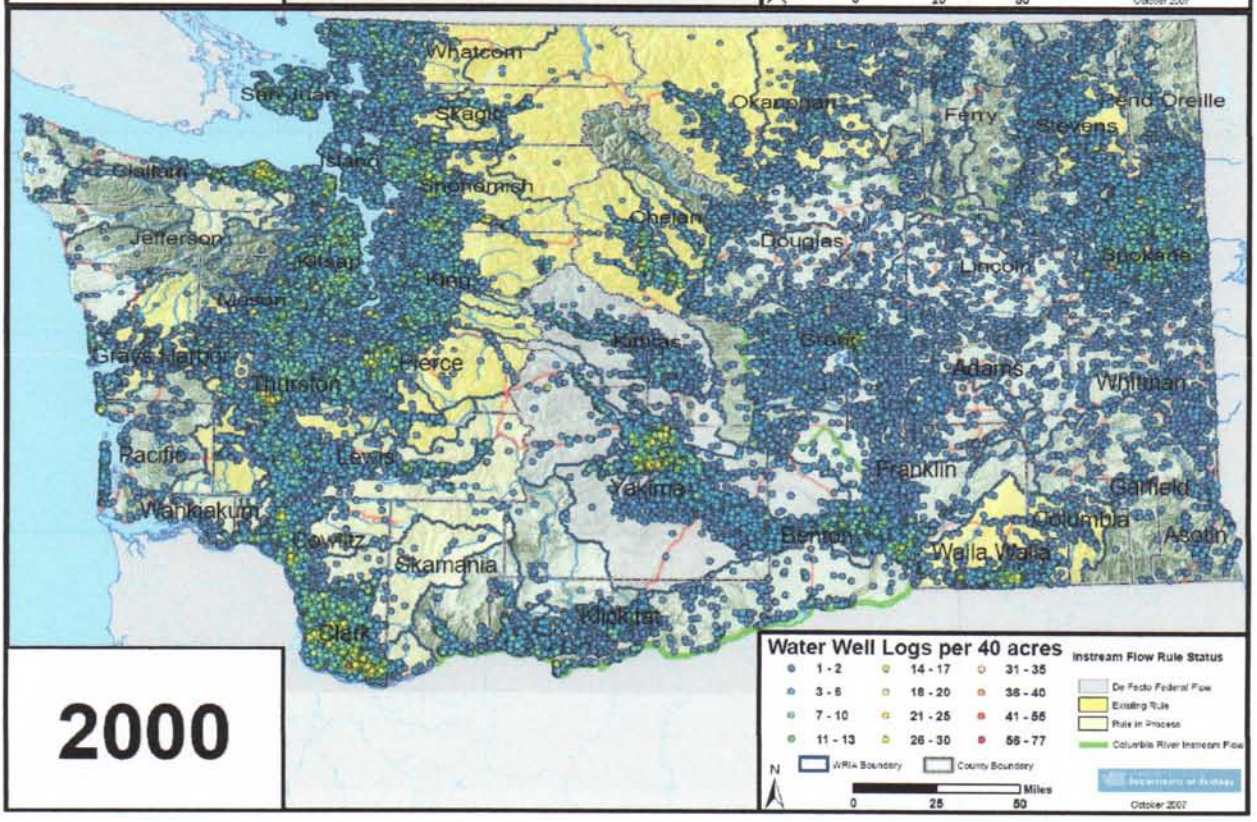
Franklin
Yakima
Garfield
Wahkiakum
Columbia
Cowlitz
Benton
Walla Walla
Asotin
Skamania
Klickitat
Clark
Water Well Logs per 40 acres
1 - 2
3 - 6
7 - 10
11 - 13
14 - 17
18 - 20
21 - 25
26 - 30
31 - 35
36 - 40
41 - 55
56 - 77
Instream Flow Rule Status
De Facto Federal Flow
Existing Rule
Rule in Process
Columbia River Instream Flow
WRIA Boundary
County Boundary
N
Miles
0
25
50
October 2007
1990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N
Miles
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25
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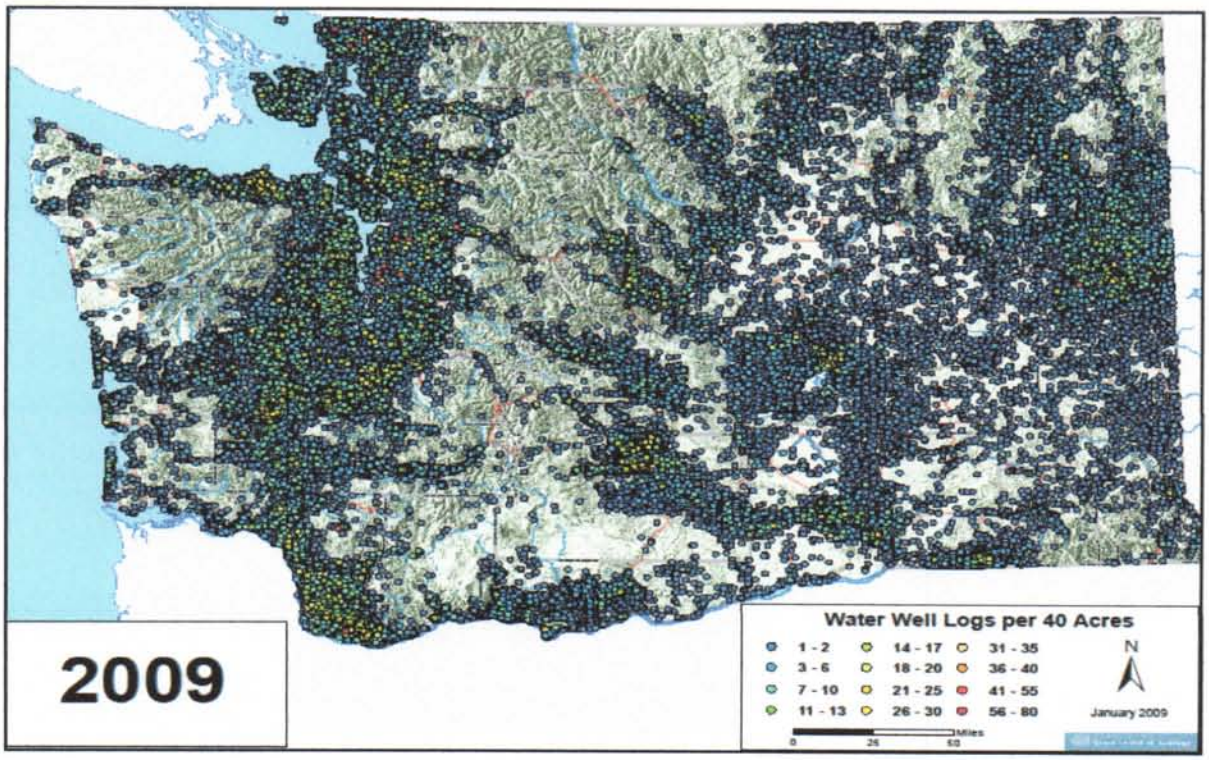
October 2007
2000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3 - 6
7 - 10
11 - 13
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January 2009
Miles
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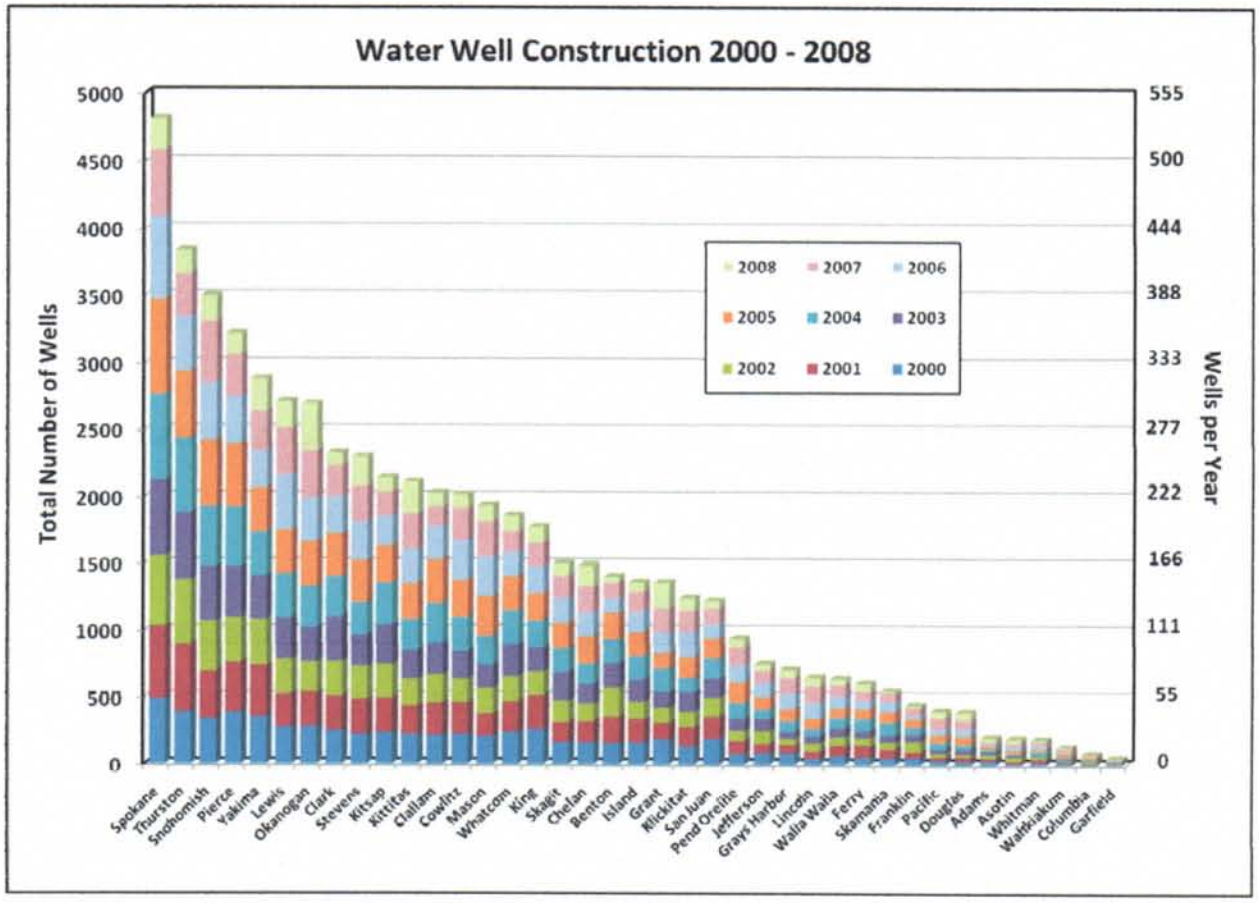
Water Well Construction 2000 - 2008
Total Number of Wells
Wells per Year
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1000
1500
2000
2500
3000
3500
4000
4500
5000
0
55
111
166
222
277
333
388
444
500
555
2008
2007
2006
2005
2004
2003
2002
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Spokane
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Columbia
Garfield

