

FAX COVER SHEET

TO Oregon Water Resources Department

COMPANY

FAX NUMBER 15039860901

FROM Brian Posewitz

DATE 2010-07-23 23:20:26 GMT

RE R-87604

COVER MESSAGE

Please see the attached comments and exhibits.

BEFORE THE WATER RESOURCES DEPARTMENT
OF THE STATE OF OREGON

| | |
|---|---|
| In the Matter of Application: R-87604 (Peterson, Darrel) | COMMENTS, REQUEST FOR PARTY STATUS AND PUBLIC RECORDS REQUEST |
|---|---|

WaterWatch of Oregon, Inc. ("WaterWatch") hereby submits the following comments, request for party status and public records request regarding the above referenced application ("Application"). WaterWatch requests that the Oregon Water Resources Department ("OWRD") submit these comments to Oregon Department of Fish and Wildlife ("ODFW") so that ODFW may consider these comments in preparing ODFW's comments on the Application.

COMMENTS

Pursuant ORS 537.409(5), WaterWatch requests that OWRD deny the application on grounds the proposed reservoir ("Reservoir") poses a significant detrimental impact to existing fishery resources. In the alternative, WaterWatch requests that OWRD deny the application on grounds the Application fails to show affirmatively, contrary to ORS 537.409(2), that the proposed reservoir will *not* have a significant detrimental impact to existing fishery resources.

According to the Application, the proposed reservoir would take water from an unnamed tributary to Hamilton Creek, which is a tributary to the South Santiam River. The South Santiam River watershed "sustains populations of native spring Chinook and winter steelhead, listed as threatened under the ESA The watershed is also home to Coastal cutthroat trout . . . and Pacific lamprey, listed as 'sensitive.'" (Ex. 2, p. 5.) Low

flows may be a limiting factor for fish in the South Santiam from April through October. (See Ex. 2, p. 6.) The lower South Santiam also is too warm for fish at least some months of the year. (Ex. 2, p. 4.)

Hamilton Creek provides habitat for winter steelhead in its lower reaches. (Ex. 1, p. 1.) It likely also provides habitat for Coastal cutthroat trout given their presence in the watershed generally (see above). Hamilton Creek already violates state water quality standards for temperature because it gets too warm in the summer. (Ex. 1, p. 1.) In addition, Hamilton Creek “has moderate potential for dewatering.” (Ex. 1, p. 1.) A South Santiam Watershed Council recovery plan calls for leasing existing water rights on Hamilton Creek to replenish flows in the creek. (Ex. 1, p. 1.)

The proposed Reservoir, either alone or cumulatively if similar reservoirs are approved, poses a significant detrimental impact to existing fishery resources because: (1) it will have negative impacts on flows in Hamilton Creek and the South Santiam River; (2) it will contribute to warming the waters of Hamilton Creek and the South Santiam River, both of which already are too warm to meet water quality standards; (3) it will lead to pollution of Hamilton Creek and the South Santiam River, and to loss of riparian areas, through land-use practices associated with aesthetic and recreational reservoirs.

The Reservoir will have negative impacts on flow because it would divert or impound approximately nine acre feet of water that would otherwise flow through Hamilton Creek and the South Santiam River. Even if water is only diverted in winter months, the diversion will reduce high flows that increasingly are seen as important to habitat formation for fish. OWRD should not be issuing new water rights on a creek for which a watershed

council recovery plan calls for replenishing stream flows by leasing back some of the water rights that have already been issued.

The Reservoir will contribute to warming of Hamilton Creek and the South Santiam River because water trapped in reservoirs typically is warmed, to temperatures above those in surrounding streams, through increased exposure to solar radiation. (Ex. 4, p. 4-5.) If that water is released from the Reservoir during warmer months, it will exacerbate existing temperature problems for fish in Hamilton Creek and the South Santiam River.

The Reservoir also will contribute to water pollution in Hamilton Creek and the South Santiam River, and to loss of riparian areas, because land-use practices typically associated with reservoirs created for "aesthetics" and "recreation" (as the Application indicates in this case) include destruction of riparian vegetation to clear views, use of bentonite to seal the reservoir, and use of chemicals to kill weeds in the reservoir. (Ex. 3, p. 5.)

