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NAS CECIL FIELD, FL
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SITUATION REPORT 5 ON LAKE FRETWELL FISH SAMPLING RESULTS NAS CECIL FIELD
FL
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ABB ENVIRONMENTAL SERVICES INC

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SITREP #5

NAS CECIL FIELD

Situation Report on the Lake Fretwell Sampling Results

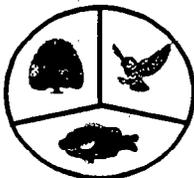
Background. In February of 1995, fishing restrictions were placed on Lake Fretwell after sampling results indicated possible **Polychlorinated biphenyl (PCB)** and **pesticide** contamination in the lake sediment. Those results suggested that the consumption of fish collected from Lake Fretwell may represent an unacceptable human health risk to certain fishing populations. An investigation was conducted to determine the amount of contaminants in the tissue of the fish. Following the results of the investigation, the Florida Department of Health and Rehabilitative Services (HRS) issued a Health Advisory and established a consumption rate of two eight-ounce servings of fish per month. It was also suggested that the data used to support the fishing ban may not have been representative of the overall conditions at the lake. As a result, it was determined that additional fish samples should be collected at Lake Fretwell and that the health risk be re-evaluated.

What was done. In January of 1997, fish were collected from Lake Fretwell to help determine whether or not people should be allowed to catch and eat fish from the lake. The fish that were collected were popular game species, namely catfish, panfish, and largemouth bass. Various methods, including trot lines, gill nets, sweep nets, and electroshock were employed to collect these fish.

One goal was to collect older fish because they usually contain higher levels of chemicals than younger fish. To ensure that older fish (based on size) were being collected, the Navy requested that the water level of the lake be lowered to allow for the larger fish to be caught more easily.

The collected fish were sent to a laboratory and analyzed for pesticides, PCBs, and mercury (chemicals that tend to accumulate in fish tissue). The analytical results were evaluated by toxicologists to determine whether the chemicals found in the fish tissue would cause adverse health effects to people who catch and eat fish from Lake Fretwell. The analyses were based on four different consumption categories: recreational fishing, avid fishing, sustenance fishing and HRS fishing (which is based on the consumption and frequency designated by the Florida Department of Health and Rehabilitative Services as indicative of Florida fishers).

What was found. The risk analysis indicated that no adverse health affects would be expected due to Lake Fretwell fish consumption under the following consumption categories: recreational fishing, avid fishing, and the HRS fishing. All **cancer risks** are within the U.S. Environmental Protection Agency's (USEPAs) acceptable cancer risk range (National Contingency Plan (NCP), 1990). With the exception of bass-only sustenance fishing, no adverse non-cancer health effects are expected; however, the sustenance fishing scenario is a "worst case" scenario and, in fact, is not realistic. For example, a person who is a sustenance fisher would have to eat over eighty pounds of Lake Fretwell bass per year for thirty years. It is unlikely that Lake Fretwell could support this level of fishing activity or that a fisherman could catch this many bass from the lake using ordinary means. Therefore, the sustenance fishing scenario in the report was reported as unrealistic.



			in real terms...
Recreational Fishing	10.3 grams / day	=	2.5 ounces / week
Avid Fishing	23.8 grams / day	=	6 ounces / week
Sustenance Fishing	95.9 grams / day	=	24 ounces / week
HRS Fishing	29 grams / day	=	7 ounces / week

The analyses were based on the above consumption of Lake Fretwell fish occurring over a thirty year time span.

Consumption Category	All Species	Bass Only	Catfish Only	Panfish Only
Recreational Fisher	no risk	no risk	no risk	no risk
Avid Fisher	no risk	no risk	no risk	no risk
Sustenance Fisher	no risk	risk (unrealistic)	no risk	no risk
HRS Fisher	no risk	no risk	no risk	no risk

A "no risk" qualifier represents reported values for cancer risk that fall within the NCP (1990) standards for acceptable cancer risk and that the reported values for the non-cancer **hazard index** fall below the non-cancer hazard index of one. The "risk" qualifier represents reported values that have a hazard index greater than one.

Glossary

Cancer risk: The probability of developing cancer over a lifetime as a result of chemical exposure for up to 30 years.

Hazard index: The ratio of the exposure dosage to the dosage believed to be safe (i.e., the reference dose).

Pesticides: The chemicals used to control weeds, insects, and rodents. Exposure to high enough levels could cause a variety of human health problems.

Polychlorinated biphenyls (PCBs): The chemicals that were commonly used in electrical transformers. PCBs are known to cause cancer in animal studies, but not in humans.