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October 30, 2009

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Dmoo461@ecy.wa.gov

RE: Comments on the Draft Spokane River and Lake Spokane Dissolved Oxygen Total maximum Daily Load, Water Quality Improvement Report, Washington State Department of Ecology (September 2009)

Dear Mr. Moore,

These comments are submitted on behalf of Kootenai Environmental Alliance ("KEA"), Galen Buterbaugh, Corrie Bollie, and Scott Chaney, regarding Ecology's 2009 Draft Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load, Water Quality Improvement Report ("2009 Draft TMDL").

KEA is a non-profit membership organization dedicated to conserving, protecting, and restoring the environment. Corrie Bollie, Galen Buterbaugh, and Scott Chaney all live along Lake Spokane, recreate in and around, and otherwise enjoy, Lake Spokane. The members of KEA also live, recreate, and/or use and enjoy the waters impacted by the blue-green algae blooms and the low dissolved oxygen in Lake Spokane.

These comments address the modifications made by the Department of Ecology to the May 2008 Draft TMDL report and incorporated into the September 2009 Draft TMDL report. We appreciate the time and effort Ecology has dedicated to the Dissolved Oxygen TMDL process since 1998, and the opportunity for KEA, and other members of the public to participate in that process.

However, as currently constructed KEA, Mr. Bollie, Mr. Buterbaugh, and Mr. Chaney are unable to support the 2009 Draft TMDL. As set forth in detail in the attached comments, the 2009 Draft TMDL falls short of meeting the legal requirements of the Federal Water Pollution Control Act, 33 U.S.C. §§ 1251 *et seq.* ("Clean Water Act" or "CWA") in a number of ways and does not provide reasonable assurance that the water quality standards for oxygen-depleting pollutants will be met. *See* 33 U.S.C. § 303(d)(1)(C); 40 C.F.R. § 130.7(c)(1)(i).

KEA, Galen Buterbaugh, Corrie Bollie, and Scott Chaney appreciate the opportunity to comment on this TMDL and hope that Ecology will reexamine its approach and redraft the plan to conform to the requirements of the Clean Water Act and Washington State law.

Sincerely,

/s/ Michael J. Chappell

_____

Michael J. Chappell
Director, Gonzaga Environmental Law Clinic
On behalf of Kootenai Environmental Alliance, Galen Buterbaugh,
Corrie Bollie, and Scott Chaney

Comments on the Draft Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load, Water Quality Improvement Report, Washington State Department of Ecology (September 2009)

Submitted on behalf of the KEA, Corrie Bollie, Galen Buterbaugh, and Scott Chaney.

INTRODUCTION

The comments below address modifications to the Draft Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load, Water Quality Improvement Report, Washington State Department of Ecology (May 2008) (hereinafter "2008 Draft TMDL") as reflected in the Draft Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load, Water Quality Improvement Report, Washington State Department of Ecology (September 2009) (hereinafter "2009 Draft TMDL").

GENERAL COMMENTS

KEA, Corrie Bollie, Galen Buterbaugh, and Scott Chaney share the concern that the 2009 Draft TMDL as presently drafted does not provide sufficient guarantees that elevated levels of phosphorous will not continue to cause serious problems in Lake Spokane. As Ecology is aware, blue-green algae blooms sampled by Mr. Chaney in September 2009, indicated toxins in the water approximately 3,000 times the level of concern for microcystin, the toxin released as algae blooms decompose. Further, Mr. Bollie reported a severe rash to the State Department of Health as a result of ingesting and contacting water while swimming and kayaking in Lake Spokane during this past summer. The literature on microcystin poisoning lists skin, gastrointestinal, and respiratory effects among the symptoms.

