WAC 197-11-970 Determination of nonsignificance (DNS).

DETERMINATION OF NONSIGNIFICANCE

Description of proposal: The Instream Resources Protection and Water Resources Program, Stillaguamish River basin:

- sets minimum seasonal instream flow levels at 32 locations within the Stillaguamish basin;
- establishes two reservations of water for rural domestic supply and stockwater;
- closes numerous water sources to future, consumptive water use unless the proposed use satisfies an exception to the closures; and
- provides guidance for the issuance of new water right or change of water right decisions

Proponent: Washington State Department of Ecology, Water Resources Program

Location of proposal, including street address, if any: The Stillaguamish River basin, WRIA 5, is located in a portion of southwestern Skagit County and a northern portion of Snohomish County.

Lead agency: Washington State Department of Ecology, Water Resources Program

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030 (2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

☐ There is no comment period for this DNS.

☐ This DNS is issued after using the optional DNS process in WAC 197-11-355. There is no further comment period on the DNS.

☒ This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for 14 days from the date below. **Comments must be submitted by April 25, 2005.**

Responsible official: Joe Stohr

Position/title: Water Resources Program Manager

Contact: Stephen Hirschey for Stephen Hirschey **Phone.** (425) 649-7066

Address: Department of Ecology, Northwest Regional Office, 3190 160th Avenue SE, Bellevue, WA 98008

Fax: (425) 649-7098 **Email:** shir461@ecy.wa.gov

Date. 2/16/05 **Signature**

☒ There is no agency appeal.

WAC 197-11-960 Environmental checklist.

ENVIRONMENTAL CHECKLIST

Purpose of checklist: The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions for applicants: This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals: Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable: INSTREAM RESOURCES PROTECTION AND WATER RESOURCES PROGRAM
Stillaguamish River Basin
Water Resources Inventory Area (WRIA) 5

2. Name of applicant: Washington State Department of Ecology, Water Resources Program

3. Address and phone number of applicant and contact person:

Stephen Hirschey
Department of Ecology
Northwest Regional Office
3190 160th AVE SE
Bellevue, WA 98008
(425) 649-7066
FAX (425) 649-7098
shir461@ecy.wa.gov

4. Date checklist prepared: February 4, 2005

5. Agency requesting checklist: Washington State Department of Ecology

6. Proposed timing or schedule (including phasing if applicable): Rule adoption: 08-22-05; Effective 09-22-05.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Ecology presently has no plans for future additions to, or expansion of, the instream flow rule. However, there are potentially many actions that Ecology or others may take related to water management in the basin. First and foremost are the actions necessary to implement the instream flow rule. Generally, an instream flow rule is implemented by conditions being placed on the permit for an approved water right. Also, any instream flow adopted by rule becomes a water right, with a priority date of the date of the rules adoption. Future water right decisions are, in part, shaped by existing (senior) water rights.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

"The Relation of Stream flow to Habitat for Anadromous Fish in the Stillaguamish River Basin, Washington" by S. S. Embrey for the U.S. Geological Survey, Report 86-4326 (1987).

Ecology hired Steward & Associates, a consulting firm, to create hydraulic instream flow models, calibrate the models, and document the model calibration using empirical data collected by Embrey in the mid-1980's. Steward & Associates then combined the hydraulic models with fish preference models the State created within Physical Habitat Windows 2002 (PhabWin 2002). PhabWin 2002 is a pure Windows version of Physical Habitat Simulation created by Thom Hardy's group at the Institute for Natural Systems Engineering at Utah State. The work of Stewart and Associates is documented in a series of Excel spreadsheets and documents available on Ecology's web site at: http://www.ecy.wa.gov/programs/wr/instream-flows/stillaguamishbasin_sepa.html.

As part of the project with Steward & Associates, stream flow hydrographs and associated expected frequency of occurrence were created. The stream flow analysis for the project was sub-contracted by Steward & Associates to northwest hydraulic consultants, inc (nhc). A map showing the location of the analysis points and the Excel spreadsheets used to determine the exceedance flow statistics is available on Ecology's web site at: http://www.ecy.wa.gov/programs/wr/instream-flows/stillaguamishbasin_sepa.html.

Ecology used the information created by the Steward & Associates project and discussions with fisheries biologists with the Washington State Department of Fish and Wildlife, Stillaguamish Tribe, and Tulalip Tribes to determine the proposed instream flow numbers. A memorandum documenting our consultation with others about the instream flows and flow proposals is available at: http://www.ecy.wa.gov/programs/wr/instream-flows/stillaguamishbasin_sepa.html.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

Yes. In Water Resource Inventory Area (WRIA) 5, there are pending water right applications for sources of water that will be affected by the Instream Resources Protection Program (IRPP). There are 68 pending water right applications in WRIA 5, 30 of which are for ground water. Of the surface water applications, 24 are for water from Lake Cavanaugh for single domestic use.

10. List any government approvals or permits that will be needed for your proposal, if known.

Adoption of the proposed rule, Chapter 173-505 WAC, in compliance with the procedures specified for rule adoption in the state Administrative Procedures Act.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page.

The proposed draft rule can be thought of as having topical areas with each topic having significant features:

- To retain perennial rivers, streams, and lakes in the Stillaguamish River basin with instream flows and levels necessary to protect and preserve instream values, instream flows and or closures are established. Within this topic, the significant features of the proposed rule are numeric instream flows established at specific points in the basin and the closure of selected rivers and streams for some time periods.

- To create two reservations for future new uses to provide for: 1) an adequate and safe supply of potable water to satisfy human domestic needs, and 2) stockwatering. A reservation of water is an allocation of water for a future beneficial use with a priority established as of the date when the reservation becomes effective. Restrictions on the use of reserved water are also established by the rule; and
- To set forth the department's policies to guide the protection, utilization and management of Stillaguamish River basin surface water and interrelated ground water resources for use in future water allocation decisions.

Ecology anticipates setting instream flows at the following points in the basin:

Stream Management Unit Name	Control Point	Stream Management Reach
Stillaguamish Mainstem:	Stillaguamish River near Silvana Ecology Station ID 05A0700	From the mouth at Port Susan to the confluence of the North Fork (N.F.) and the South Fork (S.F.) of the Stillaguamish River
North Fork (N.F.) Stillaguamish River:		
N.F. Stillaguamish River at Arlington, WA	USGS Station # 12167000	From Confluence with the S.F. Stillaguamish to river mile 17.6.
N.F. Stillaguamish River at Oso	Ecology Station ID 05B090	From river mile 17.6 to headwaters except Squire Creek, Deer Creek, and Boulder River.
South Fork (S. F.) Stillaguamish River:		
S.F. Stillaguamish River	RM 24.4	From confluence with the N.F Stillaguamish River to RM 34.9, except Jim and Canyon Creeks
S.F. Stillaguamish River at Granite Falls, WA	USGS Station # 12161000	From S.F. Stillaguamish River at RM 34.9 to headwaters
Stillaguamish River Tributaries:		
Church Creek	At Hwy 532 crossing near fish ladder	From mouth to headwaters
Glade Bekken Creek-stream 0030	At Sylvania Terrace Road crossing	From mouth to headwaters RM 0.5
Portage Creek	At 208th St NE & 66th Ave. crossing	From mouth to headwaters
Portage Creek Tributaries:		
Fish Creek	At Sill Road crossing	From mouth to headwaters
Pilchuck at Bridge 626	Ecology Station ID 05D070	From mouth to RM 11 (Campground Bridge)
Pilchuck above Lake Creek	Ecology station ID 05D150	From RM 11 (Campground Bridge) to headwaters except Lake Cavanaugh and Lake Creek
Pilchuck Creek Tributaries:		
Lake Creek	Ecology station ID 05K060	From mouth to headwaters, except Lake Cavanaugh
North Fork (N. F.) Stillaguamish River Tributaries:		
Squire Creek	Ecology Station ID 05H070	From mouth to headwaters.
Deer Creek	Ecology station ID 05C090	From mouth to headwaters
Brooks Creek	At Brooks Creek Road Bridge	From mouth to headwaters
Montague Creek	At Hwy 530 bridge	From mouth to headwaters
Rollins Creek	Off C Post off Hwy 530 about RM 1.0	From mouth to headwaters
Boulder River	Ecology station ID 05J060	From mouth to headwaters
French Creek	At Hwy 530 bridge	From mouth to headwaters

