

92-8

**DEPARTMENT OF ECOLOGY  
TRIBAL AND LOCAL GOVERNMENT  
ANALYTICAL LABORATORY NEEDS ASSESSMENT**

**1992-1993 BIENNIUM**

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By Richard Schroeder

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## INTRODUCTION

The Puget Sound Water Quality Authority (PSWQA) is responsible for developing and overseeing the implementation of a comprehensive management plan for Puget Sound and its related waterways. The 1991 Puget Sound Water Quality Management Plan (PSWQMP) states, "The planning area defined by the Legislature in the Puget Sound Water Quality Act includes Puget Sound, south of Admiralty Inlet (including Hood Canal and Saratoga Passage); the waters north to the Canadian border, including portions of the Strait of Georgia; the Strait of Juan de Fuca, south of the Canadian border; and all the land draining into these waters."

There are 12 counties and 17 Indian tribes in the planning area. Many of the local and tribal government programs designed to protect Puget Sound depend on accurate and timely laboratory analyses to remedy the effects of contaminants, and prevent future contamination.

The Department of Ecology has prepared for the PSWQA a laboratory needs assessment that outlines the upcoming laboratory needs of Ecology programs as well as the short- and long-term needs, capacity, and data management of local and tribal governments. This assessment falls under Element L-2 of the 1991 PSWQMP.

## METHODS

Ecology designed a laboratory needs questionnaire to query the local and tribal governments about their environmental laboratory needs. They were asked how and if their laboratory needs were being met, (e.g., did they have adequate agency laboratory services or, did they utilize private contract laboratories or other governmental laboratories to fill their lab needs?) They were asked about their data management methods and how their data were used. They were also asked to list any impediments they face in the area of laboratory services. A copy of the questionnaire used is included in Appendix A.

Questionnaires were sent to the 12 counties, 17 Indian Tribes, the Northwest Indian Fisheries Commission (NWIFC), the Point-No-Point Treaty Council (PNPTC), and six cities in the PSWQA's planning area.

Initially there was a poor response to Ecology's request for information on the local and tribal governments' environmental laboratory needs. To solicit a better response, Ecology sent a follow-up mailing and made telephone calls to the governments which had failed to return the completed questionnaire. This approach was quite successful. The majority of the completed questionnaires were returned after the contact person in the government being queried received the follow-up letter and telephone call requesting the information. A listing of the governments contacted and their response rate to the laboratory needs questionnaire can be found in Table 1: "Governments Queried and % Response."

Table 1. Governments Queried and % Response

Government								
City	Yes	No	County	Yes	No	Tribal	Yes	No
Bellevue	✓		Clallam	✓		Hoh	✓	
Bellingham	✓		Island	✓		Jamestown Klallam	✓	
Everett		✓	Jefferson	✓		Lower Elwha Klallam		✓
Olympia		✓	King	✓		Lummi		✓
Seattle		✓	Kitsap	✓		Makah	✓	
Tacoma		✓	Mason	✓		Muckleshoot	✓	
			Pierce		✓	Nisqually		✓
			San Juan	✓		Nooksack		✓
			Skagit	✓		Port Gamble Klallam		✓
			Snohomish	✓		Puyallup	✓	
			Thurston		✓	Quilente	✓	
			Whatcom		✓	Sauk-Suiattle		✓
						Skagit System Coop	✓	
						Skokomish	✓	
						Squaxin Island	✓	
						Stillaguamish	✓	
						Suquamish	✓	
						Swinomish	✓	
						Tulalip	✓	
						Upper Skagit	✓	
						Northwest Indian Fisheries Commission	✓	
						Point-No-Point Treaty Council	✓	
33% Response			75% Response			80% Response		

Some of the people who responded to the questionnaire were unfamiliar with laboratory terminology, so the Planning and Program Support Section of the Environmental Investigations and Laboratory Services Program was made available to consult with local and tribal representatives to clarify and answer any questions about the laboratory needs assessment process. Most of the questions were along the lines of "Why should I do this and how will my government benefit from providing this information?" We explained to them that this was a simple fact-finding exercise to help the PSWQA identify problems local and tribal governments may have in complying with state and federally imposed environmental monitoring requirements.

## FINDINGS

A summary and compilation of the responses to each question is provided as Appendix B.

The completed questionnaires returned by the local and tribal government are presented in Appendix C.

In general, all of the local and tribal governments which responded to the laboratory needs questionnaire expressed similar needs and concerns. Some of the major points expressed include:

- Those governments which have laboratories feel their laboratory is generally not able to meet their environmental analytical needs. This is a budget problem. They just do not have adequate funding to provide the personnel and laboratory facilities required to do an adequate job.
- The local and tribal governments utilize contract laboratories for the services they are not able to provide themselves. This utilization varies from 0 to 100 percent. Some of the governments do all their work in-house, while the majority do not have a laboratory and must send 100 percent of their work to contract laboratories.
- The biggest concern expressed by most of the governments was the lack of contract laboratory services outside of the Seattle-Bellingham metropolitan areas. They feel this is a real impediment to their environmental monitoring efforts. It is difficult to maintain sample holding times while having to transport samples long distances with limited staff and resources.
- Most of the local and tribal governments, especially the tribes, would like to be able to use state and federal laboratories for complex analyses they are not able to perform in-house. They would like to see a program instituted where they could use the Ecology laboratory on a contract basis for their environmental analytical needs.
- The local and tribal governments feel that occasionally demands are made on them with no thought as to their ability to meet the testing requirements being imposed on them.

- The local and tribal governments feel Ecology has the environmental monitoring expertise they need and cannot afford. They would like to be able to rely on Ecology as a consultant for planning and implementing their required monitoring programs.

Overall the laboratory needs assessment project was welcomed by the local and tribal governments. They recognize their inability to adequately meet their environmental monitoring responsibilities in certain areas. They would like to see a spirit of cooperation among all the governmental agencies to accomplish a common goal, that of preserving the Puget Sound environment.

**APPENDIX A**

**Questionnaire Submitted to Tribal and Local Governments**

## NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering the questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

NAME, TITLE, ADDRESS, AND PHONE # OF PERSON COMPLETING THE QUESTIONNAIRE:

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Does your laboratory provide supplies to the field people, such as, sample containers, chemicals, and analysis request forms? Describe what supplies you provide.

Describe your laboratory sample tracking system.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.



Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

## II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity; number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organizations laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of the work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

#### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

Describe how you propose to meet future demands for analytical services; establish laboratory, additional staff, utilize outside laboratories, etc.

#### V. DATA MANAGEMENT

Please describe your analytical data management system.

Where and how is your data stored?

How is your data used?

How is your data archived?

Who do you share your data with?

Do you experience any difficulty storing, analyzing, or accessing data?

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

What can, or should, be done to remove these impediments?

DEPARTMENT OF ECOLOGY  
PROJECTED ANALYTICAL NEEDS  
BY PARAMETER

PROGRAM

		FY92	FY93			FY92	FY93			FY92	FY93	
PHYSICAL CHEMISTRY	pH			DEMAND	BOD			METALS	METALS/ELEMENT			
	TURBIDITY				BOD 20				METALS (6)			
	SP. CONDUCTANCE				COD				ICP SCAN			
	SALINITY				TOC				MERCURY			
	ALKALINITY				TOTAL				HEX CHROMIUM			
	ACIDITY				MISC.	OIL & GREASE				PRIORITY POLLUTANT		
	HARDNESS					CHLOROPHYLL				TCLP		
	SOLIDS (4)					COLOR				TOTAL		
	TSS					GRAIN SIZE						
	TSS TOTAL					TOTAL						
ANIONS	CHLORIDE			MICRO.	COLIFORM			ORGANICS	BNA			
	FLUORIDE				ENTEROCOCCI				VOA			
	CYANIDE				% KLEB				HERBICIDE			
	SULFATE				TOTAL				PESTICIDE			
	TOTAL								ORGANOPHOS PEST			
NUTRIENTS	AMMONIA			BIOASSAY	EFFLUENT ACUTE TESTS					TRI-BUTYL TIN		
	NITRATE				SALMONID				RESIN/FATTY ACID			
	NITRITE				MICROTOX				GUAIACOL/CATECHOL			
	NUTRIENTS (3)				HYALLELA				PCB			
	NITRATE-NITRITE				DAPHNIA SP				BTEX/HALOGENATED			
	TOTAL PHOSPHATE				ECHINODERM SPERM CELL			PAH ONLY				
	ORTHO PHOSPHATE				BIVALVE LARVAE			HYDROCARBON ID/TPH				
	NUTRIENTS (5)							NON PP COMPOUNDS				
NITROGEN-TPN						ORGANIC SCREEN						
SPECIAL AIR	AIR FILTERS				CHRONIC TESTS				% LIPIDS			
	ASBESTOS				D&PHNIA SP			TOTAL				
	TOTAL				CERIODAPHNIA							
					SEDIMENT TESTS				TOX			
					MARINE AMPHIPOD				PAH			
					RHEPOXYNIUS				BNH			
					FRESHWATER AMPHIPOD				IGNITABILITY			
					HYALLELA				SALMONID			
					DAPHNIA MAGNA				NPDES			
					MICROTOX				RAT			
					TOTAL				TOTAL			
									TOTAL SAMPLES			

## **APPENDIX B**

### **Summary of Responses to Appendix A Questionnaire**

## APPENDIX B

Following are the questions included in the laboratory needs questionnaire along with a summary of the responses received.

Only those respondents with laboratories were asked to complete Sections I and II. All were asked to complete Sections III through VI.

### I. SUMMARY OF CURRENT LABORATORY CAPABILITIES

#### Describe the services your laboratory offers to your clients:

Clallam, Kitsap, and Mason Counties provide limited environmental laboratory services to municipalities within their respective counties. The other counties utilize contract laboratories for their lab needs.

The two cities that responded, Bellevue and Bellingham, provide limited laboratory services for their cities, usually wastewater analyses for NPDES permits and drinking water monitoring.

The Makah, Suquamish, and Tulalip Indian tribes, along with the Northwest Indian Fisheries Commission, provide some environmental laboratory support for the tribes, usually concerning water quality and NPDES requirements at the tribal fish hatcheries.

Most of the local and tribal governments utilize contract labs to meet their environmental laboratory needs. They also use state and federal laboratories on a limited basis. The local governments would like to be able to rely more on state and federal expertise but feel the state and federal governments are usually not very responsive to their needs.

#### Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

None of the local and tribal laboratories offer courier service to the laboratory users. The customer is responsible for the delivery of the samples to the laboratory. This delivery is either via field personnel or commercial carrier.

#### Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

The local and tribal laboratories that provide environmental laboratory services for their governments also provide the sample containers, chemicals, and analysis request forms required by the field personnel.

APPENDIX B (Continued)

What percentage of your organization's laboratory work is completed in house?

This varied from 0 to 100 percent.

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

All the respondents use outside laboratories as a QA/QC tool to assure the validity of their laboratory's analyses. They also use contract laboratories for analyses that require specialized equipment or expertise their laboratory does not have.

What percentage of your work is contracted out?

This varied from 0 to 100 percent.

What types of work do you usually contract out?

Budget constraints have caused most of the laboratories to have limited resources, so any work that is beyond their laboratory capability is contracted out. These are usually organic and metals analyses that require expensive, specialized instrumentation.

Please describe your procedure for utilizing outside laboratory services.

The work is sent to a contract laboratory on a Fee for Service basis.

The work usually goes to a Department of Ecology (Ecology) certified environmental laboratory that is the low bidder for the work the local or tribal laboratory needs done.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

Kitsap County performs some wastewater treatment plant laboratory testing for other county municipalities and the Northwest Indian Fisheries Commission performs fish hatchery and water quality laboratory testing for the Indian tribes.

How do you charge your clients for the cost of an analysis?

Most of the local and tribal laboratories do not do work for clients. The few that do simply bill the client for the work which has been done.



## APPENDIX B (Continued)

### Describe your laboratory sample tracking system.

The laboratories all use a similar sample tracking system. This consists of the field personnel recording the sample location, type, time, date, number of containers, preservation if any, testing parameters, and a laboratory log number in a log book and on a sample tag attached to the sample.

When the samples arrive at the laboratory, this information is entered into the laboratory's sample tracking and data record keeping system. This system varies from hand entries in a log book, to computerized record keeping systems.

### Do you have documented chain of custody requirements to protect sample integrity? Please describe.

The laboratories seldom use documented chain of custody procedures. They all feel that sample integrity is of primary importance, but do not feel a real need to protect the sample from tampering by unauthorized personnel.

### Please provide a copy of your laboratory holding times, target turnaround times, and laboratory price list.

Kitsap County and the Northwest Indian Fisheries Commission are the only ones who provided this information. It is included in their response in Appendix B.

## II. SUMMARY OF CURRENT LABORATORY CAPACITY

### Is your current laboratory capacity adequate?

The respondents feel they do not have adequate space, equipment, or capacity. With increasing demands on water resources from development, etc., and the resultant monitoring requirements, there is a need for increased laboratory capacity.

### Please describe your laboratory capacity: number of staff, number of analyses, maximum number of analyses your laboratory can perform, etc.

These responses varied greatly, however, most everyone seemed to feel they are not able to adequately address water quality concerns because of budgetary restrictions which limit their laboratory capacity.

## APPENDIX B (Continued)

### III. SUMMARY OF MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

All the respondents without their own laboratories use contract laboratories for their analytical needs.

Now that Ecology is certifying environmental laboratories, Ecology certified laboratories are used whenever possible.

### IV. SUMMARY OF FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

The respondents feel a definite need to establish or expand their own laboratories but because of funding constraints they feel this is probably an unrealistic expectation.

Most respondents feel they cannot meet current laboratory needs and are certain they will not be able to meet future requirements.

Describe how you propose to meet future demands for analytical services--establish laboratory, additional staff, utilize outside laboratories, etc.

This is dependent on funding. Without adequate funding the respondents will not be able to meet future demands for laboratory services.

### V. SUMMARY OF DATA MANAGEMENT

Please describe your analytical data management system.

There is a wide range of sophistication in data management. It ranges from keeping hand written log books to state of the art computerized database systems.

This is again a result of funding. Some of the respondents have the funds to adequately address data management, others do the best they can with what they have.

Where and how is your data stored?

Data storage ranges from archiving handwritten log books to hard disk with floppy diskette backup that are archived in a secure storage area.

## APPENDIX B (Continued)

### How is your data used?

The data which are collected have a wide variety of uses. They are used for land use planning and development, NPDES permits, landfill monitoring, ground water and drinking water quality monitoring, and ambient environmental monitoring.

### How is your data archived?

The respondents archive data by storing the data either in logbook form or on floppy diskettes in a secure storage space.

### Who do you share your data with?

The respondents share their data with whoever wants access to it. This is usually other governmental agencies like the EPA, Public Health Service, Bureau of Indian Affairs, or the Department of Ecology.

### Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

The only difficulty experienced in storing, analyzing or accessing data is manpower and time. Data handling is often delayed due to lack of staff and/or time.

## VI. SUMMARY OF IMPEDIMENTS TO QUALITY LABORATORY SERVICE

### What impediments, if any, do you see to receiving or providing quality laboratory service?

The respondents feel a lack of contract laboratories outside the Seattle-Bellingham metropolitan areas is the biggest impediment to receiving laboratory services. It is difficult to maintain holding times while having to transport samples long distances with limited staff and resources.

### What can or should be done to remove these impediments?

A number of the respondents feel it would be nice to have Ecology's laboratory available for specialized analyses they are unable to do in house.

They would also like Ecology personnel to be available for technical advice on environmental program planning and implementation. They would like to be able to solicit advice on survey planning, sampling technique, laboratory analyses, and data interpretation.

**APPENDIX C**

**PART I**

**Tribal Responses to Appendix A Questionnaire**

## NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does **not** have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

### PERSON COMPLETING QUESTIONNAIRE

NAME : Jim Hatten Hoh Tribe  
 TITLE : TFW Biologist  
 ADDRESS : HC 80, Box 917  
           Forks, WA 98331  
 PHONE # : 374-6582

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

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Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

Describe your laboratory sample tracking system.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

## **II. CURRENT LABORATORY CAPACITY**

**Is your current laboratory capacity adequate?**

**Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.**

**Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.**

**What percentage of your organization's laboratory work is completed in house?**

**Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?**

**What percentage of your work is contracted out?**

**What types of work do you usually contract out?**

**Please describe your procedure for utilizing outside laboratory services.**

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

*Concerning water quality - we don't. We've asked DOE to sample water before but nothing happens.*

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

*DOE needs to be more responsive towards requests for water analysis.*

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

*Attempt to utilize outside staff.*



## V. DATA MANAGEMENT

Please describe your analytical data management system.

Where and how is your data stored?

PC / Rbase, 123, etc.

How is your data used?

Data is used to evaluate instream  
& surrounding conditions.

How is your data archived?

filing cabinets & floppy disks.

Who do you share your data with?

Whoever wants it.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

Yes - our biggest problem is lack of experience with software.

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

DOE is a huge bureaucracy. You need an office in Forks to service the Westside Communities.

What can, or should, be done to remove these impediments?

DEPARTMENT OF ECOLOGY  
 PROJECTED ANALYTICAL NEEDS  
 BY PARAMETER

PROGRAM

		FY92	FY93			FY92	FY93			FY92	FY93			
PHYSICAL CHEMISTRY	pH			DEMAND	BOD			METALS	METALS/ELEMENT					
	TURBIDITY				BOD 20				METALS (6)					
	SP. CONDUCTANCE				COD				ICP SCAN					
	SALINITY				TOC				MERCURY					
	ALKALINITY				TOTAL				HEX CHROMIUM					
	ACIDITY				OIL & GREASE				PRIORITY POLLUTANT					
	HARDNESS					PHENOLICS				TCLP				
	SOLIDS (4)					CHLOROPHYLL				TOTAL				
	TS					COLOR				BNA				
	TSS					GRAIN SIZE					VOA			
TOTAL			TOTAL				HERBICIDE							
ANIONS	CHLORIDE			MICRO.	COLIFORM			PESTICIDE						
	FLUORIDE				ENTEROCOCCI			ORGANOPHOS PEST						
	CYANIDE				% KLEB			TRI-BUTYL TIN						
	SULFATE				TOTAL			RESIN/FATTY ACID						
	TOTAL				EFFLUENT ACUTE TESTS	ORGANICS	SALMONID			GUAIACOL/CATECHOL				
NUTRIENTS	AMMONIA			BIOASSAY			MICROTOX			PCB				
	NITRATE						HYALLELA			BTEX/HALOGENATED				
	NITRITE						DAPHNIA SP.			PAH ONLY				
	NUTRIENTS (3)						ECHINODERM SPERM CELL			HYDROCARBON ID/TPH				
	NITRATE-NITRITE						BIVALVE LARVAE			NON-PP COMPOUNDS				
	TOTAL PHOSPHATE						CHRONIC TESTS	HW DESIG.	DAPHNIA SP.			ORGANIC SCREEN		
	ORTHO PHOSPHATE								CERIODAPHNIA			% LIPIDS		
	NUTRIENTS (5)								SEDIMENT TESTS		MARINE AMPHIPOD			TOTAL
NITROGEN-TPN			REPOXYNIUS									TOX		
TOTAL			FRESHWATER AMPHIPOD			PAH								
SPECIAL AIR	AIR FILTERS			HYALLELA			HM							
	ASBESTOS			DAPHNIA MAGNA			IGNITABILITY							
	TOTAL			MICROTOX			SALMONID							
				TOTAL			NPOES							
							RAT							
							TOTAL							
							TOTAL SAMPLES							

## NEEDS ASSESSMENT QUESTIONNAIRE

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Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

### PERSON COMPLETING QUESTIONNAIRE

NAME : *Ann Seiter*  
TITLE : *Natural Resources Director*  
ADDRESS : *Jamestown Klallum Tribe*  
*305 Old Blyn Hwy*  
PHONE # : *Sequim WA. 98382-9608*  
*683-1001*

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

*NA*

*Received*  
*1145*  
*7/9/91*  
*RAF*

**Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?**

**Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.**

**Describe your laboratory sample tracking system.**

**Do you have documented chain of custody requirements to protect sample integrity? Please describe.**

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**Is your current laboratory capacity adequate?**

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**Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?**

**What percentage of your work is contracted out?**

**What types of work do you usually contract out?**

**Please describe your procedure for utilizing outside laboratory services.**

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

Use State, County & Metro lab  
also private labs

Primary needs are shellfish monitoring PSP & coliform  
water (bacterial)

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? *As long as County & State labs can keep up - maybe not.*

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

*none at Tribal level.  
possibly at Northwest Indian Fish Commission*

## V. DATA MANAGEMENT

Please describe your analytical data management system.