The presence of toxic algae is of utmost concern to KEA because its members use and enjoy the waters in the Coeur d'Alene watershed, including the Spokane River and Lake Spokane. As residents that live and recreate on Lake Spokane, Mr. Bollie, Mr. Buterbaugh, and Mr. Chaney each have a direct interest in ensuring that Ecology adopts a TMDL that will finally protect the water quality in Lake Spokane and protect beneficial uses.

Unfortunately, the 2009 Draft TMDL still demonstrates a disturbing pattern of backsliding since the 2004 Draft TMDL was circulated for public comment. In 2004, the Draft TMDL required point source dischargers to meet a phosphorous standard of 10 ug/L, with interim limits of 50 ug/L during the ten-year compliance schedule. Apparently, fear of a lawsuit by the point source dischargers forced Ecology to backtrack and begin a 5-year cycle that has seen each subsequent iteration of the TMDL lessen the end-of-pipe limits for the point source dischargers, and increase the load allocated to non-point sources and Avista. The outcome for people that use the Spokane River and Lake Spokane is that five years later the 2009 Draft TMDL does not provide reasonable assurances that in ten years, or 20 years if dischargers and State regulators have their way, Lake Spokane will meet water quality standards, a basic tenant of TMDL drafting. *See* 33 U.S.C. § 303(d)(1)(C); 40 C.F.R. § 130.7(c)(1)(i).

SPECIFIC COMMENTS

1. The 2009 Draft TMDL does not contain the required pollutant loading capacity

Incredibly, the 2009 Draft TMDL does not identify the pollutant loading capacity ("LC") for Lake Spokane. Perhaps Ecology is purposely leaving this required TMDL element out of the 2009 Draft TMDL because the agency does not know what equivalent pollutant reduction Avista might accomplish. Avista is not a source of pollutant loading but is nevertheless being assigned "responsibility" for resolving Dissolved Oxygen ("D.O.") problems caused by pollutant loading from upstream sources. The 2009 Draft TMDL, however, does not provide any information to indicate how or if Avista could possibly achieve the humongous Load Allocation ("LA") being assigned.

Despite the great uncertainty about Avista achieving its significant "responsibility", the TMDL excludes the loading assigned to Avista from the proposed LAs and Waste Load Allocations ("WLAs"). LC is supposed to equal the sum of LAs + WLA + the margin of safety ("MOS"). The MOS should balance the uncertainty in the TMDL assessment. The 2009 Draft TMDL proposes WLAs and LA, which are much greater than the actual loading capacity of Lake Spokane. The proposed WLAs allow more pollutant loading from new discharges and increased pollutant loading from existing point sources. The uncertainty about Avista being able to reduce pollutant loading or its effect in Lake Spokane is equivalent to there being no *reasonable assurance*. *See* 33 U.S.C. § 303(d)(1)(C); 40 C.F.R. § 130.7(c)(1)(i).

In situations where there are no reasonable assurances, WLAs cannot be predicated on achieving unattainable LAs. Although there is a two-year timeframe for Avista to develop a feasibility plan, the TMDL would allow point source dischargers to proceed with planning and building facilities, which will discharge at levels detrimental to restoring water quality. Regardless of what Avista presents as a plan, the TMDL and National Pollution Discharge Elimination System ("NPDES") permits will almost certainly not be revised once planning and construction has begun by the point source dischargers. Until the uncertainty for achieving the LAs (including Avista's responsibility) is resolved, there is no reasonable assurance and therefore no seasonal loading capacity for the point sources. This was the same conclusion of the TMDL proposed for Lake Spokane in 2004 and 2007.

Recommendation: Ecology should not adopt any new NPDES permits based on the 2009 Draft TMDL until Avista develops a technically and economically feasible plan, which clearly identifies the pollutant load reduction the dam operator could/will achieve. The adopted TMDL should be appropriately conservative with regard to water quality protection and not presume that Avista can reduce pollutant loading into Lake Spokane. If Avista subsequently determines they can actually reduce pollutant loading, then the TMDL could be revised after this determination is evaluated.

2. The 2009 Draft TMDL should adopt the 2004 loading capacity for Lake Spokane

The LC in Lake Spokane changed significantly in the 2007 Draft TMDL versus the 2004 Draft TMDL because of resetting the "Natural Load" at the Stateline. Ecology rightly eliminated

the fiction that polluted water crossing the Stateline was "natural" in the 2009 Draft TMDL but does not explain why it does not merely return to the 2004 Draft TMDL LC for Lake Spokane.

Recommendation: Adopt the 2004 Draft TMDL LC for Lake Spokane as follows and make the appropriate corrections throughout the 2009 Draft TMDL:

	v.2004
MAR	ND
APR	311
MAY	635
JUN	241
JUL	106
AUG	71
SEPT	86
OCT	130
TOTAL LOAD MAR - OCT	1580

3. <u>The 2009 Draft TMDL as drafted will not meet water quality standards on the Spokane Indian Reservation</u>

The Tribe has modeled two scenarios for the lower arm of the Spokane River. The existing conditions were modeled with 2001 flow data and 2006 water quality data. Scenario number one modeled the 2009 Draft TMDL and reset the D.O. levels to 8 mg/L at the tailrace of Lake Spokane Dam. Scenario number two again used the 2009 Draft TMDL, but reduced the tributary reductions to the 2001 levels and reset the D.O. levels to 8 mg/L at the tailrace of Lake Spokane Dam. 8 mg/L of D.O. was used based on Avista's assurances that it would meet that level. The second scenario used 2001 tributary numbers because the proposed reductions in tributary loading appear unachievable at this time.

The results indicate dissolved oxygen levels far below the Tribe's 8 mg/L standard for a sustained period.

Recommendation: Ecology must meet the Tribes downstream water quality standards and the 2009 Draft TMDL does not provide reasonable assurances that it will meet the 8 mg/L

standard. Ecology should rework the 2009 Draft TMDL to ensure that it meets water quality standards throughout the Spokane River reaches, including the downstream arm.

4. The 2009 Draft TMDL does not contain tested and accurate monitoring methods to measure non-point source reductions

p. 40: "TMDLs (and related action plans) must show "reasonable assurance" that these sources will be reduced to their allocated amount and meet their responsibility."

p. 41: "As part of the non-point source reduction program, a Non-point Source Advisory Committee was formed. This committee will oversee a bi-state non-point source study. … The study's purposes are to: Identify and quantify non-point sources into the Spokane River and Lake Spokane; Identify best management practices ("BMPs") to address non-point sources; evaluate the cost-effectiveness and longevity of the BMPs; and prepare an implementation plan for reduction of phosphorous from non-point sources based on selected BMPs, approved by Ecology."

p. 53: "The preferred method of pollutant reduction is to [for Avista to] reduce non-point source contributions to the reservoir by implementing BMPs and pollutant controls on lands that would otherwise directly contribute to the reservoir pollutants to the reservoir."