OWRD cannot prevent these impacts by conditioning the permit. Conditions cannot prevent the reservoir from having adverse flow impacts at least some months. Moreover, OWRD does not have the resources necessary to monitor and/or enforce compliance with conditions such as seasonal limitations on diversions and/or releases.

If the proposed application is not denied, it should be conditioned in at least the following ways:

1. To prohibit diversion and/or storage during periods when low flows are a limiting factor for fish and to preserve peak flows important to fish and their habitat.
2. To require that the Reservoir be located away from any stream channel so that no stream reaching Hamilton Creek must flow through, and be warmed by, the

PAGE 3 – COMMENTS, REQUEST FOR PARTY STATUS AND PUBLIC RECORDS REQUEST

Brian J. Posewitz

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303-4328269

Reservoir. (The Application is not clear on whether the proposed Reservoir would be in a stream channel.)

3. To prohibit release of water from the Reservoir (assuming it is off-channel) during times when the Reservoir water is likely to be warmer than water in the nearby stream and/or in downstream waters.
4. To prohibit any impoundment or diversion device from impairing fish passage relative to the passage available without the Reservoir. (Note: this is different from what ODFW requires in its "fish passage" approvals.)
5. To require measuring devices and reporting sufficient to ensure practical and accurate determination of whether conditions on storage volumes and storage seasons are met.
6. To prohibit destruction of existing riparian areas.
7. To prohibit use, in or near the Reservoir, of compounds and/or chemicals adverse to water quality and/or fish habitat, including bentonite and herbicides.

REQUEST FOR PARTY STATUS

To the extent WaterWatch is not already a "party" that would be "affected" by allowance of the proposed permit, WaterWatch hereby requests to participate before OWRD as a "party" in this matter. WaterWatch will be affected by the proceeding because WaterWatch represents public interests in restoring and protecting instream flows for the benefit of benefit fish, wildlife and recreation. WaterWatch also works to ensure that water allocation decisions, including decisions regarding permits for storage of water in reservoirs, adequately protect fish, wildlife and recreation. WaterWatch has invested time and money in pursuing these purposes and its investment would be harmed by allowance of the proposed

permit. WaterWatch also represents the interests of its members, some of whom use and enjoy, and will use and enjoy in the future, the waterways that would be affected by the proposed permit.

PUBLIC RECORDS REQUEST

WaterWatch requests copies of all documents related to the above application (other than those already available online via OWRD's website), including but not limited to copies of all comments submitted by any other person, organization or agency. Copies should be delivered to the undersigned counsel. The undersigned counsel will pay all reasonable copying charges upon receiving an estimate of such charges from the Department.

DATED: July 23, 2010.

By *Brian Posewitz*
BRIAN J. POSEWITZ, OSB No. 91400
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Telephone: (503) 432-8249
Facsimile: (503) 432-8427
Email: brianposewitz@comcast.net
Attorney for WaterWatch of Oregon

South Santiam Watershed Council

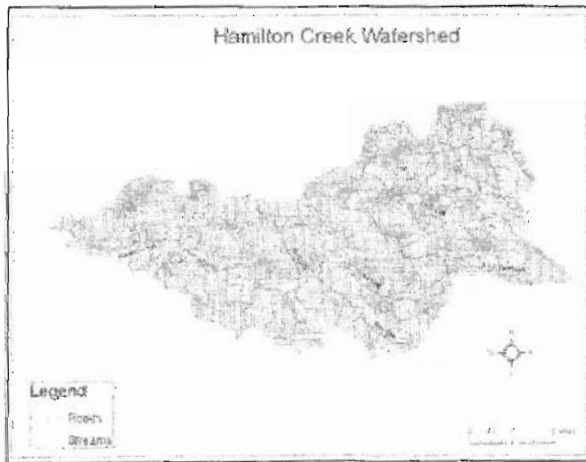
Mission: To involve local people in the enhancement and protection of the South Santiam watershed for the social and economic benefit of its landowners, managers, and users.

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Hamilton Creek



The Hamilton Creek sub-basin is a nearly 24,000 acre drainage that enters the South Santiam River at ~RM 23. There are 12 miles of anadromous fish habitat (winter steelhead) along the lower gradient reaches found on the mainstem of Hamilton Creek, before an 8 ft. high falls limits upstream passage. The predominate land use in the sub-basin is private forestry, but as in the case of McDowell Creek, the lower stretches of Hamilton Creek are largely characterized by grass seed fields and pasture land. According to the Watershed Analysis for Hamilton Creek (BLM, 1995), about 3 miles of anadromous fish habitat is found within land managed for forestry. Tributaries include Jack, Scott and Deer Creeks.