Segelson Creek	At Swede Haven Rd bridge off Hwy 530	From mouth to headwaters
Furland Creek	At Hwy 530 bridge	From mouth to headwaters
Ashton Creek	At Hwy 530 bridge	From mouth to headwaters
Grant Creek	At Hillis Rd bridge off Hwy 530	From mouth to headwaters
Rock Creek	At RM 1.1	From mouth to headwaters
Stream 0138 – Koonz Creek	At WDFW bridge	From mouth to headwaters
Harvey Creek	At side road crossing of Grandview Rd.	From mouth to headwaters
South Fork (S. F.) Stillaguamish River Tributaries:		
Jim Creek at Whites Road	Ecology Station ID 05G070	From mouth to headwaters
Jim Creek Tributaries:		
Siberia Creek	At mouth, near 131st Ave NE	From mouth to headwaters
Canyon Creek, near Masonic Park	Ecology Station ID 05F080	From mouth to headwaters
Armstrong Creek	At fish hatchery at Harvey Creek Rd crossing	From mouth to headwaters
Jordan Creek	At Jordan Road crossing	From mouth to headwaters
Tiger Creek stream 0363	Near Masonic Park, RM 1.6	From mouth to headwaters

The proposed instream flows are as follows, in instantaneous cubic feet per second:

Instream Flows for the Mainstem and North and South Forks, Stillaguamish River

Month	Day	Ecology station # 05A070 Stillaguamish RM 11.2	USGS Station # 12167000 North Fork Stillaguamish RM 6.5	Ecy Station ID: 05B090 North Fork Stillaguamish RM 17.6	South Fork Stillaguamish RM 24.4	USGS Sta. # 1216000 South Fork Stillaguamish RM 34.9
Jan.	1–31	2200	1200	915	1800	1200
Feb.	1–29	2000	1200	850	1600	1200
Mar.	1–15	2000	1300	850	2250	1600
	16-31	2000	1300	915	2250	1600
Apr.	1–30	2000	1300	915	2000	1600
May	1–31	2000	1300	915	2000	1600
Jun.	1–15	2000	1300	915	1200	1060
	16-30	2000	1400	650	1200	1060
Jul.	1–15	2000	1100	600	1150	1060
	16-31	2000	800	500	750	700
Aug.	1–15	1700	800	425	750	700
	16-31	1700	800	500	750	700
Sep.	1–15	1700	800	700	775	700
	16-30	1700	800	850	775	700
Oct.	1–15	1700	800	870	1250	1200
		1700	800	870	1900	1700
Nov.	1–15	2200	950	915	2300	1800
	16–30	2200	950	915	2300	1800
Dec.	1– 31	2200	1300	915	2500	1800

Instream flows* for large tributaries of the
Mainstem and North and South Forks Stillaguamish River Basin, WRIA 5

Month	Day	RM 0.5 Pilchuck Creek	RM17 Pilchuck Creek	RM 1.2 Squire Creek	RM 3.3 Jim Creek	RM 5.0 Canyon Creek	RM 0.3 Lake Creek	RM 1.3 Deer Creek	RM 0.3 Brooks Creek
Jan.	1-31	170	98	200	250	525	21	411	39
Feb.	1-29	170	98	200	250	450	21	411	39
Mar.	1-15	170	98	280	250	450	21	474	68
Mar.	16-31	170	98	280	250	450	21	474	68
Apr.	1-30	170	98	280	250	450	21	474	68
May	1-31	170	98	280	250	450	21	474	68
Jun.	1-15	170	98	280	250	450	21	313	45
Jun.	16-31	170	98	280	250	350	21	313	45
Jul.	1-31	170	98	200	250	350	21	195	45
Aug.	1-31	140	98	200	250	350	21	88	17
Sep.	1-30	170	98	200	250	400	21	353	17
Oct.	1-31	170	98	200	250	525	21	617	39
Nov.	1-15	170	98	160	250	525	21	411	39

Nov.	16-30	170	98	160	250	525	21	411	39
Dec.	1-31	170	98	160	250	525	21	411	39

Instream flows* for large tributaries of the
Mainstem and North and South Forks Stillaguamish River Basin, WRIA 5

Month	Day	RM 0.3 Montague Creek	RM 1.0 Rollins Creek	RM 0.5 Boulder River	RM 0.4 French Creek	RM 0.3 Segelson Creek	RM 0.2 Furland Creek	RM 0.2 Ashton Creek	RM 0.1 Grant Creek
Jan.	1-31	29	47	167	56	47	33	34	67
Feb.	1-29	29	47	167	56	47	33	34	67
Mar.	1-15	53	80	203	73	79	44	46	87
Mar.	16-31	53	80	203	73	79	44	46	87
Apr.	1-30	53	80	203	73	79	44	46	87
May	1-31	53	80	203	73	79	44	46	87
Jun.	1-15	35	53	134	48	52	29	30	57
Jun.	16-31	35	53	134	48	52	29	30	57
Jul.	1-31	35	53	134	48	52	29	30	57
Aug.	1-31	12	20	154	18	20	10	10	23
Sep.	1-30	12	47	250	84	47	49	51	101
Oct.	1-31	29	47	167	84	47	49	51	101
Nov.	1-15	29	47	167	56	47	33	34	67
Nov.	16-30	29	47	167	56	47	33	34	67
Dec.	1-31	29	47	167	56	47	33	34	67

*Measured in cubic feet per second

Instream flows* for large tributaries of the
Mainstem and North and South Forks Stillaguamish River Basin, WRIA 5

Month	Day	RM 3.0 Church Creek	RM 0.5 Glade Bekken Creek	RM 7.0 Portage River	RM 2.0 Fish Creek	RM 1.1 Rock Creek	RM 1.5, St. 0138 Koonz Creek
Jan.	1-31	24	10	11	16	29	19
Feb.	1-29	24	10	11	16	29	19
Mar.	1-15	43	21	22	30	53	36
Mar.	16-31	43	21	22	30	53	36
Apr.	1-30	43	21	22	30	53	36
May	1-31	43	21	22	30	53	36
Jun.	1-15	28	14	14	20	35	24
Jun.	16-31	28	14	14	20	35	24
Jul.	1-31	28	14	14	20	35	24
Aug.	1-31	10	4	4	6	12	8
Sep.	1-30	10	4	4	6	29	19
Oct.	1-31	24	10	11	16	29	19
Nov.	1-15	24	10	11	16	29	19
Nov.	16-30	24	10	11	16	29	19
Dec.	1-31	24	10	11	16	29	19

Instream flows* for large tributaries of the
Mainstem and North and South Forks Stillaguamish River Basin, WRIA 5

Month	Day	RM 1.5 Harvey Creek	RM 1.0 Armstrong Creek	RM 0.1 Jordan Creek	RM 1.6 St. 0363 Tiger Creek	RM 0.0 Siberia Creek
Jan.	1-31	9	34	18	27	37
Feb.	1-29	9	34	18	27	37
Mar.	1-15	6	46	34	48	49
Mar.	16-31	6	46	34	48	49
Apr.	1-30	6	46	34	48	49
May	1-31	4	46	34	48	49
Jun.	1-15	4	30	22	32	32
Jun.	16-31	4	30	22	32	32
Jul.	1-31	4	30	22	32	32
Aug.	1-31	4	10	7	11	11
Sep.	1-30	4	51	18	11	27
Oct.	1-31	4	51	18	11	55
Nov.	1-15	9	34	18	27	37
Nov.	16-30	9	34	18	27	37
Dec.	1-31	9	34	18	27	37

*Measured in cubic feet per second

To protect the natural flow variability, the rule proposes to set a maximum amount of water that can be diverted from the following basins:

Stream reach	Control point	Stream reach description	Maximum allocation	Non-closed period
Stillaguamish Mainstem	Stillaguamish River nr Sylvana, USGS Station #12167700, River Mile (RM) 11.2	From the mouth to the confluence of North and South Forks.	300 cfs	October 16-June 30
Of that 300 cfs, the following maximums may be taken from the specified stream reaches at the specified times:				
N.F. Stillaguamish River at Arlington, WA	USGS Station #12167000, RM 6.5	From confluence with the S.F. Stillaguamish to river mile 17.6.	150 cfs	October 16-June 30
N.F. Stillaguamish River at Oso	Ecology Station #05B090 RM 17.6.	From river mile 17.6 to headwaters, except Squire Creek, Deer Creek, and Boulder River.	120 cfs	November 1–June 30
S.F. Stillaguamish River at River Meadows Park	Ecology Station #05A105, RM 24.4.	From confluence with the N.F. Stillaguamish River to RM 34.9, except Jim and Canyon Creeks.	150 cfs	November 1-June 15
Pilchuck Creek at Bridge 626	Ecology Station #05D070 RM 0.5	From mouth to headwaters, except Lake Cavanaugh.	50 cfs	October 16-May 31
Squire Creek	Ecology Station #05H070 RM 1.2	From mouth to headwaters.	20 cfs	November 1 to February 15, and May 1-June 30

Canyon Creek nr. Masonic Park	Ecology Station #05F080 RM 5.0	From mouth to headwaters.	40 cfs	December 1-May 31

N.F.=North Fork S.F.=South Fork cfs=cubic feet per second confluence= the juncture of two or more flowing streams

For lakes and ponds in the basin, the department has determined that further consumptive withdrawals negatively impact the lakes and ponds of the Stillaguamish River basin. To retain lakes and ponds in essentially their natural condition, the department proposes to close all lakes and ponds in the Stillaguamish River basin, except for those lakes within the Mt. Baker/Snoqualmie National Forest, lakes fully surrounded by Department of Natural Resources land.