The 2009 Draft TMDL refers to non-point source reduction as the "preferred method of pollutant reduction" for Avista and point source dischargers may utilize delta management to achieve wasteload levels. This delta management amounts to a nutrient trading program. Additionally, the Reasonable Assurance section of the 2009 Draft TMDL and the Non-point Sources section of the Managed Implementation Plan discuss plans and funding for present and future non-point source reduction studies, and the purposes of those studies. Nowhere does the 2009 Draft TMDL provide, however, any reasonable assurances that such non-point reductions can be achieved or measured. This is particularly important in light of Avista's huge "responsibility" to reduce DO in Lake Spokane, and considering that Avista has few other options to achieve its responsibilities.

There are zero examples of success in the United States for removing great amounts of phosphorous from non-point sources, particularly in the context of a nutrient trading program such as is proposed in this TMDL. Absent reasonable assurance that the loading targets for non-point source or Avista's responsibility can be achieved means there is no loading capacity for the existing dischargers. This was the conclusion from the 2004 TMDL.

Moreover, it is unclear whether Washington law actually allows for nutrient offsets for existing dischargers, such is provided in the TMDL. WAC 173-201A-450 specifically provides for water quality offsets for "any proposed new or expanded actions." Neither this regulation nor any other regulation provides for any offsets for existing discharges. Moreover, the Ninth Circuit's decision in *Friends of Pinto Creek v. United States Environmental Protection Agency* 504 F.3d 1007 (9th Cir. 2007) calls into question whether any sort of water quality offsets are allowable, particularly for new dischargers such as Spokane County. Specifically, the Court stated, "However, there is nothing in the Clean Water Act or the regulation that provides an exception for an offset when the waters remain impaired and the new source is discharging

pollution into that impaired water."

Accordingly, with minor fixes, the 2004 TMDL provided a much better water quality analyses and clearly presented loading capacity, LAs and WLAs.

Recommendation: Dischargers and Ecology have consistently parroted that the WLAs in the TMDL are the "most stringent in the Country, if not the world." However, if the 2009 Draft TMDL does not have enforceable load allocations, and does not have a tested method for measuring non-point source reductions, this claim is inaccurate and specious.

The 2009 Draft TMDL must provide more than plans and studies insofar as it accepts non-point source reduction methods as sufficient to satisfy the responsibilities of Avista and dischargers. Tested and proven methods of monitoring non-point source reductions are necessary to guarantee that such methods will comply with the 2009 Draft TMDL as planned, and should be specified and supported with analysis prior to adoption of the 2009 Draft TMDL. Proper monitoring of non-point sources will require attaining solid numeric results to be compared to LA and WLAs.

5. Avista's "responsibility" is improperly identified as mg/L D.O.

Avista's role in the River/Lake system is operation of a dam, which creates a reservoir where water quality problems exist. Those problems are due to excess pollutant loading from upstream human activities. Avista does not contribute the *pollutants*, which cause the water quality problems. Rather, the Avista dam created *pollution* by changing the Spokane River from its natural free flowing condition. In simplest terms, TMDLs determine the pollutant loading capacity of a water body and allocate that loading among sources so that if achieved, water quality standards would be achieved. TMDLs have no jurisdiction over *pollution*, such as changing rivers to Lakes or human activities that change stream flow regimes.

D.O. is not a pollutant and this LA is not appropriately expressed as a daily load in lbs/day of a pollutant as is required in TMDLs. Since the actual pollutant causing the D.O. problems is phosphorous, Avista's responsibility (LA) must be expressed as lb/day of phosphorous as it is for the other sources of pollutant loading.

There is very little that Avista can do the resolve D.O. issues in the reservoir via changes in operation. Aeration of the lake (in-situ treatment) is an option. Contributions to non-point source controls in the tributaries is also an option for Avista, however it is unrealistic to believe that the enormous reductions in non-point source loading necessary to create capacity for the existing (and now proposed) discharges can ever be achieved. Therefore, Avista is left an option of subsidizing better phosphorous removal by the point source dischargers. Relationships of this type of a kind of pollutant trading have worked successfully in other watersheds such as the Delaware River.

Although the loading capacity for phosphorous entering Lake Spokane is not identified in the 2009 Draft TMDL in terms of lbs/day, the 2009 Draft TMDL does state (page 40) that the current (2001) condition averages about 350 lbs/day of total phosphorous and that a 66%

reduction will be accomplished in 10 years (94% from point sources). If achieving 66% reduction from 350 lbs/day is the phosphorous loading capacity for Lake Spokane, then it is 231 lbs/day. Adding the total LAs (87.1 lbs/day from Table 5) and total WLAs (32.55 lbs/day from Table 4) for the July to Oct period equals 119.65 lbs/day. For purpose of comparison, the TMDL proposed in 2004 (Cusimano, Merrill) identified the average phosphorous loading capacity to Lake Spokane for the June to October period as being 126.7 lbs/day (Table 1, page 22), which is 104.3 lb/day less than identified in the 2009 TMDL for the July to October period. So, the 2009 TMDL proposes that Avista's "responsibility" is to reduce the equivalent affect on D.O. in the Lake that is caused by 111.35 lbs/day of phosphorous loading during the July to October timeframe.

Recommendation: Expressing Avista's responsibility as lbs/day of phosphorous provides clear guidance for the implementing this option.

6. Delta reductions are difficult to measure and may not provide reasonable assurances required by the Clean Water Act

There is no reasonable assurance that the non-point source Delta reductions discussed on page 40 of the 2009 Draft TMDL is achievable or measurable.

No accurate or tested monitoring methods to measure non-point source reductions are present in the 2009 Draft TMDL (*see* Comment 4). The Managed Implementation Plan provides a description of a Delta Elimination Plan and the subsequent assertion that "Ecology will expeditiously review and decide on … delta elimination actions" (*see* 2009 Draft TMDL page 48). The Delta Elimination Plan includes phosphorous removal actions such as (1) conservation, (2) source control through support of regional phosphorus reduction efforts (such as limiting use of fertilizers and dishwasher detergents), and (3) supporting regional non-point source control efforts to be established.

It appears that an imaginary "delta" is being used to grant relaxed WLAs for the point source dischargers. The relaxed WLAs establish the targets that these dischargers will design treatment to meet, thereby locking-in their ability to reduce phosphorous to those levels. Despite the language used in the Reasonable Assurance section, there is no reasonable assurance that non-point loading can or will be reduced. Since the reward (higher WLAs) are being awarded in advance of any showing that non-point reductions will occur, what incentive remains for the point sources to actually spend money to reduce their discharge of phosphorous?

Recommendation: Return to the 2004 Draft TMDL levels for the point source dischargers and eliminate the delta reductions/non-point source element from the 2009 Draft TMDL *unless* Ecology and the dischargers can measurably demonstrate that the reductions are reasonably assured to meet water quality standards.

7. Avista is being held responsible for a disproportional level of pollution in the Spokane River and Lake Spokane when compared to dischargers

p. 36: "A water quality goal at the benchmark location is being used to confirm that when the Spokane River enters the reservoir upstream sources of dissolved oxygen impairment have been

reduced to a point where remaining dissolved oxygen impairments in the reservoir is caused by Long Lake Dam and is Avista's responsibility to address."

