



**NORMANDEAU ASSOCIATES, INC.**

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September 27, 2002

Mr. Duane A. Neitzel  
Battelle Northwest  
P.O. Box 999 (K6-85)  
Richland, Washington 99352

\*\*\*\*\* Via Email (duane.neitzel@pnl.gov) \*\*\*\*\*

Dear Duane:

Per your request relative to the abnormalities observed on fish collected in Conowingo Pond, given below is my formal response.

We began fish sampling in Conowingo Pond in 1966 with the construction of Muddy Run Pumped Storage Station, about 6 miles upstream of PBAPS on the east shore. Sampling gear included trawl, trap nets, seines, gill net, and electrofishing. We have also operated the west fish lift at Conowingo Dam since 1972 and the east fish lift since 1991. At the west fish lift, fish are sorted, counted, and targeted migratory species transported or used for studies as designated by the regulatory agencies. At the east fish lift, fish were treated similarly between 1991 and 1995 until the fish lifts became operational at Holtwood and Safe Harbor dams in 1996. Since 1996 we have operated fish lifts at Holtwood Dam (7 miles upstream of PBAPS) and fish Safe Harbor Dam (7 miles upstream of Holtwood). Fish collected in these sampling efforts were examined, counted, either a subsample preserved or released back to the river, or allowed to continue movement upstream. I would "guesstimate" we have handled over 20 million fish of over 60 species during this period. The only abnormalities we've observed, on rare occasions, were scoliosis (bent back) on channel catfish or sores on brown bullhead, a situation commonly seen in catfish forms. In the earlier sampling period (1966 to 1980) we were on Conowingo Pond essentially on a daily basis, less frequently thereafter. As a side note, the operation of PBAPS was shut down by NRC order from 1987 to 1989. Our most recent sampling, mostly between June and October, occurred in 1996 to 2000. Additionally, we check fishes impinged on screens at PBAPS during the downstream migration of juvenile American shad.

I hope the above observations help you. If you have further questions, please do not hesitate to call me at 717-548-6430.

Sincerely,

Dilip Mathur  
Sr. Fisheries Scientist / Vice President

Enclosures

DM/cll

cc: Paul Harmon, George Nardacci, Eric McClellan, Ray Bleistine (Normandeau)  
Tracy Siglin, Bob Matty, Bill Maher (Exelon)

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