Limiting factors in the Hamilton Creek sub-basin are similar to those in McDowell Creek, with lower stretches of Hamilton Creek lacking in mature, dense riparian vegetation. Hamilton Creek is listed on the state 302(d) list as having too warm summer stream temperatures. The stream is lacking in LWD, and the draft Recovery Plan recommends Hamilton Creek as a "good candidate stream" for LWD placement. Hamilton Creek has moderate potential for de-watering, and is also noted in the Recovery Plan for being a tributary to explore leasing water rights. The South Santiam Watershed Assessment notes Hamilton Creek as a Priority 1 watershed for restoration.

As a part of the Santiam Basin Fish Passage Barrier Inventory Project, a road crossing over Jack Creek was identified as a priority for correction. Over 2 miles of potential fish habitat exists above the culvert, itself approximately 1/4 mile from the confluence of Jack Creek with Hamilton Creek. In the late 1990s, the Council engaged landowners in the sub-basin and completed two small scale restoration projects involving noxious weed removal and native plantings.

The Hamilton Creek sub-basin also offers unique conservation opportunities identified in the Oregon Department of Fish and Wildlife Conservation Strategy. The sub-basin includes upland areas that serve as an important transition zone between Willamette Valley eco-regions.

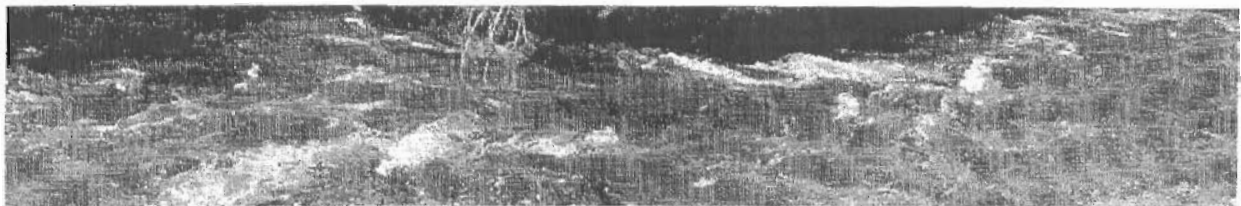
Fig. 1

South Santiam Watershed Council

Mission: To involve local people in the enhancement and protection of the South Santiam watershed for the social and economic benefit of its landowners, managers, and users.

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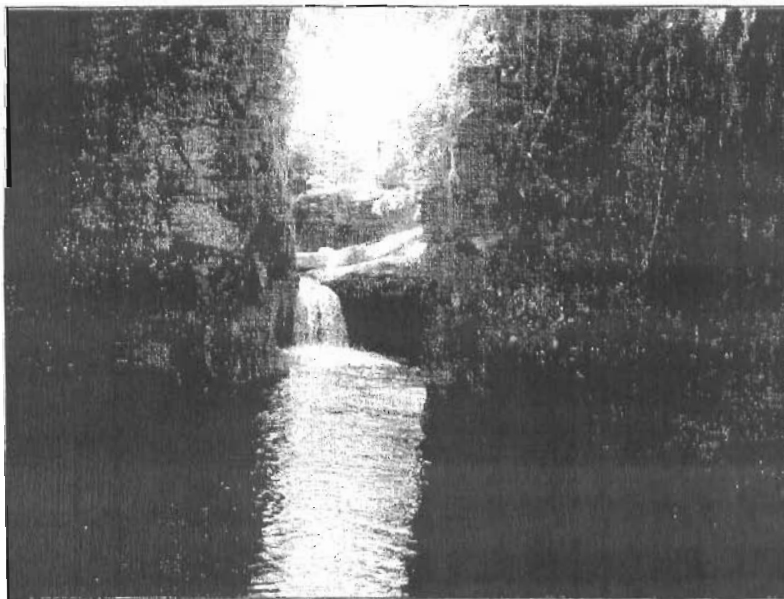


Watershed Issues

Basic information and facts about the South Santiam Watershed

That area of land, a bounded hydrologic system, within which all living things are inextricably linked by their common water course and where, as humans settled, simple logic demanded that they become part of a community.

—John Wesley Powell, scientist, geographer



Headwaters of the South Santiam River.

