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NEWS RELEASE

State of Maryland Department of Health and Mental Hygiene

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February 5, 1986

DHMH ISSUES HEALTH ADVISORY

Adele Wilzack, R.N., M.S., Secretary of the Department of Health and Mental Hygiene, today issued a health advisory concerning recreational fishing and the consumption of black crappie, carp, channel catfish and american eels from certain waters in the urban Baltimore area.

"This advisory is limited in nature," Ms. Wilzack said. "No health risk exists with the general consumption of oysters, crabs or finfish from Maryland waters, and commercial fisheries are not affected."

A recently concluded intensive investigation in Lake Roland, the Baltimore Harbor and Back River found that average chlordane concentrations in certain fish exceeded the FDA action level of 0.3 ppm.

Chlordane is an insecticide whose use in Maryland is now limited to subterraneous application to protect homes from termites. However, in the past, chlordane was also used as an insecticide in agriculture and was sprayed in homes and gardens. Chlordane remains for long periods of time in the environment and can become concentrated in fish. It has a relatively low acute toxicity, compared to other insecticides, but because it is a suspected carcinogen, continuing long-term exposure is considered a risk.

M O R E

Attachment 1

DHMH ISSUES HEALTH ADVISORY

"Individuals are advised to limit their consumption of carp and black crappie from Lake Roland," Ms. Wilzack said. "We are also advising residents to limit their consumption of channel catfish and american eels from both the Baltimore Harbor and Back River."

These fish should not be used as a substantial part of the daily diet and should be avoided by women of childbearing age, infants or children. To further reduce health risks, Secretary Wilzack recommends removal of the belly flap, skin and dark meat, because chlordane is most likely to be concentrated in fatty protions of fish. Secretary Wilzack indicated that other fish were tested in each body of water, but that the average chlordane levels in them were not found to exceed the FDA action level for chlordane.

To protect the consumer, the Food and Drug Administration has established a chlordane "action level" of 0.3 parts per million for fish. The possible lifetime cancer rish associated with consumption of over 100 lbs. of fish containing chlordane levels of 0.3 ppm. over a person's lifetime has been estimated at 1 in 100,000 for the average individual.

To give this value some perspective, it can be compared to the lifetime cancer risk for a person sharing an office with a smoker, which is 70 in 100,000 or the lifetime cancer risk from cosmic radiation associated with taking one transcontinental airplane flight annually, which is 3.5 in 100,000. To illustrate this another way, a person is at a 3.5 times greater risk from taking one such flight annually than from eating 100 lbs. of fish containing 0.3 ppm chlordane over a lifetime.

M O R E

DHMH ISSUES HEALTH ADVISORY

"Similar advisories concerning chlordane have been issued in New York, New Jersey, Mississippi, Missouri, Illinois and Wisconsin," said Ms. Wilzack, who again emphasized that continual surveillance of Maryland fish, crabs and shellfish indicates there is no health risk associated with the general consumption of oysters, crabs and finfish from Maryland waters.

Indiviuaals desiring further information may contact Dr. Katherine Farrell, M.D., M.P.H. at (301) 225-5753.