Where and how is your data stored?

How is your data used?

How is your data archived?

Who do you share your data with?



Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

We have difficulty getting samples to the labs in Seattle in a timely manner now that Greyhound Service has been reduced.

What can, or should, be done to remove these impediments?

**MAKAH TRIBAL COUNCIL**  
**P.O. BOX 115 NEAH BAY, WA 98357**

**DATE** 9-11-91

**TO:** Dick Schroeder - Ecology  
sorry this took so long

**FROM:** Doug Sternback  
Wastewater operator

**NUMBER OF PAGES** \_\_\_\_\_

**IF TRANSMITTAL IS UNREADABLE,**

**CALL ROBIN 206-645-2201.**

**FAX NUMBER 206-645-2033**

## NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

### PERSON COMPLETING QUESTIONNAIRE

NAME : Doug Sternbeck  
 TITLE : Waste Water Operator  
 ADDRESS : P.O. BOX 115  
 Neah Bay, Wa. 48357  
 PHONE # : 206 645-2205 - ext. 407

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

I perform B.A.R.S, T.S.S., S.S., Fecal Coliform, for our Waste water & for A Water Quality Survey being done on our Rivers, (Also D.O. Probe & PH. Probe)

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

By the person needing testing done.

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

yes, I supply Sample Container + D.O. probe + portable pH. meter.

Describe your laboratory sample tracking system.

I get my samples by scoop/Grab method + Composite Samples for permit tests (I have 1 sampler + only take Composite Samples for Eff.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

I collect all samples of mine + its written down in a daily log.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

## II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate? *No, need more room*

Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc. *1 person me performing tests,*

*Daily perform D.O. Winkler or meter method, Once a week B.O.D., T.S.S.  
Also B.O.D., T.S.S., & Fecal Coliform for Water Quality Survey, &  
in future will be performing B.O.D., T.S.S., & Coliform for Old  
McKah Air force Base Treatment facilities*

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

*All, except for Water Plant Bacteriological Samples which I would like to perform if it was possible.*

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity? *No, but I would like to have a source to confirm*

*our testing.*

What percentage of your work is contracted out? *none*

What types of work do you usually contract out? *none*

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

none, yet. If I start performing, permit testing for Makok Air force base, there would be a \$30.00 a week charge.

How do you charge your clients for the cost of an analysis? based on what the tribe was being charged to get tests done in forks before I come here.

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? yes

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc. plan to construct a larger Lab. Sometime were our Water Plant & Sewer Analysis can be performed.

## V. DATA MANAGEMENT

Please describe your analytical data management system.

All records are kept on file & stored after a one year period & results are also graphed for observation.

Where and how is your data stored?

In the Lab. in files. Also monthly reports are sent to I.H.S. in Port Angeles.

How is your data used?

Right now we're doing a survey on sewer system & test results are being used to determine if new system needs to be put in.

How is your data archived?

In files.

Who do you share your data with?

I.H.S., Wash. State Dept of Ecology, E.P.A.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face? *NO, If any difficulty analyzing I call me fellow operator's in Clallam Bay for advice.*

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

*It would be nice to have someone to call who can give tech. advice + no where to send samples to test our reliability + answer question's in general.*

What can, or should, be done to remove these impediments? *?*



DEPARTMENT OF ECOLOGY  
PROJECTED ANALYTICAL NEEDS  
BY PARAMETER

PROGRAM Wastewater & water

	FY92	FY93		FY92	FY93		FY92	FY93	
PHYSICAL CHEMISTRY	TURBIDITY	✓	DEMAND	BOD	✓	METALS	METALS ELEMENT		
	SECONDUCTANCE			BOD 20			METALS (6)	✓	
	SALINITY			COD			ICP SCAN		
	ALKALINITY			TOC			MERCURY		
	ACIDITY		TOTAL		HEXACHROMIUM				
	HARDNESS		MISC.	OIL & GREASE			PRIORITY POLLUTANT		
	SOLIDS (4)	✓		PHENOLICS			TCLP		
	TSS			CHLOROPHYLL			TOTAL		
TSS	✓	COLOR							
TOTAL		TOTAL							
ANIONS	CHLORIDE		MICRO.	COLIFORM	✓		ORGANICS	SWA	
	FLUORIDE	✓		ENTEROCOCCI				VOA	
	CYANIDE			W/LEB		HERBICIDE			
	SULFATE			TOTAL		PESTICIDE			
TOTAL						ORGANOPHOS PEST			
NUTRIENTS	AMMONIA		BIOASSAY	EFFLUENT ACUTE TESTS		TRI-BUTYL TIN			
	NITRATE			SALMONID		RESIN/FATTY ACID			
	NITRITE			MICROTOX		GUAIACOL/CATECHOL			
	NUTRIENTS (3)			HYALLELA		PCB			
	NITRATE-NITRITE			DAPHNIA 5P		BTX/HALOGENATED			
	TOTAL PHOSPHATE			ECHINODERM SPERM CELL		PAH ONLY			
	ORTHOPHOSPHATE		BIVALVE LARVAE		HYDROCARBON ID/TPH				
	NUTRIENTS (5)				NON-PP COMPOUNDS				
NITROGEN-TPH				ORGANIC SCREEN					
TOTAL				W/ LIPIDS					
SPECIAL AIR	AIR FLYERS					TOX			
	ASBESTOS	✓				PAH			
	TOTAL					NI			
						IGNITABILITY			
						SALMONID			
						NPOES	✓		
						RAT			
						TOTAL			
						TOTAL SAMPLES	10		

## NEEDS ASSESSMENT QUESTIONNAIRE

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Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

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Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

### PERSON COMPLETING QUESTIONNAIRE

Muckleshoot Tribe

NAME : *David Beedle*  
TITLE : *Watershed Management Coordinator*  
ADDRESS : *39015 172nd Ave SE, Auburn WA 98002*

PHONE # : *206-939-3311*

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

*See Section III*

**Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?**

**Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.**

**Describe your laboratory sample tracking system.**

**Do you have documented chain of custody requirements to protect sample integrity? Please describe.**

**Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.**

## **II. CURRENT LABORATORY CAPACITY**

**Is your current laboratory capacity adequate?**

**Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.**

**Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.**

**What percentage of your organization's laboratory work is completed in house?**

**Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?**

**What percentage of your work is contracted out?**

**What types of work do you usually contract out?**

**Please describe your procedure for utilizing outside laboratory services.**

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

*We contract sample analysis with Metro. The contract is for a specific number of sites and samples.*

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? *NO.*

Describe how you propose to meet future demands for analytical services — establish laboratory, additional staff, utilize outside laboratories, etc.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

*Unknown at this time.*

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

*Unknown at this time.*

What can, or should, be done to remove these impediments?

## V. DATA MANAGEMENT

Please describe your analytical data management system.

The Data management system is just starting to be developed. The system will most likely use R-Base or D-Base type of data management program

Where and how is your data stored?

How is your data used?

data will be used to study agricultural BMP's on water quality

How is your data archived?

Hard Copies and computer diskette

Who do you share your data with?

Ecology, Metro, King County Conservation District, SCS, and WSU coop.

DEPARTMENT OF ECOLOGY  
PROJECTED ANALYTICAL NEEDS  
BY PARAMETER

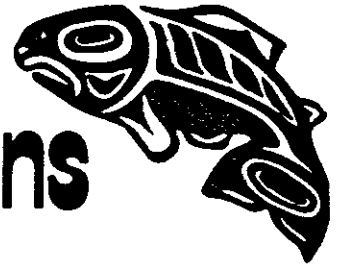
PROGRAM *Newark Cr. BMP study*

		FY92	FY93			FY92	FY93			FY92	FY93		
PHYSICAL CHEMISTRY	pH	6		DEMAND	BOD			METALS	METALS/ELEMENT				
	TURBIDITY	6			BOD 20				METALS (6)				
	SP. CONDUCTANCE	6			COD				ICP SCAN				
	SALINITY				TOC				MERCURY				
	ALKALINITY				TOTAL				HEX CHROMIUM				
	ACIDITY				MISC.	OIL & GREASE				PRIORITY POLLUTANT			
	HARDNESS					PHENOLICS				TCLP			
	SOLIDS (4)					CHLOROPHYLL				TOTAL			
	TS					COLOR				ORGANICS	BNA		
	TSS	6				GRAIN SIZE					VOA		
TOTAL			TOTAL			HERBICIDE							
ANIONS	CHLORIDE			MICRO.	COLIFORM	6		PESTICIDE					
	FLUORIDE				ENTEROCOCCI			ORGANOPHOS PEST					
	CYANIDE				% KLEB			TRI-BUTYL TIN					
	SULFATE				TOTAL			RESIN/FATTY ACID					
	TOTAL				BIOASSAY	EFFLUENT ACUTE TESTS			GUAIACOL/CATECHOL				
NUTRIENTS	AMMONIA	6		SALMONID				PCB					
	NITRATE	6		MICROTOX				BTEX/HALOGENATED					
	NITRITE			HYALLELA				PAH ONLY					
	NUTRIENTS (3)			DAPHNIA SP.				HYDROCARBON ID/TPH					
	NITRATE-NITRITE			ECHRINODERM SPERM CELL				NON-PP COMPOUNDS					
	TOTAL PHOSPHATE	6		BIVALVE LARVAE				ORGANIC SCREEN					
	ORTHO PHOSPHATE			CHRONIC TESTS			% LIPIDS						
	NUTRIENTS (5)			DAPHNIA SP.				TOTAL					
	NITROGEN-TPN			CERIODAPHNIA				HW DESIG.	TOX				
	TOTAL			SEDIMENT TESTS			PAH						
SPECIAL AIR	AIR FILTERS			MARINE AMPHIPOD			NH						
	ASBESTOS			RHEPOXYNIUS			IGNITABILITY						
	TOTAL			FRESHWATER AMPHIPOD			SALMONID						
				HYALLELA			NPDES						
				DAPHNIA MAGNA			RAT						
			MICROTOX			TOTAL							
			TOTAL			TOTAL SAMPLES							





# Puyallup Tribe of Indians



September 18, 1991

Dick Schroeder  
Planning and Program Support Section  
Washington State Dept. of Ecology  
7171 Cleanwater Lane, Bldg. 8, LH-14  
Olympia, WA 98504-6814

Dear Mr. Schroeder:

Please find enclosed the addendum to your tribal laboratory needs assessment questionnaire which I have referenced in the questionnaire itself. I inadvertently neglected to include it with the completed questionnaire. I apologize for the inconvenience.

Sincerely,

*Erin E. Hoiland*

Erin E. Hoiland  
Environmental Dept.

## PUYALLUP TRIBAL WATER QUALITY MANAGEMENT PROGRAM

The Puyallup Tribal Water Quality Management Program (PTWQMP) will be a phased comprehensive program applicable to all lands and activities which may affect surface or groundwater quality on the reservation. The area of jurisdiction of PTWQMP encompasses not only the reservation itself, but off-reservation lands as provided for by the Federal Clean Water Act of 1987 (33 U.S.C. 1251).

PTWQMP is currently in its infancy. The initial phase of the development of the program included the adoption of Washington State Water Quality Standards as Tribal law and the addition of a water quality specialist to the Puyallup Tribal staff. The second phase will include implementation of water/sediment quality monitoring, the formation of a data base and the review/revision of existing standards. The last phase of the development of this program will involve the expansion of field analysis to laboratory analysis, as the Tribe has future plans for the construction of an accredited water analysis laboratory to be built in conjunction with a new hatchery facility.

PTWQMP is presently entering its second stage of development. The immediate plan of action is to first, review and revise the existing Tribal water quality standards. Tentatively speaking, the approach is to adopt the newly revised Washington State Standards of 1991 while setting additional criteria to fully protect reservation waters and their uses. In conjunction with water quality standard revision, the Environmental Department of the Tribe plans to establish and fully implement an on-going self-monitoring system for the assessment of reservation water quality. To date, the Environmental Department of the Tribe has enacted a computer data entry system for handling water quality data; begun purchasing the necessary field equipment for water analysis as well as researching and selecting appropriate sampling sites.

Future plans, as described above, include the construction of a fully accredited water quality analysis laboratory to be built in-house of the proposed new hatchery facility in order to expand PTWQMP's monitoring capabilities. Additionally, PTWQMP plans to establish stricter enforcement of the water quality standards and to play a more active role in the issue of wastewater discharge/outfall permits.

In summary, the Puyalup Tribe of Indians currently administers environmental and habitat protection programs and desires to further its efforts by implementing a full-scale, self-monitoring system for reservation waters/sediments in addition to increasing enforcement of new stricter water quality standards. The efforts of the Tribe serve not only their own interests but also that of the State and other user groups that share this common resource. We do not inherit the earth from our ancestors, but rather we borrow it from our children. PTWQMP is a major step towards returning it in the same or better condition as which we borrowed it.

## NEEDS ASSESSMENT QUESTIONNAIRE

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Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

### PERSON COMPLETING QUESTIONNAIRE

NAME : ERIN HOILAND  
TITLE : WATER QUALITY TECHNICIAN  
ADDRESS : PUYALLUP TRIBE OF INDIANS, ENVIRONMENTAL DEPARTMENT  
2002 EAST 28TH STREET  
TACOMA, WASHINGTON 98404  
PHONE # : (206) 597-6200

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

THE PUYALLUP TRIBE DOES NOT HAVE AN IN-HOUSE LABORATORY

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

N/A

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

N/A

Describe your laboratory sample tracking system.

N/A

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

N/A

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

N/A

## II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate? N/A

Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.

N/A

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

APPROXIMATELY 50%

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity? YES. OUTSIDE LABORATORIES WILL BE CONSULTED TO PERFORM WORK BEYOND OUR CURRENT CAPABILITIES.

What percentage of your work is contracted out?

AT THIS POINT IN TIME IT IS SPECULATED THAT APPROXIMATELY 1/2 OF OUR WORK WILL BE CONTRACTED.

What types of work do you usually contract out?

WORK TO BE CONTRACTED OUT WILL CONSIST OF LABORATORY ANALYSES (I.E. ANALYSES WHICH ARE NOT SUBJECT TO BEING CONDUCTED IN THE FIELD) AND SOME CONFIRMATION TESTING.

Please describe your procedure for utilizing outside laboratory services.

THE PUYALLUP TRIBE PLANS TO CONTRACT WITH A DOE ACCREDITED LAB ON AN ON-GOING, AS-NEEDED BASIS TO PERFORM THOSE ANALYSES WHICH THE TRIBE IS NOT PHYSICALLY SET UP TO PERFORM AS WELL AS CONFIRMATION TESTING OF KEY ANALYSES. AS TIME GOES ON AND MORE FUNDS BECOME AVAILABLE, THE TRIBE HOPES TO REDUCE THE USE OF OUTSIDE LABORATORY SERVICES.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

N/A

How do you charge your clients for the cost of an analysis?

N/A

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

SEE ATTACHED.

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? YES. SEE ATTACHED.

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

SEE ATTACHED.

## V. DATA MANAGEMENT

Please describe your analytical data management system.

THE ENVIRONMENTAL DEPARTMENT OF THE PUYALLUP TRIBE HAS RECENTLY PURCHASED A COMPUTER WITH WHICH IT WILL USE TO INPUT, ANALYZE, AND STORE SAMPLING DATA. RAW DATA IS ENTERED INTO A DATA ENTRY FILE FOR EACH SAMPLING SITE BY A TECHNICIAN. ONCE ENTERED, THE DATA IS VIEWED, ANALYZED AND TRANSFERRED TO A STORAGE FILE BY A SUPERVISOR.

Where and how is your data stored?

ONCE PTWQMP IS IN FULL OPERATION, DATA WILL BE STORED IN TWO FORMS. THE FIRST BEING THE ORIGINAL DATA SHEETS/FIELD NOTEBOOKS ON WHICH THE DATA WAS RECORDED. THE SECOND WILL BE A DATA LOG FILE ON THE COMPUTER FOR EACH SITE.

How is your data used?

THE DATA WILL BE USED IN A MONITORING/QUALITY CONTROL CAPACITY OF THE PUYALLUP RIVER AND OTHER TRIBAL WATERS.

How is your data archived?

CURRENT DATA, AS DESCRIBED ABOVE, WILL BE STORED ON THE COMPUTER. ALL FILES WILL BE BACKED UP AND ARCHIVED ON DISKETTES.

Who do you share your data with?

OTHER CITY, COUNTY, STATE AND GOVERNMENTAL AGENCIES.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

THE PROBLEMS FACED ARE THE ABSENCE OF A LAB AND LIMITED STAFF.

#### VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

N/A

What can, or should, be done to remove these impediments?

N/A



DEPARTMENT OF ECOLOGY  
PROJECTED ANALYTICAL NEEDS  
BY PARAMETER

*Puyallup Tribe*  
PROGRAM Environmental Dept.

	FY92	FY93	
PHYSICAL CHEMISTRY	pH	✓	✓
	TURBIDITY	✓	✓
	SP. CONDUCTANCE	✓	✓
	SALINITY		
	ALKALINITY	✓	✓
	ACIDITY	✓	✓
	HARDNESS	✓	✓
	SOLIDS (4)		
	TSS		✓
	TOTAL		
ANIONS	CHLORIDE	✓	✓
	FLUORIDE		
	CYANIDE		
	SULFATE		
	TOTAL		
NUTRIENTS	AMMONIA	✓	✓
	NITRATE	✓	✓
	NITRITE	✓	✓
	NUTRIENTS (3)		
	NITRATE-NITRITE		
	TOTAL PHOSPHATE	✓	✓
	ORTHO PHOSPHATE		
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

	FY92	FY93	
DEMAND	BOD		✓
	BOD 20		
	COO		✓
	TOC		
	TOTAL		
MISC.	OIL & GREASE	✓	✓
	PHENOLICS	✓	✓
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE		
MICRO.	COLIFORM	✓	✓
	ENTEROCOCCI		
	% KLEB		
	TOTAL		
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
CHRONIC TESTS	DAPHNIA SP.		
	CERIODAPHNIA		
SEDIMENT TESTS	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

	FY92	FY93	
METALS	METALS/ELEMENT	✓	✓
	METALS (6)	✓	✓
	ICP SCAN		
	MERCURY	✓	✓
	HEX CHROMIUM		
	PRIORITY POLLUTANT		
	TCLP		
	TOTAL		
ORGANICS	BNA		
	VOA		
	HERBICIDE		
	PESTICIDE		
	ORGANOPHOS PEST		
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB		
	BTEX/HALOGENATED		
HW DESIG.	PAH ONLY		
	HYDROCARBON ID/TPH		
	NON-PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL		
	TOX		
	PAH		
	HW		
IGNITABILITY			
SALMONID			
NPOES			
RAT			
TOTAL			
TOTAL SAMPLES			

## NEEDS ASSESSMENT QUESTIONNAIRE

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### PERSON COMPLETING QUESTIONNAIRE

Quileute Tribe

**NAME** : CHRISTIAN MORGANROTH III  
**TITLE** : VICE CHAIRMAN  
**ADDRESS** : PO BOX 279  
 LA PUSH WA 98350

**PHONE #** { 206 } 374-6163

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

**Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?**

**Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.**

**Describe your laboratory sample tracking system.**

**Do you have documented chain of custody requirements to protect sample integrity? Please describe.**

**Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.**

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Is your current laboratory capacity adequate?

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Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

**Describe any laboratory work you do for other organizations on a Fee for Service basis.**

N/A

**How do you charge your clients for the cost of an analysis?**

N/A

### **III. MEETING CURRENT DEMANDS**

**If your organization does not have a laboratory, how do you currently meet your needs for analytical services?**

We send monthly domestic water samples to Clallam County Health Department for water bacteriological analysis. (in Port Angeles) Periodically we have PH, salinity, flouride, and iron levels checked.

### **IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS**

**Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?**

Because of staffing and funding limitations we do not have any laboratory capacity in La Push.  
**Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.**

We have no choice but to use outside laboratories.

## V. DATA MANAGEMENT

**Please describe your analytical data management system.**

Clallam County Health Department in Port Angeles.

**Where and how is your data stored?**

The Executive Director stores the data.

**How is your data used?**

Copies are sent to IHS and EPA when required.

**How is your data archived?**

Normal filing system.

**Who do you share your data with?**

IHS and EPA.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?  
NO

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

We have no staff, equipment, laboratory, funding etc. to provide quality laboratory service in La Push.

