

BRIEFING STATEMENT

Prepared for: Director James Ridenour

STATE: Florida

Submitted: October 25, 1989

TITLE: Mercury contamination of the endangered Florida panther

ISSUE:

Very high levels of mercury were found in a Florida panther that was found dead in the Everglades. No other possible cause of death was identified. This has necessitated chemical analyses of a wide range of Florida panthers both living and dead.

STATUS:

During September, a 4-year-old female Florida panther (#27) was found dead in the Shark River Slough area adjacent to Everglades National Park. The panther was radio-collared and being tracked by National Park Service biologists as part of an on-going panther recovery program. After a necropsy showed no obvious cause of death for the cat it was suggested that the U.S. Fish and Wildlife Service (FWS) conduct an initial screening for contaminants. The FWS arranged for an initial survey of pesticides and heavy metals to be done by laboratory contractors through the Patuxent Wildlife Research Center. The pesticide analyses were within normal limits, but the test for mercury came back with an extremely elevated level of 98 parts per million (p.p.m.) wet weight in the liver. Confirmatory tests were run prior to public release of the information. A confirming analysis was completed in early October and came back with 110 p.p.m. mercury.

Additional samples were then taken from various tissues of dead panthers that had been archived over the past years and sent to several laboratories for mercury analysis. The FWS is analyzing 22 samples that represent cats across the range of the Florida panther, and the Florida Game and Fresh Water Fish Commission is analyzing 11 samples. Those 33 samples are from a total of approximately 15 individual Florida panthers including half samples from living cats currently found in the Everglades National Park. The results from these additional 33 samples will tell us whether the mercury contamination is widespread among the Florida panthers or is confined to the East Everglades area. The test results are expected by October 27, 1989. Initial results and screening run of a few selected panthers from other parts of the range have indicated much lower levels than that found in panther #27.

However, the levels are far above background levels and may still represent a significant problem. It is known that Number 27 subsisted primarily on eating raccoons which are known to eat aquatic animals as a large percentage of their diet. It is

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suspected that food chain biomagnification resulted in the high levels of mercury in the racoon-eating panthers. The reason for lower levels in Florida panthers in other parts of the range may be related to the fact that their primary food source is deer and hogs which are not involved in the aquatic food chain.

The true significance of these data has not yet been determined. We cannot say at this time that Number 27 died as a result of mercury poisoning. However, humans that were studied during the case of mercury poisoning at Minamata Bay, Japan, in the 1950's showed human deaths occurring with as low as a 2-3 p.p.m. in the liver and an average clinical course to death of 90 days with approximately 30 p.p.m. in the liver. There was also documentation of cats affected in the Minamata area that showed clinical signs of mercury poisoning at levels between 37-145 p.p.m. in the liver. The documentation indicates that the cats would exhibit what was called "dancing disease." They would stagger about as though drunk, salivating; and would be struck by convulsions and/or they would whirl impulsively in violent circles.

The local press in Florida picked up the story based on the initial test results on October 24, 1989. Significant public interest in the outcome of this situation is expected.

The Fish and Wildlife Service, the Florida Game Commission, and the National Park Service are fully aware of the situation and are working together to conduct sample analysis and interpret the situation and then decide what to do. It is expected that there will be intense concern about this new information given that mercury contamination in fish, turtles, and alligators have resulted in the closing of certain areas for consumptive use of these species. These data may represent the first evidence of higher food chain biomagnification of the existing mercury problem and put additional emphasis on identifying the source of the contamination and taking corrective action. This, in turn, may quickly come to the attention of the Congressional delegations and the Governor's Office.

It is also possible that mercury poisoning may be a major factor contributing to the decline of the Florida panther and immediate intervention may be needed.

POSITION OF MAJOR CONSTITUENCIES:

Conservation organizations will be very concerned and expect immediate action. The agricultural community may also become involved as current speculation about the source of mercury includes farming practices.

PROGRAM CONTACT:

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