Confluence of Litwi and Sevenmile Creeks

The South Santiam Watershed is situated in the Central Cascades and flows into the Willamette Valley. It drains approximately 1,600 square miles in area. With steep, mountainous terrain in the east and a low floodplain to the west, the watershed is characterized by much variation in elevation, ecologies, and land use practices. The watershed supports three communities (Sweet Home, Lebanon, and Scio), and is located in Linn County, Oregon.

What is a Watershed?

Ex. 2



A watershed is defined as the area of land where all precipitation drains to a common water body. The boundaries of a watershed are determined by the contours of the land around it (buttes and mountain ranges), much as the walls of a funnel guide water into a spout. Because a river and the land around it are intimately connected, healthy lands mean healthy streams.

Key Issues in the South Santiam Watershed



Healthy riparian buffer in Wiley Creek subwatershed

Riparian Condition

Riparian areas in the upper watershed are in generally good condition with wide buffers of conifer and hardwood stands. Conifers stands are primarily second growth (<80 years), so potential for large woody debris (LWD) delivery is currently moderate. The majority of low elevation lands have been developed for agricultural and residential land use, and as a result are characterized by narrow, discontinuous riparian areas in poor to fair condition, dominated primarily by grass/shrub vegetation.



Large Woody Debris in Moose Creek

Large Woody Debris

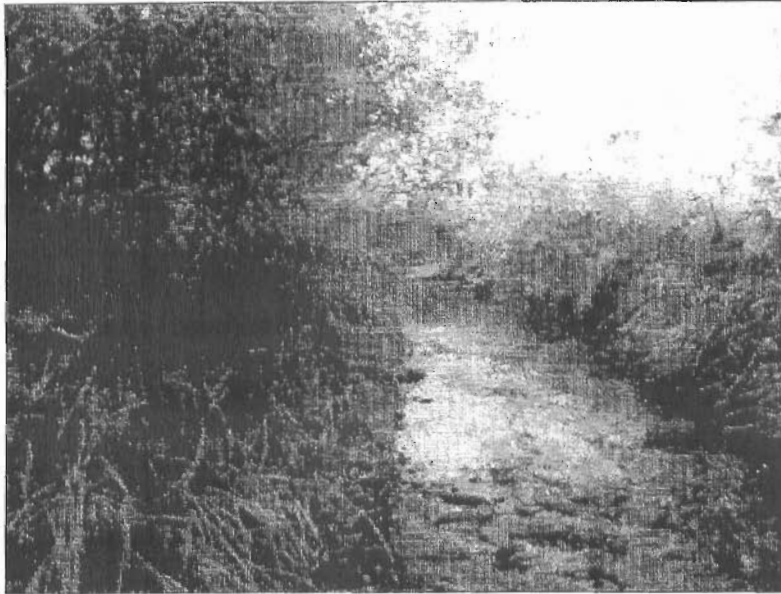
The South Santiam Watershed is deficient in LWD due to past timber management, stream cleaning practices, and torrential flows that removed woody debris in the 1970's and 1996. This deficiency limits the ability of the watershed to dissipate streamflow energy and prevent erosion, retain spawning gravel and nutrients, or to create and maintain instream habitat complexity. LWD is severely lacking in lower reaches of the basin, but even upper reaches have low habitat complexity and would benefit from increased LWD.



Finley Wildlife Refuge, courtesy of US Fish and Wildlife Service

Wetlands

With the exception of alpine wetlands in the Cascade Range, wetland habitats in the watershed have been converted to agriculture and rural residential areas. Most remaining lowland wetlands are scattered and disconnected, and little to no wetlands remain connected to the mainstem river or its tributaries. Wetlands in the Willamette Valley are an important habitat for birds and other wildlife. Wetlands also help filter out pollutants and act as a sponge and lessen the impacts of floods.