What can, or should, be done to remove these impediments?

We need to keep utilizing outside laboratories.

DEPARTMENT OF ECOLOGY  
 PROJECTED ANALYTICAL NEEDS  
 BY PARAMETER

PROGRAM QUILEUTE TRIBE

	FY92	FY93	
PHYSICAL CHEMISTRY	pH	X	X
	TURBIDITY	X	X
	SP. CONDUCTANCE		
	SALINITY		
	ALKALINITY		
	ACIDITY		
	VISIB. TR.		
	SOLIDS (4)	X	X
	TS		
	TSS		
TOTAL			
ANIONS	CHLORIDE	X	X
	FLUORIDE	X	X
	CYANIDE		
	SULFATE		
	TOTAL		
NUTRIENTS	AMMONIA		
	NITRATE		
	NITRITE		
	NUTRIENTS (3)		
	NITRATE-NITRITE		
	TOTAL PHOSPHATE	X	X
ORTHOPHOSPHATE			
NUTRIENTS (5)			
NITROGEN-TPN			
TOTAL			
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

	FY92	FY93	
DEMAND	BOD		
	BOD 20		
	COO		
	TOC		
	TOTAL		
MISC.	OR & GREASE		
	PHENOLICS		
	CHLOROPHYLL		
	COLOR		
	BIOMASS		
TOTAL			
MICRO.	COLIFORM		
	ENTEROCOCCI		
	WAKLES		
	TOTAL		
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHEMOCEFRM SPERM CELL		
	BIVALVE LARVAE		
CHRONIC TESTS			
DAPHNIA SP.			
CERIODAPHNIA			
SEDIMENT TESTS			
MARINE AMPHIPOD			
RHEPOXYNIUS			
FRESHWATER AMPHIPOD			
HYALLELA			
DAPHNIA MAGNA			
MICROTOX			
TOTAL			

	FY92	FY93	
METALS	METAL ELEMENT		
	METALS (6)		
	ICP SCAN		
	MERCURY		
	HEX CHROMIUM		
	PRIORITY POLLUTANT		
	TCDF		
	TOTAL		
ORGANICS	BNA		
	VOA		
	HERBICIDE		
	PESTICIDE		
	ORGANOPHOS PEST		
	TR-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB	X	X
	BTEX/HALOGENATED		
PAH ONLY			
HYDROCARBON ID/PH			
NON-PP COMPOUNDS			
ORGANIC SCREEN			
AL LIPIDS			
TOTAL			
HW DESIG.	TOX		
	PAH		
	NH		
	IGNITABILITY		
	SALMONID		
	NPOES		
	RAT		
	TOTAL		
	TOTAL SAMPLES		



## NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

### PERSON COMPLETING QUESTIONNAIRE

Skagit Systems Cooperative Tribe

NAME : LARRY WASSERMAN  
TITLE : Environmental Services Director  
ADDRESS : PO Box 368  
LaConner, WA 98257  
PHONE # : 206-766-7250

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

**Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?**

**Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.**

**Describe your laboratory sample tracking system.**

**Do you have documented chain of custody requirements to protect sample integrity? Please describe.**

**Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.**

## **II. CURRENT LABORATORY CAPACITY**

**Is your current laboratory capacity adequate?**

**Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.**

**Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.**

**What percentage of your organization's laboratory work is completed in house?**

**Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?**

**What percentage of your work is contracted out?**

**What types of work do you usually contract out?**

**Please describe your procedure for utilizing outside laboratory services.**

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

*Outside contracts*

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

*Yes*

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

*All of above. In the immediate future, we will utilize outside service. We are investigating development of Tribal laboratory*

## V. DATA MANAGEMENT

Please describe your analytical data management system.

*CURRENTLY DO NOT HAVE AN ANALYTICAL DATA MGMT SYSTEM.*

Where and how is your data stored?

How is your data used?

How is your data archived?

Who do you share your data with?

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

*FUNDING - LONG TERM*

What can, or should, be done to remove these impediments?

: PLEASE SEND COPY TO NWIFC AND REPORT TO THE ADDRESS BELOW.

## NEEDS ASSESSMENT QUESTIONNAIRE

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If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

✓ If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

### PERSON COMPLETING QUESTIONNAIRE

NAME : PHILIP JORDI  
TITLE : ENVIRONMENTAL PLANNER  
ADDRESS : SKOKOMISH TRIBAL CENTER  
N. 80 TRIBAL CENTER RD.  
SHELTON, WA 98584  
PHONE # : (206) 426-4232

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

**Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?**

**Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.**

**Describe your laboratory sample tracking system.**

**Do you have documented chain of custody requirements to protect sample integrity? Please describe.**

**Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.**



## **II. CURRENT LABORATORY CAPACITY**

**Is your current laboratory capacity adequate?**

**Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.**

**Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.**

**What percentage of your organization's laboratory work is completed in house?**

**Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?**

**What percentage of your work is contracted out?**

**What types of work do you usually contract out?**

**Please describe your procedure for utilizing outside laboratory services.**

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

EPA MANCHESTER LABORATORY - GROUND & SURFACE WATER TESTING  
FOR 1991.

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? YES

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

HIRE A WATER QUALITY SPECIALIST AND DEVELOP REGIONAL  
LABORATORY THROUGH EPA FUNDING.

## V. DATA MANAGEMENT

Please describe your analytical data management system.

NOT ESTABLISHED / DEVELOPED PRESENTLY

Where and how is your data stored?

PRINT. OUT FORM FROM EPA MANCHESTER LABORATORY

How is your data used?

1991 DATA WILL BE USED AS BASE LINE DATA IN THE ESTABLISHMENT OF THE SKOKOMISH WATER QUALITY MANAGEMENT / MONITORING PROGRAM. THE ANALYSIS WILL BE USED FOR POINT SOURCE ; NONPOINT SOURCE POLLUTION COMPLIANCE WITH TRIBAL ; STATE REGULATIONS ; STANDARDS.

How is your data archived?

PAPER FILE

Who do you share your data with?

EPA . AT THIS TIME.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

YES, LOW TECH ANALYSIS AND ACCESS OF TRIBAL AND OTHER (LOCAL GOVERNMENT, STATE, FEDERAL) DATA.

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

DEVELOPING ADEQUATE INFRASTRUCTURE FOR LABORATORY SERVICES, ~~FOR~~ FOR A SMALL TRIBAL ORGANIZATION /

What can, or should, be done to remove these impediments?

DEVELOP REGIONAL LABORATORY / TECHNICAL ASSISTANCE CENTERS TO SERVICE TRIBAL & LOCAL GOVERNMENT NEEDS.

DEPARTMENT OF ECOLOGY  
PROJECTED ANALYTICAL NEEDS  
BY PARAMETER

PROGRAM SKOKOMISH INDIAN TRIBE - RESERVATION SURFACE WATER

		FY92	FY93			FY92	FY93			FY92	FY93		
PHYSICAL CHEMISTRY	pH	X	X	DEMAND	BOD			METALS	METALS/ELEMENT				
	TURBIDITY	X	X		BOD 20				METALS (6)	X	X		
	SP. CONDUCTANCE	X	X		COD				ICP SCAN				
	SALINITY	X	X		TOC				MERCURY	X	X		
	ALKALINITY	X	X		TOTAL				HEX CHROMIUM	X	X		
	ACIDITY				MISC.	OIL & GREASE	X		X	PRIORITY POLLUTANT			
	HARDNESS	X	X			PHENOLICS				TCLP			
	SOLIDS (4)	X	X			CHLOROPHYLL				TOTAL	3	3	
	TS	X	X			COLOR				ORGANICS	BNA		
	TSS	X	X			GRAIN SIZE	1		1		VOA		
TOTAL	7	7	TOTAL				HERBICIDE						
ANIONS	CHLORIDE	X	X	MICRO.	COLIFORM	X	X	PESTICIDE					
	FLUORIDE				ENTEROCOCCI			ORGANOPHOS PEST					
	CYANIDE				% KLEB			TRI-BUTYL TIN					
	SULFATE	X	X		TOTAL	1	1	RESIN/FATTY ACID					
	TOTAL	2	2		BIOASSAY	EFFLUENT ACUTE TESTS			GUAIACOL/CATECHOL				
NUTRIENTS	AMMONIA			SALMONID				PCB					
	NITRATE	X	X	MICROTOX				BTEX/HALOGENATED					
	NITRITE	X	X	HYALLELA				PAH ONLY					
	NUTRIENTS (3)			DAPHNIA SP.				HYDROCARBON ID/TPH					
	NITRATE-NITRITE			ECHINODERM SPERM CELL				NON PP COMPOUNDS					
	TOTAL PHOSPHATE			BIVALVE LARVAE			ORGANIC SCREEN						
ORTHO PHOSPHATE	X	X	CHRONIC TESTS	DAPHNIA SP			% LIPIDS						
NUTRIENTS (5)				CERIODAPHNIA			TOTAL						
NITROGEN-TPN				SEDIMENT TESTS	CHRONIC TESTS			TOX					
TOTAL	3	3	DAPHNIA SP				PAH						
SPECIAL AIR	AIR FILTERS				CERIODAPHNIA			NH					
	ASBESTOS				MARINE AMPHIPOD			IGNITABILITY					
	TOTAL				RHEPOXYNIUS			SALMONID					
			FRESHWATER AMPHIPOD				NPDES						
			HYALLELA			RAT							
			DAPHNIA MAGMA			TOTAL							
			MICROTOX			HW DESIG.	TOTAL SAMPLES	19	19				
			TOTAL										

DEPARTMENT OF ECOLOGY  
PROJECTED ANALYTICAL NEEDS  
BY PARAMETER

PROGRAM SLOKOMISH INDIAN TRIBE - RESERVATION GROUND WATER

		91 FY92	FY93			91 FY92	FY93			91 FY92	FY93	
PHYSICAL CHEMISTRY	PH			DEMAND	BOD			METALS	METALS/ELEMENT			
	TURBIDITY				BOD 20				METALS (6)	X		
	SP. CONDUCTANCE				COO				ICP SCAN			
	SALINITY				TOC				MERCURY	X		
	ALKALINITY				TOTAL				HEX CHROMIUM	X		
	ACIDITY								PRIORITY POLLUTANT	X		
	HARDNESS	X			OIL & GREASE	X			TCLP			
	SOLIDS (4)	X			PHENOLICS				TOTAL	4		
	TS	X			CHLOROPHYLL							
	TSS	X			COLOR							
	TOTAL	4		GRAIN SIZE	1							
				TOTAL								
ANIONS	CHLORIDE	X		MICRO.	COLIFORM	X		ORGANICS	BNA			
	FLUORIDE				ENTEROCOCCI				VOA	X		
	CYANIDE				% KLEB				HERBICIDE	X		
	SULFATE	X			TOTAL	1			PESTICIDE	X		
	TOTAL	2							ORGANOPHOS PEST			
							TRI-BUTYL TIN					
NUTRIENTS	AMMONIA			BIOASSAY	EFFLUENT ACUTE TESTS					RESIN/FATTY ACID		
	NITRATE				SALMONID					GUAIACOL/CATECHOL		
	NITRITE	X			MICROTOX					PCB	X	
	NUTRIENTS (3)				HYALLELA					BTEX/HALOGENATED		
	NITRATE-NITRITE	X			DAPHNIA SP.				PAH ONLY			
	TOTAL PHOSPHATE				ECHINODERM SPERM CELL				HYDROCARBON ID/TPH			
	ORTHO PHOSPHATE				BIVALVE LARVAE				NON-PP COMPOUNDS			
	NUTRIENTS (5)								ORGANIC SCREEN			
NITROGEN-TPN							% LIPIDS					
	TOTAL	2					TOTAL	4				
SPECIAL AIR	AIR FILTERS			CHRONIC TESTS					TOX			
	ASBESTOS			DAPHNIA SP					PAH			
	TOTAL			CERIODAPHNIA					NH			
				SEDIMENT TESTS					IGNITABILITY			
				MARINE AMPHIPOD					SALMONID			
				RHEPOXYNIUS					NPDES			
				FRESHWATER AMPHIPOD					RAT			
				HYALLELA					TOTAL			
				DAPHNIA MAGNA								
				MICROTOX								
				TOTAL					TOTAL SAMPLES	12		

## NEEDS ASSESSMENT QUESTIONNAIRE

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If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

### PERSON COMPLETING QUESTIONNAIRE

NAME : FRAN WILSHUSEN  
TITLE : WATERSHED MGMT. BIOLOGIST  
ADDRESS : SQUAXIN ISLAND TRIBE  
W91, HWY 108  
SHELTON, WA. 98584  
PHONE # : (206) ~~426-9783~~ 426-9783

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

**Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?**

**Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.**

**Describe your laboratory sample tracking system.**

**Do you have documented chain of custody requirements to protect sample integrity? Please describe.**

**Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.**



## **II. CURRENT LABORATORY CAPACITY**

**Is your current laboratory capacity adequate?**

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**What percentage of your work is contracted out?**

**What types of work do you usually contract out?**

**Please describe your procedure for utilizing outside laboratory services.**

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

*Contract with private labs.*

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? **YES**

Describe how you propose to meet future demands for analytical services – establish laboratory, additional staff, utilize outside laboratories, etc.

*Work on methods to  
Generate the necessary funding support to:*

- 1. Hire additional staff*
- 2. Create regional labs*
- 3. Contract w/ outside labs as necessary.*

## V. DATA MANAGEMENT

Please describe your analytical data management system.

R-Base computer data management system.

Where and how is your data stored?

1. Squaxin Island Natural Resource Dept.
2. University of Washington

How is your data used?

- Resource management efforts
- Map development
- Harvest thresholds (determine)

How is your data archived?

Who do you share your data with?

- Other Tribes
- Northwest Indian Fisheries Comm
- Washington Dept. of Fisheries
- Thurston Co
- Mason Co
- Washington Dept. of Ecology

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

Receiving:

- > \$'s
- > convenience
- > efficiency

Providing

- > \$'s

What can, or should, be done to remove these impediments?

Funding levels appropriate to Tribal need and program levels needs to be secured.

## NEEDS ASSESSMENT QUESTIONNAIRE

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### PERSON COMPLETING QUESTIONNAIRE

Stillaguamish Tribe

NAME : *Christine Woodard*  
TITLE : *Water Resource Planner*  
ADDRESS : *3439 Stillaguamish Lane*  
*Arlington, WA*  
PHONE # : *206-652-7362*

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

**Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?**

**Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.**

**Describe your laboratory sample tracking system.**

**Do you have documented chain of custody requirements to protect sample integrity? Please describe.**

**Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.**

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**What types of work do you usually contract out?**

**Please describe your procedure for utilizing outside laboratory services.**

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

For checking fluoride and chlorine in drinking water we test every other day with HATCH test kits. Once a week Rescuets are called into Todd Lefferson at OHSU. Once a month a fluoride sample is sent to Yellowstone Labs in Pendleton Oregon for a reading. Once a month a bacteriological sample is sent to Am Test for reading.

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? *yes*

Describe how you propose to meet future demands for analytical services — establish laboratory, additional staff, utilize outside laboratories, etc.

*we have ordered:*

*IBM computer*

*Turbidimeter*

*Conductivity / salinity / temperature meter*

*DO/BOD Tester*

*pH Tester*

4

*This will be useful for our future needs in establishing water quality both for water testing in River and coastal sewage treatment plant usage.*



## V. DATA MANAGEMENT

Please describe your analytical data management system.

*File system*

Where and how is your data stored?

*File system soon to be computerized*

How is your data used?

*To determine water usage, quality records etc*

How is your data archived?

*files*

Who do you share your data with?

*I HAS + EPA*

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

we have in the past but when records become computerized it will be much easier to have data charts readily available.

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

none

What can, or should, be done to remove these impediments?

nothing

## NEEDS ASSESSMENT QUESTIONNAIRE

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Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

### PERSON COMPLETING QUESTIONNAIRE

Suquamish Tribe

NAME : Phyllis Meyers  
TITLE : Environmental Biologist  
ADDRESS : P.O. Box 498, Suquamish, WA 98392

PHONE # : (206) 598-3311

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

The Suquamish Tribe does not have a laboratory, however we do conduct some rudimentary water quality analysis at our hatchery, including DO, pH + acidity, ammonia & settleable solids,

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

no

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

no

Describe your laboratory sample tracking system.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Yes, but we only use it when necessary and for outside analysis. We have a form to document sample handling, age + so on.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

Metro has been analyzing most of the samples we collect, + we comply with their handling requirements for those samples.

## II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate? *no*

Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.

*NA*

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

*~ 40%*

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

*yes*

What percentage of your work is contracted out?

*~ 60%*

What types of work do you usually contract out?

*water quality + sediment quality work to assess sustainability of aquatic habitats for fisheries (including shellfish) resources.*

Please describe your procedure for utilizing outside laboratory services.

*We use grant or other monies to pay for analysis or we ask other agencies to provide analysis as in-kind services.*

Describe any laboratory work you do for other organizations on a Fee for Service basis.

*we don't*

How do you charge your clients for the cost of an analysis?

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

*Metro is providing some analysis for us, however we are not meeting all our needs and have not met our needs in the past.*

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

*Yes*

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

- 1.) Request more extensive monitoring as permit conditions*
- 2.) Pressure responsible agencies to be better resource managers.*
- 3.) Continue to provide technical support & field services for programs which involve lab work. For example, we collect samples for PSP analysis for DOT.*

## V. DATA MANAGEMENT

Please describe your analytical data management system.

We are working toward developing one. Initially, we will probably use a PC w/ spreadsheet and/or database software - Lotus 123 first and perhaps RBASE as we get more data.

Where and how is your data stored?

Hard copy

How is your data used?

Submitted to water quality specialist for review + recommendations and to steering committee for same.

How is your data archived?

Who do you share your data with?

Interested citizens, local health district, Leitsep County Planning + Public Works representatives, the conservation district and the state dept. of Ecology.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

~~No~~. Our <sup>water quality</sup> program is too new for those problems to have yet developed.  
With other data we have difficulty staffing data entry + analysis.

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

- 1) Lack of funding / staffing.
- 2) Lack of credibility / certification.
- 3) Naturally high levels of tannins or organics in streams flowing into the Squamish terminal fishing area may be an impediment for some tests.

What can, or should, be done to remove these impediments?