Withdrawals from lakes are proposed to be limited to only single domestic in-house uses with the exception for non-commercial watering of ornamental plants and small vegetable gardens. The exception does not include lawn irrigation. The proposed rule does not change the existing requirement that any use of surface water from a lake or pond requires a water right. The rule includes a finding that no water is available for new surface water uses from any lake or pond in the basin.

A minimum flow of 1.0 cubic foot per second of water for stockwatering from surface water is proposed in the rule. The place of use for water reserved is basin wide. Use of water from surface is not available for feedlots and other activities which are not related to normal grazing land uses. In addition two acre feet per day is reserved for stockwatering, limited to 5,000 gallons per day per individual user.

A reservation of water is created for future permit-exempt ground water withdrawals in areas not served by public water systems. The reservation of five cubic foot per second (5 cfs) is to provide adequate and safe supplies of water for year-round future domestic uses. The reservation of 5 cfs is further divided or spatially allocated to reserved water that can be withdrawn from the North Fork (2 cfs) and the South Fork (1.5 cfs) of the Stillaguamish River.

Stillaguamish River at RM 11.2	5 cfs or 3.23 million gallons per day (gpd)
North Fork Stillaguamish River at RM 6.5	2 cfs or 1,292,544 gpd
South Fork Stillaguamish River at RM 24.4	1.5 cfs or 969,408 gpd

To set forth the department's policies to guide the protection, use, and management of Stillaguamish River basin surface water and interrelated ground water resources for use in future water allocation decisions, the rule directs that surface and ground water permits pursuant to chapters 90.03 and 90.44 RCW may be issued and not be subject to the instream flows and closures, if:

- The proposed use is nonconsumptive and is compatible with the intent of this chapter.
- The water right applicant elects to submit a mitigation plan and it is approved by the department.
- The proposed ground water use will not impair senior water rights.
- The withdrawal of water is for storage, from a source open for withdrawal during some portion of the year.
- The proponent can adequately demonstrate that the proposed withdrawal can be managed to avoid impacts on the instream flows. The project proponent must also describe how their water needs will be met when water is curtailed.

All water right permits approved by the department for a consumptive use from a water source with instream flows established by this rule are subject to those instream flows during non-closed periods, as described in WAC 173-505-050. For streams with partial closures, the maximum allocation cannot exceed the water volume limits in the rule. No right to withdraw, divert, or store the public surface or ground waters of the Stillaguamish River basin that conflicts with the provisions of this rule will hereafter be granted, except in cases where such rights will clearly serve overriding considerations of the public interest, as stated in RCW 90.54.020(3)(a).

All future surface and ground water permit holders shall be required to install and maintain measuring devices and report the data to the department in accordance with permit requirements. In addition, the department may require the permit holder to monitor stream flows and ground water levels.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The location of the proposal is WRIA 5, the Stillaguamish watershed. The Stillaguamish River system originates in the Cascade Mountains and drains into Port Susan and Skagit Bay. The basin occupies 690 square miles. Located within Skagit and Snohomish counties, the tributaries of this river system extend into Skagit County to the north and the Mt. Baker-Snoqualmie National Forest to the east. The western lowland region is comprised of a large floodplain that consists of approximately 25 square miles of agricultural land. Adjacent gently rolling hills are covered with a mixture of forest, pasture, and residential land. Three communities, Stanwood, Granite Falls, and Arlington, constitute the major population centers in the basin. The basin is divided into three principle drainages: the North Fork, South Fork, and main stem of the Stillaguamish River. (Please see attached map, titled "Stillaguamish Water Resources Inventory Area (WRIA) # 5)."

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountainous, other. . . . . .

The river drains an area of about 700 square miles, beginning in the western foothills of the Cascade Mountains and terminating in Puget Sound. The lower basin contains level to gently undulating river bottom lands and tidelands while the upper reaches drain steep, mountainous valleys. Below Arlington, the valley drops almost to sea level and widens to a flat plain as much as 2 miles wide and 13 miles long.

b. What is the steepest slope on the site (approximate percent slope)?

There are slopes of at least 90 percent in the watershed area.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Most of the Stillaguamish River mainstem and the North Fork Stillagaumish River lie on top of the general soil unit referred to as the Puget-Sultan-Pilchuck. This soil unit is "on flood plains along the major streams in the northern, central, and southern parts of Snohomish County." It is about 35 percent Puget soils, 20 percent Sultan soils, and 15 percent Pilchuck soils. The remaining 30 percent consists of soils of "minor extent." Overall, this general unit includes soils which are very deep, range from poorly drained to "somewhat excessively drained" nearly level soils.

There is a short section of both rivers (perhaps one to two miles) about two miles northeast of Arlington, which lie on the Norma-Lynnwood-Custer soil series, which are also "very deep" and also range from poorly drained to somewhat excessively drained; they are "nearly level to very steep soils, on outwash plains and terraces and in basins and depressional areas on outwash plains and till plains." The North Fork passes primarily over Sultan silt loam, Sultan Variant silt loam, Sulsavar gravelly loam (with 0 to 8 percent slopes), Pilchuck loamy sand, Puyallup fine sandy loam, and Riverwash. The mainstem flows primarily over Puget silty clay loam, Puyallup fine sandy loam, and Riverwash.

Squire Creek begins in the Mt. Baker National Forest, flowing over the Getchell-Oso soil series, which are moderately deep, moderately well drained, and have nearly level to steep soils, on mountainsides and ridges. It then crosses an area of the Elwell-Olomount-Skykomish soil series, which range from very deep to moderately deep and from somewhat excessively drained to moderately well drained, nearly level to very steep soils, on mountainsides, ridgetops, terraces, and outwash plains. Squire Creek is a primary tributary of the North Fork Stillaguamish River and the Creek then runs over the Puget-Sultan-Pilchuck soil series until it flows into the North Fork. The main soil types traversed by Squire creek are Puyallup fine sandy loam, Sulsavar gravelly loam (with 0 to 8 percent slopes), Sultan silt loam, and Sultan Variant silt loam.

Pilchuck Creek flows down from Skagit County, in which it runs over a soil series called the Tokul-Skipopa-Dystric Xerorchrepts, which are described as, "[m]oderately deep to very deep, somewhat poorly drained to well drained, level to extremely steep soils, on terraces, hills, and escarpments." The soil type in this area is Andic Xerorchrepts, with 40 to 65 per cent slopes. Shortly after entering Snohomish County, Pilchuck Creek flows, very briefly, over the Elwell-Olomount-Skykomish soil series (described under Squire Creek, above).

The Pilchuck then flows for a number of miles over the Tokul-Pastik soil series, which are "moderately deep and very deep, are moderately well drained, from nearly level to very steep soils, on till plains and terraces." It then flows for perhaps a mile over the northwestern edge of the Norma-Lynnwood-Custer soil series before crossing over several miles of the Puget-Sultan-Pilchuck soil series and joining the Stillaguamish mainstem. Following the above-described path in Snohomish County, Pilchuck Creek lies primarily on Tokul-Winston gravelly loams, and the Tokul-Ogarty-Rock outcrop complex, both of which have 25 to 65 percent slopes, and Pilchuck loamy sand. As the creek moves further south, it primarily flows over Sultan silt loam, Pilchuck loamy sand, and Riverwash.

The South Fork Stillaguamish comes out of the Mt. Baker National Forest on the Elwell-Olomount-Skykomish soil series (described under Squire Creek, above) Approximately two miles northeast of Granite Falls, the South Fork flows across the Tokul-Pastik soil series (described above under Pilchuck Creek). About three miles southeast of

Arlington the South Fork flows briefly over the Norma-Lynwood-Custer soil series (described above, under the Stillaguamish mainstem) and then runs for several miles over the Puget-Sultan-Pilchuck soil series (also described in relation to the mainstem Stillaguamish) before joining the mainstem.

