

1 FILE NO. 21-A

PROPOSAL NO. 96-1

2 Sponsored by: Councilmember Karen Biskey
3 Requested by: County Council

4 **ORDINANCE NO. 96-1**

5 **AN ORDINANCE OF THE PIERCE COUNTY COUNCIL ADOPTING THE ROCKY BAY**
6 **SHELLFISH PROTECTION PROGRAM PLAN FOR THE ROCKY BAY**
7 **SHELLFISH PROTECTION DISTRICT.**

8 WHEREAS, Pierce County received notification from the Washington
9 State Department of Health of the downgrading of certain portions of
10 the commercial shellfish growing area of Rocky Bay, which is located on
11 Puget Sound in Pierce County; and

12 WHEREAS, RCW Chapter 90.72, "Shellfish District" directs the
13 County to establish a Shellfish Protection District within 180 days of
14 such a downgrade and to establish a program to address the reason(s)
15 for the downgrade; and

16
17 WHEREAS, on December 20, 1995, the Pierce County Council created
18 the Rocky Bay Shellfish Protection District, established the district
19 boundaries, appointed Pierce County Surface Water Management Utility
20 (SWM) as lead agency, and directed SWM to prepare and present to the
21 Council the Shellfish Protection Program Plan prior to January 5, 1996,
22 (Ordinance No. 95-134S); and

23
24 WHEREAS, SWM presented the Shellfish Protection Program Plan for
25 Council adoption; NOW, THEREFORE,

26
27 BE IT ORDAINED by the Council of Pierce County:
28

Section 1. Pierce County Council hereby adopts the Rocky Bay Shellfish Protection Program Plan as attached hereto as Exhibit "A" and incorporated herein by reference.

PASSED this 13th day of February, 1996.

ATTEST:

PIERCE COUNTY COUNCIL
Pierce County, Washington

[Signature]
Clerk of the Council

[Signature]
Council Chair

Approved As To Form Only:

PIERCE COUNTY EXECUTIVE

[Signature]
Deputy Prosecuting Attorney

[Signature]
Approved Vetoed
this 15 day of Feb,
1996.

Public Hearing Notice Date: January 24, 1996

Effective Date: February 25, 1996

1 EXHIBIT "A" TO ORDINANCE NO. 96-1

2 January 25, 1996
3 ROCKY BAY WATER QUALITY PROTECTION PROGRAM

4 Both the Washington State Legislature and the people of Pierce County
5 recognize Puget Sound for its natural environments conducive to
6 shellfish growing. It has gained a reputation as an international
7 leader in both the quantity and quality of shellfish production.
8 For these reasons, the downgrading of a portion of Rocky Bay, by the
9 State Department of Health (DOH) from "Approved" to "Prohibited"
required Pierce County to establish a Shellfish Protection District
and adopt an effective program within 180 days pursuant to Chapter
90.72 RCW. Pierce County's response to the downgrade also included
participation in the formulation of an Initial Closure Response
Strategy.

10 To address the immediate concerns in Rocky Bay, the Initial Closure
11 Response Strategy included recommendations for additional fresh and
12 marine water sampling by DOH and Pierce County Surface Water
13 Management, development of farm conservation plans by Pierce and
Kitsap Conservation Districts, and renewed efforts by the Tacoma-
Pierce County Health Department to inspect the small number of
waterfront septic systems that have yet to be evaluated.

14 The following Protection Plan is an extension to the Closure Response
15 Strategy. It is designed to ensure a long term, coordinated effort
16 directed at the investigation, identification monitoring and analysis
17 of the sources of water pollution to the Bay. This Protection Plan
will also outline implementation measures to turn the tide of water
quality degradation in the bay.

18 CONTRIBUTING AGENCIES, DEPARTMENTS, LOCAL GOVERNMENTS WILL INCLUDE:

19 Pierce County Water Programs
20 Pierce County Conservation District
21 Kitsap County Conservation District
22 Tacoma-Pierce County Health Department
23 Washington State Health Department
24 Washington State Department of Ecology
25 Puget Sound Water Quality Authority
26 Kitsap County
27 Mason County
28

1 **Role of Pierce County Surface Water Management Utility (SWM)**

2 Pierce County Water Programs, through the Surface Water Management
3 (SWM) section has been designated the lead on the Rocky Bay Shellfish
4 Protection Program . SWM will be responsible for the coordination of
5 all contributing agencies and facilitating quarterly meetings.

6 SWM will also be responsible for surface water sample site
7 identification, sample collection and laboratory analysis. All
8 surface water point source discharges into the bay will be
9 identified. The sampling sites will be representative of the primary
10 land uses within the basin. Analysis for Ph, dissolved oxygen (DO),
11 temperature, and turbidity will be conducted by SWM staff. The
12 analysis for fecal coliform will be performed by an outside contract
13 laboratory.

14 Data collected by SWM and the other participating agencies will be
15 entered into a central data base. In coordination with the other
16 participating agencies, the data will be analyzed to determine what
17 corrective actions may be necessary to reduce or eliminate water
18 quality degradation in the watershed. The appropriate agency will
19 then be contacted to begin efforts to gain correction of the
20 contaminant source. Following implementation of corrective measures,
21 SWM will re-sample to evaluate the success of the corrections.

22 A Rocky Bay Advisory Team (RBAT) will be created to serve as a forum
23 for the exchange of information and to assist the planners and
24 technicians with the development of a data collection program. The
25 RBAT will play an important part in recommending implementation
26 measures to resolve pollution problems to the Pierce County Council
27 and Tacoma-Pierce County Board of Health. The RBAT will also be
28 encouraged to take part in recommending modifications to this
program. Where possible, RBAT members will be involved in short and
long term monitoring and implementation activities. The RBAT will be
made up of local residents, shellfish growers, the Pacific Coast
Growers Association, other local business owners and representatives
from the participating government agencies. Initially, the team will
meet monthly to review the sampling program, then continue to meet as
often as they deem necessary.

Since much non-point water pollution is a result of uninformed or
poorly planned land use decisions, public education will be another
significant element of the committee's overall duties.

Cost: \$10,000.00 (Annually)
Time line: On-going

1 **Role of Pierce County Conservation District**

2 **Background:**

3 Rocky Creek drains an area of about 12,000 acres within Pierce,
4 Kitsap and Mason Counties. Sixty nine farms were located during the
5 late November 1993 field survey. This totaled 395 acres of the
6 watershed as being small farms. All farms were inventoried and
7 animals where counted. Each farm was classified with the potential
8 to pollute using a five point scale. Of the 31 farms located in
9 Pierce County, five were classified as having a high potential for
10 pollution.

11 During October 1995, all 31 farms were revisited and reevaluated for
12 the potential to pollute. At this time only one farm containing two
13 dairy animals had a high potential to pollute Rocky Creek which runs
14 through the farm. A fence needs to be erected along the creek to
15 prevent access by the animals. The landowner needs to be contacted
16 and a conservation farm plan developed. This Best Management
17 Practice could reduce the potential to pollute Rocky Creek.

18 The area is being developed and one new farm about 2 acres in size,
19 with one new house was identified. It was adjacent to Rocky Creek,
20 however the animal did not have access to the creek. It is
21 recommended that this landowner also be contacted for the development
22 of a conservation farm plan.

23 **Projected Work:**

24 The landowner of the one farm which has a high potential to pollute
25 should be contacted and a conservation plan should be developed. The
26 fence BMP should be implemented preventing access to Rocky Creek.

27 The other landowner who has just moved into the area should be
28 contacted and a conservation farm plan should be developed. This
farm has a low potential to pollute.

Resources:

The Conservation District has a two-year grant with funds for a Small
Farm Planner. This field resource technician will contact the
landowners and develop the needed conservation plans in the Rocky Bay
Watershed. Efforts will be made to provide technical and financial
assistance as resources allow.

Cost: \$1,500.00
Time line: Two years

1 | Future Needs:

2 | The area should be surveyed annually to identify new landowners with
3 | livestock as they move into the watershed. Each one should be
4 | contacted, and a farm conservation plan should be developed to help
5 | reduce the potential to pollute within the watershed. To the extent
6 | that resources permit, the district will remain available to
7 | formulate farm plans as the area continues to grow and develop.

8 | **Role of the Kitsap County Conservation District**

9 | In 1993 the Conservation District contacted and inventoried all the
10 | farms on the Kitsap County side of the watershed. This inventory
11 | identified those farms having low, medium or high potential for
12 | impact to water quality.

13 | A total of 37 farms, mainly non-commercial, were counted. Only two
14 | farms were considered as high risk in reference to degradation of
15 | water quality in the immediate area. This information was then
16 | transferred to the Natural Resource Conservation Service (NRCS), for
17 | technical and financial assistance as resources allow.

18 | The Kitsap Conservation District will work with the owners of the two
19 | high risk farms to develop Farm Plans with suggested Best Management
20 | Practices (BMPs) to be implemented, ensuring against water quality
21 | degradation and helping with resource protection.

22 | Providing services to land owners in this watershed will cost
23 | approximately \$2,000 annually and will be funded through the Kitsap
24 | County Surface and Storm Water Management Program.

25 | **Cost: \$2,000.00 (Annually)**
26 | **Time line: On-going**

27 | **Role of the Tacoma-Pierce County Health Department**

28 | A survey of waterfront homes in the Rocky Bay Watershed was recently
conducted by the Tacoma-Pierce County Health Department (TPCHD). The
survey determined that many area homeowners do not regularly service
their septic systems. It has long been accepted that a regular
program of septic system maintenance, including inspection of the
septic tank and its components with pumping as necessary, is
essential to the long-term proper functioning of the system. Timely
maintenance and early diagnosis of septic system problems not only
protect public health by reducing exposure to sewage, but also
prevent costly system repairs.

To improve septic system maintenance practices in the watershed and
increase public awareness of the benefits of proper septic system
care and maintenance, TPCHD will designate the Rocky Bay Watershed an
"Area of Special Concern" as authorized by Chapter 246-272 WAC, *On-
Site Sewage Systems Rules and Regulations*. In addition, TPCHD will
work with the RBAT and the Board of Health to develop and implement
a septic system Operation and Maintenance Program for all septic
systems in the Rocky Bay Watershed. The resulting program may be

1 used as a model for program implementation in all Areas of Special
2 Concern required under the WAC. The Operation and Maintenance
3 Program will provide a means of assuring periodic inspection and
4 maintenance as the WAC mandates for Areas of Special Concern.

5 Under the Operation and Maintenance Program, each septic system
6 identified in the watershed must be periodically reviewed by
7 qualified personnel approved by TPCHD. The initial review may
8 include verification of system location, inspection of septic tank
9 integrity, depth of sludge accumulation, condition of inlet and
10 outlet baffles, and inspection of the disposal area for signs of
11 surfacing effluent. If the system is determined to be failing, TPCHD
12 staff will work with the property owner to obtain repair of the
13 system or the failing system components. To maintain certification
14 of the septic system, the homeowner must have the system inspected by
15 approved personnel at intervals established by TPCHD. A nominal fee
16 to offset the costs of administering the program, as established by
17 the Board of Health, may be collected.

18 Cost of program implementation for the Rocky Bay Watershed will be
19 approximately \$7,500 and will be funded by existing On-Site Sewage
20 Program revenues. Implementation costs will include expenditures for
21 policy development, creation of septic system operation standards,
22 and establishment of a list of certified Operation and Maintenance
23 Professionals.

24 In addition to the development and implementation of the Operation
25 and Maintenance Program, TPCHD staff will investigate all public
26 health-related concerns reported by other contributing agencies and
27 individuals.

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Cost:	\$2,000.00 (Annually)
Time line:	On-going

1 **Role of the Washington State Health Department**

2 The Washington Department of Health (DOH) has regulatory authority
3 over shellfish harvest in Washington State, with regard to health
4 concerns. The DOH is required to periodically survey and collect
5 water samples in all active commercial shellfish harvest areas. A
6 downgrade in the classification of a commercial shellfish area also
7 triggers increased water sampling activities in an effort to
8 determine the bacteria source(s) leading to the downgrade.

9 As a part of a multi-agency Closure Response Strategy, DOH will
10 conduct marine water sampling in Rocky Bay on a monthly basis.
11 Sampling activities will include concentration of fecal coliform
12 bacteria, salinity, ambient water temperature, tidal phase, and
13 general weather conditions. All of these activities will be
14 coordinated with the other local and state agencies involved with
15 this effort. In addition, rainfall measurements will be obtained
16 from the nearest National Weather Service reporting station and
17 Pierce County Water Programs Division. These data will be used in an
18 effort to determine whether there are any specific or combined
19 weather or tidal conditions affecting bacterial concentrations in
20 Rocky Bay.

21 DOH will also conduct fresh and marine water sampling during storm
22 events. During these events, major freshwater inputs to Rocky Bay
23 will be sampled for fecal coliform bacteria with concurrent marine
24 water sampling as described in the paragraph above. The purpose of
25 storm event sampling is to determine whether heavy rainfall, leading
26 to greatly increased surface runoff, is a significant contributor to
27 bacterial concentrations in Rocky Bay. If, in the course of their
28 activities in Rocky Bay, DOH personnel become aware of issues
relating to public health or water quality, they will notify the
appropriate agency for investigation.

The combined cost of these activities is estimated at \$6,000 annually
and will be funded by the DOH Shellfish Program.

Cost: \$6,000.00 (Annually)
Time line: On-going

21 **Role of the Washington State Department of Ecology**

22 The Department of Ecology (Ecology), will supply technical assistance
23 as requested if personnel is available. In addition, Ecology will
24 investigate water quality violations under its jurisdiction and take
25 appropriate action.