- 1) For environmental monitoring, proponents of projects which are environmentally degrading should provide funding, perhaps by paying for compliance monitoring for their project. We think sample parameters should be developed by technical experts, such as water quality specialists, and a more broad based sampling + analysis approach should be the standard.
- 2) Impediments to quality lab service are partly due to misunderstanding of what laboratory data means. Some of this misunderstanding could be cleared up by referring to fecal coliform bacteria with a different name ... something more generic. (Like perhaps the horse sucker pollution parameter (HAPP)!) or the altered system indicator



DEPARTMENT OF ECOLOGY  
PROJECTED ANALYTICAL NEEDS  
BY PARAMETER

PROGRAM Sugamish Tribe Miller Bay Project only  
Hatchery testing is additional, but done in-house

	FY92	FY93		FY92	FY93		FY92	FY93					
PHYSICAL CHEMISTRY	pH	60	60	DEMAND	BOD		METALS	METALS/ELEMENT					
	TURBIDITY	60	60		BOD 20				METALS (6)	6	12		
	SP. CONDUCTANCE	60	60		COO				ICP SCAN	15	15		
	SALINITY				TOC	6		12	MERCURY				
	ALKALINITY				TOTAL				HEX CHROMIUM				
	ACIDITY				MISC.	OIL & GREASE				PRIORITY POLLUTANT			
	HARDNESS					PHENOLICS				TECP			
	SOLIDS (4)					CHLOROPHYLL				TOTAL			
	TS					COLOR				ORGANICS	BNA		
	TSS	60	60			GRAIN SIZE		6	12		VOA	15	15
TOTAL			TOTAL			HERBICIDE	6	12					
ANIONS	CHLORIDE			MICRO.	COLIFORM	60	60	PESTICIDE	27		27		
	FLUORIDE				ENTEROCOCCI	60	60	ORGANOPHOS PEST					
	CYANIDE				% KLEB			TRI-BUTYL TIN					
	SULFATE				TOTAL			RESIN/FATTY ACID					
	TOTAL				BIOASSAY	EFFLUENT ACUTE TESTS			GUAIACOL/CATECHOL				
NUTRIENTS	AMMONIA	60	60	SALMONID				PCB	6		12		
	NITRATE			MICROTOX				BTEX/HALOGENATED					
	NITRITE			HYALLELA				PAH ONLY					
	NUTRIENTS (3)			DAPHNIA SP.				HYDROCARBON ID/TPH					
	NITRATE-NITRITE	60	60	ECHINODERM SPERM CELL				NON-PP COMPOUNDS					
	TOTAL PHOSPHATE	60	60	BIVALVE LARVAE				ORGANIC SCREEN					
	ORTHO PHOSPHATE	60	60	CHRONIC TESTS			% LIPIDS						
NUTRIENTS (5)			DAPHNIA BP				TOTAL						
NITROGEN-TPN			CERIODAPHNIA				HW DESIG.	TOX					
TOTAL			SEDIMENT TESTS			PAH							
SPECIAL AIR	AIR FILTERS			MARINE AMPHIPOD				NH					
	ASBESTOS			RHEPOXYNIUS				IGNITABILITY					
	TOTAL			FRESHWATER AMPHIPOD				SALMONID					
				HYALLELA				NPDES					
				DAPHNIA MAGNA				RAT					
				MICROTOX				TOTAL					
				TOTAL				TOTAL SAMPLES	687	717			

## NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

### PERSON COMPLETING QUESTIONNAIRE

NAME : Ed Knight  
TITLE : Environmental Planner  
ADDRESS : Swinomish Tribal Community  
P.O. Box 817  
PHONE # : LaConner, WA 98257  
→ (206) 466-3163

### I. CURRENT LABORATORY CAPABILITIES

N/A

Describe the services your laboratory offers to your clients:

DEPARTMENT OF ECOLOGY  
PROJECTED ANALYTICAL NEEDS  
BY PARAMETER

		?	
		FY92	FY93
PHYSICAL CHEMISTRY	PH	✓	
	TURBIDITY	✓	
	SP. CONDUCTANCE	✓	
	SALINITY	✓	
	ALKALINITY	✓	
	ACIDITY	✓	
	HARDNESS	✓	
	SOLIDS (4)	✓	
	TSS	✓	
	TSS	✓	
TOTAL			
ANIONS	CHLORIDE	✓	
	FLUORIDE	✓	
	CYANIDE	✓	
	SULFATE	✓	
	TOTAL		
NUTRIENTS	AMMONIA	✓	
	NITRATE	✓	
	NITRITE	✓	
	NUTRIENTS (3)	✓	
	NITRATE-NITRITE	✓	
	TOTAL PHOSPHATE	✓	
	ORTHOPHOSPHATE	✓	
	NUTRIENTS (5)	✓	
NITROGEN-TPN	✓		
TOTAL			
SPECIAL AIR	AIR FILTERS		
	ASBESTOS	✓	
	TOTAL		

		?		
		FY92	FY93	
DEMAND	BOD	✓		
	BOD 20	✓		
	COD			
	TOC	✓		
	TOTAL			
	MISC.	OIL & GREASE	✓	
		PHENOLICS	✓	
		CHLOROPHYLL		
		COLOR		
		GRAIN SIZE		
TOTAL				
MICRO.	COLIFORM	✓		
	ENTEROCOCCI	✓		
	% KLEB			
	TOTAL			
BIOASSAY	EFFLUENT ACUTE TESTS			
	SALMONID			
	MICROTOX			
	HYALLELA			
	DAPHNIA SP.			
	ECHYODERM SPERM CELL			
	BIVALVE LARVAE	✓		
CHRONIC TESTS	DAPHNIA SP.			
	CERIODAPHNIA			
SEDIMENT TESTS	MARINE AMPHIPOD	✓		
	REPOXYNIUS			
	FRESHWATER AMPHIPOD	✓		
	HYALLELA			
	DAPHNIA MAGNA			
	MICROTOX			
TOTAL				

		?	
		FY92	FY93
METALS	METALS/ELEMENT	✓	
	METALS (6)	✓	
	ICP SCAN		
	MERCURY	✓	
	HEX CHROMIUM	✓	
	PRIORITY POLLUTANT	✓	
	TCLP	✓	
TOTAL			
ORGANICS	BNA		
	VOA		
	HERBICIDE	✓	
	PESTICIDE	✓	
	ORGANOPHOS PEST	✓	
	TRI-BUTYL TIN	✓	
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB		
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH	✓	
NON PP COMPOUNDS			
ORGANIC SCREEN	✓		
% LIPIDS			
TOTAL			
HW DESIG.	TOX		
	PAH		
	NI		
	IGNITABILITY		
	SALMONID		
	NFDES		
	RAT		
	TOTAL		
	TOTAL SAMPLES		

## II. CURRENT LABORATORY CAPACITY

N/A

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

Facilities available through Skagit County Public Health Dept.

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

Yes

Describe how you propose to meet future demands for analytical services – establish laboratory, additional staff, utilize outside laboratories, etc.

- 1) Coordination with Northwest Indian Fish Commission on establishment of multi-Tribal facility
- 2) Skagit County Public Health Dept.
- 3) Contract for lab services, funded by specific grant programs.

## V. DATA MANAGEMENT

Please describe your analytical data management system.

None

Where and how is your data stored?

How is your data used?

How is your data archived?

Who do you share your data with?

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

- 1) Scarcity of accredited labs
- 2) High cost for specialized services

What can, or should, be done to remove these impediments?

- 1) Establish additional accredited labs
- 2) Provide funding assistance for necessary or required services

## NEEDS ASSESSMENT QUESTIONNAIRE-TULALIP LABORATORY

Person completing questionnaire:

Kit Paulsen  
Field and Volunteer Coordinator  
Tulalip Water Quality Laboratory  
10610 Waterworks Rd  
Marysville WA 98270  
(206) 659-4130

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients.

Our laboratory collects and processes surface water samples from the Tulalip Reservation streams and lakes, the Stillaguamish and Snohomish watersheds, and northern Port Susan. We analyze samples for temperature, dissolved oxygen, conductivity, salinity, fecal coliform bacteria, nitrate-nitrite, ortho-phosphate, pH, total suspended solids, and turbidity. We also conduct flow profiles by season for some of the streams.

The Tulalip Water Quality program is funded by tribal, state and federal grants. We do not process samples for other agencies, organizations, or individuals at this time.

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

NA

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

NA

Describe your laboratory sample tracking system.

Sample bottles are labeled with the sitecode, date, time, and sampler's initials at the sampling location. Samples are kept in a cooler in a locked vehicle while in the field. Upon arrival at the lab, the sample locations, field sampler's initials, and time of arrival are recorded in a notebook. Samples are placed in the refrigerator until processed. Only laboratory staff and selected hatchery staff are allowed in the laboratory unless prior arrangements have been made. The laboratory is locked whenever laboratory staff are absent. Most samples are processed within 12 hours of collection. The laboratory sample labels are compared to the sample bottle labels before and after conducting laboratory procedures to ensure proper coding. All laboratory records and field notes are maintained in three-ring binders in the laboratory.

Do you have documented chain of custody requirements to protect sample integrity? Please Describe.

see previous question.



Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

All physical parameters and microbiological samples are processed within six hours of collection. Nutrients are processed within 12 hours of collection. Total suspended solids are processed within 48 hours of collection.

## II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

NO. The Tulalip Tribes would like to conduct bacteriological monitoring of shellfish beds utilized by tribal members. We do not have the laboratory space, trained personnel, or funding to conduct this sampling.

With increased pressures on water resources due to development, agricultural practices, timber harvest practices, and other point and nonpoint sources of pollution, the Department of Ecology has requested that the Tulalip Tribes increase sampling efforts in the Snohomish and Stillaguamish watersheds. At this time, we are unable to adequately monitor these watersheds for effective fisheries habitat management. Funding and laboratory space are the primary constraints to conducting this monitoring.

The Tulalip Hatchery needs more monitoring of the water supplies for incubation and rearing of salmonids. Additional monitoring of effluents is also needed. As development of the watershed occurs and fish production increases, this information becomes more and more critical. We are currently unable to meet these needs.

Other local organizations and agencies have requested sample analysis by the Tulalip Water Quality Laboratory. We are unable to accept outside samples due to the limited availability of space, supplies, equipment, and staff.

We are not able to address water quality concerns on the Tulalip Reservation, such as groundwater resources, development impacts, or ephemeral spills due to grant commitments and limited laboratory resources.

Please describe your laboratory capacity; number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.

There are currently 2 biologists and 1.8 technicians on staff for the laboratory. Currently we collect and analyze approximately sixty samples per month with additional sampling during fall and spring storms. This is currently the maximum number of samples the laboratory can analyze.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Almost all our work is completed in house.

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

Yes. We currently contract with the University of Washington for nutrient comparison testing and the Department of Health for microbiological comparisons. Approximately 10% of our samples are split and analyzed by outside laboratories for comparison. We also contract with METRO and/or commercial laboratories for occasional priority pollutant and sediment analyses which cannot be conducted in our laboratory.

What percentage of work is contracted out?

See previous answer.

What types of work do you usually contract out? See above.

Please describe your procedure for utilizing outside laboratory services.

Sampling is typically scheduled two months in advance at Tulalip. Every two to three months, the University of Washington and Department of Health labs are contacted to arrange for comparison testing. Tulalip is charged by the number of samples analyzed.

Outside testing of bacteriological samples has become more difficult since the Snohomish County Health Laboratory was closed. Bacteriological samples should be processed within six hours of collection. The Department of Health Laboratory is located in north Seattle, almost an hour drive from Tulalip. The recommended holding time is nearly over by the time the samples are collected, split in the Tulalip Lab, and driven to Seattle. Also, having to dedicate staff and vehicle time to this drive can be problematic.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

NA

How do you charge your clients for the cost of an analysis?

NA

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

NA

### IV FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

Definitely! We are not able to meet current monitoring needs, as stated previously, therefore it is certain we will not be able to meet future needs with existing resources.

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

This is dependent on funding. Currently the Tulalip Laboratory is funded through Centennial Clean Water Grants, a Bureau of Indian Affairs Grant, and Tribal funds. Unless a reliable, long term source of funding is provided, the Tulalip Water Quality Laboratory will not be able to meet the future needs for water monitoring.

In order to expand to meet increasing demands, the Tulalip Laboratory needs additional trained staff, increased work space, additional incubation and refrigeration space, a larger capacity water purification system, specialized equipment, and laboratory waste management services.

Outside laboratories would still need to be used for highly specialized analyses, such as detection of heavy metals, PCBs, PAHs, pesticides/herbicides, and other toxic chemicals.

#### V. DATA MANAGEMENT

Please describe your analytical data management system.

All data are stored in Rbase files. Tulalip utilizes a specially designed software package from KJM Consulting for sorting and low-level statistical queries. SPSS-pc is used for more technical statistical procedures. Error checks are conducted electronically during data entry, visually after data entry, and prior to statistical analysis.

Where and how is your data stored?

The laboratory personal computer has the active files on hard disc. Floppy disc back ups are kept both in the lab and in a separate office building.

How is your data used?

Data are available to any governmental agency upon request. Data have been used in Environmental Impact Statements compiled by consulting companies. Data are summarized for use by local and tribal entities in project reports at the end of each grant period. Tulalip water quality information is also part of the 1990 Stillaguamish Watershed Action Plan.

How is your data archived?

All data are copied to floppy disks and stored in two locations for safekeeping.

With whom do you share data?

See above

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

At this time, our computer capabilities are sufficient for our data management. Data entry is often delayed due to lack of staff time. If the laboratory were to expand operations, data management needs would have to be assessed.

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

There are no local pay-for-service laboratories in the Marysville area. Seattle, Redmond, or Bellingham are the closest locations for contracting out samples. It is difficult to maintain quality standards when transporting samples long distances. The costs for staff time and transportation also increase.

Many laboratories which accept comparison samples are extremely busy. It is sometimes difficult to arrange for sample comparisons on a timely basis.

What can, or should, be done to remove these impediments?

It would help to have local laboratories available for analyzing basic parameters such as fecal coliform bacteria, enterococci bacteria, and nutrients. These laboratories should also be available for technical advice.

DEPARTMENT OF ECOLOGY  
PROJECTED ANALYTICAL NEEDS  
BY PARAMETER

PROGRAM *Tulalip Water Quality Laboratory*

	FY92	FY93		FY92	FY93		FY92	FY93					
PHYSICAL CHEMISTRY	pH	1000	1000	DEMAND	BOD	100	300	METALS	METALS/ELEMENT				
	TURBIDITY	1000	1000		BOD 20				METALS (6)	10	20		
	SP. CONDUCTANCE	100	500		COO				ICP SCAN				
	SALINITY	100	100		TOC				MERCURY				
	ALKALINITY				TOTAL	100	300		HEX CHROMIUM				
	ACIDITY				MISC.	OIL & GREASE	10		20	PRIORITY POLLUTANT	10	20	
	HARDNESS					PHENOLICS				TCLP			
	SOLIDS (4)					CHLOROPHYLL				TOTAL	20	40	
	TS					COLOR				ORGANICS	BNA		
	TSS	350	500			GRAIN SIZE					VOA		
TOTAL	3550	3100	TOTAL	10		20	HERBICIDE	10	20				
ANIONS	CHLORIDE			MICRO.		COLIFORM	1000	1000	PESTICIDE		10	20	
	FLUORIDE					ENTEROCOCCI	50	50	ORGANOPHOS PEST				
	CYANIDE					% KLEB			TRI-BUTYL TIN		5	5	
	SULFATE					TOTAL	1050	1050	RESIN/FATTY ACID				
	TOTAL				BIOASSAY	EFFLUENT ACUTE TESTS			GUAIACOL/CATECHOL				
NUTRIENTS	AMMONIA			SALMONID				PCB	10		20		
	NITRATE			MICROTOX				BTEX/HALOGENATED					
	NITRITE			HYALLELA			1	PAH ONLY					
	NUTRIENTS (3)			DAPHNIA SP.				HYDROCARBON ID/TPH					
	NITRATE-NITRITE	1000	1000	ECHINODERM SPERM CELL				NON PP COMPOUNDS					
	TOTAL PHOSPHATE			BIVALVE LARVAE				ORGANIC SCREEN					
	ORTHO PHOSPHATE	1000	1000	CHRONIC TESTS		DAPHNIA SP.			% LIPIDS				
NUTRIENTS (5)			CERIODAPHNIA					TOTAL	35	65			
NITROGEN-TPN			SEDIMENT TESTS			MARINE AMPHIPOD			HW DESIG.	TOX			
TOTAL	2000	2000			RHEPOXYNUS			PAH		5	10		
SPECIAL AIR	AIR FILTERS					FRESH-WATER AMPHIPOD				H41			
	ASBESTOS				HYALLELA			IGNITABILITY					
	TOTAL				DAPHNIA MAGNA			SALMONID					
					MICROTOX			NPDES					
					TOTAL			RAT					
								TOTAL		5	10		
								TOTAL SAMPLES		5710	6585		

## NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

**PERSON COMPLETING QUESTIONNAIRE** Northwest Indian Fisheries Commission

**NAME** : Janet Gleckler  
**TITLE** : Fish Health Lab Tech  
**ADDRESS** : 6730 Martin Way E  
Olympia, Wa 98506  
**PHONE #** : 438-1180

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

The Tribal Fish Health Lab was created to meet the needs of the tribal hatcheries, and at the present time those needs include bacteriology and virology of salmon and steelhead tissues. A regular monitoring program is in operation for each of our hatcheries for the 20 tribes which includes on-sight diagnostics, and samples are then brought back to the lab for further analysis. If there seems to be a problem that is not pathological, some water analysis is done that only includes simple DO levels, saturation levels, salinity and temperature monitoring, and flow levels, which many hatcheries are capable of doing themselves.

We are currently in the process of expanding our lab facility to include a water quality area that will provide testing to meet NPDES requirements-- Settleable Solids, fecal coliform levels, etc.  
The tribes will be responsible for their own testing on a regular basis, and our facility would only be support.

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Most often a pathologist will sample and bring those back to the lab. Otherwise, hatchery personnel will deliver samples or we take advantage of UPS and Greyhound for hatcheries that are more than approximately 75 miles away.

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

Yes, our lab supplies all of the above. We supply the containers for spawning samples, an assortment of tubes and plastic bags for tissue samples and live fish. We supply insulated mailing boxes, blue ice, racks, numerous forms and loan out some of our equipment from the lab. We provide some of the antibiotics and chemicals depending on the situation.

Describe your laboratory sample tracking system.

We have a general log that each sample is entered in when it comes into the lab. From there it is categorized into the specific area of testing and entered into the database. All information from each case is entered as it is completed (which may range over a period of several weeks), and at the time of completion a final report is prepared and returned to hatchery by its assigned pathologist.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Our samples are provided by our own pathologists, or by our trained hatchery personnel. We have not seen a need to formally set up a system for protection. Once the samples are in the lab there are two people that routinely handle them, and integrity of the sample is the priority.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

The required growth period for virology samples is 21 days, and for bacteriology samples, 1 week. We allow extra time if we find suspicious growth, so we do not have a specific deadline. We keep our hatcheries informed of progress during the time we are waiting, and send out final reports as promptly as is possible. During certification season for spawning samples, we hold many results for one final report, which the hatchery is fully aware of.

## II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate? Our lab responds to the needs of the tribes as they deem necessary. If they want more service, they provide the funding (see below) Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.

At present we have one Lab Technician and three Fish Pathologists with a fourth soon to be brought in. The number of cases we receive each week varies from 3 fish to 1200 fish depending on the season. We are fortunate that we have not yet reached a maximum number of samples to be handled. If we are extremely inundated with samples, the pathologists have known ahead of time and planned to work in the lab to balance the load.

\*As previously mentioned, we are in the process of adding a water quality area that will only be used as support for the tribal NPDES needs. Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

100%

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

Not at this time

What percentage of your work is contracted out?

None

What types of work do you usually contract out?

None

Please describe your procedure for utilizing outside laboratory services.

None



Describe any laboratory work you do for other organizations on a Fee for Service basis.

We occasionally do egg sale certifications for private growers if we have the time, but do not encourage this use of our lab.

How do you charge your clients for the cost of an analysis?

Fees are based on number of fish sampled, and type of testing required.

See attached fee schedule

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

We are currently meeting the needs of all our hatcheries for fish health, and only will add water quality capabilities as noted above. Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

We do not see a need to expand our primary lab services at this time. A fourth pathologist will be added soon to balance out hatchery responsibilities, but an increase in the lab efforts should not change at this point.

At this point the tribal shellfish issue is still undefined, but we will need to utilize an outside lab for testing for chemicals, if the need arises.

## V. DATA MANAGEMENT

Please describe your analytical data management system.

We are currently using a program written especially for fish health entitled Island Science, for our PC based system.

Information is stored by year and case #, and several different reports can be printed pulling out pertinent data for the designated report.

Where and how is your data stored?

Northwest Indian Fisheries Commission uses a LAN system. When we receive samples, a case # is assigned and the data is entered along with hatchery information.

We also have hard copies that notations are made on during the processing, and these are kept with a copy of the final report that is prepared for the hatchery.

How is your data used?

Analyses of yearly disease outbreaks at each hatchery, number of cases from each hatchery to compare production and health, keeping track of lab work requirements, ability to pull up a full history of fish health at a single hatchery, etc.

How is your data archived?

All data is on the LAN, and we have hardcopies of all cases completed since the lab opened in 1988.

Who do you share your data with?

Our data is available to anyone requesting information.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

no

## **VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE**

What impediments, if any, do you see to receiving or providing quality laboratory service?

None at this time.

What can, or should, be done to remove these impediments?

At this point we are unsure of any future needs  
 If we need testing on shellfish, then we would utilize  
 an outside lab, and what things to be tested for are  
 unknown now.