In following this course, the South Fork passes over, or borders, a great number of soil types. In very rough order from its origin, these soils are: Pilchuck loamy sand; Riverwash; Sultan silt loam; the Olomount-Elwell-Rock outcrop complex, with 65 to 90 percent slopes; the Elwell-Olomount- Rock outcrop complex, with 30 to 60 percent slopes; Ragnar fine sandy loam, with 0 to 8 percent slopes; Tokul-Winston gravelly loams, with 25 to 65 percent slopes; Sultan Variant silt loam; Puyallup fine sandy loam; Tokul-Ogarty-Rock outcrop complex, with 25 to 65 percent slopes; Sultan silt loam; Riverwash, and Pilchuck loamy sand.

Jim Creek flows north of the South Fork, out of the Mt. Baker National Forest, passing for several miles over the Getchell-Oso soil series (described under Squire Creek, above). It then crosses over the same sequence of soil series as the South Fork, until it joins the South Fork in the area where it briefly flows over the Norma-Lynwood-Custer soil series. In very rough order, from the confluence of Big Jim Creek and Little Jim Creek (which forms Jim Creek) the Creek passes over or is proximate to the following soil types: Olomount-Elwell-Rock outcrop complex, with 65 to 90 percent slopes; Pilchuck loamy sand; Sultan Variant silt loam; Riverwash; Sulsavar gravelly loam, with a 0 to 8 percent slopes; Norma loam; Puget silty clay loam; and Tokul-Winston gravelly loams, with 25 to 65 percent slopes.

Canyon Creek also flows out of the Mt. Baker National Forest, running southeasterly over about five miles of the Elwell-Olomount-Skykomish soil series, then passing over several miles of the Tokul-Pastik soil series, before running into the South Fork about a mile north of Granite Falls. Again, in very rough order, the soil types over or near which Canyon Creek flows are: the Elwell-Olomount- Rock outcrop complex, with 30 to 60 percent slopes; Pilchuck loamy sand; Sulsavar gravelly loam, with a 0 to 8 percent slopes; Riverwash; Skykomish gravelly loam, with 0 to 30 percent slopes; Custer fine sandy loam; Puyallup fine sandy loam; Sultan Variant silt loam; Menzel silt loam, with 0 to 3 percent slopes; Sultan silt loam; Everett gravelly sandy loam, with 0 to 8 percent slopes; Everett gravelly sandy loam, with 8 to 15 percent slopes; Tokul-Winston gravelly loams, with 25 to 65 percent slopes; Tokul-Ogarty-Rock outcrop complex, with 25 to 65 percent slopes; Indianola loamy sand, with15 to 25 percent slopes; Everett gravelly sandy loam, with 0 to 8 percent slopes; and Sultan variant silt loam.[1] (See map titled, "WRIA 5 Soil Types.")

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

Yes, there are surface indications of, and a history of, unstable soils in the basin. According to Snohomish County's Draft Environmental Impact Statement (DEIS) for the "10 year update" (made public for comment on May 5, 2004) there are several general areas in Snohomish County where unstable soils may be present. Drawing from a 1983 National Resource Conservation Service (NRCS) study, the DEIS indicates that, "[t]he larger areas with the most erodable soils include…the Elwell and Getchell series on steep slopes in the Cascade foothills," and "[e]rosion hazards on Tokul soils [is] limited to steep slopes from the valley walls." Thus, soils with such erosion hazards are probably generally limited to the immediate vicinity of the headwaters of Squire Creek, the South Fork Stillaguamish, Jim Creek, and Canyon Creek. (See map titled, "WRIA 5 Erosion Potential.")

The DEIS also identifies areas in the County which are conducive to landslide hazards. As stated in the DEIS: "Unconsolidated soils with slopes greater than 15% that are underlain with impermeable geologic materials, and/or have seeps, are especially subject to slippage of the overlying soil" and "[a]reas that have experienced movement in the past, or that are unstable as a result of rapid stream incision, stream bank erosion, or undercutting by wave action are also susceptible to landslides. From this description it is obvious that certain areas associated with the streams in the Stillaguamish Watershed may well be subject to landslide activity. The DEIS states further: "Many slopes in Snohomish County are either naturally unstable or become unstable when disturbed…[a]reas subject to moderate and high landslide risk are [virtually] ubiquitous…"

[1] All information regarding soils is taken the Soil Survey of Snohomish County Area, Washington, done by the USDA Soil Conservation Service, issued in July 1983, and the Soil Survey of Skagit County Area, Washington, also done by USDA Soil Conservation Service, and issued in September 1989.)

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

None; does not apply.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

No, does not apply.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt, or buildings)?

No impervious surfaces will result as a direct impact of this proposal.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

None; does not apply.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, and industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

None; does not apply.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

None; does not apply.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

None; does not apply.

3. Water

a. Surface: Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Yes, there are surface water bodies on or in the action area. Ecology anticipates setting instream flows at several points in the basin. (Please also see the answer to question 11 in the general description of the project.) The major streams within the basin are the mainstem Stillaguamish River and the North and South Fork Stillaguamish River. At about river mile 18, near the City of Arlington, the Stillaguamish River splits into the North and the South Fork. The North Fork extends for about another 49 miles while the mainstem and the South Fork are about 71 miles long. Of the total 700 square mile drainage, the North Fork drains about 284 square miles. Major tributaries include Pilchuck Creek, off the lower mainstem, Deer Creek, Boulder River, and Squire Creek off the North Fork, and Jim Creek and Canyon Creek off the South Fork.

The North Fork Stillaguamish River originates in the south-central portion of Skagit County, flowing southerly, then westerly, and then southwest to join with the South Fork, forming the mainstem Stillaguamish River. The South Fork Stillaguamish River originates in the central portion of Snohomish County, flowing west, then northwest before joining the North Fork.

Pilchuck Creek originates in the south-central portion of Skagit County, flowing south-southwesterly into Snohomish County and joining the Stillaguamish from the north at river mile 9.4. Deer Creek originates in the south-central portion of Skagit County, flowing westerly, then southerly, to join the North Fork at river mile 14.2. The Boulder River originates in the north-central portion of Snohomish County, flowing west, northwest, and northeast before joining the North Fork at river mile 24.3. Squire Creek also originates in the north-central portion

of Snohomish County, flowing north, then west to join the North Fork at river mile 31.2. Deer Creek joins the North Fork from the north while both Boulder River and Squire Creek join from the south.

Jim Creek originates in the north-central portion of Snohomish County, flowing west, then southwesterly to join the South Fork at river mile 21.6. The north fork of Canyon Creek originates nearby and flows southeast to connect with the south fork Canyon Creek which together flow southwesterly to join with the South Fork Stillaguamish at river mile 33.7. Both Jim Creek and Canyon Creek join the South Fork from the north. All the waters flow to Port Susan. See attached map titled, "Figure 5: Stillaguamish Sub-Basins WRIA 5."

The lakes potentially affected by the proposed rule include:

Name	Township, Range, Section		
Bald Mountain Lake	29 N	9 E	16
Bandana Lake	31 N	8 E	10
Bear Lake	30 N	8 E	26
Beaver Plant Lake	29 N	8 E	1
Blue Pool	32 N	8 E	10
Boardman Lake	29 N	9 E	6
Bowers Lake	30 N	7 E	2
Bryant Lake	32 N	5 E	27
Bullon Lake	31 N	9 E	7
Canaday Dam	32 N	6 E	27
Canyon Lake	30 N	9 E	6
Chain Lakes	31 N	7 E	7
Chitwood Lake	30 N	7 E	15
Clear Lake	29 N	9 E	7
Coal Lake	30 N	10 E	3
Cummings Lake	31 N	4 E	31
Cutthroat Lakes	29 N	9 E	16
Dahlbero Ponds	31 N	6 E	36
East Boardman Lake	29 N	9 E	9
Edward Springs Reservoir	31 N	4 E	24
Fortson Ponds	32 N	8 E	11
Frailey Ponds	33 N	6 E	29
Gordon Lake	34 N	5 E	36
Granite Lake	33 N	7 E	13
Granite Lake Potholes	33 N	7 E	12
Granite Lake Potholes	33N	7 E	13
Harry Lake	33 N	8 E	2
Hawkins Lake	33 N	8 E	22
Heather Lake	30 N	8 E	21
Hempel Lake	30 N	8 E	26
Hubbard Lake	30 N	7 E	17
Independence Lake	30 N	10 E	4
Jordan Ponds	31 N	6 E	25
Kelcema Lake	30 N	9 E	1
King Lake	31 N	6 E	27