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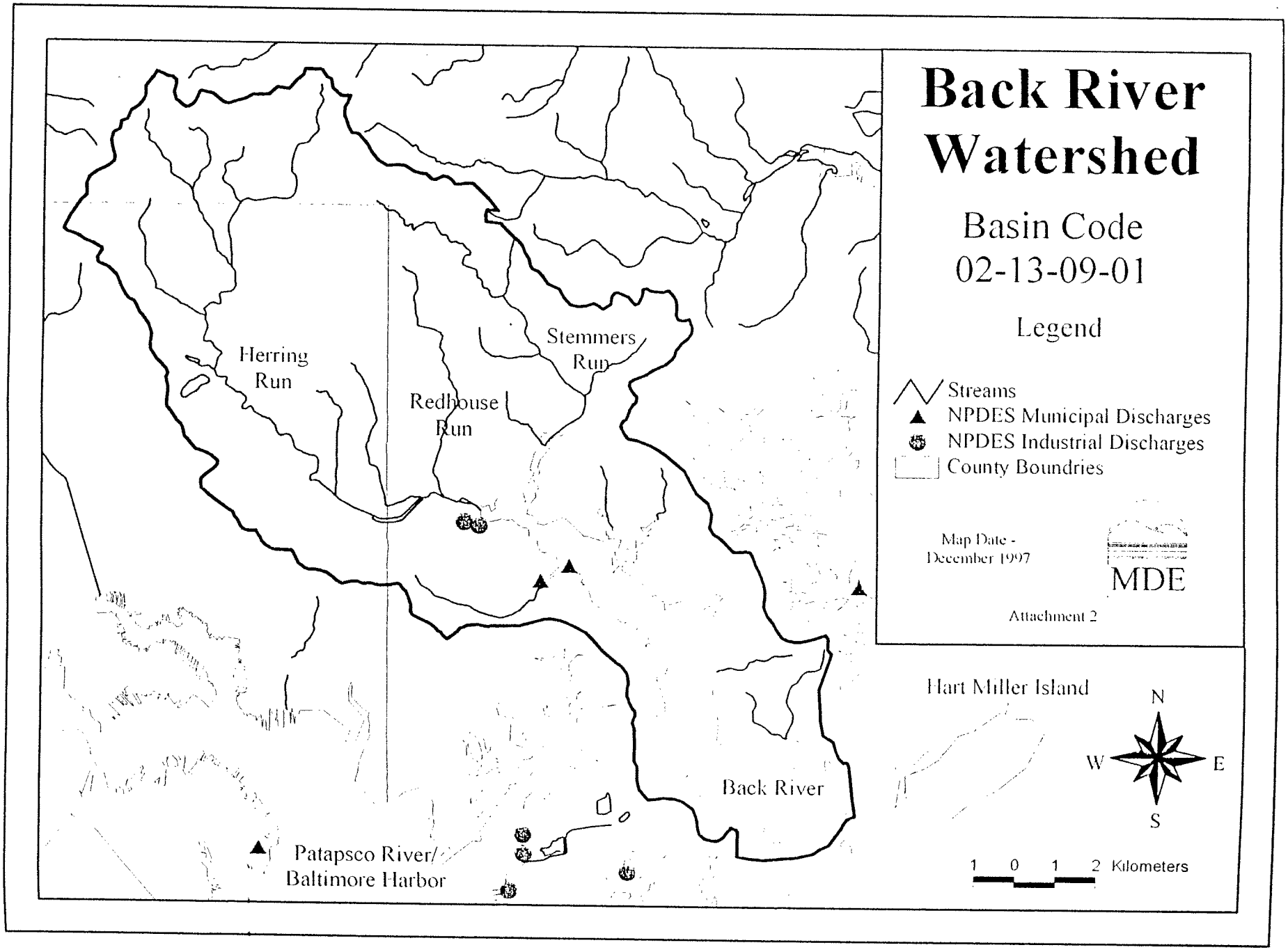