25 **Role of the Puget Sound Water Quality Authority**

26 The Puget Sound Water Quality Authority will supply assistance as
27 requested if personnel are available.
28

1 **Role of Kitsap County**

2 The County Commissioners have expressed their support and have
3 directed their staff to coordinate with our efforts.

4 **Role of Mason County**

5 The County Commissioners have expressed their support.

6 Long-Term Regional Effort

7 The Water Program division of Public Works and Utilities has been
8 awarded funding through the Washington Centennial Clean Water Fund to
9 staff the development of a watershed action plan for the entire Key
10 Peninsula (with the help of local citizens). This plan should serve
11 as the ultimate source of long term solutions to water quality
12 problems on the peninsula. The Rocky Bay drainage basin is a small
13 part of this larger watershed and will be addressed during the
14 planning process.
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ROCKY BAY

INITIAL

SHELLFISH GROWING AREA

CLOSURE RESPONSE STRATEGY

FINAL DRAFT

Rocky Bay
Closure Response Committee
October 1995

TABLE OF CONTENTS

I.	BACKGROUND	1
	A. Location and Historical Background	
	B. Recent Background	
II.	POTENTIAL SOURCES OF POLLUTION	1
	A. General	
	B. On-Site Sewage System Sources	
	C. Agricultural Sources	
	D. Domestic Animals/Water Fowl	
III.	CLOSURE RESPONSE STRATEGY PROCESS	2
	A. Overview	
	B. Rocky Bay Closure Response Strategy	
IV.	INITIAL CLOSURE RESPONSE STRATEGY	3
	A. Goals	
	B. Tasks	
	• Administrative Actions	
	• Initial Technical Actions	
	<u>REFERENCES</u>	9
	APPENDIX A: Rocky Bay Shellfish Growing Area Map	
	APPENDIX B: WA DOH Report, <u>Sanitary Survey of Rocky Bay</u> , August 1995	
	APPENDIX C: WDOE/WDOH Memorandum of Agreement	
	APPENDIX D: Members, Rocky Bay Closure Response Committee	
	APPENDIX E: Strategy Task Matrix	

I. BACKGROUND

A. Location and Historical Background

Rocky Bay is a small embayment located on the eastern shore of Case Inlet in Pierce County. The bay is approximately one and one quarter miles long, one mile wide at its mouth, and is oriented along a northeast by southwest axis. The northern end of Rocky Bay consists of a narrow inlet approximately one quarter mile across at its widest point and approximately nine-tenths of a mile long. It is here that the only significant source of freshwater enters the bay as Rocky Creek.

Although Rocky Bay sits within Pierce County, its watershed encompasses portions of Pierce, Kitsap, and Mason Counties with the majority being located in Kitsap. The watershed is rural and not highly developed as is the immediate marine shoreline. There are only 332 residences within the Pierce County portion and approximately 500 in the entire watershed. All residences within the watershed use on-site systems for sewage treatment and disposal.

Rocky Bay was originally certified as a commercial shellfish harvesting area in 1967. Up until August 1995 its harvesting status has been listed as APPROVED. There are 100 acres of commercial beds located in the outer portion of the bay and in the northern inlet. The tidelands of Rocky Bay are all privately owned and there are no recreational harvesting opportunities in this area.

B. Recent Background

In August 1995, the Washington Department of Health (DOH), Shellfish Programs, downgraded a portion of the harvesting status of Rocky Bay from APPROVED to PROHIBITED. A map showing the affected growing area is shown in APPENDIX A.

The downgrade was based on elevated fecal coliform levels in the northern portion of Rocky Bay as measured during three years of marine and limited freshwater monitoring. DOH's data show that elevated counts occur unpredictably and appear to be unrelated to meteorologic events. A thorough review of the DOH data is described in the report *Sanitary Survey of Rocky Bay*, DOH, August 1995, shown in APPENDIX B.

A limited sanitary survey of shoreline sewage systems was also performed during this time period by the Tacoma/Pierce County Health Department (TPCHD).

II. POTENTIAL SOURCES OF POLLUTION

A. General

As stated above, the watershed of Rocky Bay is rural with limited development. There is more development along the marine shoreline but only to a modest degree.

Many of the shoreline parcels are undeveloped or used as seasonal residences. This information suggests that likely sources of contamination are inadequately functioning sewage systems and contaminated runoff from livestock or domestic animals, or possibly wildlife and water fowl.

B. On-Site Sewage System Sources

A sanitary survey of marine shoreline parcels was conducted by the TPCHD during the winter of 1993-1994; the results are documented in the report *Sanitary Survey of Rocky Bay*, DOH, August 1995, shown in APPENDIX B.

A total of 72 homes were inspected; two failing on-site sewage systems were identified and one was listed as "suspect." Although the overall number of failing systems was low, due to the limitations of the survey methodology, domestic sewage cannot be ruled out as a significant pollution source to the shellfish growing waters of Rocky Bay.

Limitations were placed on the performance of the sanitary surveys due to both resource constraints and the unique environment of the Rocky Bay shoreline. Intensive survey procedures using fluorescein dye tracing with charcoal packets were not used during the investigation. The use of this procedure may have provided greater accuracy in identifying failing systems. Also, because of the seasonal nature of occupancy of many of the shoreline homes, many inspections had to be done during dry periods that may not adequately reflect the suitability of a system to treat sewage.

C. Agricultural Sources

While no commercial agricultural businesses are in operation in the Rocky Bay watershed, a number of small, noncommercial farm/livestock operations were identified along the shoreline and in the upland areas. The cumulative impact of these smaller operations could result in elevated fecal coliform counts in the bay.

D. Domestic Animals/Water Fowl

At least 20 canines were permanent residents along the shoreline, as identified during the TPCHD's sanitary survey. The cumulative impacts from these animals plus water fowl indigenous to the area has yet to be evaluated.

III. CLOSURE RESPONSE STRATEGY PROCESS

A. Overview

Element SF-8 of the 1991 Puget Sound Water Quality Plan calls for the Department of Ecology and DOH to develop an interagency Memorandum of Agreement to govern their responses to downgrades in classification of commercial and recreational

shellfish beds. SF-7 of the 1994 Puget Sound Water Quality Plan calls for the continued maintenance of the MOA.

This agreement specifies the general role, responsibilities, funding source(s), and schedule for the two agencies to develop a response strategy for correcting contamination of each shellfish bed that is downgraded after signing of the Memorandum.

Under this agreement, DOH has the responsibility to initiate the development of a strategy within 30 days of the downgrade. DOH and Ecology will then have 60 days to jointly develop a response strategy, in consultation with appropriate state agencies and local and tribal governments to upgrade the classification of the shellfish bed. An Initial Closure Response Strategy is developed as an immediate response to a downgrade; a Final Closure Response Strategy may be developed at a later date to address long-term nonpoint pollution control. A Chapter 400-12 WAC nonpoint watershed plan may serve as the final closure response strategy.

A copy of the Ecology/DOH Memorandum of Agreement regarding closure response strategies is shown in APPENDIX C.

B. Rocky Bay Closure Response Strategy

On September 25, 1995, DOH convened the first Rocky Bay Closure Response Meeting. At this meeting it was decided that due to resource constraints, Pierce County would not take the lead in the closure response process but would grant lead position to Ecology, SWRO. With the assistance of Pierce County and DOH a Closure Response Strategy Committee was formed and has met on a regular basis. This Initial Strategy is the product of the Committee's effort.

A listing of Closure Response Committee members is shown in APPENDIX D.

IV. INITIAL CLOSURE RESPONSE STRATEGY

A. Goals

- Prevent further water quality deterioration in the commercial shellfish growing area in the near term.
- Identify and quantify pollution sources and implement targeted remedial action activities.
- Initiate the development of a locally based source of long-term funding for nonpoint remedial activities.

B. Tasks

In order to accomplish the goals of the initial closure response strategy for Rocky Bay, the following tasks must be completed.

Administrative Actions

1. **Convene initial closure response meeting.**

This is a meeting of all agencies, tribes, groups, and citizens who are or may be affected by the Rocky Bay closure.

ACCOUNTABLE ENTITY: WA State Department of Health (Health), Shellfish Program.

TIMELINE: Within first two weeks of formal closure of Rocky Bay, *August 11-25, 1995.*

TASK COMPLETED

2. **Designate lead agency for the closure response strategy process.**

Any local agency can choose to lead the process. If the local entity does not choose lead agency status, the lead will default to the WA State Department of Ecology (Ecology). If this course of action is chosen, the local entity must state this request in writing to Ecology.

The lead agency is solely responsible for coordinating the closure response strategy *process*. Lead agency status does not relieve state and local agencies from their statutory requirements.

ACCOUNTABLE ENTITY: Pierce County.

TIMELINE: August 11-25, 1995.

TASK COMPLETED: Ecology, Southwest Regional Office (SWRO) will assume lead agency position as requested by Pierce County.

3. **Form closure response strategy committee and draft closure response document.**

ACCOUNTABLE ENTITY: Ecology and Closure Response Committee.

TIMELINE: By October 1, 1995.

TASK COMPLETED

4. **Seek initial funding source to implement initial strategy.**

The initial strategy will require the implementation of immediate nonpoint remedial actions. *Potential* funding sources include: emergency Centennial Clean Water Fund monies; Clean Water Act 319 monies; de-obligated

Shellfish Protection Initiative Referendum 39 monies; and dedicated Pierce County funds.

ACCOUNTABLE ENTITY: Pierce County.

TIMELINE: By November 1, 1995.

4a. In regard to use of emergency Centennial Clean Water Funds or de-obligated Referendum 39 monies, a letter of request must be submitted to Ecology which thoroughly documents the need for the requested funds.

ACCOUNTABLE ENTITY: Pierce County.

TIMELINE: As soon as possible.

TASK COMPLETED Letter of request sent to Ecology

5. Develop and implement a locally based source of mid- to long-term funding for nonpoint remedial activities.

RCW 90.72 requires that a shellfish protection district be formed within 180 days of the shellfish growing area closure.

ACCOUNTABLE ENTITY: Pierce County.

TIMELINE: By February 1996.

5a. Designation of local agency to lead the Shellfish Protection District process.

A determination will need to be made and announced to the closure response committee of which local entity will be responsible for leading the Shellfish Protection District process. This process may involve the development of various inter-local agreements.

ACCOUNTABLE ENTITY: Pierce County.

TIMELINE: As soon as possible.

TASK COMPLETED: Pierce County Surface Water Management will assume lead agency status in the Shellfish Protection District formation process.

6. Presentation of initial closure response strategy process and plans to Pierce County Executive and Council.

This presentation will present the background of the Rocky Bay closure and efforts to address the nonpoint pollution sources responsible for it. Officials from Mason and Kitsap Counties will be invited. Activities, timelines, and accountable entities will be defined.

ACCOUNTABLE ENTITY: Pierce Co. Surface Water Mgt./TPCHD.

TIMELINE: By October 9, 1995.

TASK COMPLETED

7. **Public information announcing closure response strategy process.**

The purpose of this activity is to solely announce that a strategy to address the Rocky Bay closure is in process. This is not a call for public involvement which will occur at a later date.

ACCOUNTABLE ENTITY: Pierce County.

TIMELINE: By October 30, 1995.

TASK COMPLETED

Initial Technical Actions

1. **Klebsiella sp. Evaluation.**

Most likely because of tidal and hydraulic conditions, the downgraded portion of Rocky Bay accumulates significant amounts of wood waste and debris. Organic deterioration of wood and associated by-products can serve as a source of Klebsiella sp., which test positive under fecal coliform evaluations.

This wood waste should be evaluated as a potential source of elevated marine water fecal coliforms in Rocky Bay. A thorough sampling effort should be conducted along with a survey reconnaissance as to the extent of wood waste accumulation.

ACCOUNTABLE ENTITY: Health.

TIMELINE: By October 30, 1995.

2. **Develop and implement an intensive wet weather water quality monitoring program. This program should include sampling watershed inputs, stormwater seeps into the bay, and marine/shoreline bird counts. In addition, an evaluation of fecal loading during various tidal conditions should be conducted.**

Health has extensive marine data on Rocky Bay but has not yet evaluated fecal loading under various tidal conditions. Also, there has been only limited freshwater tributary sampling. The existing data is also three years old and needs to be updated. This data is essential in identifying and quantifying pollution sources.

ACCOUNTABLE ENTITY: Tacoma-Pierce County Health Department (TPCHD) with technical assistance from Ecology and Health.

TIMELINE: Plan developed by October 30, 1995; implemented and completed by March 30, 1996.

2a. A limited, less structured monitoring program will be immediately implemented by Health staff, with the assistance of TPCHD staff. The purpose of this program will be to collect samples and identify sources during rainy periods before the ground has been saturated. Once the rain season starts in steady, and the water table is sufficiently elevated the wet season monitoring evaluation describes in #2 will begin.

3. **Conduct a wet weather sanitary survey of all homes along the marine shoreline. The survey should include every site and employ dye tracing procedures as developed by Thurston County and Tom Aley, et. al.**

An initial sanitary survey was completed by TPCHD in 1993-4 of the Rocky Bay shoreline. However, several homeowners refused to participate in the study and not all sites were surveyed. In addition, intensive survey techniques such as dye tracing and charcoal packets were not used, and portions of the survey were done during dry seasons of the year. These factors limit the usefulness of the initial survey data.

This survey must be mandatory for all property owners along the shoreline in order to accurately quantify pollution sources. Where property owners refuse to participate two potential actions can be implemented to assure participation:

- Property owner is contacted by other local participants/community residents and is given further information as to the need for the survey. The property owner is encouraged to voluntarily participate.
- An administrative search warrant is sought. Data verifying the need for a warrant will be presented, along with support from Health and Ecology. TPCHD conduct the inspection after the warrant is obtained.

ACCOUNTABLE ENTITY: TPCHD.

TIMELINE: By June 30, 1996.

4. **Conduct windshield survey of immediate watershed area for sites where agricultural/animal sources may be a potential source of nonpoint fecal pollution.**

This is a limited reconnaissance of the area to identify priority farm/animal raising sites where the potential for contaminated runoff exists. The 1993-4 sanitary survey identified a few potential sites.