Name	Township, Range, Section		
La Barge Lake	31 N	7 E	8
Lake Armstrong	32 N	5 E	26
Lake Cavanaugh	33 N	6 E	21
Lake Evan	29 N	9 E	5
Lake Howard	31 N	4 E	20
Lake Ki	31 N	4 E	23
Lake Martha	31 N	4 E	18
Lake Rowland	31 N	4 E	29
Lake Twentytwo	30N	8 E	22
Larch Lake	33 N	7 E	17
Little Lake	32 N	6 E	26
Lost Lake	31 N	6 E	25
McGillicuddys Duck Pond	33 N	8 E	19
Mount Bullon Lakes	31 N	9 E	7
Mud Lake	31 N	6 E	22
Mud Lake	31 N	7 E	20
Myrtle Lake	33 N	8 E	30
Noble Lake	31 N	8 E	14
Olson Lake	31 N	6 E	30
Pinnacle Lake	30 N	8 E	27
Rainbow Springs Dam	30 N	6 E	11
Riley Lake	32 N	7 E	19
Saddle Lake	31 N	8 E	15
Seabury Pond	33 N	5 E	14
Segelsen Lake	33 N	8 E	24
Shelf Lake	33 N	8 E	22
Summer Lake	33 N	5 E	21
Sunday Lake	32 N	4 E	26
Tucker Lake	31 N	9 E	7
Tupso Lake	31 N	8 E	5
Twin Lakes	31 N	7 E	7
Twin Lakes	31 N	31 E	17
Wagner Lake	34 N	5 E	36
Wheeler Lake	32 N	7 E	26

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

The project does not directly require any work over, in, or adjacent to the surface waters. However, as part of a larger effort to monitor hydrology, assist with flood control warnings, and monitor salmon recovery projects that involve flow of water, Ecology and several governmental partners implemented a program for stream gauging in the basin. Please see "PROJECT PLAN FOR ENHANCED STREAM FLOW MONITORING IN THE STILLAGUAMISH RIVER BASIN (WRIA 5)" on Ecology's web site at: http://www.ecy.wa.gov/programs/wr/instream-flows/isfhm.html.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No; does not apply.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

Yes, in large part the proposed action overlaps with a 100-year floodplain. See attached maps titled, respectively, "Stillaguamish Water Resources Inventory Area (WRIA) # 5," (with the words "FEMA/FIRM 'Special Flood Hazard Areas'" in the lower right hand corner) and "FLOOD WARNING MAP FOR THE SKAGIT RIVER VALLEY FROM NOOKACHAMPS AREA TO ROCKPORT AREA."

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No, it does not.

b. Ground:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

The rule provides for a reservation of ground water to be withdrawn by permit-exempt ground water wells in areas not served by a public water system. Historic records (well log data) indicate that about 246 wells per year have been installed from 1986 to 2003. Using Puget Sound Regional Council and Office of Financial Management population estimates for the watershed area outside of the urban growth areas, we estimate there will be 5,692 new wells installed through 2025. This amounts to 271 wells per year.

Data for the service areas of public water supply systems were not available for spatial analysis and the combined service areas comprise a larger area than that described by the urban growth areas. The potential of 5,692 wells is almost certainly greater than will actually be drilled, given we know that more of the basin will be served by a public water supply than is accounted for in our spatial assessment. The ground water reserve of 3.23 million gallons per day could be spread across up to 9,000 new permit exempt wells. It appears the reserved ground water supply is adequate to meet the projected demand through 2025.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

No discharges will result as a direct impact of this non-project proposal.

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Precipitation occurs during every month of the year in the Stillaguamish River Basin. The coastal lowlands, with elevations of 1,500 feet or less, are characterized by light to moderate rainfall, averaging 25 to 35 inches annually. In the foothills and mountain valleys, which range in elevation from 1,500 to 2,500 feet, rain and snowfall is greater, with annual accumulations between 30 to 60 inches in depth, and generally a total snowfall of 75 to100 inches. The mountainous areas above 2,500 feet can receive as much as 300 to 500 inches of snowfall annually, with a maximum accumulation of 120 to 300+ inches.

Although ground water recharge occurs throughout most of the basin, much of the rainfall becomes runoff flowing into the surface water system described in B.3.a., above. The limited winter snow pack also serves as a natural storage reservoir for water, as the snowmelt flows into surface waters during the spring months.

2) Could waste materials enter ground or surface waters? If so, generally describe.

Does not apply.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

None; does not apply.

4. Plants

All the plants typically found in a Puget Sound lowland basin are assumed to be present in WRIA 5.

a. Check or circle types of vegetation found on the site:

X Deciduous tree: alder, maple, aspen, other
X Evergreen tree: fir, cedar, pine, other
X Shrubs
X Grass
X Pasture
X Crop or grain
X Wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other
X Water plants: water lily, eelgrass, milfoil, other
X Other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

None; does not apply.

c. List threatened or endangered species known to be on or near the site.

These are the plant species of concern currently identified in Skagit and Snohomish Counties.

Agoseris elata	Tall agoseris	Sensitive
Bartramiopsis lescurii	A moss	Endangered
Botrychium pedunculosum	Stalked moonwort	Sensitive
Brotherella roellii	A moss	Threatened
Campanula lasiocarpa	Alaska harebell	Sensitive
Carex comosa	Bristly sedge	Sensitive
Carex magellanica ssp irrigua	Poor sedge	Sensitive
Carex pauciflora	Few-flowered sedge	Sensitive
Carex pluriflora	Several-flowered sedge	Sensitive
Carex praeceptorum	Teacher's sedge	Review
Carex proposita	Smoky mountain sedge	Threatened
Carex stylosa	Long-styled sedge	Sensitive
Carex stylosa	Long-styled sedge	Sensitive
Castilleja levisecta	Golden paintbrush	Endangered
Coptis aspleniifolia	Spleenwort-leaved goldthread	Sensitive
Dryas drummondii	Yellow mountain-avens	Sensitive
Erigeron salishii	Salish fleabane	Sensitive
Erythronium revolutum	Pink fawn-lily	Sensitive
Fritillaria camschatcensis	Black lily	Sensitive
Gaultheria hispidula	Creeping snowberry	Sensitive

Hierochloe odorata	Common northern sweet grass	Review
Hypericum majus	Canadian St. John's-wort	Sensitive
Impatiens aurella	Orange balsam	Review
Lobelia dortmanna	Water lobelia	Threatened
Loiseleuria procumbens	Alpine azalea	Threatened
Luzula arcuata	Curved woodrush	Sensitive
Lycopodium dendroideum	Treelike clubmoss	Sensitive
Montia diffusa	Branching montia	Sensitive
Platanthera chorisiana	Choris' bog-orchid	Threatened
Potamogeton obtusifolius	Blunt-leaved pondweed	Sensitive
Puccinellia nutkaensis	Alaska alkaligrass	Sensitive
Ranunculus californicus	California buttercup	Threatened
Ranunculus cooleyae	Cooley's buttercup	Sensitive
Salix sessilifolia	Soft-leaved willow	Sensitive
Saxifraga rivularis	Pygmy saxifrage	Sensitive
Utricularia intermedia	Flat-leaved bladderwort	Sensitive

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

None.

5. Animals

All the birds, mammals, reptiles, and amphibians typically found in a Puget Sound lowland basin are assumed to be present in WRIA 5.

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

Birds: hawk, heron, eagle, songbirds, other:	All
Mammals: deer, bear, elk, beaver, other:	All
Fish: bass, salmon, trout, herring, shellfish, other:	All

b. List any threatened or endangered species known to be on or near the site.

In March 1999, Puget Sound Chinook salmon were designated as threatened under the federal Endangered Species Act. The state Salmon and Steelhead Stock Inventory lists two stocks of Stillaguamish basin Chinook salmon as depressed.

c. Is the site part of a migration route? If so, explain.

Chinook stocks inhabit or migrate through a significant portion of the WRIA. (See attached maps, titled, "Stillaguamish Water Resources Inventory Area (WRIA) # 5 WDFW – Salmonid Stock Inventory, SUMMER CHINOOK" and "Stillaguamish Water Resources Inventory Area (WRIA) # 5 WDFW – Salmonid Stock Inventory, FALL CHINOOK.") The watershed is also within the Pacific Flyway for migratory waterfowl.

d. Proposed measures to preserve or enhance wildlife, if any:

The proposed action will preserve salmonid stocks, but is not anticipated to enhance either fish stocks or wildlife. An instream flow sets a base flow, below which further stream depletion by withdrawal or diversion is limited. State instream flow regulations are intended to ensure that perennial rivers and streams of the state have base flows necessary to provide for preservation of wildlife, fish, scenic, aesthetic and other environmental values, as well as navigational values.