JG

PROGRAM NW Indian Fisheries

DEPARTMENT OF ECOLOGY  
 PROJECTED ANALYTICAL NEEDS  
 BY PARAMETER

	FY92	FY93		FY92	FY93		FY92	FY93		
PHYSICAL CHEMISTRY	pH		DEMAND	BOD		METALS	METALS/ELEMENT			
	TURBIDITY			BOD 20			METALS (6)			
	SP. CONDUCTANCE			COD			ICP SCAN			
	SALINITY			TOC			MERCURY			
	ALKALINITY			TOTAL			HEX CHROMIUM			
	ACIDITY			MISC.	OIL & GREASE			PRIORITY POLLUTANT		
	HARDNESS				PHENOLICS			TCLP		
	SOLIDS (4)				CHLOROPHYLL			TOTAL		
	TS				COLOR			ORGANICS	BNA	
	TSS				GRAIN SIZE				VOA	
TOTAL		TOTAL		HERBICIDE						
ANIONS	CHLORIDE		MICRO.	COLIFORM		PESTICIDE				
	FLUORIDE			ENTEROCOCCI		ORGANOPHOS PEST				
	CYANIDE			% KLEB		TRI-BUTYL TIN				
	SULFATE			TOTAL		RESIN/FATTY ACID				
	TOTAL			BIOASSAY	EFFLUENT ACUTE TESTS		GUAIACOL/CATECHOL			
NUTRIENTS	AMMONIA		SALMONID			PCB				
	NITRATE		MICROTOX			BTEX/HALOGENATED				
	NITRITE		HYALLELA			PAH ONLY				
	NUTRIENTS (3)		DAPHNIA SP.			HYDROCARBON ID/TPH				
	NITRATE-NITRITE		ECHINODERM SPERM CELL		NON-PP COMPOUNDS					
	TOTAL PHOSPHATE		BIVALVE LARVAE		ORGANIC SCREEN					
	ORTHO PHOSPHATE		CHRONIC TESTS	DAPHNIA SP		% LIPIDS				
	NUTRIENTS (5)			CERIODAPHNIA		TOTAL				
NITROGEN-TPN		SEDIMENT TESTS		MARINE AMPHIPOD		HW DESIG.	TOX			
TOTAL			RHEPOXYNIUS		PAH					
SPECIAL AIR	AIR FILTERS			FRESHWATER AMPHIPOD			NH			
	ASBESTOS			HYALLELA			IGNITABILITY			
	TOTAL			DAPHNIA MAGNA			SALMONID			
			MICROTOX		NPDES					
			TOTAL		RAT					
				TOTAL						
				TOTAL SAMPLES						



# Point No Point Treaty Council

Port Gamble S Klallam • Lower Elwha Klallam • Jamestown Klallam • Skokomish

August 26, 1991

Dick Schroeder  
Dept of Ecology  
Program Planning & Support Section  
7171 Clearwater Lane, Bldg 8, LH-14  
Olympia, WA 98504-6814

Dear Mr. Schroeder;

On behalf of the member tribes of the Point No Point Treaty Council (PNPTC), I am responding to your request for information regarding preparation of a laboratory needs assessment.

Our current demands for laboratory services are being met through two procedures. The Washington State Department of Health performs fecal coliform testing of water and shellfish meats as well as paralytic shellfish poisoning testing of shellfish meats. The Northwest Indian Fisheries Commission provides fish pathology services which we utilize in conjunction with our hatchery projects.

We expect that our present needs will continue to be met by existing procedures. However, in the future we foresee the need for laboratory services to work up samples required as part of the NPDES permitting process of tribal hatcheries. We have not yet addressed how we will meet this need.

In addition, as the scope of tribal water quality programs develop in cooperation with the Environmental Protection Agency, we would anticipate an expanded role for tribes in water quality monitoring and analysis regarding both public health and natural resource protection concerns.

Our analytical data management system is very rudimentary. It consists of data storage on Lotus spreadsheets, with subsequent analysis by our technical fisheries staff.

I hope this information is helpful. Please call Chris Weller if you have any questions at 297-3422.

Sincerely,

*Tish Parmenter*

Tish Parmenter  
Habitat Program Coordinator

cc: Joseph Pavel  
Jake Jones  
Ron Allen  
Carla Elophson  
Fishery Managers

**APPENDIX C**

**PART II**

**City and County Responses to Appendix A Questionnaire**

## NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

*Please do send copy of completed report.*

### PERSON COMPLETING QUESTIONNAIRE

NAME : DAVID RENSTROM  
TITLE : WATER QUALITY PROGRAM MANAGER  
ADDRESS : CITY OF BELLEVUE, SSWN  
P.O. BOX 90012  
PHONE # : Bellevue, WA 98009  
(206) 455-7818

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

*We operate a small laboratory for the Storm + Surface water utility. Primarily the lab supports a grant funded (CCWA) project which includes sampling of storm water. One technician performs the field + lab work, as well as data entry.*

*Only pH, conductivity and turbidity are performed in-house. Other samples are prepared for the contract lab.*



Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Field tech performs all functions, including delivery of samples to the contract lab

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

N/A

Describe your laboratory sample tracking system.

Samples are labelled with date and station code. Reports from contract lab are cross checked with our record of samples submitted. Data is entered into a spreadsheet data base for each station.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

One individual does all sampling, prep + delivery to lab. Lab performs their own chain of custody.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

per lab contract, which specifies std. method or EPA guidelines

## II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.

Currently only do sample prep for contract labs. In house do pH, cond, turbidity for 120 samples/yr.  
Facility itself could handle much greater work load. Well equipped with hood, counter space, water still, sinks, chemical storage + safety equipment.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

about 10%

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

Yes

What percentage of your work is contracted out?

90%

What types of work do you usually contract out?

nutrients, metals, organics

Also contract out other studies analytical work.  
Now doing mgmt. of lab contract for interjurisdictional "Biofiltration" Grant (CCWA). Plan to do a multi-year water quality monitoring of a

Please describe your procedure for utilizing outside laboratory services.

typically do RFQ's every few years  
negotiate contract with qualified firms  
pay on recurring costs.

3

Stormwater facility beginning next year.  
Analyses (similar to current NPDES project) will probably be done by Metro Lab

Describe any laboratory work you do for other organizations on a Fee for Service basis.

No

How do you charge your clients for the cost of an analysis?

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

Yes - will need to expand utilization of our lab and/or contract for additional services.

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

Use outside labs.

Also may expand use of our lab, perhaps by interlocal agreement with other eastside cities.

## V. DATA MANAGEMENT

Please describe your analytical data management system.

Where and how is your data stored?

On hand copy & disk - Lotus spreadsheet

How is your data used?

Currently preparing final report for 2 years stormwater monitoring project.

How is your data archived?

Who do you share your data with?

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

*work load*

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

What can, or should, be done to remove these impediments?

DEPARTMENT OF ECOLOGY  
PROJECTED ANALYTICAL NEEDS  
BY PARAMETER

PROGRAM CCWA NPDES grant

Pb, Zn, Cu  
Cr, Ni, Cd

	FY92	FY93	
PHYSICAL CHEMISTRY	pH	120	130
	TURBIDITY	120	130
	SP. CONDUCTANCE	120	130
	SALINITY		
	ALKALINITY		
	ACIDITY		
	HARDNESS	120	130
	SOLIDS (4)		
	TS		
	TSS	120	130
TOTAL	600	650	
ANIONS	CHLORIDE		
	FLUORIDE		
	CYANIDE		
	SULFATE		
	TOTAL		
NUTRIENTS	AMMONIA	120	130
	NITRATE	120	130
	NITRITE	120	130
	NUTRIENTS (3)		
	NITRATE-NITRITE		
	TOTAL PHOSPHATE	120	130
	ORTHO PHOSPHATE	120	130
NUTRIENTS (5)			
NITROGEN-TPN			
TOTAL	600	650	
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

	FY92	FY93	
DEMAND	BOD		
	BOD 20		
	COO	25	30
	TOC		
	TOTAL		
MISC.	OIL & GREASE	15	20
	PHENOLICS		
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE		
TOTAL	40	50	
MICRO.	COLIFORM	120	130
	ENTEROCOCCI		
	% KLEB		
	TOTAL	120	130
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
CHRONIC TESTS			
DAPHNIA SP.			
CERIODAPHNIA			
SEDIMENT TESTS			
MARINE AMPHIPOD			
RHEPOXYNIUS			
FRESHWATER AMPHIPOD			
HYALLELA			
DAPHNIA MAGNA			
MICROTOX			
TOTAL			

	FY92	FY93	
METALS	METALS/ELEMENT		
	METALS (6)		
	ICP SCAN	120	130
	MERCURY		
	HEX CHROMIUM		
PRIORITY POLLUTANT			
TCLP			
TOTAL	120	130	
ORGANICS	BNA		
	VOA		
	HERBICIDE		
	PESTICIDE		
	ORGANOPHOS PEST		
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB		
	BTEX/HALOGENATED		
PAH ONLY			
HYDROCARBON ID/TPH	15	20	
NON-PP COMPOUNDS			
ORGANIC SCREEN			
% LIPIDS			
TOTAL	15	20	
HW DESIG.	TOX		
	PAH		
	NH		
	IGNITABILITY		
	SALMONID		
NPOES			
RAT			
TOTAL			
TOTAL SAMPLES	2600	2800	

TKN

## NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

### PERSON COMPLETING QUESTIONNAIRE

NAME : Julie Hirsch  
TITLE : Technical Supervisor  
ADDRESS : 2221 Pacific St., Bellingham, WA 98225

PHONE # : 206-676-6977

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Municipal wastewater treatment and water filtration plants.

Wastewater: Monitor wastewater quality for NPDES permit requirements and process control.

Water: Monitor drinking water quality for distribution system serving community of 60,000.

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Samples collected and transported by laboratory staff.

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

Most samples collected by laboratory staff. Sample containers analysis forms and log sheets supplied to field inspectors.

Describe your laboratory sample tracking system.

Samples logged in on field sheet upon collection and receipt in the laboratory. Bench sheets used for each analysis.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Chain of custody procedures used for special samples only. Secure area available for chain of custody sample storage.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

We do not provide analytical services for "outside customers".  
Laboratory holding times as per Standard Methods for Examination of water and wastewater 17th edition.



## II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate? Yes

Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.

Staffing: 3 laboratory technicians  
Water: 2,000 samples analyzed/year  
maximum capacity; 30 samples/day  
Wastewater: 2,000 samples/year

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

85%

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

Yes

What percentage of your work is contracted out?

15%

What types of work do you usually contract out?

Trihalomethanes  
Vocb  
Metals  
Inorganics

Please describe your procedure for utilizing outside laboratory services.

Samples collected by laboratory staff and sent to certified commercial laboratory.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

None

How do you charge your clients for the cost of an analysis?

n/a

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

Wastewater facility upgrade will result in new laboratory facilities. Laboratory staffing projected to double by 1993.

## V. DATA MANAGEMENT

Please describe your analytical data management system.

Data collected on field and bench sheets is entered and stored on computer spreadsheets.

Where and how is your data stored?

All field and bench sheets stored in hard copy form for five years. Data stored in computer files.

How is your data used?

Data used for regulatory reporting, process control, water quality trend analysis, and for special projects.

How is your data archived?

Data archived on computer disks and notebooks.

Who do you share your data with?

Data shared with regulatory agencies, plant and department personnel, and local government. Data available to public upon request.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

Need exists for streamlined data storage and analysis computer package for water and wastewater laboratory data.

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

n/a

What can, or should, be done to remove these impediments?

n/a

DEPARTMENT OF ECOLOGY  
PROJECTED ANALYTICAL NEEDS  
BY PARAMETER

PROGRAM WASTEWATER TREATMENT

		FY92	FY93			FY92	FY93			FY92	FY93		
PHYSICAL CHEMISTRY	pH	1095	1095	DEMAND	BOD	1080	1080	METALS	METALS/ELEMENT				
	TURBIDITY				BOD 20				METALS (6)				
	SP. CONDUCTANCE				COD				ICP SCAN				
	SALINITY				TOC				MERCURY				
	ALKALINITY				TOTAL	1080	1080		HEX CHROMIUM				
	ACIDITY				MISC.	OIL & GREASE	15		15	PRIORITY POLLUTANT			
	HARDNESS					PHENOLICS				TCLP			
	SOLIDS (4)					CHLOROPHYLL				TOTAL			
	TS	1080	1080			COLOR				ORGANICS	BNA		
	TSS	1080	1080			GRAIN SIZE					VOA		
TOTAL	3265	3265	TOTAL	15		15	HERBICIDE						
ANIONS	CHLORIDE			COLIFORM		365	365	PESTICIDE					
	FLUORIDE			ENTEROCOCCI				ORGANOPHOS PEST					
	CYANIDE			% KLEB				TRI-BUTYL TIN					
	SULFATE			TOTAL		365	365	FESIN/FATTY ACID					
	TOTAL			BIOASSAY	EFFLUENT ACUTE TESTS			GUAIACOL/CATECHOL					
NUTRIENTS	AMMONIA				SALMONID			PCB					
	NITRATE				MICROTOX			BTEX/HALOGENATED					
	NITRITE				HYALLELA			PAH ONLY					
	NUTRIENTS (3)				DAPHNIA SP.			HYDROCARBON ID/TPH					
	NITRATE-NITRITE				ECHINODERM SPERM CELL			NON PP COMPOUNDS					
	TOTAL PHOSPHATE				BIVALVE LARVAE			ORGANIC SCREEN					
ORTHOPHOSPHATE			CHRONIC TESTS					% LIPIDS					
NUTRIENTS (5)					DAPHNIA 8P			TOTAL					
NITROGEN-TPN					CERIODAPHNIA			HW DESIG.	TOX				
TOTAL			SEDIMENT TESTS				PAH						
SPECIAL AIR	AIR FILTERS				MARINE AMPHIPOD				NH				
	ASBESTOS				RHEPOXYNIUS				IGNITABILITY				
	TOTAL				FRESHWATER AMPHIPOD				SALMONID				
				HYALLELA			NPDES						
				DAPHNIA MAGNA			RAT						
			MICROTOX			TOTAL							
			TOTAL			TOTAL SAMPLES	4715		4715				

DEPARTMENT OF ECOLOGY  
PROJECTED ANALYTICAL NEEDS  
BY PARAMETER

PROGRAM WATER TREATMENT

		FY92	FY93			FY92	FY93			FY92	FY93		
PHYSICAL CHEMISTRY	pH	300	300	DEMAND	BOD			METALS	METALS/ELEMENT				
	TURBIDITY	300	200		BOD 20				METALS (6)				
	SP. CONDUCTANCE				COO				ICP SCAN				
	SALINITY				TOC				MERCURY				
	ALKALINITY	400	400		TOTAL				HEX CHROMIUM				
	ACIDITY				MISC.	OIL & GREASE				PRIORITY POLLUTANT			
	HARDNESS	104	104			PHENOLICS				TCLP			
	SOLIDS (4)					CHLOROPHYLL				TOTAL			
	TSS					COLOR				ORGANICS	BNA		
	TSS					GRAN SIZE					VOA		
TOTAL	1104	1104	TOTAL				HERBICIDE						
ANIONS	CHLORIDE	650	650	MICRO.		COLIFORM	2,300	2,300	PESTICIDE				
	FLUORIDE					ENTEROCOCCI			ORGANOPHOS PEST				
	CYANIDE					% KLEB			TRI-BUTYL TIN				
	SULFATE					TOTAL			RESIN/FATTY ACID				
	TOTAL	650	650		BIOASSAY	EFFLUENT ACUTE TESTS			GUAIACOL/CATECHOL				
NUTRIENTS	AMMONIA			SALMONID				PCB					
	NITRATE			MICROTOX				BTEX/HALOGENATED					
	NITRITE			HYALLELA				PAH ONLY					
	NUTRIENTS (3)			DAPHNIA SP.				HYDROCARBON ID/TPH					
	NITRATE-NITRITE			ECPHODERM SPERM CELL				MON. PP. COMPOUNDS					
	TOTAL PHOSPHATE			BIVALVE LARVAE				ORGANIC SCREEN					
	ORTHOPHOSPHATE			CHRONIC TESTS		DAPHNIA 8P.			% LPIOS				
NUTRIENTS (5)			CERIODAPHNIA					TOTAL					
NITROGEN-TPN			SEDIMENT TESTS			MARINE AMPHIPOD			TOX				
TOTAL				RHEPOXYNIUS				PAH					
SPECIAL AIR	AIR FILTERS				FRESHWATER AMPHIPOD				NH				
	ASBESTOS				HYALLELA				IGNITABILITY				
	TOTAL				DAPHNIA MAGNA				SALMONID				
				MICROTOX				NPDES					
				TOTAL				RAT					
								TOTAL					
								TOTAL SAMPLES	4054	4054			

## NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

### PERSON COMPLETING QUESTIONNAIRE

NAME : Ray Franklin  
TITLE : Environmental Health Specialist II  
ADDRESS : 222 E. Fourth St  
Port Angeles, WA. 98362  
PHONE # : (206) 452-7831 x 332

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Total  $\pm$  fecal Coliform Testing

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

No

Customer delivers his own samples.

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

Sample bottles with sample form (State Lab form)

Describe your laboratory sample tracking system.

Logged in at front desk.

Stored in refrigerator until testing.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Yes. Procedures are as noted in the QA section of the procedure manual as approved by Dept. of Health Certification Office.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

Generally 6-24 hours. Samples processed in less than 30 hours as required by Dept. of Health.

2

Total Coliform - \$12.00

Fecal Coliform - \$15.00



## II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate? *yes*

Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc. *Approximately 1/2 full time employee  
3000 - 3200 samples per year  
at present staffing load  
could perform up to  
4000/year*

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house? *100%*

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity? *Our customers use outside labs, we do not*

What percentage of your work is contracted out?

*None*

What types of work do you usually contract out?

*None*

Please describe your procedure for utilizing outside laboratory services.

*Refer customers to outside labs for testing other than Coliform.*

Describe any laboratory work you do for other organizations on a Fee for Service basis.

*None*

How do you charge your clients for the cost of an analysis?

*payment at time of submission, or billing.  
Depends on client and whether client is  
repeat customer or not.*

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

*Yes, there has been several complaints that we do not perform nitrate sampling.*

Describe how you propose to meet future demands for analytical services – establish laboratory, additional staff, utilize outside laboratories, etc.

*additional staff will be required, or make time by present staff. However, if additional funding is not available for additional staff, then I will need to maintain current levels or cut back.*

## V. DATA MANAGEMENT

Please describe your analytical data management system.

The State Dept. of Health maintains results on all Public Water Systems. Data is sent weekly to the State.  
We maintain records (hard copy) of all samples run for last 5 years.

Where and how is your data stored?

State - Computer  
Clallam County - Hard copy and in yearly log books.

How is your data used?

As Reference to the results of past water tests.

How is your data archived?

State Computer

Who do you share your data with?

Whoever asks  
The state Dept of Health is routinely  
Notified (weekly).

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

*We do not yet have ability to access state computer system - that is coming.*

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

*Staffing & funding are primary concerns. Also, with increase in demand, space will become a problem.*

What can, or should, be done to remove these impediments?

*Additional funding, through increased fees, and/or special grants would be helpful.*

DEPARTMENT OF ECOLOGY  
PROJECTED ANALYTICAL NEEDS  
BY PARAMETER

PROGRAM

		FY92	FY93			FY92	FY93			FY92	FY93		
PHYSICAL CHEMISTRY	pH			DEMAND	BOD			METALS	METALS/ELEMENT				
	TURBIDITY				BOD 20				METALS (6)				
	SP. CONDUCTANCE				COO				ICP SCAN				
	SALINITY				TOC				MERCURY				
	ALKALINITY				TOTAL				HEX CHROMIUM				
	ACIDITY				MISC.	OIL & GREASE				PRIORITY POLLUTANT			
	HARDNESS					PHENOLICS				TCLP			
	SOLIDS (4)					CHLOROPHYLL				TOTAL			
	TSS					COLOR				ORGANICS	BNA		
	TSS					GRAIN SIZE					VOA		
TOTAL			TOTAL			HERBICIDE							
ANIONS	CHLORIDE			MICRO.	COLIFORM	3200	3500	PESTICIDE					
	FLUORIDE				ENTEROCOCCI			ORGANOPHOS PEST					
	CYANIDE				1/2 KLEB			TRI-BUTYL TIN					
	SULFATE				TOTAL	3200	3500	RESIN/FATTY ACID					
	TOTAL				BIOASSAY	EFFLUENT ACUTE TESTS			GUAIACOL/CATECHOL				
NUTRIENTS	AMMONIA			SALMONID				PCB					
	NITRATE			MICROTOX				BTEX/HALOGENATED					
	NITRITE			HYALLELA				PAH ONLY					
	NUTRIENTS (3)			DAPHNIA SP.				HYDROCARBON ID/TPH					
	NITRATE-NITRITE			ECHINODERM SPERM CELL				NON PP COMPOUNDS					
	TOTAL PHOSPHATE			BIVALVE LARVAE				ORGANIC SCREEN					
	ORTHO PHOSPHATE			CHRONIC TESTS			1/2 LIPIDS						
	NUTRIENTS (5)			DAPHNIA SP.				TOTAL					
NITROGEN-TPN			CERIODAPHNIA				HW DESIG.	TOX					
TOTAL			SEDIMENT TESTS			PAH							
SPECIAL AIR	AIR FILTERS			MARINE AMPHIPOD				NH					
	ASBESTOS			RHEPOXYNIUS				IGNITABILITY					
	TOTAL			FRESHWATER AMPHIPOD				SALMONID					
			HYALLELA			NPDES							
			DAPHNIA MAGNA			RAT							
			MICROTOX			TOTAL							
			TOTAL			TOTAL SAMPLES							

## NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

### PERSON COMPLETING QUESTIONNAIRE

NAME	: SANSY HUNT	DAVE BONVOULOIR
TITLE	: Environmental Health Spec II	SOLID WASTE MGR.
ADDRESS	: Island County Health P.O. Box 5000 Coupeville WA	ISLAND COUNTY SOLID WASTE - Same Address
PHONE #	: (206) 679-7350	(206) 679-7338

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Yes

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

None

Describe your laboratory sample tracking system.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Yes by a chain of custody form

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

## II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.



Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

We use Laurus Lab, Am Test or the State Lab

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? Don't Know [ No ]

Describe how you propose to meet future demands for analytical services – establish laboratory, additional staff, utilize outside laboratories, etc.