ACCOUNTABLE ENTITY: Pierce, Mason, and Kitsap Conservation Districts.

TIMELINE: By October 15, 1995.

TASK COMPLETED

5a. Ecology will inspect all referred sites and verify water quality violations. Appropriate enforcement actions will be taken as necessary.

ACCOUNTABLE ENTITY: Ecology.

TIMELINE: March-June 1996.

6. Continued ambient marine monitoring of Rocky Bay on a monthly basis.

Continued monitoring is necessary to evaluate the on-going status of the growing area.

ACCOUNTABLE ENTITY: Health.

TIMELINE: On-going.

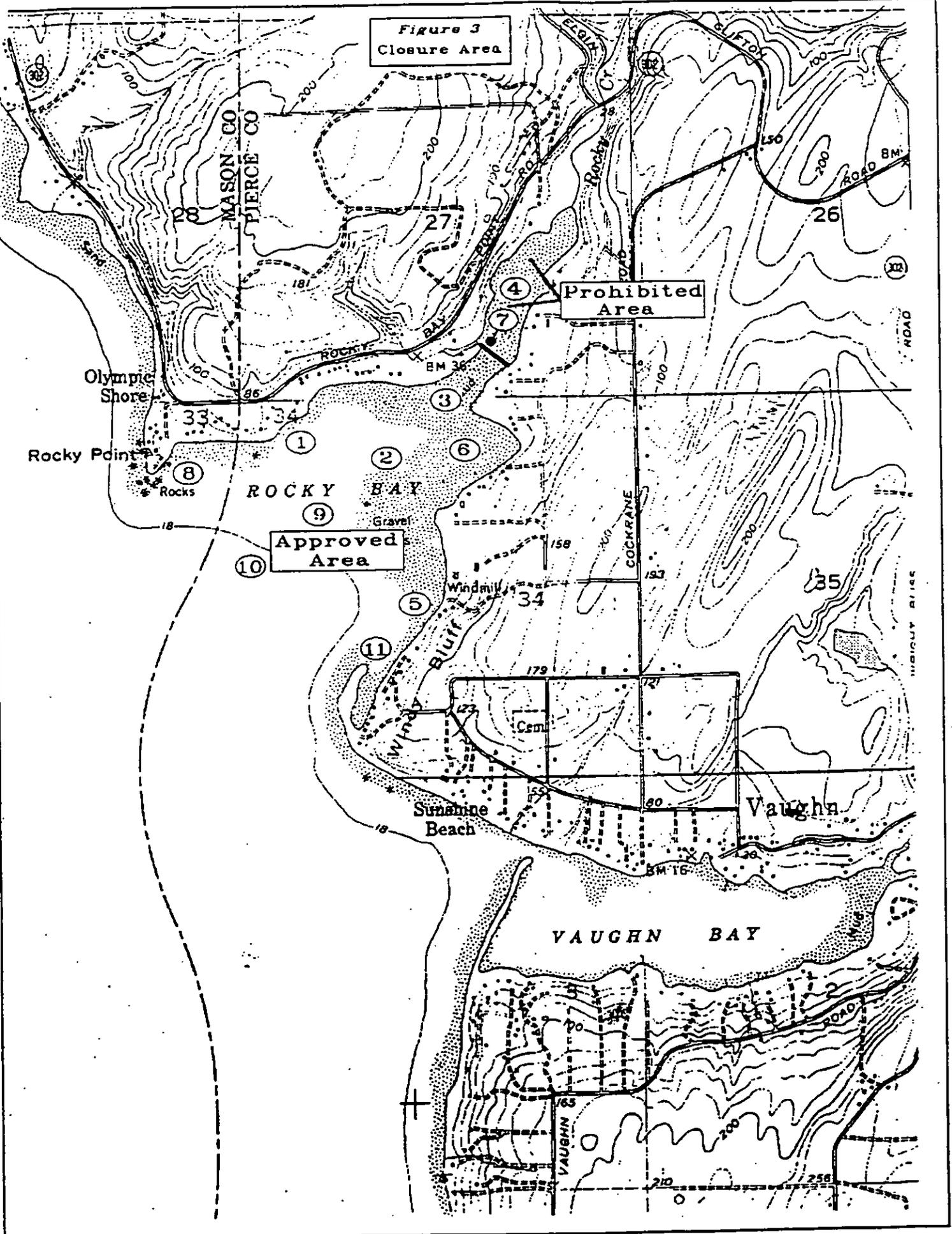
THE INITIAL CLOSURE RESPONSE STRATEGY TASK MATRIX IS SHOWN IN APPENDIX E.

REFERENCES

1. WA Dept. of Health, Sanitary Survey of Rocky Bay, August 11, 1995.

APPENDIX A

Figure 3
Closure Area



Olympic Shore

Rocky Point

ROCKY BAY

Approved Area

Prohibited Area

Sunshine Beach

Vaughn

VAUGHN BAY

MASON CO
PIERCE CO

COCKRAVE

VAUGHN

APPENDIX B

SANITARY SURVEY
OF
ROCKY BAY

August 11, 1995

Prepared By:
Donald J. Melvin, Environmental Specialist
Washington State Department of Health
Office of Shellfish Programs

<u>Section</u>	<u>Page</u>
IExecutive Summary	1
IIDescription of Growing area	1
III ...Pollution Source Survey	2
IVHydrographic and Meteorological Characteristics	2
VWater Quality Studies	4
VIInterpretation of Data in Determining Area Classification	7
VII ...Conclusions	7
 <u>Figures</u>	
1Area Map	9
2Water Sampling Locations	10
3Shellfish Area Sanitary Line	11
 <u>Tables</u>	
11992 to 1995 Marine Water Sample Data Summary	12
2Rocky Creek Sample Results	13
3Rocky Bay Area Rainfall Records	14
41992 To 1995 Weather Related Marine Sample Data Summary	15
Appendix A.....1994 Rocky Bay Shoreline Survey Report	16

SANITARY SURVEY
OF
ROCKY BAY

I. EXECUTIVE SUMMARY

Rocky Bay is currently classified as an approved commercial shellfish growing area. Marine water samples are collected from Rocky Bay by Department of Health, Shellfish Office (DOH) personnel in accordance with National Shellfish Sanitation Program (NSSP) requirements for monitoring approved commercial shellfish areas. An analysis of the 30 most recent water samples collected from Rocky Bay indicates that sampling station #4 (Figure 2, page 10), located in the northern end of Rocky Bay, does not meet the NSSP water quality standards for an approved commercial shellfish area.

A downgrade in classification from approved to prohibited is recommended for the portion of Rocky Bay shown in Figure 3, page 11. This downgrade is based on the results of water samples collected from this area by the Department of Health Shellfish Office.

II. DESCRIPTION OF THE GROWING AREA

A. LOCATION MAP

See Figure 1, page 9

B. DESCRIPTION OF AREA

Rocky Bay is a small embayment located on the eastern shore of Case Inlet. The bay is approximately one and a quarter miles long, one mile wide at its mouth and is oriented along a north east by south west axis. The northern end of Rocky Bay consists of a narrow inlet approximately one quarter mile across at its widest point and approximately nine tenths of a mile long.

The commercial shellfish area consists of approximately 100 acres with beds located in the outer portion of the bay and in the northern inlet. Pacific oysters and hardshell clams are harvested commercially in Rocky Bay. There are no public beaches located in Rocky Bay.

Development around Rocky Bay is rural residential. All homes in the area utilize on-site sewage systems for treatment and disposal of sewage. There are no point-source discharges in Rocky Bay. The only significant source of surface water and stormwater is Rocky Creek which enters the Bay at its extreme northern end.

The Rocky Bay watershed encompasses portions of Pierce, Kitsap and Mason Counties with the majority of the watershed lying within Kitsap County. The watershed is not heavily developed. There are 332 residences in the Pierce County portion of the watershed. There are approximately 500 residences in the entire watershed. Due to the steep stream course topography there is no development on or near the stream shoreline within approximately one mile of the stream mouth in Rocky Bay.

C. HISTORY OF GROWING AREA CLASSIFICATION

1. DATE OF LAST SURVEY

The most recent shoreline survey of the Rocky Bay area was completed by Tacoma-Pierce County Health Department personnel in 1994.

2. PREVIOUS CLASSIFICATION

The Rocky Bay commercial shellfish area has been classified as approved since the bay was certified for commercial shellfish production in 1967.

III. POLLUTION SOURCE SURVEY

A shoreline survey of the Rocky Bay area was completed by Tacoma-Pierce County Health Department personnel in 1994. This survey examined a total of 72 of the 80 residential on-site sewage treatment systems located along the Rocky Bay shoreline. The survey results are presented as Appendix A, page 16.

IV. HYDROGRAPHIC AND METEOROLOGICAL CHARACTERISTICS

A. TIDES

1. TYPE

Rocky Bay is subject to mixed tides which are characterized by a large inequality in the high water heights, low water heights, or both. There are usually two high and two low tides each day but occasionally the tidal pattern will result in only one high and one low tide in a single day.

2. AMPLITUDE

Tide levels in the area of Rocky Bay can range from slightly more than sixteen feet above zero feet to slightly more than three feet below the zero foot mark.

B. RAINFALL

1. AMOUNT

Annual rainfall for the Case Inlet area is approximately 52.25 inches.

2. WHEN

Average monthly rainfall (in inches) for this area is as follows:

January..... 8.6	July..... 0.9
February.... 6.3	August..... 1.3
March..... 5.2	September..... 2.4
April..... 3.3	October..... 4.7
May..... 1.9	November..... 7.5
June..... 1.4	December..... 8.7

3. FREQUENCY OF SIGNIFICANT RAINFALLS

November through February are the periods of heaviest rainfall for the Case Inlet/Rocky Bay area. However, significant rain events can occur at any time of the year.

C. WINDS - SEASONALITY AND EFFECTS ON POLLUTION DISPERSION

Prevailing winds in the Rocky Bay area are from the south. The northern portion of Rocky Bay where water quality has declined is sheltered and wind does not appear to play a major role in the dispersion of pollutants.

D. RIVER DISCHARGES

Rocky Creek enters Rocky Bay at the extreme north eastern end of the bay. Rocky Creek is a small year round stream with a drainage area of approximately 18 square miles.

Stream flow measurements were not taken in the process of compiling the information presented in this report. However, Rocky Creek is listed in Chapter 173-18 WAC, Shoreline Management Act--Streams and Rivers

Constituting Shorelines of the State. According to this listing, the lower half mile (approximately) of Rocky Creek has a mean annual flow in the range of 20 cubic feet/second.

V. WATER QUALITY STUDIES

A. MAP OF SAMPLING STATIONS

See Figure 2, page 10.

B. SAMPLING PLAN AND JUSTIFICATION

DOH collects marine water samples from Rocky Bay in accordance with NSSP requirements for monitoring an approved commercial shellfish area. The collection of water samples and analysis of sample results follows the systematic random sampling protocols described in Part I, Section C.10 of the 1993 NSSP Manual of Operations.

Water samples were also collected from a sampling station near the mouth of Rocky Creek. This station is indicated as "RB3" on Figure 2, page 10. Samples were collected monthly from station #RB3 beginning in December 1991 and ending in September 1992. Samples were collected from Rocky Creek in an effort to evaluate the creek watershed as a potential source of bacterial pollution. 7

C. SAMPLE HANDLING

DOH uses the following procedures when collecting water samples from commercial shellfish growing areas:

Samples are collected from approximately six inches below the surface using 100ml, sterile plastic bottles. Samples are immediately placed in an iced, insulated cooler, and transported to the Washington State Public Health Laboratory in Seattle for processing within 30 hours.

Water samples are processed using the APHA A-1 Modified (5 tube/3 dilution) Method.

Surface water temperature and salinity, tidal phase, and sampling time are recorded at each sampling site.

D. SAMPLE ANALYSIS AND PRESENTATION

1. SAMPLE RESULTS

Table 1: Table 1, page 12, summarizes all water samples collected from Rocky Bay between March 4, 1992 and May 3, 1995. This sampling period represents the 30 most recent water samples collected from Rocky Bay sampling stations 1 through 6. Stations 7 through 11 presently have a total of fewer than 30 samples.

Table 2: Table 2, page 13 provides the bacteriological results from samples collected from Rocky Creek station #RB3. Table 2 also shows the bacteriological results and salinities for samples collected on the same dates from Rocky Bay sampling station #4.

2. WEATHER CONDITIONS

Table 3: Table 3, page 14 shows twenty-four hour rainfall totals for the Case Inlet/Rocky Bay area. The twenty-four hour rainfall total recorded at 0800 on each sampling date is shown in the DAY 0 column. The twenty-four hour totals for each of the preceding seven days are shown in the DAY 1 through DAY 7 columns.

3. WEATHER RELATED WATER QUALITY CONDITIONS

Table 4: Water samples were examined to determine if a predictable relationship exists between specific amounts of rainfall and declines in water quality. Table 4, page 15 summarizes the results of all water samples collected when twenty-four hour rainfall totals on the sampling date or any one of the three preceding days were 0.49 of an inch or less. Water samples were collected under these weather conditions on twenty-four occasions. The sampling dates and weather conditions represented in Table 4 are indicated in bold type in Table 3.

4. ADVERSE TIDAL CONDITIONS

Water sample results presently available for flood tide and ebb tide conditions do not permit an accurate assessment of adverse tidal conditions. There are a total of 341 ebb tide samples and 182 flood tide samples in the Rocky Bay database. The majority of the flood tide and ebb tide samples were collected on different dates and under different weather conditions.