While the 2008 Draft failed to assess Avista's dams as a contributing factor to the dissolved oxygen problem and to allocate responsibility for water quality violations, the 2009 Draft TMDL over-allocates responsibility to Avista to address these issues. Avista's Long Lake dam does not discharge pollutants. The substantial focus on Avista's responsibilities under the 2009 Draft TMDL serves to reduce the focus on the actual dischargers, and should be partially redirected towards reducing the wasteloads allocated to each of the dischargers. Continuing the substantial focus on Avista discourages focusing on the actual discharging sources of dissolved oxygen-depleting nutrients. While the 2009 Draft TMDL should be applauded for recognizing Avista's role in the levels of dissolved oxygen in the Spokane River and Lake Spokane, it should not do so in a manner providing further leeway for dischargers to avoid increasing their own responsibility.

Recommendation: The 2009 Draft TMDL should be revised to more appropriately allocate Avista's role in light of the fact that dischargers are now being held less responsible for their levels of D.O.-depleting nutrients contributed.

8. <u>The 2009 Draft TMDL fails to provide any supporting data demonstrating a nutrient-trading program would contribute to meeting lower phosphorous discharges into the Spokane River and Lake Spokane</u>

p. 52: "Stakeholders in the Spokane River watershed expressed interest in exploring the suitability of water quality trading to meet the needed phosphorus reduction required to restore dissolved oxygen levels. A trading program of the Dischargers' demonstrated surplus of removed phosphorus may be implemented, consistent with EPA guidelines and Washington's water quality standards, pending Ecology's verification of any surplus removed phosphorus offset pounds."

p. F-4: "The Oversight Committee will oversee the development and implementation of a phosphorus trading program or exchange program consistent with the Environmental Protection Agency rules and regulations guiding trading programs."

The 2009 Draft TMDL anticipates a possible nutrient- / pollutant-trading program to minimize phosphorous, to be overseen by the Oversight Committee. The Draft provides no further information on how such a trading program will work, whether similar programs have worked in the past, or how such a program will be created, administered, and monitored. Without such information, there is no reason to think that this type of program would work, or that it would contribute to meeting the goals of the 2009 Draft TMDL.

Recommendation: The 2009 Draft TMDL should be revised to provide this information and demonstrate with reasonable assurance that a program of this type would contribute to the end-goals of this Draft.

9. WLAs are too high for Combined Sewer Overflows and storm water

p. E-7: "The proposed TMDL allocates the existing loading from CSOs. Like storm water, CSO flow is highly variable and has a unique flow pattern each year, and the TMDL scenario includes the daily mean flow (scaled to the March to October period from the city's annual estimates). The mean is used under the assumption that an average precipitation year could occur during a low base flow year like 2001."

2001 is the critical condition year and WLAs for CSO and storm water should be based on the discharges that occurred that year, not the mean value as was done in the TMDL.

Recommendation: These WLAs are too high, and the 2009 Draft TMDL should be revised to include accurate WLAs for CSO and storm water.

10. Storm water discharges are not addressed in a manner reasonably assured to achieve measurable results in accordance with the 2009 Draft TMDL

The 2009 Draft TMDL acknowledges that storm water discharges from the City of Spokane ("Spokane") are contributing to the pollution problem, but does little to resolve the issue. The 2009 Draft TMDL relies on the Eastern Washington Phase II National Pollution Discharge Elimination System ("NPDES") permit (hereinafter "Phase II Permit") to reduce pollutants from storm water. The 2009 Draft TMDL does not contain specific dates for Spokane to implement the requirements of the TMDL pertaining to storm water. The TMDL merely restates language from the Phase II Permit. Requiring compliance with specific elements of the Phase II Permit might be effective if Ecology had not already extended several deadlines in the Phase II Permit, including submittal of Spokane's Storm Water Management Plan, because of the downturn in the economy. Based on those extensions, Spokane does not currently have a plan in place to prevent polluted storm water from entering the Spokane River. The 2009 Draft TMDL should not rely upon Phase II Permit compliance by Spokane to control storm water, when at the same time Ecology is relaxing the Phase II requirements. .

Recommendation: The 2009 Draft TMDL should be revised to provide exact dates by which Spokane must comply with the storm water requirements in the 2009 Draft TMDL, and should describe methods by which such compliance is to be met and monitored.

11. The Hangman Creek and Little Spokane River TMDLs are inappropriately relied upon when calculating percent reduction in human loads

p. 29-30: The percent reductions identified in Table 3 "are what can reasonably be expected upon full implementation of TMDLs for Hangman Creek and the Little Spokane River as determined through analysis of sediment loading over multiple years for the Hangman TMDL and best professional judgment. The Hangman Creek TMDL for temperature, turbidity, and sediment is recently completed while a TMDL for the Little Spokane River remains under development. These TMDLs may further differentiate the amount of nutrient loading in these tributaries that is naturally-occurring from that which is human-caused."

The 2009 Draft TMDL relies upon the use of the Hangman Creek and Little Spokane River TMDLs for the percent reduction in human contribution of nutrients used in Table 3. The 2009 Draft TMDL fails, however, to provide reasonable assurances that the Hangman Creek and Little Spokane River TMDLs will arrive at those percent reductions used in Table 3. The Hangman Creek TMDL is for temperature, turbidity, and sediment, and does not address nutrients, including phosphorous. Additionally, the Little Spokane River TMDL remains "under development." It is inappropriate to rely on two TMDLs, one of which that does not address phosphorous and the other of which is incomplete, in reaching conclusions in the 2009 Draft TMDL. The Hangman Creek TMDL is not a nutrient TMDL and will not be approved by EPA as such. Furthermore, it is unclear when the Little Spokane River TMDL will be completed. Given the lack of data to support either of these TMDLs, accurately representing in the future what has already been presumed in the 2009 Draft TMDL, the Draft should be revised to account for this lack of hard data, and should no longer make assumptions based on potential future activities.

Recommendation: The assumptions used in the modeling scenarios are not conservative or realistic for the LAs assigned to the tributaries and should be reevaluated. The WLAs must be water quality-based, not technology-based.

12. Insufficient data to support the value of 0.006 mg/L for background or natural concentrations of phosphate in groundwater

The 2009 Draft TMDL assigns a value of 0.006 mg/L for the concentration of phosphate ("PO4") under natural conditions. According to the 2009 Draft TMDL, the basis for this value is a database provided by Spokane County. However, examination of this database has failed to present any analysis of that data to support the value of 0.006 mg/L for background or natural conditions.

Recommendation: Ecology must analyze if the value of 0.006 mg/L is to be relied upon as accurate, and is to be used as a basis of determining load and wasteload allocations. That analysis should be detailed in the 2009 Draft TMDL.

13. The data included in the Spokane County database used to arrive at the 0.006 mg/L value for background or natural concentrations of PO4 is outdated, and therefore unreliable

Much of the data in the Spokane County database is older and was analyzed with detection limits quite higher than 0.006 mg/L. This older data is outdated as far as it can provide accurate information about the current PO4 concentrations in clean groundwater. In analyzing the data from the Spokane County database, it was observed that about one-half of the 1,679 phosphorus data points collected after January 1, 2000, or 849 data points, yielded PO4 concentrations less than 0.006 mg/L. The average concentration for the 849 samples with PO4 data less than 0.006 mg/L was 0.003 mg/L. This implies that many of the wells have PO4 concentrations significantly less than the 0.006 mg/L value assumed in the 2009 Draft TMDL for background or natural groundwater. Consequently, the TMDL may over-estimate the PO4 loads to Spokane Lake under natural conditions, and therefore underestimate the effect of anthropogenic impacts.

