Pollution and Its Pro

Mean Troubled Wa

For Much of Puget S

Pristine Water . . . and

(First of a series)

BY STEPHEN GREEN

Burly Paul Farley peered into the murky depths of Elliott Bay as the hoist on his research boat screamed with the weight of the "muck bucket" coming up from the bottom.

With a sploosh, the bucket broke through the slimy water. Farley hefted it over the gunnel and into a metal pan on the deck.

With the help of Bob Harman, Farley's marine biology instructor at Shoreline Community College, the big man cracked open the bucket and let the bottom sediments ooze forth.

The stench was overwhelming — something like a moldy box of rotten eggs.

The muck was black from lack of oxygen. Aluminum scraps, plastic fragments and wood debris were infused in the rancid mess.

Harman, who's studied the bottom of Seattle's harbor for several government agencies, pawed through the putrid goo. He discarded a broken spark plug and came up with a handful of worms that seemed to be thriving in the foul mud.

The research boat bobbed in the gentle waves less than 50 feet from the Edgewater Inn on Pier 67. On the side of the Inn, a sign with four-foot letters proclaimed: "FISH FROM YOUR WINDOW."

"You know, people do fish from their windows," Farley reflected. "If they'd see the samples we get up here they'd never dare eat the fish."

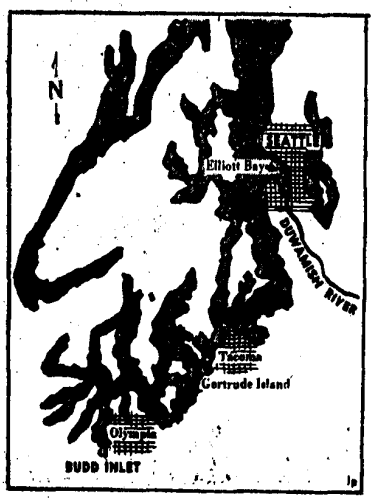
Bottom worms feed on the rancid mud and concentrate its pollutants in their bodies, Harman explained. Then fish eat the worms and pollutants are concentrated even more — often several hundred times.

Harman stuck a hand full of muck under the reporter's nose.

"Now, how do you feel about that sitting on your dinner plate?" he wanted to know.

Area residents may be surprised to learn that a similar mess can be dredged up in thousands of locations around Puget Sound. In a lot of those places, not even worms are able to live.

And despite the fact that clamming is very popular in King County, the Seattle-King County Health Department recommends against taking shell fish from any of the county's beaches.



MAP LOCATES MAJOR SOUND BAYS

Where pollution problems rear ugly head

Beyond that:

—Thurston County Health Department officials advise it's unsafe to take shell fish or even swim in the southern five miles of Budd Inlet where Olympia empties its sewage.

—The Duwamish River, Elliott Bay's main tributary, carries worrisome levels of a deadly toxicant called PCB. No other major waterway in the nation has higher levels. The source of most of it is unknown.

—A southward current from Tacoma's industrialized area may be the source of pollutants that some scientists believe are causing hideous birth defects among a harbor seal colony on Gertrude Island. The conclusion is only tentative. But there is no

MONS 032767

money to study the problem.

All that sounds unbelievable to residents used to hearing that Puget Sound is the cleanest major waterway left in the U.S. It sounds even stranger to those who've heard local sanitation officials brag that they've cleaned up Elliott Bay.

Scientists will tell you that, measured against traditional standards, Puget Sound's water quality generally is excellent. The problems are localized. Just those areas where large numbers of people live and work.

And until a few years ago, the Elliott Bay-Duwamish River waters received raw sewage measured in millions of gallons daily. Today, raw sewage discharge in the Elliott Bay-Duwamish is measured in hundred thousands of gallons. Most of that will be cut off before the year is over.

By anyone's yardstick, that's a lot of progress. And measured against traditional standards, the Sound looks fairly healthy.

It's the untraditional standards that worry researchers like Spyros Pavlou, a University of Washington oceanographer.

Pavlou sees what he likes to call "areas of stress" when talking about pollutants in the Duwamish or the health of harbor seals.

He's concerned that the "stress" indicates problems not adequately researched — unknowns with the potential for becoming very nasty problems in the future.

Pavlou's concern is shared by the area's most prominent sanitary engineer, Clifford Smith, regional chief of the Environmental Protection Agency.

"Just because we can't measure the problem with traditional parameters doesn't say there aren't subtle changes going on in the water," Smith cautions.

Kenneth Chew, UW fisheries professor, estimates that it may be 10 years before a proper data base exists to adequately assess what's happening in the Sound's environment. That despite the fact that some 250 studies on various aspects of the Sound were under way in 1974.

Howard Harris, another sanitary engineer for the National Oceanic and Atmospheric Administration, hopes a project he's heading up will provide the first comprehensive look at the sound.

The study, the Marine Ecosystem Analysis Project, is to take five years and $15 million. But it's been slow getting under way and there's no guarantee that the needed money will be forthcoming.

Harris explained that the history of pollution control activity goes roughly like this:

Initially, decisions on sewage treatment were made on the basis of odor and floating solids in the water. Since World War II, people have been more concerned with factors such as temperature, the amount of salt in water and whether sewage was eating up the water's oxygen, thus destroying the marine life.

In recent years, emphasis has started to shift to research on the implications of chemical and metal concentrations in water. These include the pesticides, industrial chemicals, mercury, zinc, cadmium and lead — to name a few.

There's evidence that some chemicals and metals, in proper abundance, cause cancer and sterility in marine mammals. They kill off important organisms that constitute the food supply for larger living things.

Effluent also can overenrich an area, attracting undesirable plants and animals.

It's this latter set of problems that Harman, Pavlou and others are concerned with. The importance of many of them is not obvious from exami-

Seattle
Post-Intelligencer
D. 206,733 SUN. 259,237

SEP 14 1975

MONS 032768



—P-I Photo by Bob Miller

A BUCKET OF MUCK FROM THE BOTTOM OF ELLIOTT BAY

Bob Harman, left, and Paul Farley sort through debris

nation of existing data, they maintain.

Harman, like most of his associates, is concerned that it's 1975 and still no agency or combination of agencies have done comprehensive, "baseline" studies on the entire sound.

"Hell, we know more about the surface of the moon than we know about the (Elliott Bay) sediments right next to a city of a half-million people," Harman points out.

Yet Harman, like most of his colleagues, doesn't point fingers. He's hesitant to say that any one source is despoiling part of the Sound or that any institution is lax in enforcing anti-pollution laws.

"Any dogmatic statement just isn't responsible," Harman insists. "We don't know if this sewage plant or that mill is hurting the environment. I tend to think that Metro's (sewage plant at West Point in Seattle) probably helping marine life with all the nutrients it puts into the water.

"The point is we just don't know. We don't have the data. But we've gotta get it. That's all there is to it."

NEXT: The bureaucracy of pollution.

MONS 032769