Same day water samples for both flood and ebb tides were collected on

twelve of the fifty-eight sampling dates contained in the database. However, the variability in the stations that were sampled on each of these dates does not allow for an accurate assessment of adverse tidal conditions. The variability in the numbers of samples collected from each station on each tide phase on the dates when both tides were sampled is illustrated in the following chart:

EBB TIDE		FLOOD TIDE	
STATION NO.	NO. OF SAMPLES	STATION NO.	NO. OF SAMPLES
1	14	1	9
2	9	2	11
3	15	3	8
4	14	4	7
5	12	5	11
6	4	6	2
7	4	7	2
8	4	8	2
9	3	9	3
10	3	10	3
11	3	11	3

E. COMPLIANCE WITH NSSP CRITERIA

All sampling stations, with the exception of station #4, meet the NSSP criteria for an approved shellfish area under the conditions of this survey.

F. CLASSIFICATION BY STATION

All stations meet the geometric mean portion of the NSSP approved commercial shellfish area fecal coliform standard. Only station #4 exceeds the standard for variability with a calculated 90th percentile of 66 fecal coliform/100 ml.

Figure 2
Sampling
Stations

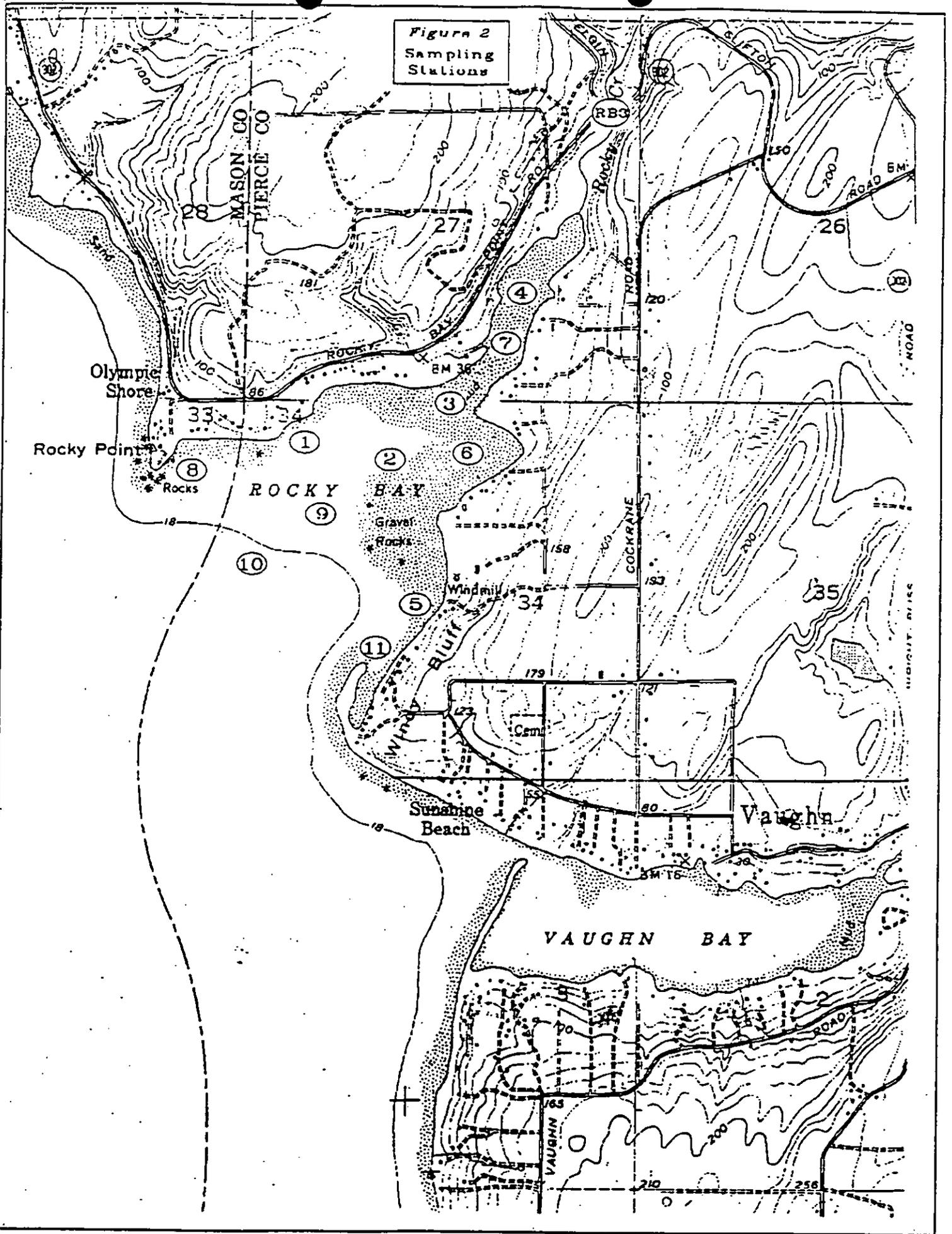


Figure 3
Closure Area

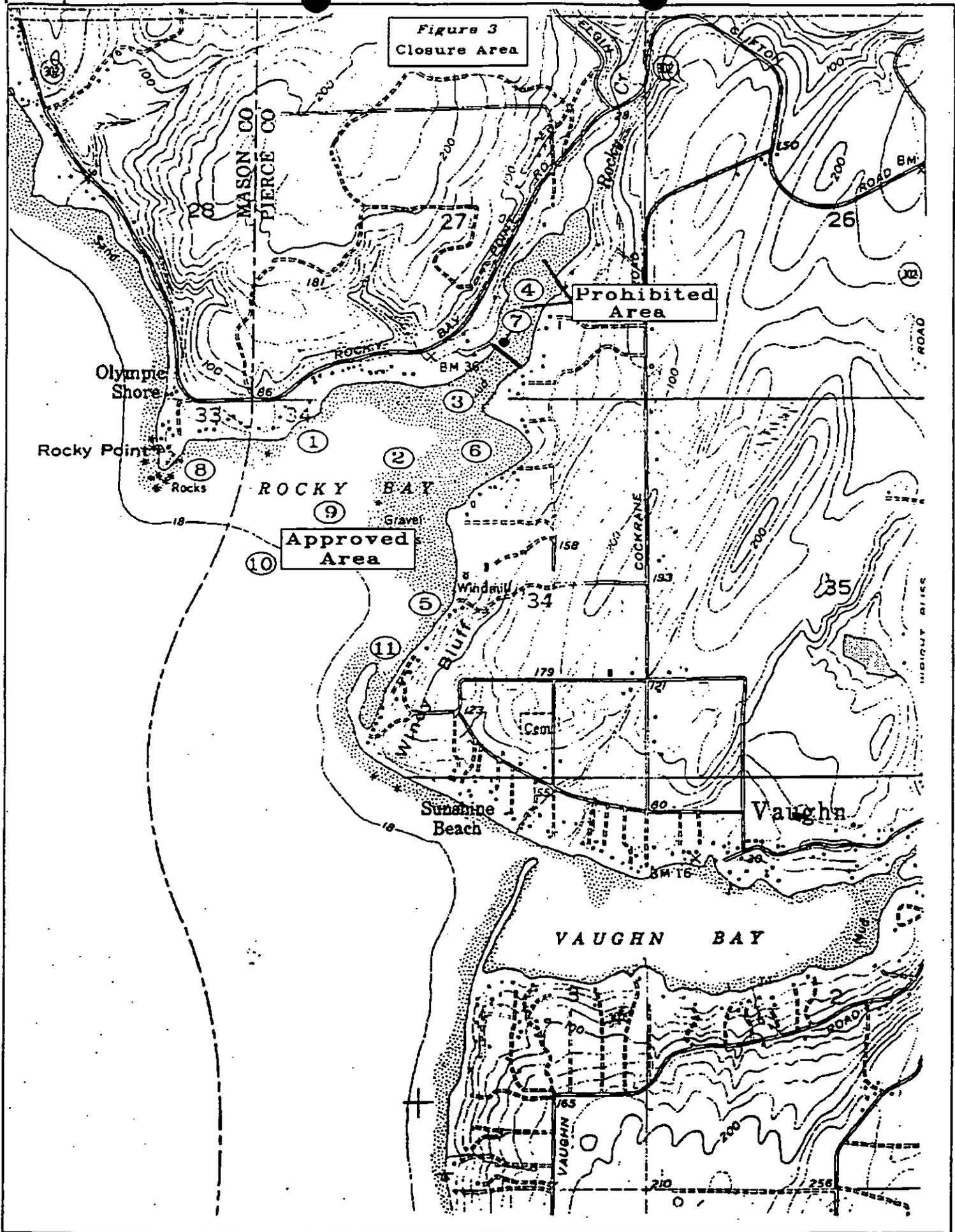


TABLE 1

MARINE WATER DATA (SRS)
 ROCKY BAY
 AMBIENT MONITORING
 From: (03/04/92) To: (05/03/95)
 FECAL COLIFORM ORGANISMS/100 ML

STATION	NUM OF SAMPLES	RANGE	GEOMETRIC MEAN	EST 90TH PERCENTILE	MEETS STD
1	32	1.7 - 79.0	3.9	17	YES
2	31	1.7 - 79.0	3.5	13	YES
3	32	1.7 - 130.0	5.7	28	YES
4	31	1.7 - 170.0	12.9	67	NO
5	30	1.7 - 21.0	2.5	6	YES
6	32	1.7 - 130.0	5.4	32	YES
7	18	1.7 - 170.0	5.9	26	*N/A
8	19	1.7 - 23.0	2.9	8	*N/A
9	18	1.7 - 49.0	3.8	12	*N/A
10	18	1.7 - 49.0	2.9	9	*N/A
11	19	1.7 - 22.0	3.2	10	*N/A

All tides information is presented

The standard for approved shellfish growing waters is fecal coliform geometric mean not greater than 14 organisms/100 ml and an estimate of the 90th percentile not greater than 43 organisms/100 ml. The above table shows bacteriological results in relation to program standards.

*N/A - SRS criteria require a minimum of 30 samples from each station.

TABLE 2

Comparison between Rocky Creek Sample Results
and
Rocky Bay Sample Results

	Rocky Creek Station #RB3 F.Coli/100ml	Rocky Bay Station #4 F.Coli/100ml	Rocky Bay Station #4 Salinity
Dec. 11, 1991	7.8	13	5
Dec. 12, 1991	7.8	79	0
Jan. 29, 1992	49	26	0
Feb. 10, 1992	4	13	10
Mar. 4, 1992	7.8	49	16
Apr. 9, 1992	1.7	4.5	26
Jun. 1, 1992	350	170	24
Jul. 6, 1992	23	110	11
Aug. 17, 1992	11	33	28
Sep. 14, 1992	17	23	27

TABLE 3

ROCKY BAY AREA RAINFALL INFORMATION

Twenty-four hour rainfall totals for each water sampling date and each of the preceding seven days. Weather records obtained from the National Oceanic and Atmospheric Administration weather recording station located in Grapeview (Case Inlet) and from the Washington Fish and Game salmon hatchery located on Coulter Creek (Case Inlet).

Day-0 column gives 24 hour rainfall total recorded at 0800 on the sampling date

SAMPLE DATE	DAY 0	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
3/04/92	0.140	0.300	0.000	0.070	0.000	0.000	0.000	0.000
4/09/92	0.160	0.000	0.180	0.140	0.450	0.580	0.030	0.000
4/29/92	1.200	0.110	0.100	0.000	0.000	0.020	0.000	0.260
6/01/92	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6/10/92	0.010	0.250	0.000	0.000	0.000	0.000	0.000	0.000
7/06/92	0.000	0.290	0.340	0.000	0.000	0.000	0.010	0.850
8/17/92	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9/14/92	0.000	0.000	0.000	0.000	0.000	0.000	0.170	0.000
10/13/92	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10/27/92	0.000	0.000	0.000	0.000	0.000	0.020	0.270	0.020
11/16/92	0.530	0.040	0.000	0.000	0.100	0.420	0.000	0.000
12/16/92	0.140	0.010	0.050	0.000	0.060	0.250	1.110	0.490
1/11/93	0.000	0.000	0.000	0.020	0.000	0.000	0.010	0.010
2/09/93	0.000	0.000	0.000	0.010	0.010	0.000	0.000	0.000
2/22/93	0.000	0.080	0.040	0.000	0.000	0.000	0.000	0.000
3/15/93	0.190	0.240	0.000	0.000	0.000	0.000	0.000	0.000
4/27/93	0.080	0.550	0.470	0.160	0.530	0.220	0.430	0.010
4/29/93	0.210	0.170	0.080	0.550	0.460	0.160	0.530	0.220
5/10/93	0.180	0.000	0.320	0.060	0.160	0.000	0.480	0.380
5/24/93	0.000	0.020	0.130	0.420	0.660	0.000	0.000	0.000
6/09/93	0.550	0.000	0.000	0.000	0.000	0.000	0.050	0.020
7/12/93	0.000	0.000	0.000	0.040	0.000	0.000	0.000	0.000
8/21/93	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.800
9/26/94	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6/16/94	0.320	0.180	0.200	0.420	0.000	0.000	0.000	0.000
9/01/94	0.000	0.000	0.000	0.000	0.070	0.000	0.000	0.000
11/03/94	0.040	0.000	0.080	2.100	0.280	0.000	0.020	1.750
12/08/94	0.100	0.030	0.240	0.000	0.000	0.000	0.480	1.230
12/29/94	0.000	0.380	3.500	1.750	0.000	0.000	0.000	0.000
1/11/95	0.200	0.800	0.700	0.540	0.180	0.000	0.000	0.000
3/08/95	0.480	0.000	0.000	0.240	0.150	0.000	0.000	0.000
5/03/95	0.300	0.000	0.000	0.150	0.000	0.060	0.000	0.000

TABLE 4

MARINE WATER DATA
 ROCKY BAY
 AMBIENT MONITORING
 From: (03/04/92) To: (05/03/95)
 FECAL COLIFORM ORGANISMS/100 ML

Rainfall Information is DAY_0 for 3 days prior between 0.000 and 0.49

STATION	NUM OF SAMPLES	RANGE	GEOMETRIC MEAN	% SAMPLES >43
1	24	1.7 - 33.0	2.9	0.0
2	24	1.7 - 23.0	2.9	0.0
3	24	1.7 - 49.0	4.7	8.3
4	23	1.7 - 170.0	10.8	21.7
5	22	1.7 - 13.0	2.2	0.0
6	24	1.7 - 130.0	4.1	4.1
7	13	1.7 - 17.0	4.6	0.0
8	14	1.7 - 23.0	2.7	0.0
9	13	1.7 - 17.0	3.1	0.0
10	13	1.7 - 4.5	2.1	0.0
11	13	1.7 - 11.0	2.4	0.0

All tides information is presented

The standard for approved shellfish growing waters is fecal coliform geometric mean not greater than 14 organisms/100 ml with not more than 10 percent greater than 43 organisms/100 ml. The above table shows bacteriological results in relation to program standards.