The fisheries of primary concern in the Stillaguamish basin are both commercial and game fish, including salmon species, steelhead trout, cutthroat trout, and bull trout. All of these species make use of the study area during some part of their life cycle. Different species of fish have different habitat-related preferences, and these preferences vary during each of their life stages.

Flows for spawning are often critically important to salmon, so in analyzing Instream Flow Incremental Method (IFIM) results and fish needs, biologists focused on recommending flows that protect spawning habitat. Instream flows to be established are, in part, based on the habitat needs of spawning Chinook salmon. The other significant species' life stage used to establish flows was the rearing stage of juvenile steelhead. If the rearing of juvenile steelhead is protected, we anticipate that the juvenile rearing needs of the other fish species will be satisfied. Other fish species/life stages were considered and their needs are believed to be met by the various flow regimes for the different streams or river segments.

Instream flows were determined in large part by using data from the Embry report, cited in A.8. of this Checklist. The Embry data was used to develop hydraulic models. The hydraulic models were then coupled with fish preference models the State created within Physical Habitat Windows 2002 (PhabWin 2002). Fish preference curves for all species, for spawning, rearing, and adult holding (upstream migration) were run in PhabWin 2002 to generate Weighted Useable Area (WUA) curves. WUA is an index of habitat versus discharge curves for each site.

The instream flows recommended in the instream flow rule for the larger rivers and streams are based on:

- the priority species and or life stage of a fish species;
- the associated WUA curves;
- the timing, or likely presence or absence of a fish species;
- the actual flow data known or estimated; and
- the best professional judgment of fisheries experts.

Instream flow needs for the smaller streams and creeks were determined with the Toe-Width assessment method. On June 29, 2004, Ecology staff from HQ and NWRO, with help from WDFW and the Stillaguamish Tribe, took part in a toe-width study of tributaries within the Stillaguamish basin. We measured twenty-two streams on June 29, 2004, and two streams on July 2, 2004. The purpose of this study was to provide technical information and scientific data necessary to develop instream flows recommendations for these tributaries. The stream names and their average toe-width are listed in Table 1, below.

Toe-Width Method

The Toe-Width Method was developed by the Department of Fisheries (WDF), the Department of Game (WDG), and the U.S. Geological Service (USGS) in the 1970s at the request of the state legislature in response to the need to determine minimum instream flows for fish.

Fish habitat relationships were compared to many different variables in the watershed to determine if there were any correlations that could be used to calculate preferred spawning or rearing flows for certain fish species. The toe-width was the only variable found to have a high correlation. The toe-width is the distance from the toe of one streambank to the toe of the other streambank across the stream channel. This width of the stream is used in a "power function equation" to derive the flow needed for spawning and rearing salmon and steelhead (Swift, 1976 and 1979).

Researchers usually took either three or four toe-width measurements at each stream. The only exceptions were Harvey Creek, with two measured widths and Stream 0030, locally know as Glade Bekken Creek, with five measured widths. The average of the measured widths was used in the toe-width power function equations to develop preferred flows for salmon and steelhead spawning and rearing. Examples of these preferred flows are listed in Table 2.

Table 1

Stream Name	Average Toe-Width (in feet)	Stream Name	Average Toe-Width (in feet)
Pilchuck Creek (@ campground bridge above falls at RM 11.7)	90.0	Church Creek (@ Hwy 532 crossing near fish ladder) RM 2.1	17.7
Lake Creek (@ tree farm bridge off Lake Cavanaugh Rd) RM 0.3	30.6	Stream 0030 - Glade Bekken Creek (@ Sylvania Terrace Road crossing) RM 0.5	9.5
Deer Creek (@ Deer Creek Rd by the Ecology gage) RM 1.3	138.9	Portage Creek (@ 208th St NE & 66th Ave. crossing, downstream of Prairie Ck) RM 7.0	9.8
Brooks Creek (@ Brooks Creek Rd bridge) RM 0.3	26.1	Fish Creek (@ Sill Rd crossing) RM 2.0	12.9
Montague Creek (@ Hwy 530 bridge) RM 0.3	20.9	Rock Creek (@ 1/4 mile downstream from Grandview Rd) RM 1.1	20.9
Rollins Creek (Off C Post off Hwy 530, about RM 1.0)	30.0	Stream 0138 - Koonz Creek (@ Fish and Wildlife bridge) RM 1.5	15
Boulder River (@ Hwy 530 Bridge, RM 0.5)	67.0	Harvey Creek (@ side road crossing off of Grandview Road) RM 1.5	8.6
French Creek (@ Hwy 530 bridge, RM 0.4)	27.8	Armstrong Creek (@ hatchery at Harvey Creek Road crossing) RM 1.0	18.7
Segelson Creek (@ Swede Haven Rd bridge off Hwy 530, RM 0.3)	29.8	Jordan Creek (@ Jordan Rd crossing) RM 0.1	14.4
Furland Creek (@ Hwy 530 bridge, RM 0.2)	18.0	Tiger Creek (near Masonic Park) RM 1.6	19.4
Ashton Creek (@ Hwy 530 bridge, RM 0.2)	18.7	Siberia Creek (@mouth near 131st Ave. NE) RM 0.0	19.8
Grant Creek (@Hillis Rd bridge off Hwy 530, RM 0.1)	32.3		

Table 2

Stream Name	Tributary to	Average Toe Width	Prefered Flow for Fish Spawning and Rearing (in cfs)					
			Chinook Spawning	*Coho Spawning*	*Chum Spawning**	*Steelhead Spawning*	*Steelhead Rearing*	*Salmon Rearing*
Pilchuck Creek (@ campground bridge above falls at RM 11.7)	Stillaguamish River	90.0	360.4	199.7	199.7	286.6	97.7	90.6
Lake Creek (@ treefarm bridge off Lake Cavanaugh Rd) RM 0.3	Pilchuck Creek	30.6	94.7	48.7	48.7	82.1	21.1	19.2

The data obtained from the Toe-Width study was used by Ecology's fisheries biologist to recommend instream flows for the selected control points.

6. Energy and natural resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Does not apply.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No, the project does not affect the potential use of solar energy by property owners.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

None.

7. Environmental health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? If so, describe.

No, there are none.

1) Describe special emergency services that might be required.

None.

2) Proposed measures to reduce or control environmental health hazards, if any.

None.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

None.

3) Proposed measures to reduce or control noise impacts, if any:

None.

8. Land and shoreline use

What is the current use of the site and adjacent properties?

Generally the WRIA is a mix of agriculture production in the lower valley and west of Interstate 5, and diffuse rural development west of Interstate 5. The largest communities in the basin are Stanwood (population, 3,975); Arlington (population, 12,770); and Granite Falls (population, 2,540).

b. Has the site been used for agriculture? If so, describe.

Yes. Large portions of the site are used for agriculture, although much of the Stillaguamish Watershed is in the protected areas of the Mount Baker National Forest. The areas used for agriculture in the watershed, particularly to the east of Interstate 5, closely follow the riparian areas surrounding the North Fork Stillaguamish River. The principle agricultural region is west on Interstate 5 and along the riparian areas of the mainstem, North Fork, and South Fork.

Agricultural production, based on the latest figures available includes: Over 2,500 acres of mixed grasses; 1,700 acres of field corn; about 1,100 acres of green peas; approximately 600 acres of Irish potatoes; about 510 acres of winter wheat; 240 acres of field spinach; 160 acres of corn (type not specified); 135 acres of alfalfa (for hay); 110 acres of perennial ryegrass; 75 acres of ornamentals for nurseries; approximately 60 acres of hybrid poplar; 55

acres of cucumbers; 25 acres of seed beets; 20 acres of sweet corn; 20 acres of seed cabbage; 10 acres of spring oats; 10 acres of red fescue; 7 acres of pumpkins; 4 acres of Christmas trees; and 1 acre of apples.

c. Describe any structures on the site.

Existing development includes structures for residential, commercial, industrial, and agricultural uses.

d. Will any structures be demolished? If so, what?

No structures are expected to be demolished as a direct or indirect result of this rule proposal.

e. What is the current zoning classification of the site?

A copy of the Snohomish County zoning map is attached, titled, “Stillaguamish WRIA 5, WRIA 5 Zoning Designations.”

f. What is the current comprehensive plan designation of the site?

