



Phone/Conference Call Record

Project/Plant: Turkey Point

Date: December 10, 2015

Time: 9:30 PST/12:30 EST

Attendees:

Name	Title	Agency/Organization
Michael Masnik	Aquatic Ecologist	NRC
Ann Miracle	Aquatic Ecologist	PNNL
Frank Mazzotti	Fishery Biologist	University of Florida

Call title/subject: Crocodile status call between NRC and Dr. Mazzotti

Purpose of call: Ask Dr. Mazzotti for clarification of 2015 crocodile status around Turkey Point and nearby habitats

Call notes:

- Mike gave Dr. Mazzotti an introduction to the Turkey Point project and the concerns NRC has with the IWF and crocodiles given the recent newspaper and media sources stating that the crocodile population is being affected by FPL operations with fewer crocodile nests and reduced clutch sizes
- Dr. Mazzotti – the decrease is only on the canal area, nesting has been increasing everywhere else. This is likely due to the increase in uprate by the existing units (nuclear units). There was an increase the temperature and salinity in the cooling canal system (CCS), then there was a drought period of little to no rain which made it worse. Crocodile monitoring became more intense to try and assess effects of these environmental conditions. Salinity increased dramatically from about 40 ppt to 80-100 ppt. In addition, FPL changed the way they were managing vegetation. Instead of pulling it out, FPL macerated it and put it back in the canal. Both of these things (no rain and nutrient increase) created a massive change in water quality that was favorable to algae blooms. With the recent rainfall, salinity has been lowered quite a bit, and is fairly consistent throughout the CCS. Prior to 2013, the CCS was a productive ecosystem. Since

2013, the ecosystem has collapsed and is essentially gone. Crocs started losing weight, acting weird, stopped nesting, more leaving CCS area.

- Mike – Was dissolved oxygen also affected?
- Dr. Mazzotti – have not seen any of the data, but it would have to have been because of the other changes.
- Ann – did the crocs leave and nest successfully at other locations?
- Dr. Mazzotti – This is likely, because nesting was stable over the past 10 years, but in 2015 the nests at Turkey Point decreased by two-thirds, and the nests in other locations such as Everglades National Park have increased dramatically. FPL has data on body condition that would be related to lack of foraging opportunities in the CCS. Working with FPL now on what can be released. We can get it from John Wrublik at FWS when it's available.
- Dr. Mazzotti – The prognosis on this issue is cause for concern, but no alarming if the salinity can get under control. Once the system gets stable, the crocs should recover at the Turkey Point areas.
- Dr. Mazzotti – Believes that the lack of rain was the major contributor to the collapse. Changing the way FPL handled the aquatic vegetation may have added to it, but probably wasn't the culprit. FPL used to scrape up the vegetation and pile it on the berms and letting it decay. Not sure if the maceration process was a part of the problem or just one more "perfect storm" element. Recently heard that the latest 10 inches of rain made the salinity down to 10 ppm. Looks like mother nature is going to fix the problem.
- Mike – the tie-in with the uprate seems to be a coincidence, not the culprit.
- Dr. Mazzotti – agrees with that. The return canals also turned belly up. Used to see all kinds of wildlife and now there is nothing.
- Mike – Is there any work being done on sex ratio and the temperatures?
- Dr. Mazzotti - No. Would be a good idea but there is some additional work that would have to be done to actually do that.