Utilize outside laboratories - They have been doing an excellent job.

## V. DATA MANAGEMENT

Please describe your analytical data management system.

See attachment

Where and how is your data stored?

Hardcopies and on the computer with back-up on floppy's

How is your data used?

To monitor the G.W. quality surrounding the landfill at Capville and 4 other closed landfills in Island County.

How is your data archived?

We don't have any it is stored in the file lab - data on hard disk is backed up periodically.

Who do you share your data with?

Soils Wash Dept and the public upon request also DOE AND the GROUND WATER MANG COMMITTEE

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

Tech assistance for recognizing trends.

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

ERRORS in reporting sample I.D. ~ not the Results but the I.D. #

What can, or should, be done to remove these impediments?

Better Q.C. at the Lab

## INTRODUCTION

### BACKGROUND

In order to comply with Minimum Functional Standards (MFS), WAC 173-304-490, Coupeville Landfill must evaluate new and existing groundwater monitoring data to determine if there is a statistically significant difference between water quality in the upgradient and downgradient monitoring wells. The MFS do not specify the statistical approach to use and landfill operators have a considerable amount of latitude in the approach they select.

This Lotus spreadsheet was developed to evaluate the current setup in place at Coupeville Landfill, consisting of two upgradient wells (N1 and W1) and five downgradient wells, with sampling consisting of one sample taken from each well on each quarterly sampling date. Space is also allowed for the placement of one more upgradient well and two more downgradient wells.

### METHODOLOGY

This spreadsheet uses a statistical method presented by Gibbons (1987), where single new monitoring values can be compared to historical background data. This method consists of computing 99% confidence prediction limit(s) based on the historical background data. If the value of the new monitoring measurements fall outside the range of the prediction limit(s), statistically significant groundwater contamination is indicated.

This method is not directly appropriate for the analysis of indicator compounds that exhibit values below detection levels nor for volatile organic compounds that occur in less than 5% of all measurements obtained from clean upgradient wells, field blanks, and trip blanks. Because this method does not take into account the non-detects the confidence intervals are computed only on the higher values encountered. This results in the possibility for false negatives; saying the test is OK when in fact it is high. Periodic (annual) scrutiny of the data should be performed to ensure that false negatives are not masking a trend-change over time in any given parameter due to contamination. The formula presented by Gibbons for computing the confidence interval is as follows:

$$\text{limit} = \bar{x} \pm \sqrt{(1 + 1/n)} t_{[n-1; a/2k]} s$$

where

$\bar{x}$  = sample mean of background

$\sqrt{(1 + 1/n)} t_{[n-1; a/2k]}$  = value from table

s = sample standard deviation of background

## NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

### PERSON COMPLETING QUESTIONNAIRE

**NAME** : PAT RUBIDA / BRIAN MCLAUGHUN  
**TITLE** : WATER QUALITY COORDINATOR / WATER QUALITY AIDE  
**ADDRESS** : JEFFERSON COUNTY PLANNING AND BUILDING  
COUNTY COURTHOUSE, P O BOX 1220  
PORT TOWNSEND, WA 98368  
**PHONE #** : (206) 385-9355

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

Describe your laboratory sample tracking system.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

## II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

(A certified one) FECAL COLIFORM ANALYSIS: We have retained a laboratory in TAKOMA Department HAS made it possible TO carry out this parameter. TURBIDITY: LABATORY SPACE AT THE local High Schools science LABATORY space HAS BEEN used at the local Sewage Treatment plant TO conduct this parameter. TSS: NOTE: since there 3 separate locations FOR ANALYSIS the coordination FOR ANALYSIS is very complex. The MANY VARIABLES are bus schedules for shipping samples, required LAB space & time that it is available.

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? Most certainly, or contract it out

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

In all likelihood we will utilize outside laboratories



## V. DATA MANAGEMENT

Please describe your analytical data management system.

Where and how is your data stored?

IN FIELD & LAB/ Note Books, Then transferred to MASTER DATA sheet in prep. for loading onto computer.

How is your data used? ① BASELINE DATA ② TO FIND VIOLATIONS OF WAC 173 & AREAS where compliance exists.

How is your data archived? report form.

Who do you share your data with? - The DOE, Fisheries, Wildlife, Tribes Conservation District, A Number of Groups & organizations from the local area.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

- ① The bus schedule & sample time creates unneeded complications, but are necessary because there is not a lab that is closer.
- ② Coordinate the schedule between 3 labs & sample time.

What can, or should, be done to remove these impediments?

AN ACCREDITED LAB CLOSER TO THE NORTH OLYMPIC PENINSULA CAPABLE OF HANDLING THE VOLUME OF AMBIENT AND RUNOFF SAMPLES FROM COUNTIES ON THE PENINSULA

DEPARTMENT OF ECOLOGY  
PROJECTED ANALYTICAL NEEDS  
BY PARAMETER

PROGRAM JEFFERSON CO. WATER QUALITY PROGRAM

		FY92	FY93			FY92	FY93			FY92	FY93		
PHYSICAL CHEMISTRY	pH	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	DEMAND	BOD	<input type="checkbox"/>	<input type="checkbox"/>	METALS	METALS/ELEMENT	<input type="checkbox"/>	<input type="checkbox"/>		
	TURBIDITY	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		BOD 20	<input type="checkbox"/>	<input type="checkbox"/>		METALS (6)	<input type="checkbox"/>	<input type="checkbox"/>		
	SP. CONDUCTANCE	<input type="checkbox"/>	<input type="checkbox"/>		COO	<input type="checkbox"/>	<input type="checkbox"/>		ICP SCAN	<input type="checkbox"/>	<input type="checkbox"/>		
	SALINITY	<input type="checkbox"/>	<input type="checkbox"/>		TOC	<input type="checkbox"/>	<input type="checkbox"/>		MERCURY	<input type="checkbox"/>	<input type="checkbox"/>		
	ALKALINITY	<input type="checkbox"/>	<input type="checkbox"/>		TOTAL	<input type="checkbox"/>	<input type="checkbox"/>		HEX CHROMIUM	<input type="checkbox"/>	<input type="checkbox"/>		
	ACIDITY	<input type="checkbox"/>	<input type="checkbox"/>		MISC.	OIL & GREASE	<input type="checkbox"/>		<input type="checkbox"/>	PRIORITY POLLUTANT	<input type="checkbox"/>	<input type="checkbox"/>	
	HARDNESS	<input type="checkbox"/>	<input type="checkbox"/>			PHENOLICS	<input type="checkbox"/>		<input type="checkbox"/>	TCLP	<input type="checkbox"/>	<input type="checkbox"/>	
	SOLIDS (4)	<input type="checkbox"/>	<input type="checkbox"/>			CHLOROPHYLL	<input type="checkbox"/>		<input type="checkbox"/>	TOTAL	<input type="checkbox"/>	<input type="checkbox"/>	
	TS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			COLOR	<input type="checkbox"/>		<input type="checkbox"/>	ORGANICS	BNA	<input type="checkbox"/>	<input type="checkbox"/>
	TSS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			GRAIN SIZE	<input type="checkbox"/>		<input type="checkbox"/>		VOA	<input type="checkbox"/>	<input type="checkbox"/>
TOTAL	<input type="checkbox"/>	<input type="checkbox"/>	TOTAL	<input type="checkbox"/>	<input type="checkbox"/>	HERBICIDE	<input type="checkbox"/>	<input type="checkbox"/>					
ANIONS	CHLORIDE	<input type="checkbox"/>	<input type="checkbox"/>	MICRO.	COLIFORM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PESTICIDE	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
	FLUORIDE	<input type="checkbox"/>	<input type="checkbox"/>		ENTEROCOCCI	<input type="checkbox"/>	<input type="checkbox"/>	ORGANOPHOS PEST	<input type="checkbox"/>		<input type="checkbox"/>		
	CYANIDE	<input type="checkbox"/>	<input type="checkbox"/>		% KLEB	<input type="checkbox"/>	<input type="checkbox"/>	TRI-BUTYL TIN	<input type="checkbox"/>		<input type="checkbox"/>		
	SULFATE	<input type="checkbox"/>	<input type="checkbox"/>		TOTAL	<input type="checkbox"/>	<input type="checkbox"/>	RESIN/FATTY ACID	<input type="checkbox"/>		<input type="checkbox"/>		
	TOTAL	<input type="checkbox"/>	<input type="checkbox"/>		BIOASSAY	EFFLUENT ACUTE TESTS		HW DESIG.	GUAIACOL/CATECHOL		<input type="checkbox"/>	<input type="checkbox"/>	
NUTRIENTS	AMMONIA	<input type="checkbox"/>	<input type="checkbox"/>	SALMONID		<input type="checkbox"/>	<input type="checkbox"/>		PCB		<input type="checkbox"/>	<input type="checkbox"/>	
	NITRATE	<input type="checkbox"/>	<input type="checkbox"/>	MICROTOX		<input type="checkbox"/>	<input type="checkbox"/>		BTEX/HALOGENATED		<input type="checkbox"/>	<input type="checkbox"/>	
	NITRITE	<input type="checkbox"/>	<input type="checkbox"/>	HYALLELA		<input type="checkbox"/>	<input type="checkbox"/>		PAH ONLY	<input type="checkbox"/>	<input type="checkbox"/>		
	NUTRIENTS (3)	<input type="checkbox"/>	<input type="checkbox"/>	DAPHNIA SP.		<input type="checkbox"/>	<input type="checkbox"/>		HYDROCARBON ID/TPH	<input type="checkbox"/>	<input type="checkbox"/>		
	NITRATE-NITRITE	<input type="checkbox"/>	<input type="checkbox"/>	ECHINODERM SPERM CELL		<input type="checkbox"/>	<input type="checkbox"/>		NON-PP COMPOUNDS	<input type="checkbox"/>	<input type="checkbox"/>		
	TOTAL PHOSPHATE	<input type="checkbox"/>	<input type="checkbox"/>	BIVALVE LARVAE		<input type="checkbox"/>	<input type="checkbox"/>		ORGANIC SCREEN	<input type="checkbox"/>	<input type="checkbox"/>		
	ORTHO PHOSPHATE	<input type="checkbox"/>	<input type="checkbox"/>	CHRONIC TESTS		TOTAL SAMPLES	% LIPIDS		<input type="checkbox"/>	<input type="checkbox"/>			
NUTRIENTS (5)	<input type="checkbox"/>	<input type="checkbox"/>	DAPHNIA SP.	<input type="checkbox"/>			<input type="checkbox"/>		TOTAL	<input type="checkbox"/>	<input type="checkbox"/>		
NITROGEN-TPN	<input type="checkbox"/>	<input type="checkbox"/>	CERIODAPHNIA	<input type="checkbox"/>			<input type="checkbox"/>		TOX	<input type="checkbox"/>	<input type="checkbox"/>		
TOTAL	<input type="checkbox"/>	<input type="checkbox"/>	SEDIMENT TESTS		PAH		<input type="checkbox"/>	<input type="checkbox"/>					
SPECIAL AIR	AIR FILTERS	<input type="checkbox"/>	<input type="checkbox"/>	MARINE AMPHIPOD	<input type="checkbox"/>		<input type="checkbox"/>	NH	<input type="checkbox"/>	<input type="checkbox"/>			
	ASBESTOS	<input type="checkbox"/>	<input type="checkbox"/>	RHEPOXYNIUS	<input type="checkbox"/>		<input type="checkbox"/>	IGNITABILITY	<input type="checkbox"/>	<input type="checkbox"/>			
	TOTAL	<input type="checkbox"/>	<input type="checkbox"/>	FRESHWATER AMPHIPOD	<input type="checkbox"/>		<input type="checkbox"/>	SALMONID	<input type="checkbox"/>	<input type="checkbox"/>			
				HYALLELA	<input type="checkbox"/>		<input type="checkbox"/>	NPDES	<input type="checkbox"/>	<input type="checkbox"/>			
				DAPHNIA MAGNA	<input type="checkbox"/>		<input type="checkbox"/>	RAT	<input type="checkbox"/>	<input type="checkbox"/>			
				MICROTOX	<input type="checkbox"/>		<input type="checkbox"/>	TOTAL	<input type="checkbox"/>	<input type="checkbox"/>			
				TOTAL	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>				



King County  
Environmental Division  
Parks, Planning and Resources Department  
3600 - 136th Place Southeast  
Bellevue, Washington 98006-1400  
(206) 296-6602

September 4, 1991

Mr. Dick Schroeder  
Planning and Program Support Section  
State of Washington Department of Ecology  
7171 Cleanwater Lane, Building 8, LH-18  
Olympia, WA 98504-6814

Dear Mr. Schroeder:

The Environmental Division of King County is pleased to respond to your laboratory needs assessment survey by returning the enclosed questionnaire. King County does not have laboratory facilities and therefore completed only sections III through VI. I'm sure information provided by this survey will enable the Department of Ecology to better fulfill its mission to address environmental issues and particularly assess its present and future needs concerning water quality.

I would also like to take this opportunity to inform you that water quality issues are being addressed by both the recently created Environmental Division within the King County Parks, Planning and Resources Department and the Surface Water Management Division (SWM) within the Department of Public Works in addition to the Seattle-King County Health Department. Therefore, I have provided both SWM and the Health Department with a duplicate copy of the questionnaire in hopes that their responses would supply additional information for your survey.

If you have any additional questions regarding our needs and concerns please call Klaus Richter in our Resource Planning Section at 296-7264.

Sincerely,

Clint Lank  
Administrator

CL:kr  
Enclosure

cc: Derek Poon, Section Chief, Resource Planning

## NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

✓ If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

### PERSON COMPLETING QUESTIONNAIRE

NAME : Klaus Richter, Ph.D  
TITLE : Resource Planner  
ADDRESS : 3600 - 136th Place SE  
Bellevue, WA 98006  
  
PHONE # : 296-7264

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Not Applicable

CHRISTINE O. GREGOIRE  
Director

RECEIVED



JUL 15 1991  
KING COUNTY  
RESOURCES PLANNING DEPARTMENT OF ECOLOGY

STATE OF WASHINGTON

7171 Cleanwater Lane, Building 8, LH-14 • Olympia, Washington 98504-6814

July 8, 1991

Mr. Jim Tracy, Director  
King County Parks, Planning and Resources Department  
506-2nd Avenue #707  
Seattle, WA 98104-1739

Dear Mr. Tracy:

The Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of local governmental bodies and other entities in the Puget Sound region. This assessment is intended to help identify current laboratory needs and how or if they are being met.

The enclosed questionnaire will provide basic information necessary for Ecology to formulate the needs assessment. Please pay particular attention to the questions regarding impediments to laboratory service. Feel free to go into depth in answering these or any other questions. Please complete the questionnaire and return it to me by August 9, 1991.

The responses from the local governmental bodies will be included in the laboratory needs assessment being prepared for the Puget Sound Water Quality Authority. This report will also include data received from tribal governmental bodies. I will be happy to send you a copy of the completed report, at your request.

If you have any questions, please call me at (206) 586-5057. I would appreciate hearing from the person I will be working with to identify your needs and concerns.

Sincerely,

Dick Schroeder  
Planning & Program Support Section

ASSIGNED TO:

Res. Plan

DS:kd  
Enclosure

cc: Lynn Singleton  
Ken Dzinbal

RECEIVED

JUL 11 1991

PARKS, PLANNING AND  
RESOURCES DEPT.

PCD REQUEST FOR WORK

Assignment No. P211

To Schroeder

Date 7/12

Due 8/9

Needs PC

Let Needs Survey

Coordinator

Respond in Dir Sig

Respond for Mgr Sig

Send CC of Resp to PCD

P211-ED

## II. CURRENT LABORATORY CAPACITY

Not Applicable

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

## V. DATA MANAGEMENT

**Please describe your analytical data management system.**

Most of our water quality data is kept in spreadsheet form. We use SMART software, an integrated package. Of course, all of our data are also available in ASCII format. Certain types of data have also been incorporated into specific analysis packages (e.g., statistical).

**Where and how is your data stored?**

Spreadsheet files compatible with IBM pc AT (286) machines. Much of the data is also available in Apple compatible form.

**How is your data used?**

Our data are used to support the development of wetland and stormwater management guidelines (part of the mission of the Puget Sound Wetlands and Stormwater Management Research Program). Water quality, hydrologic, soils, plant, and animal data all support this effort. Basic and complex statistical analyses are used to compare and contrast wetland ecosystem response to changes in stormwater hydrology and water quality resulting from development. Data are also used to calculate mass loadings of pollutants and to estimate pollutant removal in wetlands.

**How is your data archived?**

We have no formal archiving system.

**Who do you share your data with?**

Interested local governments and agencies, and private consultants working in areas where we have data. The results of our data are communicated to the research advisory board overseeing the research. Data are transferred to others in ASCII form or in SMART worksheet files.



DEPARTMENT OF ECOLOGY  
PROJECTED ANALYTICAL NEEDS  
BY PARAMETER

PROGRAM

	FY92	FY93
PHYSICAL CHEMISTRY	TURBIDITY	X
	SP. CONDUCTANCE	X
	SALINITY	
	ALKALINITY	X
	ACIDITY	
	HARDNESS	
	SOLIDS (4)	
	TS	
	TSS	X
	TOTAL	
ANIONS	CHLORIDE	
	FLUORIDE	
	CYANIDE	
	SULFATE	
	TOTAL	
NUTRIENTS	AMMONIA	X
	NITRATE	
	NITRITE	
	NUTRIENTS (3)	
	NITRATE-NITRITE	X
	TOTAL PHOSPHATE	X
	ORTHOPHOSPHATE	
SPECIAL AIR	AIR FILTERS	
	ASBESTOS	
	TOTAL	

DEMAND

MISC.

MICRO.

BIOASSAY

	FY92	FY93
ROD	BOD 20	
	COO	
	TOC	X
	TOTAL	
OIL GREASE	PHENOLICS	
	CHLOROPHYLL	
	COLOR	
	GRAIN SIZE	X
	TOTAL	
COLIFORM	ENTEROCOCCI	X
	% KLEB	
	TOTAL	
EFFLUENT ACUTE TESTS		
SALMONID		
MICROTOX		
HYALLELA		
DAPHNIA SP.		
ECHINODERM SPERM CELL		
BIVALVE LARVAE		
CHRONIC TESTS		
DAPHNIA SP.		
CERIODAPHNIA		
SEDIMENT TESTS		
MARINE AMPHIPOD		
RHEPOXYNIUS		
FRESHWATER AMPHIPOD		
HYALLELA		
DAPHNIA MAGNA		
MICROTOX		
TOTAL		

METALS

ORGANICS

HW DESIG.

	FY92	FY93	
METALS/ELEMENT	METALS (5)		
	ICP SCAN	X	
	MERCURY		
	HEX CHROMIUM		
	PRIORITY POLLUTANT		
	TCLP		
	TOTAL		
	DNA	VOA	
		HERBICIDE	
		PESTICIDE	
ORGANOPHOS PEST			
TRI-BUTYL TIN			
RESIN/FATTY ACID			
GUAIACOL/CATECHOL			
PCB			
BTEX/HALOGENATED			
PAH ONLY			
TOX	HYDROCARBON IOTPH		
	MON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL		
	PAH		
	NH		
	IGNITABILITY		
	SALMONID		
	NPDES		
RAT			
TOTAL			
TOTAL SAMPLES			

## NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

✓ If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

### PERSON COMPLETING QUESTIONNAIRE

NAME : Bill Eckel  
TITLE : Project manager, Water Quality Program  
ADDRESS : 400 Yrsler Way, Rm 400  
Seattle, WA 98104  
PHONE # : 296-6519

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

**Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?**

**Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.**

**Describe your laboratory sample tracking system.**

**Do you have documented chain of custody requirements to protect sample integrity? Please describe.**

**Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.**

## II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

All of our analytical needs are contracted out to a commercial laboratory.