A map titled, “Stillaguamish River Basin Future Land Use” is attached. Snohomish and Skagit Counties are both in the process of adopting revised ordinances related to land use in the basin under the comprehensive plan program.

g. If applicable, what is the current shoreline master program designation of the site?

A map titled, “Shoreline Master Management Program Designation Areas” for lands in the basin is attached.

h. Has any part of the site been classified as an "environmentally sensitive” or “critical” area? If so, specify.

Yes. The Snohomish County Comprehensive Plan designates certain areas as fish and wildlife areas; conservation areas; wetlands; aquifer recharge areas; and flood hazard areas. See attached maps titled, “Critical Areas, SNOHOMISH COUNTY 01/2003,” “Snohomish County Critical Aquifer Recharge Areas,” and “SKAGIT COUNTY NWI WETLANDS AND HYDRIC SOILS, March 2, 2004.”

i. Approximately how many people would reside or work in the completed project?

This non-project proposal does not include any additional residences or businesses.

j. Approximately how many people would the completed project displace?

None; does not apply.

k. Proposed measures to avoid or reduce displacement impacts, if any:

None; does not apply.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Ecology anticipates that the existing public utilities will supply water for any new development in areas in the Stillaguamish Basin served by a public water supply system. The areas served by the public water systems are larger than the designated urban growth areas. (Please see attached map titled, “Stillaguamish Watershed (WRIA 5), Public Water System Service Area Boundaries” for public water supply service areas.) For areas not presently served, and that are not projected to eventually be served by public water systems, the proposal contains a reservation of water for permit-exempt ground water withdrawals for future domestic uses. (Please see response to the question about ground water, B.3.b.1., above).

The future water use needs in the Stillaguamish basin (WRIA 5) outside of areas served by public water systems were assessed with a spatial analysis, displayed on a variety of maps and using two different methods:~~,~~ Parcel Analysis and Population Projections. The purpose of the assessment was to determine future needs for the rural areas and compare that need to the volume of water proposed to be reserved in the rule. One method uses the

parcel data from Snohomish and Skagit Counties and is premised on the idea that parcels without buildings could potentially be developed, and therefore would need water. The other assessment uses data from the Office of Financial Management's (OFM) 2000 census information for the area of interest and is premised upon the idea that future populations will need water.

Parcel Analysis Method

The first step was to break down the parcel data to identify those located outside of the Public Water System Service Area Boundaries and Urban Growth Areas (UGA) that did not already have an exempt well. These parcels are identified as those that will need water in the future. All parcels except those located next to Lake Cavanaugh were counted as needing ground water from an exempt well. Parcels adjacent to Lake Cavanaugh will most likely use surface water from the lake itself.

In Snohomish County, there are approximately 8,936 parcels that would need water; 8,936 parcels times 350 gallons of water per day, per parcel, is 3,127,600 gallons per day of water. In Skagit County, it appears there are 864 parcels that will be needing water in the future; 864 parcels times 350 gallons of water per day per parcel is equal to 302,400 gallons of water per day. Together, the future water needs for the Stillaguamish Watershed are likely to be about 3,430,000 gallons per day.

A weakness of this method of calculation is that some parcels are large and may be subdivided in the future, assuming zoning allows for that, and thus the above figures would not fully account for future needs. The opposite possibility also may be true, and not all of the parcels that will be developed will need potable water in the future. In this instance, of course, the figures indicating future needs could be too high. Finally, the analysis did not consider that other alternatives might exist to supply water to the parcels not presently receiving water; this would likely mean the calculation overestimated the potential number of permit-exempt wells that might be required.

Population Projection Method

For this method, the Office of Financial Management's (OFM's) 2000 census data was obtained for the basin. The projected populations for those areas within the UGA and/or claimed service areas of a public water system were omitted, with the assumption that within the UGA and or claimed service area of a public water system, the public water systems would supply the water. The population for the rural areas was multiplied by a growth factor (provided by OFM) to show population projections in 6 and 20 year increments.

The year 2000 population for the basin's rural area was 16,254 people. Ecology assumes that all of those people currently have their water needs met. That population, times a per capita water consumption figure of 80 gallons per day, yields a current water use of 1,300,320 gallons per day. The 6 year projection predicts a rural population increase to 17,608 people, resulting in a projected future water need of 1,408,640 gallons per day, an increase of 108,320 gallons per day. The 20 year projection yields a rural population increase to 22,465 people resulting in a projected future water need of 1,797,200 gallons per day, an increase of 496,880 gallons per day.

The projected population for the basin was further refined to reflect the three principal sub basins associated with the reserved water: the Mainstem, the North Fork, and the South Fork Stillaguamish basins. Approximately 90% of the service areas of existing public water systems are located in the Mainstem basin, and 10% are in the South Fork basin. Therefore, after removing the appropriate population numbers to reflect those service areas, the year 2000 population number for the Mainstem is 4,262 people (340,960 gpd) with a 6 year projection of 4660 people (+31,840 gpd) and a 20 year projection of 5,940 people (+132,240 gpd).

The South Fork basin had a year 2000 population of 7,208 people (576,640 gpd) with a 6 year projection of 7,881 people (+53,840 gpd) and a 20 year projection of 10,010 people (+224,160 gpd). Finally, the North Fork basin had a year 2000 population of 4,784 people (382,720 gpd) with a 6 year projection of 5230 people (+35,680 gpd) and a 20 year projection of 6,666 people (+150,560 gpd). The total projected increase for the basin (506,960 gpd) is just a bit higher than the 496,880 increase in gallons per day indicated in the second paragraph of this section; this is because some of the blocks are overlapping on the map. Therefore, Ecology assumes that the total future water need for the projected population in the Stillaguamish Basin will be approximately 500,000 gallons per day.

The weakness in this method is that there is no clear population block boundary that coincides with the boundaries of WRIA 5. Consequently, this number is an overestimate because it includes all of the people within each block that falls within, or shares a boundary with, WRIA 5, even though some of those people may live outside of the actual

watershed. There is also no clear block boundary for the three subbasins, so the population break-down for each subbasin is an estimate based on mapped boundaries. Finally, many of the people counted in this method may already have exempt wells, water rights, or claims that are serving their water needs and can continue to do so in the future. With both of these weaknesses, we believe we are calculating the maximum amount of water that will be needed in the next 20 years.

Comparison

These two methods of future water use calculations are very different and yielded quite different numbers. These differences should serve as a boundary in determining future water use needs. The Population Projection Method produced a low number of 500,000 gallons per day of future water needs outside of those areas served by public water supply. On the high end of the spectrum, the estimated future water needs through the Parcel Analysis Method are approximately 3.4 million gallons per day.

For the Stillaguamish (WRIA 5) Instream Flow Rule, there will be a reserve of water set aside for future water needs. Currently, that reserve is set at 5 cfs (3.23 million gpd) for the entire basin. That amount will be further broken down to a limit of 2 cfs (1.29 million gpd) for the North Fork and 1.5 cfs (969,408 gpd) for the South Fork. According to the Population Projection Method, 5 cfs should be enough water to meet the future population needs for the next 20 years and beyond. On the other hand, however, the Parcel Analysis Method suggests that all the reserved water would be used, and it might fall just short of the future need.

The proposed rule is consistent with the existing growth plans, although the plans are currently being updated and revised. In addition, a portion of the area addressed by the rule is within a Ground Water Management Area (GWMA) administered by Snohomish County under the Snohomish County Ground Water Management Plan (GWMP). The GWMP represents four years of dedicated effort by agencies and citizens of Snohomish County to protect the valuable ground water resources of the County. The plan provides a template for the continued management of ground water in Snohomish County, and also represents the process of ground water management undertaken by the Ground Water Advisory Committee in developing the program. There is no conflict between this proposal and the GWMP.

Fisheries restoration projects are being actively implemented throughout the watershed and are coordinated by the Stillaguamish Implementation Review Committee, a “Lead Entity” as described by Chapter 77.85 RCW. The counties are also actively involved in multi-jurisdictional flood control and drainage projects. The proposed rule is not inconsistent with these other activities

Snohomish County is in the process of updating its Critical Areas Ordinance to address water management questions related to protecting aquifer recharge areas, wetlands, and fish and wildlife conservation areas. The proposed rule is written in a manner that ties Ecology’s ability to exercise the reservation of water to the adoption of an agreement or ordinance by the County. The agreement or ordinance must commit the County to assisting the State in informing property developers of the rule and whether new development can be served by a pubic water system or by obtaining water under the reservation.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

The rule does not provide for any housing, but use of water under the reservation would potentially allow up to 9,000 houses to have a predictable water supply. Absent the reservation, the possibility exists that water rights junior to the instream flow would be regulated (i.e., required to stop using water until the required instream flow is restored.) However, given Ecology does not have statutory authority to determine water rights for the purposes of determining priority dates (which would be necessary in order to regulate according to priority date) such a possibility is remote. (Ecology’s lack of authority to do this was determined by the state Supreme Court in Rettkowski v. Department of Ecology, 122 Wn. 2d 219, 226, n. 1, 858 P.2d 232 (1993).