Attachment 2

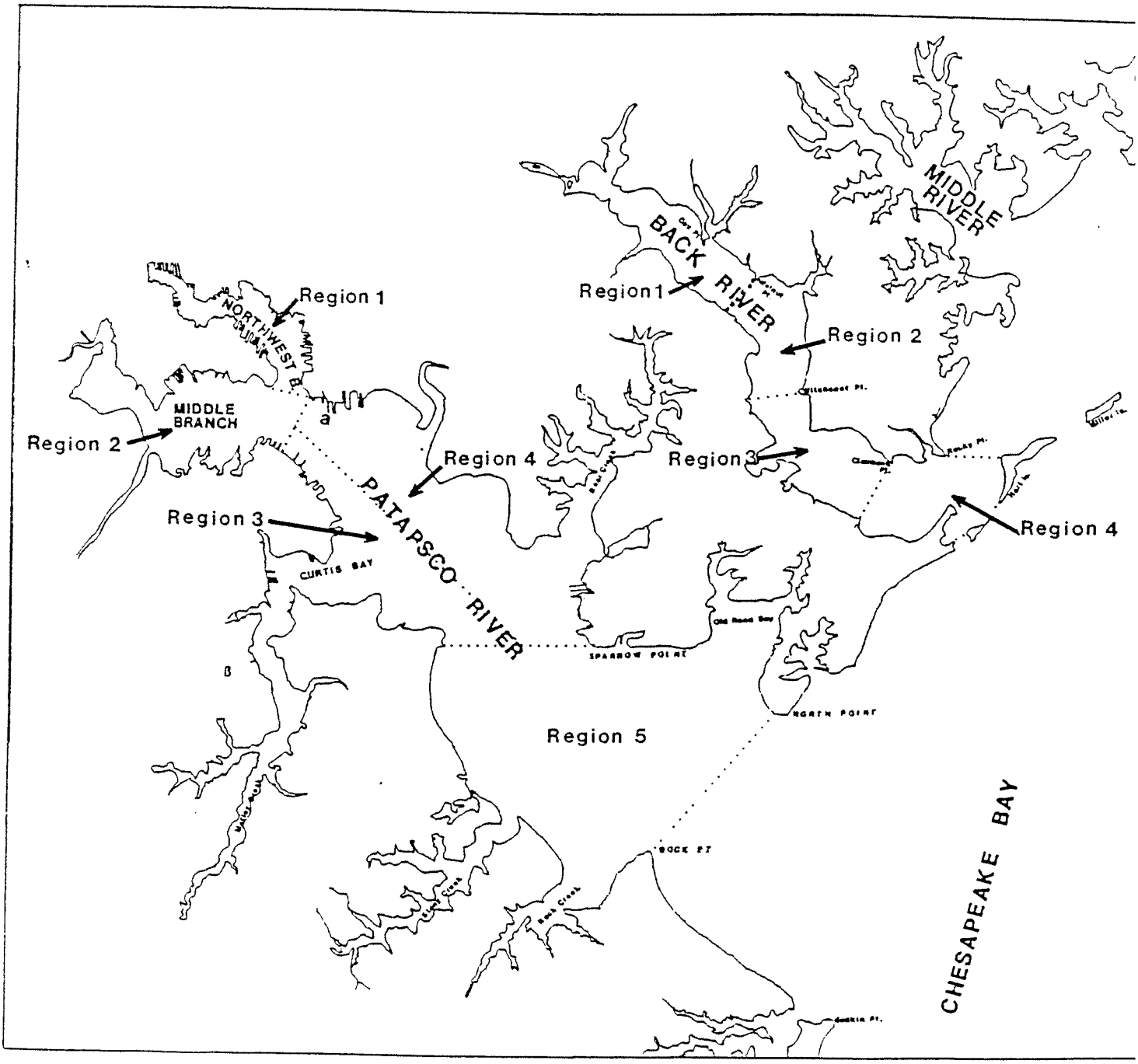

Figure 1. Finfish sampling regions in the Patapsco and Back River Estuaries.

Attachment 3

MDE *Facts About . . .*

Maryland Department of the Environment

CONTAMINANTS AND TOXICITY

BACKGROUND

In describing the estuarine and marine environment, the terms "contaminant" and "toxic" are widely used and often misunderstood. The detection or presence of contaminants or toxic substances does not mean a threat exists to either human health or the health of the water body.

- o All substances have the potential to be contaminants and to cause toxicity.

- o Even substances considered relatively harmless or even beneficial, such as water and vitamin C, may be harmful if consumed in very large quantities or on a too frequent basis. Alcohol is another example; one drink per week is considered harmless, while several drinks per day can cause liver disease.

- o Whether or not a substance exerts toxicity depends on both the concentration (dose) and duration of exposure. For example, because of the difference in alcohol content (dose), consumption of a shot glass of whiskey each day is more harmful than consumption of a shot glass of beer each day. Similarly, consumption of a shot glass of whiskey each day is more harmful than drinking same amount each week.

- o In assessing the health of Maryland surface waters, substances which are evaluated include metals, such as lead and cadmium, and organic substances, such as pesticides and PCBs. These substances are frequently not present or only present in natural waters at very low concentrations, often below analytical detection levels. Therefore, water sampling is not cost effective and is seldom performed. Since these substances may accumulate in fish and shellfish tissue or sediment, tissue or sediment are the media of choice for sample collection and analysis. Sediment data are used to determine historical discharges or environmental trends, but are not appropriate for evaluating human health risk.