APPENDIX A

January 1994

**Tacoma-Pierce County Health Department
Shoreline Survey
of
Rocky Bay**

PRELIMINARY

Rocky Bay Sanitary Survey

Introduction

As on-site sewage systems in the Rocky Bay watershed are thought to be a significant external source of fecal coliform bacteria entering the bay, extensive effort went into developing and performing the sanitary survey. The purpose of the survey was to assess whether on-site sewage systems were functioning properly and to correct any failing systems. A secondary purpose of the survey was to assess the current usage of the waterfront properties with respect to other possible coliform-contributing sources.

Following development of the survey procedures in April of 1993, the project was introduced to area residents through the distribution of flyers, an announcement in the regional newspaper and a public meeting in May, 1993. The sanitary survey itself was initiated with the mailing of an informational letter and a return postage-paid "consent to survey" card which went out to all marine waterfront residences. This mailing reviewed the project and requested property owners to contact Tacoma-Pierce County Health Department (TPCHD) Water Resources to set up a survey appointment. Although a sanitary survey is ideally conducted under wet weather conditions when septic system failure is most likely to occur, a large number of seasonal residences required survey work to be done during the summer. The sanitary survey procedure itself will be discussed in the project final report.

Of the 130 properties fronting Rocky Bay at the time of the survey, 41 were undeveloped. On the remaining 89 parcels, a total of 101 trailers, mobile homes and/or houses were counted. Through interviews and inspections, 16 of these potential living quarters were found to be derelict or unused throughout the survey and one cabin received day visits only. Four other seasonal cabins were unplumbed. Of the remaining 80 structures, 72 were surveyed and dye-tested for a coverage rate of 90%. ~~Two homeowners refused to participate and six never responded to TPCHD requests for participation or kept delaying their commitment to participate.~~ Of the six non-respondents, two had Health Department permitted septic systems newly installed in 1994.

The 90% survey coverage is somewhat higher than coverage rates from past sanitary surveys conducted by the TPCHD. A sanitary survey conducted by this department around Minter Bay in 1989 had a coverage rate of 71.4% and a survey of the residences on Burley Lagoon in 1989-90 had a coverage rate of 72.9%. A new Burley Lagoon sanitary survey conducted in the spring of 1994 achieved an even higher coverage rate of 94%.

Survey Results

Out of the 72 Rocky Bay residences surveyed, two failing septic systems were identified for a failure rate of 2.8%. A third site was noted as "suspect" for future review. Of the two failing systems, one was an illegal gray water discharge, where drainage from a clothes washing machine was discharged onto the ground instead of into the septic system. The other was a drainfield which had sustained a small amount of physical damage from some recent tree removal activity. Project staff worked with the homeowners to have both situations corrected.

As mentioned above, two residents had new drainfields installed during the course of the survey. One was in conjunction with new home construction and the other was a repair/replacement drainfield desired by the homeowner to alleviate occasional sewage "back-ups". These installations were done legally with oversight of TPCHD staff and were subsequently not dye tested. Another property was developed with five seasonal family cabins and a communal restroom building shared by family members. Each cabin has a kitchen sink which drains into its own drywell. One cabin was damaged and was not in use. The other 4 were dye-tested but, as no surfacing dye was seen, no corrective action was required by TPCHD. The dye test of the communal restroom septic system revealed no problems.

Evaluations of the four unplumbed cabins noted above found that all were used seasonally or occasionally. One owner had a portable toilet brought in when using the property while the other three had pit privies. Of these, one had not been used for several years and was set back more than 100 feet from a high bank shoreline. The other two were located in areas of their respective properties which sloped away from the waterfront and were also set back greater than 100 feet. No standing water was seen in the pits during any site visits.

The 2.8% failure rate identified in the Rocky Bay sanitary survey is slightly higher than the two older TPCHD sanitary surveys referenced above (0.0% and 1.4% respectively) and much lower than the 1994 Burley Lagoon survey also mentioned above (12.4% failure rate). The Rocky Bay failure rate noted is at the low end of the estimated failure rate for the overall Puget Sound region (3% to 5% as per PSWQA;1991).

Another aspect of the sanitary survey involved asking residents a number of questions about the age and usage of their homes and septic systems. Questions asked included: the length of property ownership; the property size; whether the home was used full-time or part-time; the number of people in the household; the number of bedrooms; whether any farm animals were kept on site; the size of the existing septic tank and drainfield; the length of time since the septic tank was last pumped; the existence of adequate reserve area; the location of the system components and the setbacks from the bay, as well as whether any problems had been experienced with

the sewage disposal system. Additional information was gained from the Pierce County Assessor's records.

Based on the county assessor's records, the majority of residences on Rocky Bay are rather old. Only 7.4% of the homes have been built since 1990 (6 of 81 found in county records), 16% were built between 1980 and 1990 (13 of 81), 21% were built between 1970 and 1980 (17 of 81), ~~30% were built between 1950 and 1970 (24 of 81) and 27% were built prior to 1950 (22 of 81).~~ Several of the older homes had updated or replaced their septic systems in recent years but many of the oldest homes were most likely on their original systems and were typically used seasonally for short visits only.

The survey indicates that only 35% of Rocky Bay waterfront properties are used full-time (46 of 130 total parcels). There is a substantial population of part-time residents with 29% of the properties used seasonally or on occasional weekends (38 of 130). ~~An additional 15% of the waterfront parcels are developed but are unused or are developed as something other than residences (18 of 130) this includes a parcel used as a small aircraft runway and one developed with conveyor machinery for commercial shellfish removal.~~ The remaining 27% of parcels (35 of 130) remained undeveloped at the time of the survey.

Survey results indicate that many Rocky Bay residents do not regularly service their on-site sewage systems. Just over 40% have had their septic tanks pumped within the past four years (28 of 69 responses), 14% had their tanks pumped five to ten years ago (10 of 69), and 13% had not had their tanks pumped for more than ten years (9 of 69). Seventeen percent of respondents did not know when their tanks had last been pumped (12 of 69). Five residents had systems less than five years old and had not yet had them serviced.

The majority (83%) of survey respondents stated that they had not had any problems with their septic systems (50 of 60 responses). Fifteen percent of respondents said they have had problems with their systems (9 of 60) and 2% did not know if they have had problems (1 of 60). Of the 9 residents that have experienced problems, plugged lines or tree roots in the sewer line accounted for most of them (6 of 9), followed by pump failures (2 of 9) and physical damage (1 of 9).

Based upon on-site visual examinations, homeowner statements and available "as-built" records, approximately 40% of the residences on Rocky Bay have their drainfields at least 100 feet from the shoreline (29 of 72). Forty-three percent of the drainfields were setback between 50 ft and 100 ft (31 of 72) and 11% were less than 50 ft away from the ordinary high water mark (10 of 72). The setback was unknown at 3% of the sites (2 of 72).

Only two waterfront properties were noted with any farm animals on site. One was a fairly large parcel with two horses pastured on it. The pasture and barn area appeared to be in good condition and was well maintained. This site is reviewed in the Kitsap Conservation District's report, which will appear in the project final report. Several ducks and a number of rabbit pens were seen on another waterfront lot but the owners did not respond to any attempts at contact and the site was only evaluated from the road. However, the developed portion of this lot, including the home and the animals, is located on relatively high ground several hundred feet from the bay.

A third property worth noting does not front on Rocky Bay but is crossed by a seasonal stream which runs into the bay less than one hundred yards away. Several horses are kept on this site with apparent access to a minor branch of the stream. This site, along with other upland farm properties, is also reviewed in the conservation district's report.

Over the course of the survey, approximately 20 pet dogs were also noted living along the shoreline. Most had free access to the beach and tidelands and, given the bacterial concentration of their wastes, may be a significant factor in fecal coliform numbers found in the bay.

APPENDIX C

MEMORANDUM OF AGREEMENT

between

DEPARTMENT OF HEALTH, OFFICE OF SHELLFISH PROGRAMS

and

DEPARTMENT OF ECOLOGY, SHELLFISH PROTECTION UNIT

This Memorandum of Agreement is between the Washington Department of Health, (hereinafter referred to as "Health"), and the Washington Department of Ecology, (hereinafter referred to as "Ecology"). The intent of this agreement is to outline the working relationship and responsibilities to be assumed by Health and Ecology in their response to shellfish growing area classification downgrades in accordance with Element SF-8 of the 1991 Puget Sound Water Quality Authority Management Plan.

PURPOSE

The purpose of this agreement is to delineate a course of action, in addition to that which is defined in the general Ecology/Health MOU, to be followed by Health and Ecology in the event of a commercial or recreational shellfish growing area classification downgrade.

This agreement outlines the general roles and responsibilities of Ecology and Health and the schedule the two agencies will follow in developing a response to shellfish area classification downgrades.

CLOSURE RESPONSE STRATEGY DESCRIPTION

The development of a response strategy will be initiated when a classification downgrade occurs in a commercial shellfish growing area previously classified as APPROVED, CONDITIONALLY APPROVED or RESTRICTED or when a downgrade occurs in a priority recreational shellfish area as specified under the Recreational Shellfish Plan.

A response strategy is a cooperative agreement among all relevant jurisdictional agencies affected by the shellfish growing area downgrade. The response strategy is a working document describing tasks to be accomplished by each state agency, local and tribal government affected by the shellfish area reclassification. It is expected that all affected agencies will participate in the development of the strategy and agree to implement the components for which they are responsible.

In most cases an initial response strategy will be quickly developed to outline the activities needed to identify pollution sources and corrective measures. A final response strategy will be prepared which outlines a more complete program for identification and correction of pollution sources.

Typical components of a Response Strategy will include the following:

1. Summary of closure data and conditions.

2. Goals for restoration and maintenance of the area.
3. Identification of lead agency/entity.
4. Mechanism for ongoing notification and inclusion of all affected agencies in the strategy development and implementation process.
5. Identification and assessment of Pollution sources.
6. Review of regulations, ordinances, and policies to determine needs for long-term maintenance of water quality.
7. Approaches to be used for correction of pollution sources, including target completion dates and identification of agencies responsible for each correction step.
8. Identification of short and long term funding mechanisms including state assistance.
9. A schedule for each task identified as necessary to achieve an upgrade in the classification of the shellfish growing area.
10. Identification of state technical assistance available to affected agencies.
11. Provision for public information and involvement.

As a working document, it is understood that specific tasks may be changed or methodologies amended as new information is acquired and as the strategy evolves; however, the content of the strategy will generally follow the above structure.

RESPONSIBILITIES

The following description of the responsibilities of Health and Ecology are premised on the fact that Health has responsibility for growing area classification and shellfish sanitation; whereas Ecology has primary responsibility for enforcing state water quality standards and the distributing funds for pollution source identification and remediation.

Ecology's Shellfish Protection Unit has the initial responsibility of notifying other pertinent Ecology programs prior to issuance of the reclassification order and will then act as coordinator within the Department of Ecology.

A. Health Shall:

- Notify state agencies, local government, affected growers, tribes, and any other relevant government or private entities of the reclassification prior to issuing the reclassification order.
- Issue the order declaring a change in growing area classification and document the need for reclassification. Copies of the reclassification order shall be sent to affected state agencies, local government(s), affected growers, tribes, and any other affected parties.

- Notify the affected county government(s) of the requirement to establish a shellfish protection district within 180 days following the reclassification.
- Convene the initial Response Strategy core group within thirty days after issuing the reclassification order.
- Provide technical assistance and consultation to affected agencies as needed in such areas as on-site sewage, shellfish sanitation and shoreline investigations.
- Evaluate improvements in water quality and shoreline conditions and update affected agencies on the results of water quality monitoring.

B. Ecology Shall:

- Assist local governments in developing shellfish protection districts and in form long-range organizational structures to address shellfish area protection and restoration.
- Assist local government, tribal government and other affected agencies in identifying potential funding mechanisms to implement the Response Strategy.
- Provide technical assistance and consultation to affected agencies as needed regarding:

Animal-keeping and pasture/manure management best management practices;

On-site sewage treatment systems with flows rates greater than 14,500 gallons per day;

Boating and marina related issues;

Surface water investigations, stormwater best management practices and other relevant issues.

- Be the lead agency in water quality enforcement issues, as per RCW 90.48.

C. Unless another agency is identified as lead, Ecology Shall:

- Convene the Response Strategy Core Group to begin development of a Final Response Strategy upon completion of preliminary characterization activities defined within the Initial Response Strategy.
- Convene the Response Strategy Core Group at six month intervals to review progress of the Response Strategy following development of the Final Response Strategy.

D. Health and Ecology Shall:

- Develop the initial press release within thirty days after issuance of the reclassification order.
- Review staffing levels and reassign staff, as feasible, to conduct aspects of the Response Strategy.
- Encourage staff of affected agencies to participate, as feasible, in field implementation of the Response Strategy.