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None.

c. Proposed measures to reduce or control housing impacts, if any:

The proposed reservation will allow expected levels of new residential development to occur outside the public water service districts for more than 20 years.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

No structures are proposed by the rule.

b. What views in the immediate vicinity would be altered or obstructed?

None.

c. Proposed measures to reduce or control aesthetic impacts, if any:

Establishing instream flows can help protect the aesthetic quality of natural streams, in addition to helping to protect other environmental values.

11. Light and glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None. No additional light or glare will result as a direct impact of this non-project proposal.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No; does not apply.

c. What existing off-site sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce or control light and glare impacts, if any:

None; does not apply.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

The usual recreational opportunities afforded by most natural river systems are available in the Stillaguamish Basin, including: fishing, camping, hiking, swimming, white water rafting, boating, canoeing, and viewing wildlife.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

Establishing minimum instream flows can help protect recreational stream uses, in addition to helping to protect other environmental values.

13. Historic and cultural preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

Ecology identified eleven historic sites listed by the state Office of Archeology and Historic Preservation that are located in the Stillaguamish Watershed. All of the sites are located in Snohomish County. They are as follows:

No.	City or Area	Register Name, Office of Archeology & Historic Preservation
1	Arlington	Naval Auxiliary Air Station
2	Granite Falls	Eliason's Swinging Bridge
3	Granite Falls	Hartford to Monte Cristo Railroad
4	Granite Falls	Verlot Ranger Station – Public Service Center
5	Oso	Oso Elementary School
6	Silvana	Zion Lutheran Church
7	Silverton	Red Bridge
8	Stanwood	Pearson, D.O., House
9	Stanwood	Stanwood IOOF Public Hall
10	USFS Land	USDA-USFS Administration Building, built by CCC
11	USFS Land	USDA-USFS Fire Lookouts – Mt. Baker-Snoqualmie National Forest

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

See the sites listed in the above table.

c. Proposed measures to reduce or control impacts, if any:

None. Adoption and implementation of the rule will not affect or impact any of these sites.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

See the attached map of the State and County road systems in the Stillaguamish WRIA.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

Yes, Snohomish County, which contains nearly all of the inhabited area of the Stillaguamish Watershed, is served by Snohomish County Community Transit.

c. How many parking spaces would the completed project have? How many would the project eliminate?

None, does not apply.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

No, does not apply.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No, does not apply.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

On average, an Ecology compliance officer might make three vehicular trips per year as a result of the rule being adopted.

g. Proposed measures to reduce or control transportation impacts, if any:

Setting minimum instream flows is intended to protect navigation, where navigation of the river and streams in the basin is practical, as well as environmental values.

15. Public services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

Enforcement of the rule could require an Ecology staff person to visit the basin; however, the department anticipates that such use of staff time will be minimal. Ecology will also establish a "compliance telephone information system" that will allow the regulated community to easily find out if they can lawfully use water.

The rule provides that the reservation shall only be applicable in areas governed by a county ordinance that sets forth the same requirements as the following (paraphrased) subsections of WAC 173-505-100(2) as conditions on a water availability determination based on the reservation, issued pursuant to RCW 19.27.097 and RCW 58.17.110:
a. Must be a permit exempt well;
b. Water is still available from the volume set in the reservation;
c. Domestic water use shall meet the water use efficiency standards of the uniform plumbing code, as well as any applicable local or state requirements for conservation standards;
e. Water use under this reservation is not allowed in areas where a public water system has been established under RCW 43.20.260, and where a connection to the system can be provided in a timely and reasonable manner;
f. Use of water under the reservation shall not continue in those areas where a public water system has been established under RCW 43.20.260, and where a connection to the new or expanded system can be provided in a timely and reasonable manner for those entities that did not previously meet subsection (e) above; and
g. No outdoor irrigation shall take place except for a limited amount to irrigate ornamental plants and non-commercial small vegetable gardens.

It is unknown if the county ordinances will be put in place. If the ordinances are not adopted, it is also unknown what, if any, actions the counties will take in regards to determinations of water availability if a project needing a potable water supply proposes to rely upon an interruptible water right.

b. Proposed measures to reduce or control direct impacts on public services, if any.

Impacts are expected to be minimal.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

Most of these utilities are currently available in urban areas within the watershed. Rural areas are typically supplied with electricity and telephone service, but are otherwise generally dependent on individual wells and septic tanks.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

There are no utilities proposed as part of this project, however there are numerous public water systems within the WRIA 5 area including:

Arlington Water Department;
Eagle Ridge Water System;
Granite Falls Water Department;
Kayak Estates Water System;
Marysville Utilities;
Meadow Ridge;
Seven Lakes Water Association;
Sno PUD #1 - Sunday Lake;
Stanwood Water Department;
Sylvana Water Company;
Tatoosh Water Company;
Warm Beach Conference Grounds;
Warm Beach Water Association; and the
Wilderness Ridge Community Club.

These water systems are part of an established Coordinated Water System Plan that overlaps part of the WRIA. The North Snohomish County Coordinated Water System Plan, Section V, Utility Service Review procedure, coupled with Snohomish County ordinances, provides that, for new lot subdivisions, the new uses must hook up to the public water supply.

Currently, existing lots for which no approval is needed to build except a building permit, the project proponent is not required to hook up to the existing water supply. This may need to be changed to be in keeping with recent changes to municipal water law. In general, Ecology anticipates that new connections within public water supply service areas will be required to hook up to an existing water supply.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Thomas L. Lin for Stephen Hirschey

Signature: Stephen Hirschey

Date Submitted: 2-16-05

D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (do not use this sheet for project actions)

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

The proposed rule would not do any of these things.

Proposed measures to avoid or reduce such increases are:

None; does not apply.

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

Ecology anticipates the proposal will benefit animals, fish and perhaps marine life (in Port Susan) by helping to ensure that perennial rivers and streams of the state have base flows necessary to provide for preservation of wildlife, fish, scenic, aesthetic and other environmental values, and navigational values.

Proposed measures to protect or conserve plants, animals, fish, or marine life are:

The proposed rule will be implemented by Ecology Water Resource Program staff. Implementation of the rule will afford some protection to animals, fish, and marine species that experience stress or other harm during periods of low stream flow. The proposed instream flow cannot ensure water is physically in any stream at any point, but will require diversions or withdrawals of water that are junior to the instream flow to be curtailed during periods when the instream flow is not met.

3. How would the proposal be likely to deplete energy or natural resources?

The proposal is not likely to deplete energy or natural resources.

Proposed measures to protect or conserve energy and natural resources are:

Water, a natural resource, will be protected at flow levels sufficient to help ensure that perennial rivers and streams in the watershed have flows necessary to provide for preservation of wildlife and fish.

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

The proposal will have no adverse effect, and will possibly have a positive effect in the near term (i.e., the next ten years). It will, perhaps, also have a very minimal positive effect over a longer time period on environmentally sensitive areas and areas designated (or eligible or under study) for governmental protection (e.g., parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, prime farmlands, etc.). To the extent that future water right diversions are limited during low flow periods, areas such as parks, wilderness, and floodplains may function as slightly more healthy ecosystems than if the proposal was not adopted.

Proposed measures to protect such resources or to avoid or reduce impacts are:

Setting minimum instream flow levels would help to reduce further degradation of these resources perhaps significantly more than such degradation would be reduced if further water diversions and withdrawals were to continue to be allowed during critical low-flow periods.

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

The proposal will not encourage any land or shoreline uses incompatible with existing plans.

Proposed measures to avoid or reduce shoreline and land use impacts are:

No such measures are proposed.

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

The proposal is not likely to increase demands on transportation, public services, or utilities, with the exception of requiring all new development within a water district's service area to be supplied by the water district, rather than by installing individual wells.

Proposed measures to reduce or respond to such demand(s) are:

None.

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

The proposal, to the best of the department's knowledge, does not conflict with any local, state, or federal laws or requirements for the protection of the environment.