SWIMMING

The presence of toxic substances is generally not important in evaluating the health risk associated with swimming. Exceptions are the rare situation when there may be excessive discharges of acids or alkalis or the presence of marine toxin producing algal blooms. These situations do not occur in Maryland. During swimming, the potential for exposure to heavy metals at concentrations and frequencies sufficient to cause a problem is negligible, when compared to other daily sources such as ingesting food or drinking water.

Although a swimmer might accidentally swallow water during swimming, the amount of a chemical that would be ingested in this manner would be much too small to pose a health risk. Therefore, there is no significant health risk from exposure to chemical contaminants during recreational swimming. Skin contact, during swimming is of no consequence either, since metals are not readily absorbed through the skin.

CONSUMING FISH

Fish have the potential to accumulate heavy metals or organic chemicals in their tissue, even when these materials cannot be measured in the water column. This makes fish good indicators of environmental pollution in a body of water. For this reason, MDE monitors chemical contaminants in fish tissue. Monitoring fish tissue also allows the Maryland Department of Environment to determine if contaminant levels in fish are within limits established as safe for human consumption.

MDE has monitored contaminant levels in fish from Maryland waters since the 1960s and 1970s. Analysis of these data has identified only three water bodies in Maryland where contaminants in certain fish species pose a health concern to humans consuming them. These three water bodies are Lake Roland (black crappie and carp) and the Baltimore Harbor and Back River (american eel and channel catfish).

For more information contact:

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MDE

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MDE *Facts About . . .*

Maryland Department of the Environment

MONITORING CONTAMINANT LEVELS IN FISH, SHELLFISH AND CRABS

Fish and shellfish have the potential to accumulate heavy metals or organic chemicals in their tissue even when these materials cannot be measured in the water column. This makes fish good indicators of environmental pollution in a body of water. This is one of the reasons MDE monitors chemical contaminants in fish tissue. Monitoring fish tissue also allows the Maryland Department of Environment to determine if contaminant levels in fish are within limits established as safe for human consumption. In order to make this determination, MDE evaluates all relevant data and utilizes our professional knowledge and experience.

The relevant data include not only contaminant data on fish and shellfish from the area, but also information on which compounds are likely to bioaccumulate in tissue, their sources and their potential to be present in the aquatic environment at sufficient levels for bioaccumulation to levels of concern. Additional important information considered includes the seasonal variations in fish lipid levels which governs levels of many contaminants. MDE also gives careful consideration to which fish species are those likely to accumulate the highest levels of bioaccumulative contaminants; and thus pose the highest potential risk to human consumers.

FISH

Since the early 1970s, the Maryland Department of the Environment (MDE) has been monitoring chemical contaminant levels in fish found in Maryland waters. Currently, Maryland's monitoring program divides state waters into three groups: 1) Western Maryland watersheds, 2) Chesapeake Bay watersheds, and 3) Baltimore/Washington urban watersheds. Fish from within each of these areas are sampled each 3 years. Collections consist of 2 samples of accumulator species and one sample of game species. Of the accumulator samples, one includes whole fish, while the second includes only fillet tissue. Of the game species, only the fillet portion is analyzed. This allows water-quality managers to evaluate the relative levels of contaminants of concern accumulating in state waters, and contaminant levels in the fish to determine safety for human consumption.

FISH AND CRABS

MDE also periodically conducts intensive surveys of contaminant levels in the edible portion (fillet) of both resident and migratory species in the Chesapeake Bay and its tributaries. The species surveyed have included white perch, spot, channel catfish, brown bullhead, american eel, bluefish, striped bass, and blue crab.

SHELLFISH

Since the 1960s, MDE has been surveying metal and pesticide levels in oysters and clams from the Chesapeake Bay and its tributaries. From the 1970s through 1987, this effort was conducted on an annual or biannual frequency. In response to low levels of contaminants and negligible yearly changes in those levels, this baywide effort has been changed to a frequency of once every three years, with the off years being devoted to analysis of results and the performance of small intensive shellstock surveys.

Analysis of all fish, crab and shellfish data has identified only three water bodies in Maryland where contaminants in certain fish species pose a health concern to humans consuming them:

FISH CONSUMPTION ADVISORIES IN MARYLAND WATERS

Limit or avoid consumption of ....

Eels and Channel Catfish from Baltimore Harbor and Back River

Carp and Black Crappie from Lake Roland

... because of harmful levels of insecticide chlordane.

For more information contact:

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