SCHEDULE

The Memorandum of Agreement shall be effective when signed by the two parties and may be terminated upon 30 days written notice by either party. The Agreement may be amended at any time by mutual consent of the involved parties.

12-23-92

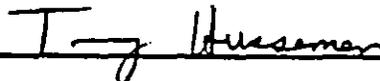
DATE



ERIC SLAGLE, Assistant Secretary
Washington State Department of Health
Environmental Health Programs

1/5/93

DATE



TERRY HUSSEMAN, Assistant Director
Water Quality and Shorelands
Washington State Department of Ecology

APPENDIX D

APPENDIX D

Rocky Bay Closure Response Committee

Loree' Randall
Bob Duffy
Marilou M. Pivrotto
Southwest Regional Office
Ecology

Don Lennartson
Shellfish Program
Health

Kathy Minsch
Kevin Anderson
PSWQA

Betty Ringlee
Pierce County Council

Nedda Turner
Jim Hoyle
Jeff Jorgenson
Tacoma/Pierce County Health Dept.

Ken Canfield
Roy Huberd
Pierce County Surface Water Mgt.

Tom Schroedel
Pierce Conservation District

Harold Wiksten
Aaron Wiksten
Minterbrook Oyster Co.

Rick McNicholas
Kitsap County DCD

Steve Morse
Kitsap Conservation District

Wayne Clifford
Mason Co. Health Dept.

Mike Madsen
Mason Conservation District

APPENDIX E

APPENDIX E

ROCKY BAY INITIAL CLOSURE RESPONSE STRATEGY

TASK MATRIX

STRATEGY ACTIONS	AFFECTED AGENCIES								
	WDOE/ SWRO	WA DOH	Pierce County Council	Pierce SWM	TPCHD	Pierce CD	Mason CD	Kitsap CD	CRC
Administrative Actions									
A(1) Convene Closure Meeting DONE		X							
A(2) Designate Lead Agency DONE			X						
A(3) Form Closure Response Committee & Draft Strategy DONE	X								X
A(4) Seek Initial Funding Sources DONE			X						
A(5) Develop Local Funding Source			X	X					
A(6) Present Closure Strategy To Pierce County Council DONE				X	X				
A(7) Initial Public Information DONE					X				
Technical Actions									
T(1) Klebsiella sp Evaluation		X							
T(2) Intensive Wet Weather Monitoring Program	X	X			X				
T(2a) Limited Monitoring ON-GOING		X							
T(3) Dye Tracing Sanitary Survey with charcoal packets					X				
T(4) Windshield Farm Survey						X	X	X	
T(5) Farm Planning/Implementation						X	X	X	
T(5a) WQ Enforcement	X								
T(6) Marine Water Ambient Monitoring		X							

WDOE - WA Dept. of Ecology
 SWRO - Southwest Regional Office
 DOH - Dept. of Health
 TPCHD - Tacoma/Pierce Co. Health Dept.
 CD - Conservation District
 CRC - Closure Response Committee
 (G:\WP-CNTR\WQ\PERMANANT\ROCKYBAY.TBL)

AFFIDAVIT OF PUBLICATION

State of Washington, County of Pierce, ss:

Leslie Donovan or Shannon Hirska, being first duly sworn on oath depose and say that they are publishers or publishers' authorized representatives of THE SOUTH PIERCE COUNTY DISPATCH, a weekly newspaper.

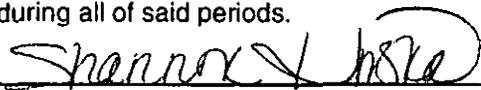
That said newspaper is a legal newspaper and it is now and has been for more than six months prior to the date of publication herein-after referred to, published in the English language continually as a weekly newspaper, in Eatonville, Pierce County, Washington, and is now and during all of said time was printed in an office maintained at the aforesaid place of publication of said newspaper. That the annexed is a true copy of this legal advertisement as it was published in regular issues (not in supplement form) of said newspaper

for 1 consecutive weeks. First publication was on the 28 day of February, 1996 and last publication was on the 28

day of February, 1996 and that such newspaper was regularly distributed to

its subscribers during all of said periods.

Signature



Subscribed and sworn to before me this 29 day of February, 1996.



Notary Public in and for the State of Washington, residing in Eatonville.

NOTICE OF ADOPTION OF PIERCE COUNTY ORDINANCE NO. 96-1

NOTICE IS HEREBY GIVEN THAT ORDINANCE NO. 96-1, AN ORDINANCE OF THE PIERCE COUNTY COUNCIL ADOPTING THE ROCKY BAY SHELLFISH PROTECTION PROGRAM FOR THE ROCKY BAY SHELLFISH PROTECTION DISTRICT, HAS BEEN ADOPTED.

If you have any questions about this Ordinance, please call Gerri Rainwater, Clerk of the Council, at 591-7777.

NOTICE IS FURTHER GIVEN that copies of this entire Ordinance are filed in the Pierce County Council's Office, 1046 County City Building, Tacoma, WA 98402, and are available Monday through Friday between the hours of 9:00 A.M. and 4:00 P.M. A copy will be mailed upon request. Ordinance No. 96-1 was passed by the Pierce County Council on February 13, 1996, signed by the Executive on February 15, 1996, and has an effective date of February 25, 1996.

To be published in The Dispatch on 2-28-96.

\$ 6⁶⁰



Pierce County

Office of the County Council

930 Tacoma Avenue South, Room 1046
Tacoma, Washington 98402-2176
(206) 591-7777
FAX (206) 591-7509
1-800-992-2456

February 21, 1996

South Pierce County Dispatch
P.O. Box 248
Eatonville, WA 98328-0248

Enclosed for publication in your paper, issue(s) of February 28, 1996, is the Notice of Adoption for Ordinance No. 96-1.

Please submit bill for same, together with proof of publication in DUPLICATE and invoices in TRIPLICATE, to the Office of the Pierce County Council, 930 Tacoma Avenue, Room 1046, Tacoma, WA 98402.

Please submit your bill and affidavit IMMEDIATELY after the last date of publication.

Sincerely,

A handwritten signature in cursive script that reads "Sandy Bassett".

Sandy Bassett, Deputy Clerk
Pierce County Council

encl



NOTICE OF ADOPTION
OF PIERCE COUNTY ORDINANCE NO. 96-1

NOTICE IS HEREBY GIVEN THAT ORDINANCE NO. 96-1,

AN ORDINANCE OF THE PIERCE COUNTY COUNCIL ADOPTING THE ROCKY BAY SHELLFISH PROTECTION PROGRAM PLAN FOR THE ROCKY BAY SHELLFISH PROTECTION DISTRICT, HAS BEEN ADOPTED.

If you have any questions about this ordinance, please call Gerri Rainwater, Clerk of the Council, at 591-7777.

NOTICE IS FURTHER GIVEN that copies of this entire Ordinance are filed in the Pierce County Council's Office, 1046 County-City Building, Tacoma, WA 98402, and are available Monday through Friday between the hours of 9:00 A.M. and 4:00 P.M. A copy will be mailed upon request.

Ordinance No. 96-1 was passed by the Pierce County Council on February 13, 1996, signed by the Executive on February 15, 1996, and has an effective date of February 25, 1996.

Publish: February 28, 1996

AFFIDAVIT OF PUBLICATION

State of Washington, County of Pierce, ss:

James Martin-Almy or Jamie Martin-Almy, or Shannon Hirska, being first duly sworn on oath depose and say that they are publishers or publishers' authorized representatives of THE SOUTH PIERCE COUNTY DISPATCH, a weekly newspaper.

That said newspaper is a legal newspaper and it is now and has been for more than six months prior to the date of publication herein-after referred to, published in the English language continually as a weekly newspaper, in Eatonville, Pierce County, Washington, and it now and during all of said time was printed in an office maintained at the aforesaid place of publication of said newspaper. That the annexed is a true copy of this legal advertisement as it was published in regular issues (not in supplement form) of said newspaper

for 1 consecutive weeks. First publication was on the 24 day of January, 1996 and last publication was on the 24

day of January, 1996 and that such newspaper was regularly distributed to its subscribers during all of said periods.

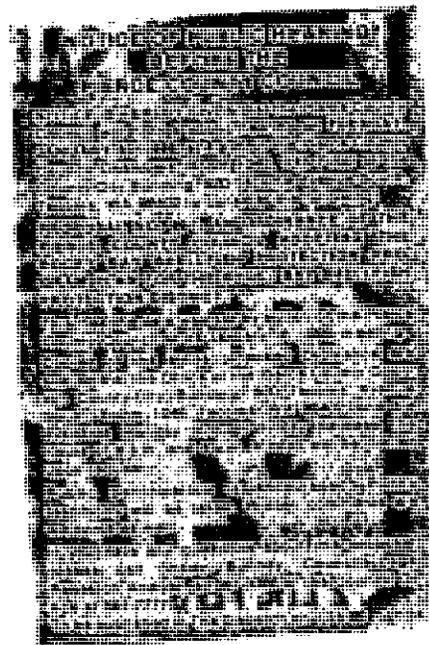
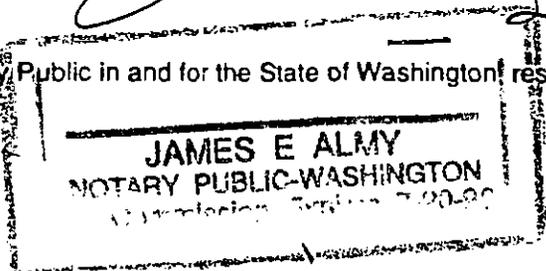
Shannon Hirska

Signature

Subscribed and sworn to before me this 24 day of January, 1996.

James Almy

Notary Public in and for the State of Washington, residing in Graham.



96-1
\$ 924



Pierce County

Office of the County Council

930 Tacoma Avenue South, Room 1046
Tacoma, Washington 98402-2176
(206) 591-7777
FAX (206) 591-7509
1-800-992-2456

January 17, 1996

South Pierce County Dispatch
P.O. Box 248
Eatonville, WA 98328-0248

Enclosed for publication in your paper, issue(s) of January 24, 1996, is the Notice of Public Hearing for Proposal No. 96-1.

Please submit bill for same, together with proof of publication in DUPLICATE and invoices in TRIPLICATE, to the Office of the Pierce County Council, 930 Tacoma Avenue, Room 1046, Tacoma, WA 98402.

Please submit your bill and affidavit IMMEDIATELY after the last date of publication.

Sincerely,

A handwritten signature in cursive script, appearing to read "Sandy Bassett".

Sandy Bassett, Deputy Clerk
Pierce County Council

Attachment



NOTICE OF PUBLIC HEARING
BEFORE THE PIERCE COUNTY COUNCIL

NOTICE IS HEREBY GIVEN that the Pierce County Council will hold a public hearing on **TUESDAY, JANUARY 30, 1996**, at 4 p.m. in the Pierce County Council Chambers, Room 1045, 10th Floor of the County-City Building, 930 Tacoma Avenue South, Tacoma, WA 98402 to consider the following:

**PROPOSAL NO. 96-1, AN ORDINANCE OF THE PIERCE COUNTY COUNCIL
ADOPTING THE ROCKY BAY SHELLFISH PROTECTION PROGRAM PLAN FOR
THE ROCKY BAY SHELLFISH PROTECTION DISTRICT.**

This hearing date was set by action of the Pierce County Council at its January 16, 1996, meeting.

Copies of the entire proposed Ordinance are available in the Office of the Pierce County Council, County-City Building, 930 Tacoma Avenue South, Room 1046, Tacoma, WA 98402, and are available Monday through Friday between the hours of 9 a.m. and 4 p.m. A copy will be mailed upon request.

Public participation is encouraged. Public testimony will be taken. Written comments are welcome as well.

If you have any questions about this proposal, please call Shawn Bunney, Council Legal Research Analyst, at 597-3388 or the Council Office at 591-7777.

Publish: January 24, 1996



Pierce County

Office of the County Council

930 Tacoma Avenue South, Room 1046
Tacoma, Washington 98402-2176
(206) 591-7777
FAX (206) 591-7509
1-800-992-2456

*Sent to
names on
attached
list after
note on
page 3. (43)
SB
2/5/96*

PIERCE COUNTY COUNCIL PUBLIC MEETING NOTICE

PROPOSAL NO. 96-1, AN ORDINANCE OF THE PIERCE COUNTY COUNCIL
ADOPTING THE ROCKY BAY SHELLFISH PROTECTION PROGRAM PLAN FOR
THE ROCKY BAY SHELLFISH PROTECTION DISTRICT.

MEETING DATE: Tuesday, February 13, 1996 (continued from 1/30/96)

TIME: 4 p.m.

PLACE: County Council Chambers, Room 1045
County-City Building
930 Tacoma Avenue South
Tacoma, Washington

CONTACT: Shawn Bunney, Council Research Analyst, at 597-3388
or the Council Office at 591-7777.

This proposal is scheduled for final consideration at this meeting. The Council encourages public participation. Public testimony will be taken. Written comments are welcome as well.

Dated: February 5, 1996



96-1 IPL

^E

JOHN TRENT

PW&U

ANNEX

^E

DON PERRY

PW&U

WATER RESOURCES

GRAVELLY LAKE DR

^E

KEN CANFIELD

PW&U

STORM DRAINAGE & SWM

BRISTONWOOD DR

^E

LLOYD FETTERLY

PA

HESS BUILDING

^E

ROY HUBERD

WATERSHED MANAGER

SURFACE WATER MANAGEMENT

BRISTONWOOD DR

^E

HAROLD WIKSTEN

MINTERBROOK OYSTER CO.

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AARON WIKSTEN

MINTERBROOK OYSTER CO.