Recommendation: The information provided in the Spokane County database is outdated, and should be removed from the 2009 Draft TMDL and replaced with accurate, current information.

14. The 2009 Draft TMDL fails to provide data to support the difference between the CBOD decay level value of 0.076 day-1 for the Current Condition scenario and the CBOD decay level value of 0.050 day-1 for the TMDL scenario

The 2009 Draft TMDL provides no data to account for the difference in the CBOD decay level value assigned in the Current Condition scenario (0.076 day-1) and the CBOD decay level value assigned in the TMDL scenario (0.050 day-1). The lower decay rate used in the TMDL scenario represents a lessened impact on D.O., and would result in less stringent wasteload limits assigned to dischargers.

Recommendation: Ecology must provide a reason for the difference in this value between the Current Condition scenario, and the TMDL scenario should be provided.

15. There is no reason provided for the 2009 Draft TMDL to include the month of March when making Tributary Estimates in Table M4

Much of the data in the Spokane County database is older and was analyzed with detection limits quite higher than 0.006 mg/L. This older data is outdated as far as it can provide accurate information about the current PO4 concentrations in clean groundwater. In analyzing the data from the Spokane County database, it was observed that more than one-half of the 1,678 phosphorus data points collected after January 1, 2000, or 892 data points, yielded PO4 concentrations less than or equal to 0.006 mg/L. The average concentration for the samples with PO4 data less than 0.006 mg/L was 0.003 mg/L. These data show that many of the wells have PO4 concentrations significantly less than the 0.006 mg/L value assumed in the 2009 Draft TMDL for background or natural groundwater. Consequently, the TMDL may over-estimate the PO4 loads to Spokane Lake under natural conditions, and therefore underestimate the effect of anthropogenic impacts.

Recommendation: Much of the information provided in the Spokane County database is outdated, and should be removed from the 2009 Draft TMDL and replaced with more accurate, current information.

16. The 2009 Draft TMDL fails to provide data to support differences between the CBOD decay levels for the Current Condition scenario and the CBOD decay levels for the TMDL scenario

The 2009 Draft TMDL provides no data to account for the differences in the CBOD decay levels value assigned to the waste water treatment plants in the Current Condition scenario and the CBOD decay level values assigned in the TMDL scenario. These differences are listed in the table below. The 2009 Draft TMDL indicates that these rates "are based on lowest current municipal rate." Data supporting these rates and the rationale for using the "lowest current rates" are not provided. The lower decay rates used in the TMDL scenario represents a lessened impact on D.O., and would likely result in less stringent wasteload limits assigned to dischargers.

	CBOD decay rate (day^{-1})		
Point source	Existing conditions	Future conditions	% Change
Spokane WTP	0.0736	0.05	-32.1%
CDA WWTP	0.0792	0.05	-36.9%
Hayden POTW	0.0838	0.05	-40.3%
Post Falls STP	0.066	0.05	-24.2%

Recommendation: Ecology must provide the rationale and data supporting the differences in these values between the Current Condition scenario and the TMDL scenario.

17. <u>The 2009 Draft TMDL uses a different method than previous drafts in calculating average loadings for periods</u>

In previous TMDL drafts, the concentrations and flows for each month were used to calculate the monthly tributary load allocations, and were subsequently used to calculate the average for the periods. The 2009 Draft TMDL departs from the method previously used: it averages the total phosphorous concentrations over the period, it averages the flows over the period, and subsequently the averages over the period were used to calculate the average loading for the period.

Recommendation: Ecology's change in methodology results in different final average loadings for the periods, and the reasons for this change and its effect on the 2009 Draft TMDL should be explained and accounted for.

18. <u>The Natural Load has significantly increased from the 2004 Draft TMDL</u>

The natural load at the Stateline remains increased despite the requirement that polluted water crossing the Stateline is not background. The following table demonstrates how little the values have changed from the 2007 Draft TMDL and the present TMDL.

Table 2.

<u>Natural Load Stateline</u>

	v.2004	**v.2007**	**v.2009**	**Difference 2009 - 2007**
APR	179	213	171	-42
MAY	415	463	435	-28
JUN	119	110	142	32
JUL	28	23	43	21

AUG	7	6	13	8
SEPT	21	23	44	22
OCT	64	136	120	-16
ANNUAL	**834**	**973**	**969**	**-4**

Recommendation: Ecology must explain why the natural load crossing the Stateline continues to mirror the 2007 Draft TMDL values instead of the 2004 Draft TMDL values, given the lack of substantive changes in the water.

19. <u>How can there be increased trading opportunity and higher WLAs?</u>

The following table demonstrates that non-point source reductions in the 2009 Draft TMDL for Hangman Creek have fallen significantly, as mush as 70% in some months, despite a lack of on the water changes in the tributary.

Table 3.

% NPS Reduction Hangman

	v.2004	**v.2007**	**v.2009**
MAR	ND	ND	64%
APR	97%	45%	38%
MAY	96%	56%	28%
JUN	95%	38%	25%
JUL	94%	37%	45%
AUG	90%	23%	59%
SEPT	90%	14%	44%
OCT	90%	0%	54%
MAR-MAY	ND	ND	43%
JUN	95%	38%	25%
JUL-OCT	91%	18%	51%

It appears that Ecology changed its methodology for calculating tributary load allocations from the previous two TMDL drafts. Prior modeling was conducted using the tributary load allocations and then Ecology calculated the % load reductions. Ecology seems to have arbitrarily set the non-point source reduction values and that has drastically reduced the non-

point source load allocations for the tributaries.

Recommendation: Ecology must explain and demonstrate why the 2009 Draft TMDL utilizes a different methodology for calculating load allocations for the tributaries. Further, Ecology must demonstrate how it calculated the reduction values for the tributaries and explain the rational for what appears to be completely arbitrary load reductions.

20. <u>No loading allowances granted for the Idaho dischargers are provided</u>

Recommendation: The loading allowances granted for the Idaho discharger should be clearly presented in the TMDL as it provides important information about boundary conditions for developing the 2009 Draft TMDL.

21. <u>Methods by which proposed WLAs for CBOD and N-NH3 are not present</u>

The proposed WLAs for CBOD and N-NH3 are much higher than identified as necessary in previous TMDLs, but the methods by which additional loading capacity for these oxygen demanding pollutants were created are not present. The N-NH3 targets of 0.83 and 0.21 mg/L do not represent performance of a well-operated nitrifying Waste Water Treatment Plant. The LOTT Budd Inlet WWTP routinely achieves 0.1 mg/L N-NH3. Other examples of similar performance are available.

Recommendation: Ecology should explain the methods for determining the WLAs for CBOD and N-NH3 and why limits that are more stringent were not required given the results at other WWTP.