Stream shade on Ames Creek, Sweet Home

Temperature

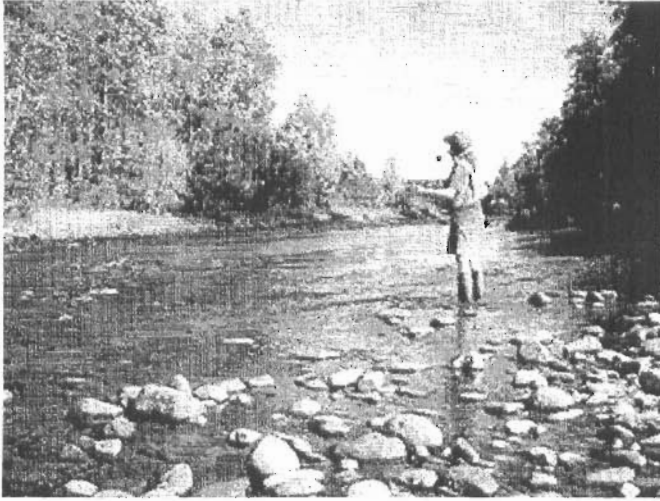
The South Santiam Watershed has 11 stream segments (8 subwatersheds) that exceed the 18° C temperature criterion for salmon and trout rearing and migration, and are listed by the Department of Environmental Quality (DEQ) on the state's 303(d) list of impaired water bodies. These water bodies include Crabtree Creek, Hamilton Creek, Middle Santiam River, Quartzville Creek, lower South Santiam River, upper South Santiam River, Thomas Creek, and Wiley Creek. Shading shade is one way in which landowners and managers can help cool the water in the summers.



Stream bank erosion in South Santiam watershed

Sedimentation

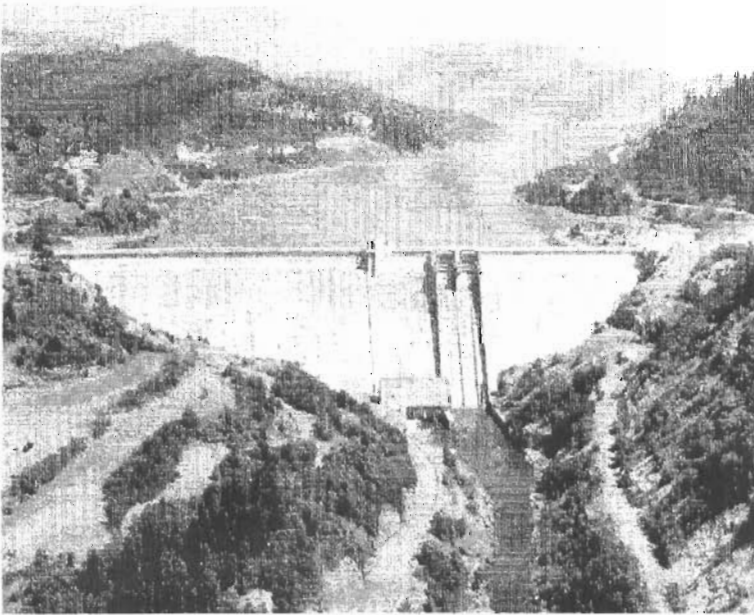
Sedimentation and turbidity are high on lower reaches of the mainstem river and tributaries. Lower reaches have a high percentage of actively eroding streambank due to removal of vegetation as a result of agriculture/residential land use practices. High road densities (average 4 miles of road/sq. mile) and highly compacted soils throughout the watershed contribute significantly to surface erosion.



Fly fishing the South Santiam River

Fisheries

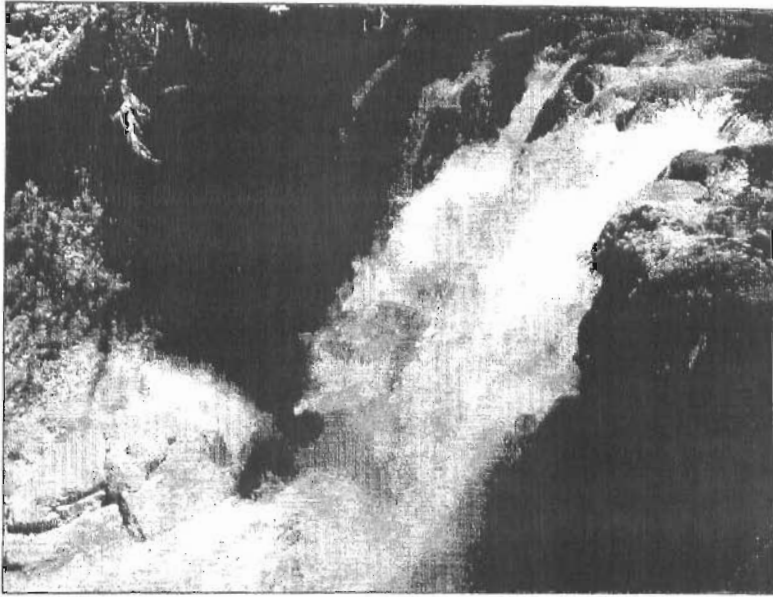
The watershed sustains populations of native spring chinook and winter steelhead, listed as threatened under the ESA. Planting of hatchery stocks has been significant in the past, which has probably been detrimental to native runs due to competition and hybridization. The watershed is also home to Coastal cutthroat trout (Upper Willamette River ECU) and Pacific lamprey, listed as "sensitive."