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? Yes

Describe how you propose to meet future demands for analytical services — establish laboratory, additional staff, utilize outside laboratories, etc.

We have proposed establishing our own water quality laboratory in 1992 to analyze samples for total phosphorus, soluble reactive phosphorus, fecal coliform, total suspended solids, turbidity, alkalinity, and hardness. Our remaining analytical needs will be met with contract services to a commercial laboratory. Our 1993 laboratory analytical capabilities remain to be determined.

## V. DATA MANAGEMENT

Please describe your analytical data management system.

Presently, we received hard copy laboratory reports (including QA/QC results) for each project from our commercial laboratory. This information is put into Lotus 123 spreadsheets in chronological order for each project. The original hard copy data from the laboratory remains in the project file.

Where and how is your data stored?

The data is stored on 3½" diskettes once it has been inputted into Lotus 123 files.

How is your data used?

Our data is used for developing a variety of water quality reports for our capital improvement program (CIPs), basin planning program, master drainage plan (MDP) support, and various DOE Centennial Urban Water Fund grants.

How is your data archived?

Our program is only 2.5 years old, so all of our data remains active. Future archives will include computer disks and <sup>data</sup> hard copy filed away with additional project information. The information will also be stored in a larger database for all water quality data collected by King County, organized by basin and project title.

Who do you share your data with?

Most of our data sharing is with private consultants or other agencies.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

I have experienced some difficulty accessing data or finding a record of its existence. A regional water quality database which was continuously updated is really needed. Some problems also exist in analyzing data because of missing information (i.e. sample type - storm, baseflow, high flow, accurate site description, antecedent precipitation, etc) or data format.

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

Accessibility and availability are probably two of the more important factors we look at for choosing a laboratory, in addition to the usual factors such as QTLQC, COS, and turn around time. For our program, we need to be able to bring samples into the laboratory at odd hours (i.e. evenings & weekends). We also need a laboratory that is centrally located to our work area. Many of our projects take us to opposite ends of the county, so we need a lab which is close to our "dispatching area."

What can, or should, be done to remove these impediments?

We are working on creating our own laboratory to meet our sampling needs. It will be accessible and staff during evening & weekend hours as needed.

DEPARTMENT OF ECOLOGY  
PROJECTED ANALYTICAL NEEDS  
BY PARAMETER

\* WATER ONLY \*

		PROGRAM											
		FY92	FY93	FY92	FY93	FY92	FY93	FY92	FY93				
PHYSICAL CHEMISTRY	pH	200	600	DEMAND	BOD	50	100	METALS	METALS/ELEMENT	200	600		
	TURBIDITY	200	600		BOD 20				METALS (6)				
	SP. CONDUCTANCE	200	600		COD				ICP SCAN				
	SALINITY				TOC				MERCURY				
	ALKALINITY				TOTAL				HEX CHROMIUM				
	ACIDITY				MISC.	OIL & GREASE	200		600	PRIORITY POLLUTANT	20	40	
	HARDNESS	200	600			PHENOLICS				TCLP	5	10	
	SOLIDS (4)					CHLOROPHYLL	25		100	TOTAL			
	TS					COLOR				ORGANICS	BNA	10	20
	TSS	200	600			GRAIN SIZE					VOA	10	20
TOTAL			TOTAL			HERBICIDE	10	20					
ANIONS	CHLORIDE			MICRO.	COLIFORM	200	600	PESTICIDE	10		20		
	FLUORIDE				ENTEROCOCCI			ORGANOPHOS PEST	5		10		
	CYANIDE				% KLEB			TRI-BUTYL TIN					
	SULFATE				TOTAL			RESIN/FATTY ACID					
	TOTAL				BIOASSAY	EFFLUENT ACUTE TESTS			GUAIACOL/CATECHOL				
NUTRIENTS	AMMONIA	100	300	SALMONID				PCB	10		20		
	NITRATE			MICROTOX				BTEX/HALOGENATED					
	NITRITE			HYALLELA				PAH ONLY					
	NUTRIENTS (3)			DAPHNIA SP.				HYDROCARBON ID/TPH	150	300			
	NITRATE-NITRITE	200	600	ECHINODERM SPERM CELL				NON PP COMPOUNDS					
TOTAL PHOSPHATE	200	600	BIVALVE LARVAE				ORGANIC SCREEN						
ORTHO PHOSPHATE	200	600	CHRONIC TESTS	DAPHNIA SP.				% LIPIDS					
NUTRIENTS (5)				CERIODAPHNIA				TOTAL					
NITROGEN-TPN				SEDIMENT TESTS		DAPHNIA SP.			TOX				
TOTAL			MARINE AMPHIPOD				PAH						
SPECIAL AIR	AIR FILTERS				RHEPOXYNIUS			NI					
	ASBESTOS				FRESHWATER AMPHIPOD			IGNITABILITY					
	TOTAL	1700	5100		HYALLELA			SALMONID					
			DAPHNIA MAGNA				NPOES						
			MICROTOX		5	10	RAT						
			TOTAL		480	1410	TOTAL	430	1060				
							TOTAL SAMPLES	2600	7570				

Al, Cu, Pb, Zn

Sediment only



## NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

### PERSON COMPLETING QUESTIONNAIRE

**NAME** : Ralph J. DeClements  
**TITLE** : Operations Supervisor  
**ADDRESS** : Kitsap County Public Works, Wastewater Division  
614 Division Street  
Port Orchard, WA 98366  
**PHONE #** : (206) 876-7197

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

We offer laboratory testing to other municipalities within Kitsap County. Please see attached list, Form #1.

**Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?**

No courier service is offered. Samples are delivered by the municipality personnel at pre-determined times, in the proper containers and under the required preservation.

**Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.**

We usually supply the first set of sample containers and the necessary chemicals. If the municipality needs more, they purchase their own supplies. Chain of custody requests are supplied by us. We can provide plastic or glass containers depending on established E.P.A. and D.O.E. requirements.

**Describe your laboratory sample tracking system.**

Tracking via the Chain of Custody form (See Form #2) and Kitsap County Data Sheets (See Form #3). All information on laboratory testing is logged into the computer system as well as kept on file.

**Do you have documented chain of custody requirements to protect sample integrity? Please describe.**

Yes. See attached Form #2.

**Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.**

For laboratory holding times see attached Form #4.

For laboratory prices see attached Form #5.

Target turnaround times are agreed upon by lab staff and the customer.

## II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate? Yes.

Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.

Number of staff is 3 persons. Laboratory capacity as shown on Form #6 was 14,489 analyses in 1990. Maximum number of analyses the lab can perform is 15,790.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house? 90%

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

Yes. We split samples with E.P.A., military and others. We send out samples that we do not perform.

What percentage of your work is contracted out?

About 10%

What types of work do you usually contract out?

Cyanides, organics and certain metals

Please describe your procedure for utilizing outside laboratory services.

We usually use the low bidder out of three or more outside labs. It depends on turnaround time, accessibility and quality of service also.

**Describe any laboratory work you do for other organizations on a Fee for Service basis.**

The bottom right portion of Form #1 lists the abbreviations for customers and the tests performed for them.

**How do you charge your clients for the cost of an analysis?**

We charge by account. The back side of Form #1 lists some pricing.

### **III. MEETING CURRENT DEMANDS**

**If your organization does not have a laboratory, how do you currently meet your needs for analytical services?**

### **IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS**

**Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?** Yes.

**Describe how you propose to meet future demands for analytical services – establish laboratory, additional staff, utilize outside laboratories, etc.**

Depending on laboratory accreditation through D.O.E. and new monitoring tests that may be required, we will expand by adding new staff, new equipment or will send more samples out to other laboratories.

## V. DATA MANAGEMENT

**Please describe your analytical data management system.**

All data is entered into a personal computer and reports are generated for files, billing and other reports.

**Where and how is your data stored?**

Data is stored on the hard drive until transferred to disk. All worksheets are filed and stored for length of time required by D.O.E.

**How is your data used?**

For reports and billing purposes.

**How is your data archived?**

All data is archived on floppy disks.

**Who do you share your data with?**

D.O.E., E.P.A., and copies of information go to customers.

**Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?**

The programs we use were generated by County staff. Some glitches do appear from time to time.

## **VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE**

**What impediments, if any, do you see to receiving or providing quality laboratory service?**

Indecision by different government agencies in determining proper test procedures and policies.

**What can, or should, be done to remove these impediments?**

Once a decision is made, stick to it.

DEPARTMENT OF ECOLOGY  
PROJECTED ANALYTICAL NEEDS  
BY PARAMETER

PROGRAM

	FY92	FY93
PH	2513	2633
TURBIDITY	100	100
SP. CONDUCTANCE	350	367
SALINITY	-	-
ALKALINITY	399	418
ACIDITY	267	279
HARDNESS	-	-
SOLIDS (4)	-	-
TS	-	-
TSS	2925	3065
TOTAL	3629	6862

PHYSICAL  
CHEMISTRY

DEMAND

MISC.

ANIONS

MICRO.

NUTRIENTS

BIOASSAY

SPECIAL  
AIR

CHLORIDE	100	100
FLUORIDE	-	-
CYANIDE	30	30
SULFATE	50	55
TOTAL	180	190

AMMONIA	515	540
NITRATE	163	171
NITRITE	-	-
NUTRIENTS (3)	-	-
NITRATE-NITRITE	-	-
TOTAL PHOSPHATE	28	31
ORTHO PHOSPHATE	-	-
NUTRIENTS (5)	-	-
NITROGEN-TPN	-	-
TOTAL	706	742

AIR FILTERS	-	-
ASBESTOS	-	-
TOTAL	-	-

	FY92	FY93
BOD	1496	1515
BOD 20	-	-
COD	161	168
TOC	-	-
TOTAL	1657	1783
OIL & GREASE	82	86
PHENOLICS	-	-
CHLOROPHYLL	-	-
COLOR	-	-
GRAIN SIZE	-	-
TOTAL	82	86

METALS

COLIFORM	895	937
ENTEROCOCCI	-	-
% KLEB	-	-
TOTAL	895	937

EFFLUENT ACUTE TESTS		
SALMONID	-	-
MICROTOX	-	-
HYALLELA	-	-
DAPHNIA SP.	2	2
ECHINODERM SPERM CELL	-	-
BIVALVE LARVAE	-	-

CHRONIC TESTS		
DAPHNIA SP.	2	2
CERIODAPHNIA	-	-

SEDIMENT TESTS		
MARINE AMPHIPOD	-	-
RHEPOXYNUS	-	-
FRESHWATER AMPHIPOD	-	-
HYALLELA	-	-
DAPHNIA MAGNA	-	-
MICROTOX	-	-
TOTAL	-	-

	FY92	FY93
METALS/ELEMENT	-	-
METALS (6)	462	484
ICP SCAN	-	-
MERCURY	24	24
HEX CHROMIUM	-	-
PRIORITY POLLUTANT	2	2
TCLP	-	-
TOTAL	488	510

BNA	-	-
VOA	-	-
HERBICIDE	-	-
PESTICIDE	-	-
ORGANOPHOS PEST	-	-
TRI-BUTYL TIN	-	-
RESIN/FATTY ACID	-	-
GUAIACOL/CATECHOL	-	-
PCB	-	-
BTEX/HALOGENATED	-	-
PAH ONLY	-	-
HYDROCARBON ID/TPH	-	-
NON PP COMPOUNDS	-	-
ORGANIC SCREEN	-	-
% LIPIDS	-	-
TOTAL	-	-

ORGANICS

HW DESIG.

TOX	-	-
PAH	-	-
NSI	-	-
IGNITABILITY	-	-
SALMONID	-	-
NPDES	-	-
RAT	-	-
TOTAL	-	-
TOTAL SAMPLES	-	-

CENTRAL KITSAP COUNTY WASTEWATER TREATMENT PLANT  
 MONTHLY LABORATORY REPORT

: JULY 1991

PLANT	CK	MAN	SUQ	KNG	BI	LS17	KEY	BREM	GW	KCHD	OTH	TOT	QC
# ANALYSES													
SOLIDS	: 165	: 10	: 15	: 17	: 5	: 11	: 1	: 0	: 0	: 0	: 6	: 230	: 22
BOD5	: 51	: 10	: 10	: 10	: 5	: 10	: 1	: 0	: 0	: 0	: 9	: 106	: 30
COD	: 0	: 5	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 10	: 15	: 8
pH	: 209	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 209	: 0
VOL. ACIDS	: 22											: 22	: 5
ALKALINITY	: 23	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 23	: 0
COLIFORM	: 23	: 5	: 5	: 5	: 5	: 0	: 0	: 9	: 0	: 0	: 8	: 60	: 22
CONCDIVTY	: 8	: 8	: 10	: 8	: 4	: 0	: 0	: 9	: 0	: 0	: 0	: 47	: 5
SETTLEABLES	: 124											: 124	: 0
TURBIDITY	: 0										: 0	: 0	: 0
CL RESIDUAL	: 31											: 31	: 0
CYANIDE	: 1											: 1	
TKN	: 3	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 12	: 15	: 5
NO3-N	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 5	: 0	: 7	: 12	: 3
NH3-N	: 15	: 8	: 8	: 8	: 4	: 0	: 0	: 7	: 5	: 0	: 2	: 57	: 10
METALS	: 45	: 16	: 16	: 16	: 8	: 9	: 9	: 99	: 0	: 0	: 18	: 236	: 24
SULFATE	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 7	: 5	: 0	: 2	: 14	: 3
CHLORIDE	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 7	: 5	: 0	: 2	: 14	: 3
PHOSPHORUS	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 8	: 8	: 3
OIL&GREASE	: 2	: 0	: 0	: 0	: 0	: 1	: 0	: 0	: 0	: 0	: 4	: 7	: 1
SULFIDE	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 0	: 0
TOTAL	: 722	: 62	: 64	: 64	: 31	: 31	: 11	: 138	: 20	: 0	: 88	: 1231	

TOTAL ANALYSES : 1231 TOTAL QUALITY CONTROL : 144 %: 12

 CK = CENTRAL KITSAP WWTP  
 MAN = MANCHESTER WWTP  
 SUQ = SUQUAMISH WWTP  
 KNG = KINGSTON WWTP  
 KCHD = KITSAP CO. HEALTH DEPT.

 BI = BLAKE ISLAND WWTP  
 LS 17 = LIFT STATION 17  
 KEY = KEYPORT NAVY BASE  
 BREM = CITY OF BREMERTON WWTP  
 GW = GROUNDWATER MONITORING  
 OTH = OTHER SAMPLES





## CENTRAL KITSAP PLANT LABORATORY

## # OF ANALYSES PERFORMED

	1988	1989	% CHANGE	1990	% CHANGE
SS	2987	3052	+ 2	2786	- 9
BOD	1304	1441	+ 10	1377	- 4
COD	48	98	+104	153	+ 56
pH	3127	2887	- 8	2393	- 17
VA	291	325	+ 12	254	- 22
ALK	458	461	+ 1	380	- 18
COLI	566	622	+ 10	852	+ 37
CL RES	410	387	- 6	632	+ 63
CN	13	13	same	0	-
TKN	40	37	- 8	52	+ 40
NH3-N	138	184	+ 33	490	+ 166
NO3-N	0	51	+100	155	+ 203
O&G	0	32	+100	78	+ 144
SO4	0	42	+100	46	+ 10
CL-	0	47	+100	95	+ 102
METALS	1871	2407	+ 29	2643	+ 10
TOTAL # ANALYSES	13261	13538	+ 2	14489	+ 7

CENTRAL KITSAP WASTEWATER TREATMENT PLANT  
LABORATORY FEE SCHEDULE

<u>TEST</u>	<u>FEE</u>
_____ AMMONIA	15.75
_____ BOD5	10.20
_____ CHLORINE RESIDUAL	6.00
_____ FECAL	10.80
_____ TSS/TVSS (Suspended Solids)	7.80
_____ PH	5.50
_____ METALS (8) - CD, CU, CR, Pb, NI, ZN, Fe, Mn)	52.00
_____ MERCURY (Hg)	18.10
_____ O & G (Gravimetric)	27.70
_____ TKN	22.00
_____ TOTAL PHOSPHORUS	12.80
_____ NITRATE	16.20
_____ COD	11.20
_____ SULFIDE	8.60
_____ SULFATE	7.90
_____ CHLORIDE	8.30
_____ CONDUCTIVITY	8.10
_____ ALKALINITY	5.40
_____ VOLATILE ACID	5.40
_____ MICROSCOPIC EVALUATION/GRAM STAIN	17.00

KITSAP COUNTY PUBLIC WORKS LABORATORY  
 SAMPLE REQUIREMENTS

<u>ANALYSIS</u>	<u>CONTAINER</u>	<u>PRESEVATIVE</u>	<u>MAXIMUM HOLDING TIMES</u>	<u>MINIMUM SAMPLE VOLUME</u>	<u>MG/L DETECTION LIMIT</u>	<u>EPA METHOD</u>
BOD5, CBOD5	P OR G	COOL, 4 C	48 HOURS	500 ML	2	405.1
COD	P OR G	H2SO4 pH <2	28 DAYS	50 ML	10	HACH
AMMONIA NITROGEN	P OR G	H2SO4 pH <2	28 DAYS	500 ML	0.05	350.3
ACIDS, VOLATILE	P OR G	COOL, 4 C	14 DAYS	500 ML	5	NA
ALKALINITY	P OR G	COOL, 4 C	14 DAYS	100 ML	10	310.1
CHLORIDE	P OR G	NONE REQ'D	28 DAYS	100 ML	0.5	AgNO3
CHLORINE RESIDUAL	P OR G	NONE REQ'D	ANALYZE IMMEDIATELY	200 ML	0.01	330.1
FECAL AND TOTAL COLIFORM	P OR G	COOL, 4 C SAMPLING CONTAINER MUST BE STERILE	6 HOURS	150 ML	2 #/100 ML	MF
HARDNESS	P OR G	H2SO4 pH <2	6 MONTHS	200 ML	10	130.2
pH	P OR G	NONE REQ'D	ANALYZE IMMEDIATELY	100 ML	1 -14 SU	150.1
TOTAL KJELDAHL NITROGEN	P OR G	H2SO4 pH <2	28 DAYS	100 ML	0.5	ISE
AG, CR, CU, CD, NI, PB, FE, ZN, HG	P OR G	HNO3 pH <2	6 MONTHS	500 ML	0.005 - 0.05 DL VARIES WITH EACH METAL	200.0
MERCURY	P OR G	HNO3 pH <2	28 DAYS	200 ML	0.0002	245.1
NO2 + NO3 NITROGEN	P OR G	H2SO4 pH <2	28 DAYS	250 ML	0.05	353.3
OIL & GREASE	G ONLY	H2SO4 pH <2	28 DAYS	1 L	5	413.1
ORTOPHOSPHATE	P OR G	FILTER, COOL 4 C	48 HOURS	500 ML	0.01	365.3
TOTAL PHOSPHORUS	P OR G	H2SO4 pH <2	28 DAYS	500 ML	0.01	365.3
SUSPENDED SOLIDS	P OR G	COOL, 4 C	48 HOURS	200 ML	2	160.2
TOTAL SOLIDS	P OR G	COOL, 4 C	7 DAYS	100 ML	10	160.3
VOLATILE SOLIDS	P OR G	COOL, 4 C	7 DAYS	100 ML	5	160.4
SULFATE	P OR G	COOL, 4 C	28 DAYS	100 ML	1.6	375.4
SULFIDE	P OR G	NONE REQ'D	ANALYZE IMMEDIATELY		0.1	376.2
TURBIDITY	P OR G	COOL, 4 C	48 HOURS	100 ML	0 NTU	180.1

## NOTES:

P = POLYETHYLENE G = GLASS H2SO4 = SULFURIC ACID HNO3 = NITRIC ACID 4 C = 4 DEGREES CENTIGRADE  
 SAMPLE PRESERVATION SHOULD BE PERFORMED IMMEDIATELY UPON SAMPLE COLLECTION