22. <u>The use of year-round performance from wastewater treatment plants is inappropriate</u>

EPA's conclusion (2009 Draft TMDL Appendix J. Brian Nickel, EPA memo to David Moore, Ecology) about WWTP performance was used to identify a phosphorous concentration produced by the "most effective feasible wastewater removal treatment technology" (2009 Draft TMDL page vii). EPA's analysis in the memo is flawed by its use of year–round performance from the plants evaluated. Winter period performance from plants in cold and/or wet climates is more variable and typically not as good as during summer months and should have been excluded from the analyses. In contrast, the Spokane area dischargers only have to provide treatment for phosphorous removal on a seasonal basis. Much of the treatment performance data is less-than values, which EPA arbitrarily assigned a value.

Recommendation: Ecology should analyze WWTP using the critical period and adjust the WWTP performance data accordingly.

23. <u>There is no evidence that phosphorus in groundwater is reaching the Spokane River</u>

Phosphorus is well documented as not moving though soils via subsurface flow. Monitoring of near-river groundwater by Ecology did not identify it to contain more phosphorous than considered natural. The outflow from Lake Coeur d'Alene is documented as containing about 6.7 ug/L total phosphorous, which is very similar concentration to the

Ecology's measurements of phosphorous in near-river groundwater. If the Spokane aquifer actually contained even a fraction of the high phosphorous concentrations reported in Spokane County's non-point source report, these high levels of phosphorous should be evident in the river as it enters Lake Spokane. Since the lower Spokane River flow consists of about 90% groundwater during the critical period, phosphorous concentrations in the river should be the same as groundwater concentrations. Absent the point source discharges to the Spokane River during the summer critical period, groundwater and River water concentrations of phosphorous would be the same.

Recommendation: Ecology must justify the inclusion of phosphorous in groundwater in its calculations, or remove that load and recalculate the WLAs..

24. Septic tank treatment by the 2009 Draft TMDL is not adequately explained

p. vii: "The wasteload allocations will be achieved by the installation of the most effective feasible wastewater removal treatment technology and implementation of target pursuit actions, such as reusing wastewater, eliminating septic tanks, and other methods of controlling non-point sources of pollution."

The above statement indicates there is a belief that septic tanks are contributing pollutants to surface water via groundwater. This connection makes septic tanks subject to regulation under the NPDES program. It also begs asking the question about why a ban on the installation of additional septic tanks over the aquifer has not been imposed. Negotiating such a ban should have been part of the settlement for fabricating a WLA for the County's proposed new discharge into the River and should be a part of the County's Shoreline Master Plan.

25. The Spokane River and Lake Spokane have no assimilative capacity

The 2009 Draft TMDL fails to mention the appropriate MOS or how to attain the non-point source reductions or the feasibility of Avista achieving its "responsibility". Reasonable assurances for non-point source reductions should be applied in the same way as responsibility. If there is no reasonable assurance, then loading must be taken out of WLAs. An honest evaluation of reasonable assurance should bring the 2009 Draft TMDL back to the 2004 findings that there is no capacity for the existing discharges and therefore they cannot discharge greater concentrations than the estimated natural condition. The natural concentration of phosphorous in the river increases as water moves downstream in the River but never exceeds 10 ug/L.

Recommendation: The 2004 Draft TMDL is legally and scientifically defensible, something the 2009 Draft TMDL is not. Ecology should defend the results of the 2004 Draft TMDL requiring a point source discharge of no more than 10 ug/L.

26. California Creek should not be the sole source of characterizing Hangman Creek

Baseline conditions (*see* 2009 Draft TMDL page 32) states phosphorous concentrations from California Creek were used to characterize natural conditions for Hangman Creek. California Creek is located in one of the four Ecoregions that comprise the Hangman Creek

watershed. Since most of the sediment and phosphorous comes from the upper Hangman watershed, it would be more appropriate to use data from an upstream area rather than California Creek. IDEQ, which regulates the upper portion of the watershed identified a natural condition concentration of 30 ug/L for total phosphorous.

Because the flow in Little Hangman during the critical summer period is mostly groundwater inflow containing phosphorous at low concentrations (= natural condition absent proof it is contaminated) there is no way a 36% reduction in phosphorous loading from 2001 conditions can possibly be achieved. Although higher phosphorous concentration have been measured in Little Spokane during the wintertime (non critical period) the range of PO4 measured in 2001 during the critical period ranged from 7 to 11 ug/L (see Cusimano, 2004, Table B3). So, why does the TMDL (Table 5) use 19 ug/L as the P target for Little Spokane in the July to October period?

For Hangman Creek, monitoring has demonstrated that loading into and transport of sediment AND P through its watershed is dependent on high flows (see recently approved FC, Temperature and Sediment TMDL for Hangman). During the late summer critical period, there is little flow in the River and there is no way a 50% reduction in loading can possibly be achieved. For the springtime and June part of the critical season, Ecology determined that under "best potential conditions" the best TSS reduction is 26 percent. The average best potential TSS reduction is less than 20 percent. Best potential conditions after applying all potential BMPs and riparian improvements throughout the entire watershed are identified in the Hangman TMDL (Table ES8, page 29. There is little likelihood such ambitious implementation will ever be realized in the Hangman watershed as NPS controls have not been successfully installed at these levels anywhere else in the US. Therefore, the LAs (% reductions) assumed in the Spokane TMDL are incorrect and need to be revised to represent lower, realistic loading reductions.

Recommendation: Idaho Department of Environmental Quality, which regulates the upper portion of the watershed, identified a natural condition concentration of 30 ug/L for total phosphorous in Hangman Creek. Ecology should use the more representative 30ug/L in determining baseline phosphorous levels in Hangman Creek.

27. <u>Springs at the State hatchery should be used to determine natural conditions of the Little Spokane</u>

Flow in the Little Spokane River during the critical summer period is comprised almost entirely of groundwater inflow, which enters in the lower part of this, tributary. Using headwater concentrations of phosphorous upstream of the large volume of groundwater inflow into this tributary may not be representative of the natural condition. Monitored (by Ecology) concentrations of phosphorous in the groundwater flowing from springs at the State hatchery into the Little Spokane are more representative of natural conditions in the Little Spokane during summertime critical seasons.

Similarly, flow in the Little Spokane River during the critical summer period is comprised almost entirely of groundwater inflow which enters in the lower part of this tributary. Using headwater concentrations of phosphorous upstream of the large volume of groundwater inflow into this tributary may not be representative of the natural condition. Monitored (by

Ecology) concentrations of phosphorous in the groundwater flowing from springs at the state hatchery into the Little Spokane are more representative of natural conditions in the Little Spokane during summertime critical seasons. The phosphorous measured by Ecology was approximately 8 ug/L total phosphorous, which is very similar to Spokane aquifer concentrations documented by Patmont and al nearly 30 years ago.).

Recommendation: The phosphorous measured by Ecology was approximately 8 ug/L total phosphorous, which is very similar to Spokane aquifer concentrations documented by nearly 30 years ago, and should be used to determine natural conditions for the Little Spokane.

28. <u>The 2009 Draft TMDL should not authorize additional loading without adequate loading capacity in the receiving water</u>

Table 3 incorrectly lists Spokane's WWTP discharge as 50.8 mgd and the County of Spokane at 8 mgd. The County currently has no plant and no discharge. The 2009 Draft TMDL fails to explain how additional loading can be authorized for plant expansion (City of Spokane) or building a new plant (Spokane County) without adequate loading capacity in the receiving water. Expecting Avista to remove massive amounts of nutrients, or relying on nebulous nutrient trading or delta reductions does not provide the reasonable assurances required by the Clean Water Act. *See* 33 U.S.C. § 303(d)(1)(C); 40 C.F.R. § 130.7(c)(1)(i). Avista is provided two years to draft a plan to comply with the 2009 Draft TMDL requirements and in the meantime, additional pollutant loading that would be allowed per the proposed WLAs for the existing dischargers and proposed Spokane County WWTP will make water quality worse. This is a fundamental flaw in the approach of the TMDL.