Green Peter Dam, courtesy of Bonneville Power Administration

Migration

Construction of Foster and Green Peter Dams in the late 1960's adversely affected the ability of salmonids to migrate successfully to and from prime spawning and rearing habitat in the upper reaches of the basin. Green Peter Dam completely prevents fish passage to the Quartzville Creek and Middle Santiam River Watersheds. Foster Dam is located on the mainstem South Santiam river 37 miles above its confluence with the Willamette River. Upstream passage systems at Foster allow adult migration to spawning habitat in the upper South Santiam basin, but create a host of problems for smolts migrating downstream. Slow water velocities in Foster reservoir impede migration, and predators including bass and northern pikeminnow feed heavily on the juveniles. Since Foster is a low head dam, juveniles must use the turbines or spillway gates to migrate past the dam. Passing through this system results in significant mortality for juveniles.



Majestic Falls on McDowell Creek

Flow

Snowpack in the Cascades supplies the mainstem South Santiam River with ample flow from November to March, however, dewatering potential is high (above 30% water withdrawal) for the following tributaries: Neal Creek, Thomas Creek, Crabtree Creek, and Ames Creek. Foster and Green Peter dams reduce flooding and regulate the release of water to mitigate the effects of water withdrawal, but essentially impair the function of the floodplain by preventing significant re-charging of the water table and regular interaction with wetland and riparian habitats. In addition, the flow regime created by the dams has changed seasonal water temperatures, which is thought to have decreased egg to smolt survival of spring chinook naturally spawning in the mainstem South Santiam River.

The encroachment of urban and rural development on the floodplain has constrained the natural meandering pattern of the river and its tributaries, and resulted in increased channelization, streambank erosion, increased peak flows and reduced base flows, and reduced habitat complexity and diversity. Subwatersheds identified as priority watersheds for habitat restoration include Thomas, Crabtree, Ames, Wiley, Little Wiley, the lower mainstem South Santiam, Hamilton, and McDowell subwatersheds. Upper reaches of the watershed including Canyon Creek, Moose Creek, and Soda Fork subwatersheds have been identified by ODF&W as vital refugia and spawning areas for anadromous fish, and are priority areas for protection.

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IN THE CIRCUIT COURT OF THE STATE OF OREGON
FOR THE COUNTY OF CLACKAMAS

CHARLES NOBLE, DEBORAH)
NOBLE, and DAVID HILLISON,)
Plaintiffs,)

v.

No. CV-07-12-0591

OREGON WATER RESOURCES)
DEPARTMENT and ROBERT)
LYTLE,)
Defendants.)

DEPOSITION OF STEVE PRIBYL

October 17, 2008
The Dalles, Oregon

Ex. 3

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P R O C E E D I N G S

MR. POSEWITZ: It is October 17th, about ten after 10:00 a.m. We are here for the deposition of Steve Pribyl. Is that --

THE WITNESS: Pribyl.

MR. POSEWITZ: Pribyl.

And will the court reporter please swear the witness.

STEVE PRIBYL,

after having been first duly sworn by the Certified Shorthand Reporter, was examined and testified as follows:

EXAMINATION

BY MR. POSEWITZ:

Q. Mr. Pribyl, my name is Brian Posewitz. I am an attorney for some parties named Noble and Hillison over in the Portland area, and we are here to take your deposition in a case that I'm representing them on.

Are you generally aware of that?

A. I'm familiar with that.



1 Q. Do you understand that oath requires you to tell
2 the truth subject to penalties for perjury?

3 A. Yes.

4 Q. Is there any reason your testimony today might not
5 be accurate? Medication, anything like that?

6 A. No.

7 Q. Just a couple of practical things about
8 depositions. If I ask you a question and you
9 don't understand, you are entitled to tell me
10 that, and I'll do my best to rephrase it. Okay?