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ROUTING

NEDDA TURNER
TPCHD

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ROUTING

JEFF JORGENSON
TPCHD

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JIM HOYLE
TPCHD

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KATHY MINSCH

PUGET SOUND WATER QUALITY ASSOC.
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OLYMPIA, WA 98504

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DON LENNARTSON

DOH - SHELLFISH
P.O. BOX 47824
OLYMPIA, WA 98504-7824

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ROUTING

BETTY RINGLEE
COUNCIL OFFICE
CCB #1046

^E

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PIERCE COUNTY CONSERVATION DISTRICT
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LOREE RANDELL

DEPARTMENT OF ECOLOGY - SW REG. OFFICE
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WAYNE CLIFFORD

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SHELTON, WA 98584

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MIKE MADSEN

MASON CONSERVATION DISTRICT

2335 ADAMS STREET

SHELTON, WA 98584

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TERRA HEGY

DEPT OF ECOLOGY - GRANT OFFICE

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OLYMPIA, WA 98504-7600

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MARILOU M. PIVIROTTA

DEPT OF ECOLOGY - WQ PROGRAM

P.O. BOX 47775

OLYMPIA, WA 98504-7775

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STEVE MORSE

817 SIDNEY AVE

PORT ORCHARD, WA 98366

^E

~~Additional names from~~

Jim Hoyle TPCHD

~~596-2859 sent 2/5/96~~

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Ray & Molly Johnson

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Gig Harbor, WA 98329

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Cindy Mullins

12007 186th Ave Ct KPN

Gig Harbor, WA 98329

^E

R. G. Prichard

10116 Bayview Rd

Vaughn, WA 98394

^E

Dave Childers

13613 186th Ave KPN

Gig Harbor, WA 98329

^E

Dr. Scott Cochrane



11906 186th Ave KPN
Gig Harbor, WA 98329

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Jim & Bev Gibson
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Tacoma, WA 98406

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Fredi von Sosten
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Gig Harbor, WA 98329

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Donald Lowery
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Gig Harbor, WA 98329

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Marie Baker
18808 108th St KPN
Gig Harbor, WA 98329

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Paul Ferg
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Auburn, WA 98002

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David Barton
PO Box 727
Wauna, WA 98395

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Steve Hasslinger
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Seattle, WA 98146

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Shirley Johnson
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Tacoma, WA 98498

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David Rovang
569 Division, Suite A
Port Orchard, WA 98366

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Barbara Chmela
11218 186TH AVE KPN
GIG HARBOR, WA 98335

^E

Leonard Lukin
PO Box 430
Wauna, WA 98395

^E

Les Nordlund
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Pat Cummins
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Kent, WA 98042

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Norm Hemley
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Belfair, WA 98528

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Denise Dombeck
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Fircrest, WA 98466

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Pierce County

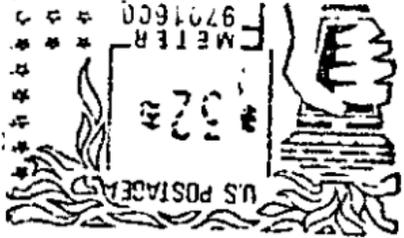
Office of Pierce County Council

County-City Building
930 Tacoma Avenue South, Room 1046
Tacoma, Washington 98402-2176

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SB

COUNCIL



Re: 96-1

Scott & Jan Crick
126 S 358th ST
Federal Way, WA 98003

NO SUCH
NUMBER
RETURN TO SENDER

^E

~~Scott & Jan Crick
126 S 358th ST
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ret'd.

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GIG HARBOR, WA 98329

Marie Baker
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GIG HARBOR, WA 98329

Barbara Chmela *maybe on a2. Robbie*
11218 186th Ave KPN
GIG HARBOR, WA 98329

Sue Lukins
15835 Euclid Ave NE
Bainbridge Island, WA 98110

To:
Sandy Bassett

From:
Jim Hoyce
TPCHD
596-2859



Pierce County

Office of the County Council

930 Tacoma Avenue South, Room 1046
Tacoma, Washington 98402-2176
(206) 591-7777
FAX (206) 591-7509
1-800-992-2456

*Sent to
attached
list
SB
-1/2/96*

PIERCE COUNTY COUNCIL PUBLIC MEETING NOTICE

PROPOSAL NO. 96-1, AN ORDINANCE OF THE PIERCE COUNTY COUNCIL
ADOPTING THE ROCKY BAY SHELLFISH PROTECTION PROGRAM PLAN FOR
THE ROCKY BAY SHELLFISH PROTECTION DISTRICT.

- MEETING DATE:** Tuesday, February 13, 1996 (continued from 1/30/96)
- TIME:** 4 p.m.
- PLACE:** County Council Chambers, Room 1045
County-City Building
930 Tacoma Avenue South
Tacoma, Washington
- CONTACT:** Shawn Bunney, Council Research Analyst, at 597-3388
or the Council Office at 591-7777.

This proposal is scheduled for final consideration at this meeting. The Council encourages public participation. Public testimony will be taken. Written comments are welcome as well.

Dated: February 2, 1996





Pierce County

Office of the County Council

930 Tacoma Avenue South, Room 1046
Tacoma, Washington 98402-2176
(206) 591-7777
FAX (206) 591-7509
1-800-992-2456

*Sent to
attached*

JP

**PIERCE COUNTY COUNCIL
PUBLIC MEETING
NOTICE**

PROPOSAL NO. 96-1, AN ORDINANCE OF THE PIERCE COUNTY COUNCIL
ADOPTING THE ROCKY BAY SHELLFISH PROTECTION PROGRAM PLAN FOR
THE ROCKY BAY SHELLFISH PROTECTION DISTRICT.

MEETING DATE: TUESDAY, JANUARY 30, 1996

TIME: 4 P.M.

PLACE: County Council Chambers, Room 1045
County-City Building
930 Tacoma Avenue South
Tacoma, Washington 98402

CONTACT: Shawn Bunney, Council Legal Research Analyst, at
597-3388 or the Council Office at 591-7777.

This proposal is scheduled for final consideration at this meeting. The Council encourages public participation. Public testimony will be taken. Written comments are welcome as well.

Dated: January 17, 1996



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~~95-134 IPL~~ 96-1

^E

JOHN TRENT

PW&U

ANNEX

^E

DON PERRY

PW&U

WATER RESOURCES

GRAVELLY LAKE DR

^E

KEN CANFIELD

PW&U

STORM DRAINAGE & SWM

BRISTONWOOD DR

^E

LLOYD FETTERLY

PA

HESS BUILDING

^E

ROY HUBERD

WATERSHED MANAGER

SURFACE WATER MANAGEMENT

BRISTONWOOD DR

^E

HAROLD WIKSTEN

MINTERBROOK OYSTER CO.

P.O. BOX 432

GIG HARBOR, WA 98335

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AARON WIKSTEN

MINTERBROOK OYSTER CO.

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DON ANDERSON

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BOBBIE CHMELA

11218 186TH AVE KPN

GIG HARBOR, WA 98335

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GEORGE MOERGELI

1020 29TH ST SE

AUBURN, WA 98002

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ROUTING

NEDDA TURNER
TPCHD

^E

ROUTING

JEFF JORGENSON
TPCHD

^E

ROUTING

JIM HOYLE
TPCHD

^E

JACK LILJA
PACIFIC COAST OYSTER GROWERS
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OLYMPIA, WA 98504

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KATHY MINSCH
PUGET SOUND WATER QUALITY ASSOC.
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OLYMPIA, WA 98504

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DON LENNARTSON
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P.O. BOX 47824
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ROUTING

BETTY RINGLEE
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PUYALLUP, WA 98373

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LOREE RANDELL
DEPARTMENT OF ECOLOGY - SW REG. OFFICE

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WAYNE CLIFFORD

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MIKE MADSEN

MASON CONSERVATION DISTRICT

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MARILOU M. PIVIROTTO

DEPT OF ECOLOGY - WQ PROGRAM

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STEVE MORSE

817 SIDNEY AVE

PORT ORCHARD, WA 98366

^E

ROCKY BAY CLOSURE RESPONSE MEETING

FRIDAY SEPTEMBER 1, 1995

PO Box 47824 Olv 98504-7824

1. DON LENNARTSON DOH-SHELLFISH 586-8127
2. STEVE MORSE MOAS 87 Sidney Ave Port Orchard WA 98366 (206)?
KITSAP CONSERVATION DISTRICT 576-7171
3. MARION M. RIVERO PO Box 47775 - WDOE / WQ PROBLEMS 407-6787
4. TERRA HEGY PO Box 47600 Olv 98504-7600 WDOE (Grant Officer) 407-6530
5. BOB DUFFY PO Box 47775 Olv 98504- ECOLOGY - SWRO 407-0239
6. ROY HUBERD PIERCE COUNTY WATER RESOURCES 576-2725 EXT 242
7. BETTY RINGLEE PIERCE COUNTY COUNCIL ASST. 596-6654
8. LOREI RANDALL Ecology - SWRO 407-6294
9. WAYNE CLIFFORD PO. 1666 Shetl. 98584 Mason County Health 427-9670
10. MIKE MOSEN 2335 Adams St Shetl. 98564 Mason Conservation District 427-9436
11. HARRY MINSCH Puget Sound Water Quality Authority 360 407-7310
12. JOFF JOYNSON TREAD 576-2872
13. NEDDA TURNER TPCSD 591-1462
14. JIM HOYLE " 576-2859
15. TOM SCHROEDER 10923 Nanyard Rd E Puy 98373 Pierce County Conservation District Fax 536-0944
16. KEN CONFIELD Pierce County SWM 576-2725 x224
17. JAM WILSON Minkbook Oyster Puy 591-7709 857-5251 857-5521

Alton - PO 432 Gig Harbor 98335

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To: Sonny	From: Roy Huberd
Co: Council	Co: Water programs
Dept:	Phone #
Fax #	Fax # 591-7509

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SEP-15 1995
TACOMA-PIERCE COUNTY HEALTH DEPT.
ENVIRONMENTAL HEALTH



TACOMA-PIERCE COUNTY HEALTH DEPARTMENT

Community Based, Competitive, Integrated, Preventive

Governed by a local Board of Health

Director of Health

FEDERICO CRUZ-URIBE, MD, MPH

January 26, 1996

Post-It® Fax Note	7671	Date	1-26-96	# of pages	8
To	Karen/Betsy/Shawn		From	Jeff J.	
Co./Dept.	Co. Council		Co.	TPCHD	
Phone #			Phone #	596-2872	
Fax #	591-7509		Fax #	591-7663	

Rocky Bay Citizen Advisory Committee Members and Interested Parties:

Enclosed for your review is a copy of the revised version of the Rocky Bay Shellfish Protection Program. This document has been modified based on comments received at the public meeting last Wednesday night. New wording is highlighted and text which will be omitted is shown in strike-through. This program outlines the workplan for addressing the newly-created Rocky Bay Shellfish Protection District. It will be presented to the Pierce County Council at it's next meeting. Public comment will also be taken at the meeting.

The meeting will be held TUESDAY, JANUARY 30th at 4:00 PM in the County Council Chambers at:

ROOM 1046, COUNTY-CITY BUILDING
930 TACOMA AVE. S.
TACOMA, WA 98402

A sincere "thank you" to the concerned citizens who provided valuable input at last week's public meeting.

If you have questions, or would like information about working on the Rocky Bay Action Team (RBAT), please call me at (206) 596-2872 or Jim Hoyle, Environmental Health Specialist II, at (206) 596-2859. Thank you for your continued interest in the water quality of Rocky Bay.

Sincerely,

Jeff Jorgenson, R.S.
Environmental Health Specialist I
Water Resources Section

Source Only

Draft Number 2.....January 18 25, 1996

ROCKY BAY WATER QUALITY PROTECTION PROGRAM

Both the Washington State Legislature and the people of Pierce County recognize Puget Sound for its natural environments conducive to shellfish growing. It has gained a reputation as an international leader in both the quantity and quality of shellfish production. For these reasons, the downgrading of a portion of Rocky Bay, by the State Department of Health (DOH) from "Approved" to "Prohibited" for commercial harvesting was a significant development that has earned immediate action by Pierce County government with required Pierce County to establish a Shellfish Protection District and adopt an effective program within 180 days pursuant to Chapter 90.72 RCW. Pierce County's response to the downgrade also included participation in the formulation of an Initial Closure Response Strategy, the creation of the Rocky Bay Shellfish Protection District (Ordinance No. 95-134S). The Rocky Bay Watershed drains approximately 12,000 acres of land located in Pierce, Kitsap and Mason Counties.

To address the immediate concerns in Rocky Bay, the Initial Closure Response Strategy included recommendations for additional fresh and marine water sampling by DOH and Pierce County Surface Water Management, development of farm conservation plans by Pierce and Kitsap Conservation Districts, and renewed efforts by the Tacoma-Pierce County Health Department to inspect the small number of waterfront septic systems that have yet to be evaluated.

The following Protection Plan is an extension to the Closure Response Strategy. It is designed to ensure a long term, coordinated effort directed at the investigation, identification monitoring and analysis of the sources of water pollution to the Bay. This Protection Plan will also outline implementation measures to turn the tide of water quality degradation in the bay.

CONTRIBUTING AGENCIES, DEPARTMENTS, LOCAL GOVERNMENTS WILL INCLUDE:

- Pierce County Water Programs
- Pierce County Conservation District
- Kitsap County Conservation District
- Tacoma-Pierce County Health Department
- Washington State Health Department
- Washington State Department of Ecology
- Puget Sound Water Quality Authority
- Kitsap County
- Mason County

Role of Pierce County Surface Water Management Utility (SWM)

Pierce County Water Programs, through the Surface Water Management (SWM) section has been designated the lead on the Rocky Bay Shellfish Protection Program . SWM will be responsible for the coordination of all contributing agencies and facilitating quarterly meetings.

SWM will also be responsible for surface water sample site identification, sample collection and laboratory analysis. All surface water point source discharges into the bay will be identified. The sampling sites will be representative of the primary land uses within the basin. Analysis for pH, dissolved oxygen (DO), temperature, and turbidity will be conducted by SWM staff. The analysis for fecal coliform will be performed by an outside contract laboratory.

