

## IPRenewal NPEmails

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**From:** Wentzel, Michael  
**Sent:** Wednesday, September 12, 2012 4:55 AM  
**To:** Gray, Dara  
**Subject:** Questions From NMFS For Today's Phone Call  
**Attachments:** NMFS PRD Questions related to Entergy sturgeon report.docx

Dara,

Attached, please find questions from NMFS for today's phone call.

Thanks,  
Mike

Michael Wentzel  
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**Sent Date:** 9/12/2012 4:54:33 AM  
**Received Date:** 9/12/2012 4:54:36 AM  
**From:** Wentzel, Michael

**Created By:** Michael.Wentzel@nrc.gov

**Recipients:**  
"Gray, Dara" <DGray@entergy.com>  
Tracking Status: None

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**NMFS PRD Questions related to Entergy's 7/23/12 "sturgeon report"**

**II.** why was flow data from 1975 excluded from the data set?

Why does the data set start in 2001 and end in 2008?

Are there any changes in future operations proposed that could result in different volumes of water being removed (power uprates etc.)?

**IIA1.** Did you look at intake volume seasonally to see if the monthly differences in sturgeon impingement could be related to operational differences?

**IIA2a.** Were there any annual differences in operations (shut downs, etc.) that could account for any of the annual variability 1976-1990? What about differences in how Unit 2 and Unit 3 are operated that could account for differences in impingement at the two units?

**IIA2b.** Doesn't the reduction in impingement density (to 20% of historic) that is used to predict 2001-2008 contradict the statements made later that there is no correlation between the number of sturgeon in the river and the number of sturgeon impinged? If there really is no correlation, wouldn't your density be the same now as it was in the past? Is the calculated value of 11.5 Atlantic sturgeon per year from 2001-2008, Entergy's best guess for the number of Atlantic sturgeon to be impinged during the extended operating period?

**IIA3.** Why did you use length-weight relationship for Atlantic sturgeon impinged at IP and not use fish caught in the Hudson River surveys or published length-weight relationship information? Is it valid to use this equation across all size classes/life stages? It will be important for us to establish the likely size of impinged Atlantic sturgeon because that will allow us to determine what life stage they are and then from what DPS they likely belong (i.e., all juveniles would be Hudson River origin but any subadults or adults could originate from multiple DPSs based on genetic sampling of subadults and adults captured in the Hudson River).

**IIB2b.** Same question as I had above for Atlantics, except related to 400% of historic and shortnose.

**IIB3.** Is there any explanation for why larger shortnose sturgeon would only be impinged at Unit 2? Anything that is different (intake velocity?)?

**III.** Provide dates that correspond to weeks 18-26 and 31-42 and river miles that correspond to regions 8-12.

Generally, I do not understand the numbers presented on the vertical axis for Figures 13, 14 and 15 (lower graph only), 16, 17 and 18 (lower graph only).

**IIIA3.** Did you consider other factors that may be related to impingement or just the abundance of fish and the gillnet fishery? I am thinking about the location of the salt wedge (if it is high in the river at a time of year or in a particular year, that could keep juveniles out of the area during that time because

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they are relatively intolerant to salinity) or other environmental factors – not sure if there could be other things also?

**V.** Did you look at correlations between the abundance of Atlantic sturgeon and the bycatch in the gillnet fishery? Was there a correlation?

**VI.** Previously you establish that you expect very few, if any, of the impinged sturgeon to be healthy/uninjured. What is your assessment of survival upon impingement on the Ristroph screens for sturgeon that are already injured or otherwise unhealthy?

**Concluding paragraph:** If you do not see a correlation between the abundance of sturgeon in the river and impingement, why do you expect fewer Atlantic sturgeon to be impinged in the future as compared to the past and more shortnose to be impinged in the future as compared to the past?