Recommendation: Ecology should properly determine the WLAs based on current conditions, given that the Spokane River and Lake Spokane are already not meeting water quality standards. Allowing an additional discharger into the River will only continue to degrade water quality and delay compliance with water quality standards.

29. <u>Concentrations of nutrients in the tributaries are estimated at natural background based on headwater concentrations for the baseline scenarios</u>

The following percent reductions in nutrients are applied to the TMDL scenarios:

Hangman/Coulee:
20% (March – May)
40% (June)
50% (July – October)

Little Spokane:
36% (Same timeframe as Hangman/Coulee)

Because the flow in Little Hangman during the critical summer period is mostly groundwater inflow containing phosphorous at low concentrations (= natural condition absent proof it is contaminated) there is no way a 36% reduction in phosphorous loading from 2001 conditions can possibly be achieved. Although higher phosphorous concentrations have been

measured in Little Spokane during the wintertime (non critical period) the range of PO4 measured in 2001 during the critical period ranged from 7 to 11 ug/L (see Cusimano, 2004, Table B3).

For Hangman Creek, monitoring has demonstrated that loading into and transport of sediment AND phosphorous through its watershed is dependent on high flows (see recently approved FC, Temperature and Sediment TMDL for Hangman). During the late summer critical period, there is little flow in the River and there is no way a 50% reduction in loading can possibly be achieved. For the springtime and June part of the critical season, Ecology determined that under "best potential conditions" the best TSS reduction is 26 percent. The average best potential TSS reduction is less than 20 percent. Best potential conditions after applying all potential BMPs and riparian improvements throughout the entire watershed are identified in the Hangman TMDL (Table ES8, page 29). There is little likelihood such ambitious implementation will ever be realized in the Hangman watershed as non-point source controls have not been successfully installed at these levels anywhere else in the United States.

Recommendation: The 2009 Draft TMDL should use the 7 ug/L – 11 ug/L in Table 5, and not the unexplained 19 ug/L as the phosphorous target for Little Spokane in the July to October period. Further, the LAs (% reductions) assumed in the 2009 Draft TMDL for Hangman Creek are incorrect and need to be revised to represent lower, realistic loading reductions.

30. <u>Offsets are inappropriately granted prior to pollution reductions being accomplished</u>

Offsets cannot be granted prior to the pollutant reductions being accomplished. *See* WAC 173-201A-320. LAs, including those for non-point source and Avista, will not be accomplished for many years, if ever. Avista is not required to even submit a plan for accomplishing its LA for two years. It illegal for the TMDL to provide WLAs for a new discharge (Spokane County) and to also increase loading from existing dischargers (based on projected 2027 treatment capacity at the City of Spokane WWTP) prior to the creation of loading capacity for this additional pollutant loading. There are provisions in State water quality standards for compliance schedules for the existing permitted discharges. Further, offsets for new dischargers have been held to be inappropriate under the Clean Water Act by the Ninth Circuit in *Friends of Pinto Creek.*

Recommendation: Ecology should comply with the offset rules and the decision of the Ninth Circuit and refuse to allow additional loading until loading capacity exists in the receiving water.

31. <u>Model predictions being "averaged" is not adequately explained</u>

p. 36: "In order to evaluate the overall quality of the river inputs to the reservoir under proposed TMDL conditions, model predictions for segment 154 were averaged (flow-weighted) with the estimated inflow from the Little Spokane River."

Ecology changed the methodology for averaging the loading for specific periods. The

result has been a drastic reduction in the non-point source reduction values, from approximately 96% in the 2004 version, to 50% in the 2007 version to 36 in the 2009 draft TMDL, yet conditions on the ground haven't changed that drastically

Recommendation: The TMDL states that model input parameters were averaged, but fail to provide an explanation, and should be revised to do so.

32. The TMDL lacks an adequate margin of safety

p. 40: "Federal regulations require that a TMDL include a margin of safety to account for any lack of knowledge concerning the relationship between loads and water quality. For this TMDL, Ecology used an implicit margin of safety. The flow conditions used to establish the TMDL would be expected to be lower only about 10 times every 100 years. By using a critical low flow year like 2001 that has seasonal and August low flows that correspond to about a 0.10 exceedance probability to establish pollutant allocations, the water quality in Lake Spokane and the Spokane River should be adequately protected. "

Only critical condition river flow is offered as a margin of safety. This is not conservative given that River flows are declining (1700 down to 600 cfs over the past 100 years. Cusimano 2004) and are likely to continue to decline with development over (withdrawal from) the aquifer.

Recommendation: The 2009 Draft TMDL should include an MOS that provides reasonable assurance that water quality standards will be met.

33. The 2009 Draft TMDL Fails to Integrate with Other Regulatory Processes such as the City of Spokane's and Spokane County's Shoreline Master Plan

Despite ample claims that phosphorus can be "offset" through non-point source control measures, the 2009 Draft TMDL fails to integrate with other regulatory processes that could actually implement phosphorus reduction or, at the very least, lessen any potential increases. Both Master Plans are currently under review with the Department of Ecology. These plans have shortcomings that could impact the ability to meet phosphorus reduction goals. For example, the City of Spokane's Master Plan has inappropriate buffers along portions of property along Latah Creek and Spokane County's Master Plan significantly reduces the septic offset requirements from 10 feet to 3 feet, despite ample evidence that this will increase break-thru time.

Recommendation: Ecology should integrate the TMDL with the City of Spokane and Spokane County Shoreline Master Plans to ensure that all appropriate actions are taken to reduce and prevent further discharge of phosphorus into the Spokane River.

CONCLUSION

The Clean Water Act requires, and the citizens that utilize the water deserve, a TMDL that contains reasonable assurances that water quality standards will be achieved if the TMDL is properly implemented. For the reasons listed above KEA, Mr. Bollie, Mr. Buterbaugh, and Mr.

Chaney are unable to support the 2009 Draft TMDL because it does not meet the legal requirements of the Clean Water Act. None of the parties signing onto this comment letter wants to unnecessarily extend the implementation of a TMDL on the Spokane River and Lake Spokane. However, given that dischargers are provided with a minimum of 10 years to meet the TMDL requirements, the parties do not want to wait another 10 years to properly address the phosphorous/D.O. issue on Lake Spokane. Further, KEA, Mr. Bollie, Mr. Buterbaugh, and Mr. Chaney also do not want the dischargers to spend millions of dollars on technology that will not result in a clean Lake free from toxic algae blooms.

The parties hereby request that Ecology implement the changes outlined in this comment letter and circulate a new draft TMDL for public comment.

Sincerely,

/s/ Michael J. Chappell

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Michael J. Chappell
Director, Gonzaga Environmental Law Clinic
On behalf of Kootenai Environmental Alliance, Galen Buterbaugh,
Corrie Bollie, and Scott Chaney