11 A. Okay.

12 Q. It is also very important, because Amy, our court
13 reporter here, is trying to take it all down, that
14 you wait until I'm done before you talk.

15 A. Yes.

16 Q. And I'll do my best to wait until you're done
17 before I talk.

18 A. Very good. I understand.

19 Q. And if at some point during the course of the
20 deposition you realize that testimony you gave is
21 inaccurate or should be restated, you are free to
22 tell me that and to do that.

23 A. Okay.

24 Q. What is your current occupation?

25 A. I am currently retired.

1 Q. What was your occupation before you retired?

2 A. I was a fisheries biologist with the Oregon
3 Department of Fish and Wildlife stationed here in
4 The Dalles for a little less than 20 years; and
5 prior to that I was in Ontario, Oregon, for about
6 five years; prior to that, dating back to 1974, a
7 series of temporary and technician level
8 positions, all with Oregon Fish and Wildlife or
9 the previous agencies, The Oregon Wildlife
10 Commission or the Oregon Game Commission.

11 Q. When did you retire?

12 A. I retired July 1st of 2004.

13 Q. So in general terms, before you retired you were a
14 fish biologist.

15 A. Correct. And my actual position title was
16 assistant district fisheries biologist, although
17 at least part of the time in the -- covered by the
18 Patterson matter, I was -- my supervisor had
19 retired, and my title was acting district
20 fisheries biologist.

21 And I didn't notice anywhere in the record
22 where that was necessarily reflected, and I think
23 that may have just been a timing issue between the
24 retirement of my previous supervisor and the
25 hiring of my supervisor whom I retired under.

1 A. Correct.

2 Q. Are there others that I've missed?

3 A. Inherent with on channel storage and even off
4 channel storage has a potential for human caused
5 problems; one is that someone constructs a pond
6 and it leaks. The common remedy for that is using
7 a clay-like material called bentonite, that if it
8 leaks out of the pond there is a potential for it
9 to impact spawning gravels downstream.

10 Every body of standing water in the world is
11 a wet meadow in the making; that is the ecological
12 succession process of standing water. You've seen
13 it; we've all seen it. Which is a complicated way
14 to say that weeds are going to grow in your pond.
15 People don't like weeds in their pond. People
16 want to do something about that. Commonly they
17 apply a chemical to kill the weeds. All of those
18 chemicals are very toxic to aquatic organisms
19 including fish. Fish kills have happened from the
20 misapplication of chemicals in standing waters.

21 Q. How does bentonite impact spawning habitat?

22 A. If it leaches out of its place of application
23 through groundwater or surface water, whatever
24 avenue, it is a very fine clay-like particle that
25 will embed in the spawning gravels and causing

1 what -- the common term is cementing of the
2 gravels together, making it more difficult for
3 fish to dig their redd, deposit their eggs.
4 Potential would exist for the bentonite particles
5 to actually smother the eggs, preventing water
6 from reaching the egg, exchange of oxygen through
7 water membrane, et cetera, et cetera.

8 Q. Now, you mentioned exceptions to that general --
9 what you understood to be a general ODFW policy,
10 and you referred to the exceptions being on high
11 intermittent tributaries in the Deschutes,
12 correct?

13 A. Correct.

14 Q. Why are those locations different?

15 A. Largely owing to the distance downstream from that
16 reservoir to fish -- I guess I'll say meaningful
17 fish habitat, or occupied fish habitat may be a
18 better word. And when I -- and mostly now I'm
19 recalling -- proving I'm not completely burned out
20 from retirement; I'm recalling some of this now,
21 Brian -- we had gone through a series of water
22 right applications for existing on channel
23 structures that are basically cattle watering
24 ponds, way -- the very headwaters of intermittent
25 tributaries to the Deschutes that basically trap a

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IN THE CIRCUIT COURT OF THE STATE OF OREGON
FOR THE COUNTY OF CLACKAMAS

CHARLES and DEBORAH NOBLE,)
)
 Plaintiffs,)
)
 v.) No. CV-06-070096

OREGON WATER RESOURCES DEPT.,)
 and VICTOR and VERA VITYUK,)
)
 Defendants.)