LABORATORY

PUBLIC

PLANT \_\_\_\_\_

DATE \_\_\_\_\_



WORK SHEET

WORKS

ANALYZED BY \_\_\_\_\_

SUSPENDED SOLIDS EPA Method 160.2

Total Solids EPA Method 160.3

Sample					
Dish #					
Volume Filtered (ml)					
Wt. of Crucible + Solids (g)					
Wt. of Dry Crucible (g)					
Difference (g)					
(A) Diff. in mg = g × 1000					
(B) $\frac{1000}{\text{Vol Filtered (ml)}}$	$\frac{1000}{\text{---}} = \text{---}$	$\frac{1000}{\text{---}} = \text{---}$	$\frac{1000}{\text{---}} = \text{---}$	$\frac{1000}{\text{---}} = \text{---}$	$\frac{1000}{\text{---}} = \text{---}$
(A) × (B)	--- mg/l	--- mg/l	--- mg/l	--- mg/l	--- mg/l

**VOLATILE SOLIDS EPA Method 160.4**

Wt. of Crucible + Dry Solids (g)					
Wt. of Crucible + Ash (g)					
Difference (g)					
(C) Weight Loss (mg) = g × 1000					
(D) $\frac{1000}{\text{ml of Sample}}$					
(C) × (D) = MLVSS mg/l					

Control Crucible # \_\_\_\_\_ IN \_\_\_\_\_  
 OUT \_\_\_\_\_  
 Difference

**SVI Standard Method 213C**

**LOADING INDEX**

$\frac{\text{Mixed Liquor Settleability (ml)} \times 1000}{\text{MLSS (mg/l)}}$	$\frac{\text{Raw BOD} \times \text{Flow (MGD)}}{\text{MLVSS} \times \text{Aerator Vol (MG)}}$
SVI = _____ × 1000 = _____ _____	$\frac{\text{---}}{\text{---}} \times \frac{\text{---}}{\text{---}} = \text{---}$

PUBLIC



WORKS

BOD5-FECAL COLIFORM LABORATORY WORK SHEET

PLANT \_\_\_\_\_ DATE \_\_\_\_\_ ANALYST \_\_\_\_\_

**BOD5**  
EPA Method 405.1

Date/Time: IN \_\_\_\_\_ OUT \_\_\_\_\_

Location	ml sample	1ml Seed Added	Nit. Inhib. Added	Bottle No.	[(In DO-5 Day DO) - Seed depletion] x 300ml = BOD5 mg/l ml Sample	Avg mg/L
Blank	300ml				_____ - _____ = _____ mg/l Depletion	
					( _____ - _____ ) x $\frac{300\text{ml}}{\text{_____ ml}}$ = _____ mg/l	
					( _____ - _____ ) x $\frac{300\text{ml}}{\text{_____ ml}}$ = _____ mg/l	
					( _____ - _____ ) x $\frac{300\text{ml}}{\text{_____ ml}}$ = _____ mg/l	
					( _____ - _____ ) x $\frac{300\text{ml}}{\text{_____ ml}}$ = _____ mg/l	
					( _____ - _____ ) x $\frac{300\text{ml}}{\text{_____ ml}}$ = _____ mg/l	

% BOD REDUCTION =  $\frac{\text{BOD RAW} - \text{BOD FINAL}}{\text{BOD RAW}} \times 100$

$\frac{(\text{_____}) - (\text{_____})}{(\text{_____})} \times 100 = \text{_____} \%$

**FECAL COLIFORM Standard Method 909C**

Colonies/100ml =  $\frac{\text{Count}}{\text{ml of Sample}} \times 100$

Date/Time IN:

Date/Time OUT:

FINAL

\_\_\_\_\_ x 100 = \_\_\_\_\_  
ml

CENTRAL KITSAP PLANT LABORATORY  
PAINT FILTER TEST FOR CK SLUDGE CAKE

DATE	WATER ? Y OR NO	ANALYST

- 1. PLACE 100 G SLUDGE CAKE INTO FILTER.
- 2. SET TIMER FOR 5 MINUTES.
- 3. NOTE YES OR NO IF WATER IS PRESENT IN CYLINDER

METHOD FROM EPA SW-846



**PUBLIC**

**WORKS**

**LABORATORY BENCHSHEET**

**ANALYSIS** FECAL COLIFORM

**METHOD** MPN VERIFICATION

**DATE** \_\_\_\_\_

**ANALYST** \_\_\_\_\_

Sample	Colony	Color	Positive in A-1 Media ?
	1		
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
	11		
	12		
	13		
	14		
	15		

**NOTES:**



KITSAP COUNTY PUBLIC WORKS  
 CENTRAL KITSAP PLANT LABORATORY  
 FREON - EXTRACTABLE OIL AND GREASE  
 EPA METHOD 413.1

SAMPLE \_\_\_\_\_ ANALYST \_\_\_\_\_  
 LOG # \_\_\_\_\_  
 DATE \_\_\_\_\_ FLASK # \_\_\_\_\_

\_\_\_\_\_ g FINAL FLASK WEIGHT  
 \_\_\_\_\_ g INITIAL FLASK WEIGHT  
 \*\*\*\*\*  
 \_\_\_\_\_ g O & G x 1000 = \_\_\_\_\_ mg

$$\frac{\text{mg O \& G}}{\text{ml sample}} \times \frac{1000 \text{ ml}}{\text{L}} = \boxed{\text{mg/L O \& G}}$$

- 5 g Na<sub>2</sub>SO<sub>4</sub>  MARK SAMPLE LEVEL ON SAMPLE CONTAINER
- RINSE W/FREON  ADJUST pH TO <2 WITH HCL  
(can store for 28 days at this point)
- POUR SAMPLE INTO 2 L SEPARATORY FUNNEL
- PLACE TARED FLASK (INITIAL WEIGHT)  
UNDER FUNNEL

extract 1,1,2-trichloro-1,2,2-trifluoroethane  
 w/freon

- 25 ML \* Add Freon to sample  
container, rinse, then  
transfer to sep. funnel.  
Gently mix 5 minutes each
- 25 ML Allow phase separation.
- 25 ML
- EXTRACT EMULSION
- DISCARD WATER  RINSE Na<sub>2</sub>SO<sub>4</sub> WITH 25 ML FREON
- EVAPORATE SAMPLE IN 70 C  
WATER BATH
- DRY FOR 15 MINUTES
- VACUUM FREON FUMES ONE MINUTE
- COOL IN DESSICATOR ONE HOUR
- WEIGH FLASK FOR FINAL WEIGHT

PUBLIC



WORKS

LABORATORY BENCHSHEET

ANALYSIS FECAL COLIFORM

METHOD MEMBRANE FILTRATION  
STANDARD METHOD 9222 D

DATE \_\_\_\_\_

ANALYST \_\_\_\_\_

Sample ID	Date	#	ml	#	ml	#	ml	Colonies per 100 ml
Beginning Blank								

NOTES: TIME IN:  
TIME OUT:

PUBLIC



WORKS

### LABORATORY BENCHSHEET

ANALYSIS \_\_\_\_\_

METHOD \_\_\_\_\_

DATE \_\_\_\_\_

ANALYST \_\_\_\_\_


NOTES:

## NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

### PERSON COMPLETING QUESTIONNAIRE

NAME : CAROL N. Spaulding  
TITLE : Water Quality Tech. III  
ADDRESS : Mason County water quality  
P.O. Box 186  
Shelton, WA 98584  
PHONE # : 427-9670 ext 292

RECEIVED

JUL 09 1991

GENERAL SERVICE

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

When the lab is in operation will will analyze surface water samples for fecal coliform bacteria via MPN & MF. In the future will hope to be certified to test drinking water samples for Total Coliforms bacteria. Also TSS on stream samples -

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Our field people obtain stream & marine samples; drinking water samples will be addressed at a later date.

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

The lab will supply all necessary supplies to field personnel for stream & marine sampling - including sampling bottles, lab slips, transport containers

Describe your laboratory sample tracking system.

Field personnel will collect and deliver samples directly from the field stations to the lab.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

not AS yet.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

## II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate? *Questionable*

Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.

*Since we are not operational as yet - the following is an estimate.*

*MPO-A-1 - water bath can hold 24 samples*

*The dry incubator is large with 2 separate compartments & should be able to accommodate drinking water samples as well as surface water samples during their resuscitation during our peak wet weather monitoring Dec - March*

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

*100% for Fecal coliform for stream & marine*

*future 100% drinking water samples*

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?  
*I believe an outside laboratory must confirm all lab work annually -*

What percentage of your work is contracted out?

*Previously 100%*

What types of work do you usually contract out?

*In '92 we plan to organize a lake monitoring program & will have to contract out sample analyses for total nitrogen, total phosphorous and chlorophyll-a*

Please describe your procedure for utilizing outside laboratory services.

*For the lake monitoring project we have contacted Aquatic Research Inc. They supply sample bottles via Greyhound bus, we collect the samples & send them back via Greyhound bus from Olympia.*

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

Previously we sent samples to Kitsap environmental Health lab & Thurston County Environmental Health Lab.

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? *yes*

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

We will submit requests for additional facilities to the Mason County Board of Commissioners.

## V. DATA MANAGEMENT

Please describe your analytical data management system.

All data is recorded on paper, entered into a database and verified with hard copy

Where and how is your data stored?

laboratory records in bound & 3 ring binders and computer disk

How is your data used?

To determine trends in water quality in the environment & identify pollution sources.

How is your data archived?

computer disk

Who do you share your data with?

DOH & DOE, PSWQA, Public



Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

NO; we use paradox software

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

Physical size of the lab. limits the number of technicians to work in lab.

What can, or should, be done to remove these impediments?

Future expansion

DEPARTMENT OF ECOLOGY  
PROJECTED ANALYTICAL NEEDS  
BY PARAMETER

PROGRAM

		FY92	FY93			FY92	FY93			FY92	FY93		
PHYSICAL CHEMISTRY	pH			DEMAND	BOD			METALS	METALS/ELEMENT				
	TURBIDITY				BOD 20				METALS (6)				
	SP. CONDUCTANCE				COD				ICP SCAN				
	SALINITY				TOC				MERCURY				
	ALKALINITY				TOTAL				HEX CHROMIUM				
	ACIDITY				MISC.	OIL & GREASE				PRIORITY POLLUTANT			
	HARDNESS					PHENOLICS				TCLP			
	SOLIDS (4)					CHLOROPHYLL	✓		✓	TOTAL			
	TSS					COLOR				ORGANICS	BNA		
	TSS					GRAIN SIZE					VOA		
TOTAL			TOTAL			HERBICIDE							
ANIONS	CHLORIDE			MICRO.	COLIFORM			PESTICIDE					
	FLUORIDE				ENTEROCOCCI			ORGANOPHOS PEST					
	CYANIDE				% KLEB			TRI-BUTYL TIN					
	SULFATE				TOTAL			RESIN/FATTY ACID					
	TOTAL				BIOASSAY	EFFLUENT ACUTE TESTS			PCB				
NUTRIENTS	AMMONIA			SALMONID				BTEX/HALOGENATED					
	NITRATE			MICROTOX				PAH ONLY					
	NITRITE			HYALLELA				HYDROCARBON ID/TPH					
	NUTRIENTS (3)			DAPHNIA SP.				NON PP COMPOUNDS					
	NITRATE-NITRITE			ECHINODERM SPERM CELL				ORGANIC SCREEN					
	TOTAL PHOSPHATE	✓	✓	BIVALVE LARVAE				% LIPIDS					
	ORTHO PHOSPHATE			CHRONIC TESTS			TOTAL						
SPECIAL AIR	NUTRIENTS (5)			DAPHNIA SP			HW DESIG.	TOX					
	NITROGEN-TPN	✓	✓	CERIODAPHNIA				PAH					
	TOTAL			SEDIMENT TESTS				NH					
AIR FILTERS			MARINE AMPHIPOD			IGNITABILITY							
ASBESTOS			RHEPOXYNIUS			SALMONID							
TOTAL			FRESHWATER AMPHIPOD			NPDES							
			HYALLELA			RAT							
			DAPHNIA MAGNA			TOTAL							
			MICROTOX			TOTAL SAMPLES							
			TOTAL										

## NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

### PERSON COMPLETING QUESTIONNAIRE

NAME : KEVIN BARRY  
TITLE : ENVIRONMENTAL HEALTH DIRECTOR  
ADDRESS : SAN JUAN CO HEALTH DEPT  
PO BOX 607  
FRIDAY HARBOR WA 98250  
PHONE # : (206) 378-4474

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

NO LAB

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

NA

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

NA

Describe your laboratory sample tracking system.

NA

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

NA

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

NA

## II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.

No Lab. We very much need A water lab,  
CAPABLE OF BACTERIOLOGICAL, NITRATE, CHLORIDE & SPECIFIC  
CONDUCTIVITY AS MINIMUM.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

Most water samples are sent to Skagit Co Health Dept for Bact., State Public Health Lab or Lavelle for chemical.

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

There is a crying need for a laboratory here, which is exacerbated by the new safe drinking water act standards, which require increased monitoring.

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

We are proposing a lab in our 1992 budget proposal. This is unlikely to be approved.

**V. DATA MANAGEMENT**

NA

Please describe your analytical data management system.

Where and how is your data stored?

How is your data used?

How is your data archived?

Who do you share your data with?

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

There is no lab in the islands. Use of mainland labs is greatly hampered by transportation problems.

What can, or should, be done to remove these impediments?

Build a lab in Friday Harbor.



DEPARTMENT OF ECOLOGY  
 PROJECTED ANALYTICAL NEEDS  
 BY PARAMETER

PROGRAM San Juan Co Drinking Water

	FY92	FY93		FY92	FY93		FY92	FY93		
PHYSICAL CHEMISTRY	pH		DEMAND	BOD		METALS	METALS/ELEMENT			
	TURBIDITY	100		BOD 20			METALS (6)			
	SP. CONDUCTANCE	100		COO			ICP SCAN			
	SALINITY			TOC			MERCURY			
	ALKALINITY			TOTAL			HEX CHROMIUM			
	ACIDITY			MISC.	OIL GREASE			PRIORITY POLLUTANT		
	HARDNESS				PHENOLICS			TCLP		
	SOLIDS (4)				CHLOROPHYLL			TOTAL		
	TS				COLOR			ORGANICS	BNA	
	TSS	100			GRAIN SIZE				VOA	
	TOTAL	100		TOTAL			HERBICIDE			
ANIONS	CHLORIDE	300	MICRO.	COLIFORM	1000	PESTICIDE				
	FLUORIDE	100		ENTEROCOCCI		ORGANOPHOS PEST				
	CYANIDE			% KLEB		TRI-BUTYL TIN				
	SULFATE	1000		TOTAL		RESIN/FATTY ACID				
	TOTAL	500		BIOASSAY	EFFLUENT ACUTE TESTS		GUAIACOL/CATECHOL			
NUTRIENTS	AMMONIA		SALMONID			PCB				
	NITRATE	100	MICROTOX			BTEX/HALOGENATED				
	NITRITE		HYALLELA			PAH ONLY				
	NUTRIENTS (3)		DAPHNIA SP.			HYDROCARBON ID/TPH				
	NITRATE-NITRITE		ECHINODERM SPERM CELL			NON PP COMPOUNDS				
	TOTAL PHOSPHATE		BIVALVE LARVAE			ORGANIC SCREEN				
	ORTHO PHOSPHATE		CHRONIC TESTS		DAPHNIA SP.		% LIPIDS			
NUTRIENTS (5)		CERIODAPHNIA				TOTAL				
NITROGEN-TPN		SEDIMENT TESTS			MARINE AMPHIPOD		HW DESIG.	TOX		
TOTAL								FRESHWATER AMPHIPOD		PAH
SPECIAL AIR	AIR FILTERS							HYALLELA		NH
	ASBESTOS			DAPHNIA MAGNA					IGNITABILITY	
	TOTAL			MICROTOX					SALMONID	
			TOTAL		NPDES					
					RAT					
					TOTAL					
					TOTAL SAMPLES					

## NEEDS ASSESSMENT QUESTIONNAIRE

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Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

### PERSON COMPLETING QUESTIONNAIRE

NAME : JIM FREEMAN  
TITLE : SENIOR WATERSHED PLANNER  
ADDRESS : SKAGIT COUNTY DEPT. OF PLANNING & COMM. DEV.  
CO. ADMIN. BLDG, ROOM 204  
PHONE # : 700 S. 2ND ST.  
MC VERDON WA 98273  
(206) 336-9410

### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

NONE

**Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?**

**Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.**

**Describe your laboratory sample tracking system.**

**Do you have documented chain of custody requirements to protect sample integrity? Please describe.**

**Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.**

## **II. CURRENT LABORATORY CAPACITY**

**Is your current laboratory capacity adequate?**

**Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.**

**Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.**

**What percentage of your organization's laboratory work is completed in house?**

**Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?**

**What percentage of your work is contracted out?**

**What types of work do you usually contract out?**

**Please describe your procedure for utilizing outside laboratory services.**

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

THE SKAGIT COUNTY DEPT. OF PLANNING AND COMMUNITY DEVELOPMENT HAS NOT PARTICIPATED IN ANY WQ SAMPLING ACTIVITIES TO DATE. HOWEVER, WE ARE STARTING TO IMPLEMENT A SAMPLING PROGRAM FOR THE LOWER SKAGIT RIVER.

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

YES, LOGISTICAL PROBLEMS CAN OFTEN RESULT WHEN TESTING TIME SENSITIVE SAMPLES IN NO. PUGET SOUND. Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

THERE ARE MANY OPTIONS:

- ① REQUIRE HEALTH DEPARTMENTS AND DISTRICTS TO BECOME ACCREDITED FOR TESTING SAMPLES FOR CONVENTIONAL POLLUTANTS
- ② ASSIST TRIBES ~~IN~~ IN THEIR EFFORTS TO USE EPA \$ FOR ESTABLISHING WQ PROGRAMS TO ENCOURAGE ~~THE~~ SETTING UP SELF SUFFICIENT LABS WHICH COULD BE UTILIZED BY LOCAL GOVTS LIKE ANY PRIVATE LAB.
- ③ HAVE DOE OPEN UP LAB IN NO. PUGET SOUND (SPIT MANCHESTER?)

## V. DATA MANAGEMENT

Please describe your analytical data management system.

NO SYSTEM AT THIS TIME (NO DATA TO MANAGE AS OF YET)

Where and how is your data stored?

\_\_\_\_\_

How is your data used?

\_\_\_\_\_

How is your data archived?

\_\_\_\_\_

Who do you share your data with?

\_\_\_\_\_

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

ANTICIPATED PROBLEMS INCLUDE:

- ① ACQUIRING SUITABLE DATABASE SOFTWARE FOR ANALYSIS, ~~AND~~ COMPATIBILITY W/ STORES, AND PROPER MANAGEMENT
- ② HAVING ADEQUATE STAFF TO HANDLE & MAINTAIN DATABASE

#### VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

LOGISTICS OF GETTING SAMPLES TO AN ACCREDITED LAB IN A TIMELY & COST EFFECTIVE MANNER. LABS ARE LACKING IN NORTH PUGET SOUND.

What can, or should, be done to remove these impediments?

### NEEDS ASSESSMENT QUESTIONNAIRE

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If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

#### PERSON COMPLETING QUESTIONNAIRE

NAME : Frank Schert / Snohomish County Planning Dept.  
TITLE : Biologist / Water Resources  
ADDRESS : 3000 Rockefeller Blvd.  
Everett, WA. 98201  
PHONE # : (206) 388-3508

\* Questionnaire is not relevant since our laboratory needs are incident.

#### I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:



**Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?**

**Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.**

**Describe your laboratory sample tracking system.**

**Do you have documented chain of custody requirements to protect sample integrity? Please describe.**

**Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.**

## II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

### III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

*Currently our needs for analytical services are provided by independent laboratories. Overall, if we suspect a water quality problem, your Department is contacted - either through the Health District or directly.*

### IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

*I suspect that given future needs, expansion of laboratory capacity would be a prudent measure*  
Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

*Future needs will be met as presently dealt with - independent laboratories.*

## V. DATA MANAGEMENT

Please describe your analytical data management system.

Our data base system is set up for tracking land use subdivision information, as opposed to analytical laboratory information. Also stream and wetlands inventory information

Where and how is your data stored?

Our data is stored on PC's SmartWare II data management system.

How is your data used?

Primarily to keep track of subdivision land use requests & biological info needs

How is your data archived?

Hard files

Who do you share your data with?

Anyone wishing our information

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

*Not any more*

## VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

*Funding*

What can, or should, be done to remove these impediments?

*If the need arises then funding will have to be provided.*