that have proved Hudson roe to be free of toxicants. He keeps an eye on Dovel's research, and he waits.

Meanwhile, what judgment does New York State pass on the health of its resource?

"The Hudson is definitely cleaner, but. . . ." The chief of monitoring at DEC, Ronald Maylath, spoke with some hesitation. "When pollution was at its worst in the sixties, the water level was low, at near-drought stage; now we've had plenty of rain, and the Hudson has a high, near-flood flow. Such variables make comparison difficult."

The river is cleaner in what the state measures: dissolved oxygen, bacteria, biological oxygen demand, and suspended solids. Until recently, no funds or staff existed to check regularly on toxic chemicals and heavy metals. Industry was not required to list by name all the trace chemicals it may leak directly into the river or indirectly through a city sewer system.

"It's what we don't test for that frightens me," Maylath shook his head. His nightmares became notorious reality last year, when a crisis came over something called PCB.

1975, correct?

ok?

PCB's?

Poisons of the Electrical Age

or 1929 more accurate? or chemists?

In the 1930's chemical engineers compounded PCB's—polychlorinated biphenyls—as fire-retardant fluids to insulate capacitors—those electrical storage containers found on power poles and even in fluorescent lights. In all industrial nations, PCB's, escaping from discarded capacitors and other products, have leached into waterways, where they do not break down. Now traces show up everywhere from Arctic ice to human milk.

* transformers?

* most common use?

fair to say all?

**

Nature's water purifier, a marsh converts wastes into elements of the food chain. But marshes, such as this one near Piermont (**below**), cannot cope with overloads of toxins such as PCB's. The enduring contaminants were dumped by plants at Hudson Falls and

agree to omit because no one has determined what the overload of a this delicate system is?

* please attempt to reword this definition more accurately for us, bearing in mind space + the original phrasing. (I know it will require some amplification).

please indicate where PCB's should be used in the singular; we shall assume the plural otherwise.

** most common form of PCB pollution is from discarded capacitors + (?) other products? or is direct discharge still a problem?

0205782

PCB-ARCH0746785
000000018.000001

30 x 30 x 365 = 164 tons

The largest PCB concentration anywhere —an estimated 150 tons—lies in Hudson River sediments, because General Electric, the principal user of PCB's, operates capacitor plants at Hudson Falls and Fort Edward. The plants had dumped thirty pounds of PCB's every day for 30 years. Since 1973, they had cut effluent to a few ounces a day.

Yet PCB's had proved toxic in 1968 in Japan. There, a leak of PCB's entered rice oil and poisoned a thousand consumers. Victims suffered skin lesions, swollen joints, birth defects, and later liver cancer. Japan banned PCB's in 1971, and GE developed a substitute fluid for capacitors sold there.

~~Late~~ In 1975, then commissioner of DEC Ogden Reid learned of high PCB readings in Hudson River fish—for instance, ~~335~~ 350 parts per million in the flesh of a rock bass. That was 70 times the presumed "safe" level of five parts per million for food. Astonished and angry, he banned ~~most~~ quasi-many commercial fishing on the Hudson, though exempting shad, crab, and sturgeon because of low traces in these marine species. He urged consumers to not eat ~~no more than one~~ river fish ~~a week.~~

As months passed, I listened to Hudson fishermen grow increasingly bitter about the ban. ~~It galled them to provide fish for DEC testing and never receive results.~~ After the spring shad run, they stood idle while great schools of striped bass ripped upriver to spawn. Fishing for stripers was banned on the river but not off Long Island, where fishermen reaped tons.

"Many of these are the same fish," Howard Jordan said bitterly. "Is there a gate at the Battery? It's all politics. Hundreds of sport

Fort Edward from 1942 to 1976.* Now New York ponders how to rid the Hudson of PCB's, which show up in river fish; last winter, technicians lowered a core sampler through ice holes to collect river-bottom sediments for testing (right).

correct word?

more accurate to call "tolerance"

a large portion of

accurate? in the world? correct estimate as far as you know? Who made the estimate?

accurate? GE principal user?

I will ask other sources, but feel free to comment here.

in 1972? true?

350? correct?

* This sentence seems to overdo GE's culpability in a discussion of the lower Hudson. It has been pointed out that other abuses of society south of these plants contributes to the lower Hudson pollution. Can you identify other potential sources (not companies ie.) - like landfill leaching, paper recycling refuse, ...?

0205783

— 77 —

PCB-ARCH0746786
000000018.000002

fishermen in the sound can pressure the state. We're just crumbs."

While the state attempted to keep PCB's off the dinner tables, some GE employees realized that they had handled the chemical for years. Recently, noted cancer researcher Dr. Irving Selikoff of New York City's Mount Sinai Medical Center completed medical exams of exposed employees, and found a slight rise in the normal cancer rate. He explains: "PCB's in trace amounts may not be immediately toxic. But like cigarette smoke and asbestos, if ingested steadily over long periods, PCB's can present a serious risk."

Early in 1977 GE was judged guilty of polluting the river, and the firm has now converted to a substitute fluid that, it claims, will "virtually eliminate environmental risk." Its $2,500,000 waste-treatment equipment keeps all but a few ounces a day out of the river. The company is paying four million dollars to help clean up river sediments and study what to do with them. The unusually high settlement signals that industry may be held responsible for past mistakes. DEC will contribute three million as a penalty for negligence in watch-dogging.

A River Clean Enough to Drink?

In one way the PCB crisis actually pushed river cleanup a step ahead. It focused national attention on carcinogenic chemicals that, once loose in the environment, cannot be controlled. Congress last fall after five years of debate passed a Toxic Substances Control Act: now new chemicals suspected of being cancer agents must undergo prior testing before they reach the marketplace. The Act singles out PCB's for total ban by 1979.

But what of all the older, untested chemicals still going into the river? PCB's are only the tip of the iceberg, some environmentalists claim, and they ask EPA and DEC to monitor much more rigorously.

How much cleaner should the river be? A lot cleaner, if many New Yorkers have their way. They are looking to the Hudson as a source of more drinking water. Reservoirs on tributaries supply millions of residents in the entire basin, but only 150,000 people in 13 towns now get their water directly from the Hudson.

The river could be a major source of supply for metropolitan New York, New Jersey, and Connecticut, says the Corps of Engineers. Anticipating a doubling of demand by the year 2020, it suggests withdrawing 280 million gallons a day from the 12 billion gallons that flow past Hyde Park during spring runoff, when the salt line is fifty miles to the south. Such plans are subject to public scrutiny, and already opposition is gearing up. Won't the withdrawal pull the salt line north, upsetting natural balances? Won't a reservoir-

Red-cheeked as their prizes, twins Jock and Robin Feder carry a fall treat from the J. R. Clarke fruit farm near Milton. South of Rip Van Winkle Bridge (facing page), farmers raise apples, grapes, and hay. River communities try to balance industrial growth with guardianship of their "windows" on the water.

PCB-ARCH0746787

000000018.000003