CHARLES and DEBORAH NOBLE,)
 and DAVID HILLISON,)
)
 Plaintiffs,)

v.) No. CV-05-120427
)
 OREGON WATER RESOURCES DEPT.,)
 and RAYMOND "TROY" MARTIN,)

Defendants.)

CHARLES and DEBORAH NOBLE,)
 and DAVID HILLISON,)
)
 Plaintiffs,)

v.) No. CV-05-120804
)
 OREGON WATER RESOURCES DEPT.,)
 and ROBERT LYTTLE,)

Defendants.)

DEPOSITION OF KAREN WILLIAMS
Taken on behalf of Plaintiffs

Et. 9

1 Q. 1992?

2 A. 1992.

3 Q. Okay. And then what?

4 A. And then I went to graduate school at the
5 University of Nevada, Reno; and approximately
6 two and a half years later, received an M.S. in
7 hydrogeology, in April of 1995 -- actually,
8 officially, in May of 1995, but I finished in
9 April of 1995.

10 Q. Okay.

11 A. Then I went back to work in environmental
12 consulting at the same company, although they
13 were no longer called RZA; they were called
14 AGRA Earth and Environmental at that time,
15 A-G-R-A. And I worked there until November of
16 1998, when I came to the department -- the
17 state Oregon -- the Oregon State Department of
18 Environmental Quality in the laboratory
19 division. And my work there was as the
20 volunteer monitoring coordinator in the water
21 quality monitoring section; and in that
22 capacity, I worked with watershed councils,
23 soil and water conservation districts, and
24 other entities that wanted and needed training
25 in water quality monitoring.

B

1 And then approximately in the summer of --
2 let's see, '92 -- in 2002, I believe, the
3 summer of 2002, I changed jobs, still at the
4 Department of Environmental Quality, and began
5 working in the northwest region of DEQ as a
6 natural resource specialist. And my work there
7 primarily involved implementation of what we
8 called total maximum daily loads, which are
9 essentially water quality plans for basins.
10 And just in October of this year, this
11 month, I was promoted to a Natural Resource
12 Specialist 4, and my work now involves
13 developing those water quality plans, the
14 TMDLs, for the Molalla-Pudding Basin.

15 Q. You said you received an M.S. in hydrogeology;
16 correct?

17 A. Correct.

18 Q. What is that?

19 A. What is hydrogeology? It is the study of water
20 and soil or rock interactions, very generally
21 speaking; the movement of soil through
22 subsurface media -- sorry -- movement of water
23 through subsurface media.

24 Q. Okay. Does hydrogeology deal with water
25 quality issues?

1 deep and it covers an acre; right?

2 A. That's right.

3 Q. Okay. Can reservoirs of that size, let's say,
4 3 acre-feet or less, can they affect the
5 temperature of the water in a water body?

6 A. The temperature in the reservoir or the
7 temperature in the stream that they are --

8 Q. Well, let's say -- let's say the temperature in
9 the stream -- Well, let's talk about the
10 temperature of the water of the reservoir. Can
11 they affect the temperature of the water in the
12 reservoir?

13 A. Yes.

14 Q. And does that affect the temperature of the
15 water downstream from the reservoir?

16 A. It can.

17 Q. And how does it do that?

18 A. Because a larger amount of surface area is
19 exposed to solar radiation, so it absorbs more
20 heat.

21 Q. Does it have to do also with how long the water
22 stays in one place?

23 A. Yes.

24 Q. How does that impact temperature?

25 A. Because the water is, again, able to absorb

1 more solar radiation because it's moving more
2 slowly or not moving at all.

3 Q. Does it also increase the likelihood that the
4 water -- I'm sorry. Does it -- Do reservoirs
5 of that sort also decrease the likelihood that
6 the water will be shaded from streamside
7 vegetation?

8 A. I suppose it could.

9 Q. Just because it's a bigger surface area; right?

10 A. Sure. Sure.

11 Q. So you need taller vegetation to shade the
12 stuff in the middle; right?

13 A. Correct. Right.

14 Q. Okay. And if you reduce shading, that
15 increases the temperature as well; right?

16 A. If you reduce the shading, it can increase the
17 temperature, sure.

18 Q. Okay. Wouldn't it always increase the
19 temperature?

20 A. Well, they're -- not -- generally speaking,
21 yes, it would.

22 Q. Okay.

23 A. There may be other factors that would affect
24 it. If you had a large amount of ground water
25 influx at a cooler temperature, you may

5