Data collected by SWM and the other participating agencies will be entered into a central data base. In coordination with the other participating agencies, the data will be analyzed to determine what corrective actions may be necessary to reduce or eliminate water quality degradation in the watershed. The appropriate agency will then be contacted to begin efforts to gain correction of the contaminant source. Following implementation of corrective measures, SWM will resample to evaluate the success of the corrections.

A Rocky Bay Advisory Team (RBAT) will be created to serve as a forum for the exchange of information and to assist the planners and technicians with the development of a data collection program. The RBAT will ~~also~~ play an important part in ~~recommending creating the implementation~~ing measures to resolve pollution problems to the Pierce County Council and Tacoma-Pierce County Board of Health. ~~The RBAT will also be encouraged to take part in recommending modifications to this program.~~ Where possible, RBAT members will be ~~utilized to assist with~~ involved in short and long term monitoring ~~and implementation~~ activities. The RBAT will be made up of local residents, shellfish growers, the Pacific Coast Growers Association, other local business owners and representatives from the participating government agencies. Initially, the team will meet monthly to review the sampling program, then continue to meet as often as they deem necessary.

Since much non-point water pollution is a result of uninformed or poorly planned land use decisions, public education will be another significant element of the committee's overall duties.

Cost: \$10,000.00 (Annually)
Timeline: On-going

Role of Pierce County Conservation District

Background:

Rocky Creek drains an area of about 12,000 acres within Pierce, Kitsap and Mason Counties. Sixty nine farms were located during the late November 1993 field survey. This totaled 395 acres of the watershed as being small farms. All farms were inventoried and animals were counted. Each farm was classified with the potential to pollute using a five point scale. Of the 31 farms located in Pierce County, five were classified as having a high potential for pollution.

During October 1995, all 31 farms were revisited and reevaluated for the potential to pollute. At this time only one farm containing two dairy animals had a high potential to pollute Rocky Creek which runs through the farm. A fence needs to be erected along the creek to prevent access by the animals. The landowner needs to be contacted and a conservation farm plan developed. This Best Management Practice could reduce the potential to pollute Rocky Creek.

The area is being developed and one new farm about 2 acres in size, with one new house was identified. It was adjacent to Rocky Creek, however the animal did not have access to the creek. It is recommended that this landowner also be contacted for the development of a conservation farm plan.

Projected Work:

The landowner of the one farm which has a high potential to pollute should be contacted and a conservation plan should be developed. The fence BMP should be implemented preventing access to Rocky Creek.

The other landowner who has just moved into the area should be contacted and a conservation farm plan should be developed. This farm has a low potential to pollute.

Resources:

The Conservation District has a two-year grant with funds for a Small Farm Planner. This field resource technician will contact the landowners and develop the needed conservation plans in the Rocky Bay Watershed. Efforts will be made to provide technical and financial assistance as resources allow.

Cost: \$1,500.00
Timeline: Two years

Future Needs:

The area should be surveyed annually to identify new landowners with livestock as they move into the watershed. Each one should be contacted, and a farm conservation plan should be developed to help reduce the potential to pollute within the watershed. To the extent that resources permit, the district will remain available to formulate farm plans as the area continues to grow and develop.

Role of the Kitsap County Conservation District

In 1993 the Conservation District contacted and inventoried all the farms on the Kitsap County side of the watershed. This inventory identified those farms having low, medium or high potential for impact to water quality.

A total of 37 farms, mainly non-commercial, were counted. Only two farms were considered as high risk in reference to degradation of water quality in the immediate area. This information was then transferred to the Natural Resource Conservation Service (NRCS), for technical and financial assistance as resources allow ~~should the farm owners request it.~~

The Kitsap Conservation District will work with the owners of the two high risk farms to develop Farm Plans with suggested Best Management Practices (BMPs) to be implemented, ensuring against water quality degradation and helping with resource protection.

Providing services to land owners in this watershed will cost approximately \$2,000 annually and will be funded through the Kitsap County Surface and Storm Water Management Program.

Cost: \$2,000.00 (Annually)
Timeline: On-going

Role of the Tacoma-Pierce County Health Department

A survey of waterfront homes in the Rocky Bay Watershed was recently conducted by the Tacoma-Pierce County Health Department (TPCHD). The survey determined that many area homeowners do not regularly service their septic systems. It has long been accepted that a regular program of septic system maintenance, including inspection of the septic tank and its components with pumping as necessary, is essential to the long-term proper functioning of the system. Timely maintenance and early diagnosis of septic system problems not only protect public health by reducing exposure to sewage, but also prevent costly system repairs.

To improve septic system maintenance practices in the watershed and increase public awareness of the benefits of proper septic system care and maintenance, TPCHD will designate the Rocky Bay Watershed an "Area of Special Concern" as authorized by Chapter 246-272 WAC, *On-Site Sewage Systems Rules and Regulations*. In addition, TPCHD will request work with the RBAT and the Board of Health approval to require a renewable Operational Permit develop and implement a septic system Operation and Maintenance Program for all septic systems in the Rocky Bay Watershed. The resulting program may be used as a model for program implementation in all Areas of Special Concern required under the WAC. The Operational Permit and Maintenance Program will provide a means of assuring periodic inspection and maintenance as the WAC mandates for Areas of Special Concern. Where an Operational Permit is required, it is unlawful to operate a system without a valid Operational Permit, once the system owner is notified of such a requirement:

Under the Operational Permit and Maintenance Program, each septic system identified in the watershed must be periodically reviewed by qualified personnel approved by TPCHD. The initial review will include verification of system location, inspection of septic tank integrity, depth of sludge accumulation, condition of inlet and outlet baffles, and inspection of the disposal area for signs of surfacing effluent. If the system is determined to be failing, TPCHD staff will work with the property owner to obtain repair of the system or the failing system components. To maintain certification of the septic system, the homeowner must have the system inspected by approved personnel at intervals established by TPCHD. A nominal fee to offset the costs of administering the program, as established by the Board of Health, will may be collected at the time of permitting.

Cost of program implementation for the Rocky Bay Watershed will be approximately \$7,500 and will be funded by existing On-Site Sewage Program revenues. Implementation costs will include expenditures for policy development, creation of septic system operation standards, and establishment of a list of certified Operation and Maintenance Professionals. Program maintenance cost for the Rocky Bay Watershed will be approximately \$2,000 annually and will be funded chiefly by Operational Permit fees.

In addition to the development and implementation of the Operational Permit and Maintenance Program, TPCHD staff will investigate all public health-related concerns reported by other contributing agencies and individuals.

Cost: \$2,000.00 (Annually)
 Timeline: On-going

Role of the Washington State Health Department

The Washington Department of Health (DOH) has regulatory authority over shellfish harvest in Washington State, with regard to health concerns. The DOH is required to periodically survey and collect water samples in all active commercial shellfish harvest areas. A downgrade in the classification of a commercial shellfish area also triggers increased water sampling activities in an effort to determine the bacteria source(s) leading to the downgrade.

As a part of a multi-agency Closure Response Strategy, DOH will conduct marine water sampling in Rocky Bay on a monthly basis. Sampling activities will include concentration of fecal coliform bacteria, salinity, ambient water temperature, tidal phase, and general weather conditions. All of these activities will be coordinated with the other local and state agencies involved with this effort. In addition, rainfall measurements will be obtained from the nearest National Weather Service reporting station and Pierce County Water Programs Division. These data will be used in an effort to determine whether there are any specific or combined weather or tidal conditions affecting bacterial concentrations in Rocky Bay.

DOH will also conduct fresh and marine water sampling during storm events. During these events, major freshwater inputs to Rocky Bay will be sampled for fecal coliform bacteria with concurrent marine water sampling as described in the paragraph above. The purpose of storm event sampling is to determine whether heavy rainfall, leading to greatly increased surface runoff, is a significant contributor to bacterial concentrations in Rocky Bay. If, in the course of their activities in Rocky Bay, DOH personnel become aware of issues relating to public health or water quality, they will notify the appropriate agency for investigation.

The combined cost of these activities is estimated at \$6,000 annually and will be funded by the DOH Shellfish Program.

Cost: \$6,000.00 (Annually)
Timeline: On-going

Role of the Washington State Department of Ecology

The Department of Ecology (Ecology), will supply technical assistance as requested if personnel is available. In addition, Ecology will investigate water quality violations under its jurisdiction and take appropriate action.

Role of the Puget Sound Water Quality Authority

The Puget Sound Water Quality Authority will supply assistance as requested if personnel are available.

Role of Kitsap County

The County Commissioners have expressed their support and have directed their staff to coordinate with our efforts.

Role of Mason County

The County Commissioners have expressed their support.

Long-Term Regional Effort

The Water Program division of Public Works and Utilities has been awarded funding through the Washington Centennial Clean Water Fund to staff the development of a watershed action plan for the entire Key Peninsula (with the help of local citizens). This plan should serve as the ultimate source of long term solutions to water quality problems on the peninsula. The Rocky Bay drainage basin is a small part of this larger watershed and will be addressed during the planning process.



TACOMA-PIERCE COUNTY HEALTH DEPARTMENT

Community Based, Competitive, Integrated, Preventive

Governed by a local Board of Health

Director of Health

FEDERICO CRUZ-URIBE, MD, MPH

January 26, 1996

Post-It® Fax Note	7671	Date	1-26-96	# of pages	8
To	Karen/Betsy/Shawn	From	Jeff J.		
Co./Dept.	Co. Council	Co.	TPCHD		
Phone #		Phone #	596-2872		
Fax #	591-7509	Fax #	591-7663		

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TACOMA, WA 98402

A sincere "thank you" to the concerned citizens who provided valuable input at last week's public meeting.

If you have questions, or would like information about working on the Rocky Bay Action Team (RBAT), please call me at (206) 596-2872 or Jim Hoyle, Environmental Health Specialist II, at (206) 596-2859. Thank you for your continued interest in the water quality of Rocky Bay.

Sincerely,

Jeff Jorgenson, R.S.
Environmental Health Specialist I
Water Resources Section



Pierce County

Office of the County Council

930 Tacoma Avenue South, Room 1046
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February 8, 1996

TO: Councilmembers

FROM: Shawn Bunney, Council Staff 

SUBJECT: **PROPOSAL NO. 96-1 (SHELLFISH PROTECTION PROGRAM PLAN)**

I recommend the following technical amendment be made to the Ordinance to clarify that the Washington Department of Health downgraded Rocky Bay:

1. Ordinance page 1 of 2, line 8, after the words "State Department of Health of" insert "the downgrading of".

SB:dj





PROPOSED ORDINANCE OR RESOLUTION DATA SHEET

TO BE NUMBERED BY THE
CLERK OF THE COUNCIL

Proposal

NO. 96-1

Direct questions to Gerri Rainwater, Clerk of the Council, at 591-7777.

1. DATE PREPARED	2. EXECUTIVE'S SIGNATURE	3. PRIME SPONSOR, (COUNCILMEMBER SIGNATURE) Karen Biskey <i>Karen S Biskey</i>
4. DATE RECEIVED IN COUNCIL CLERK'S OFFICE <u>1-4-96</u>	5. REQUESTING DEPARTMENT <u>Council</u>	PHONE COUNCIL STAFF CONTACT <u>Shawn Bunney, 597-3388</u>
6. DEPARTMENT HEAD'S SIGNATURE		7. DRAFTED BY (NAME & DEPARTMENT) PHONE <u>Shawn Bunney 597-3388 and SWM (Roy Huberd) 596-2725 x225</u>
8. ORDINANCE <input checked="" type="checkbox"/> RESOLUTION <input type="checkbox"/>	9. EFFECTIVE DATE DESIRED <u>1/30/96</u>	

10. COMPLETE TITLE OF ORDINANCE OR RESOLUTION: AN ORDINANCE OF THE PIERCE COUNTY COUNCIL ADOPTING THE ROCKY BAY SHELLFISH PROTECTION PLAN FOR THE ROCKY BAY SHELLFISH PROTECTION DISTRICT.

11. LIST ANY SPECIAL ADVERTISING OR POSTING REQUIREMENTS INVOLVED IN PROCESSING THIS ORDINANCE/RESOLUTION: N/A []

12. CODE STATUS: 1) New Chapter/Section _____ 2) Amends _____ 3) Repeals _____

13. SUMMARY AND INTENT OF THIS LEGISLATION.
ADOPT SHELLFISH PROTECTION PLAN

14. SOURCE DOCUMENTS: LIST ALL MATERIALS INCLUDED AS BACKUP INFORMATION: N/A []

A _____ C _____
B _____ D _____

15. FISCAL IMPACT:

A. TOTAL COST OF LEGISLATION FOR CURRENT FISCAL YEAR: COUNTY \$ _____ FEDERAL \$ _____ STATE \$ _____

B. ESTIMATED COST OF LEGISLATION IN FUTURE YEARS: COUNTY \$ _____ FEDERAL \$ _____ STATE \$ _____

C. COSTS INVOLVED ARE FOR: _____

D. ESTIMATED INCREASE IN REVENUE AS RESULT OF LEGISLATION FOR CURRENT YEAR: _____

E. ESTIMATED INCREASE IN REVENUE AS RESULT OF LEGISLATION FOR FUTURE YEARS: _____

F. SOURCE(S) OF REVENUE: _____

THIS LEGISLATION HAS NO FISCAL IMPACT []

16. A COPY OF THIS ORDINANCE/RESOLUTION IN FINAL FORM SHOULD BE SENT TO THE FOLLOWING:

KEN CANFIELD, SWM _____
COUNTY EXECUTIVE

JOHN TRENT, PUBLIC WORKS & UTILITIES _____
ROY HUBERD, PUBLIC WORKS & UTILITIES _____