***Draft Memo***

August 10, 2017

To: FPOM

From: Charles Morrill, WDFW, Thomas VanNice and Hannah Bagley, PSMFC

Subject: A Brief Summary of American White Pelican (AWP) Activity Observed at the McNary JFF Outfall Pipe Discharge

FPOM members have participated in discussions and expressed concerns over the potential impact of AWP on juvenile salmonids passing McNary Dam via the McNary JFF Outfall pipe for some time now. A site visit June 28, that included COE, WDFW and the PSMFC-SMP site biologists, led to a productive discussion and implementation of a ‘pilot’ effort to observe and record AWP activities at the outfall. The COE Project Biologists provided a spotting scope and tripod and the PSMFC biologists, Thomas and Hannah, began observing and recording AWP numbers and behavior in the immediate vicinity of the outfall July 25.

***Observational Protocols:***

* Viewing Location: The spotting scope & tripod was set up atop of the JFF approximately 700 m from the outfall. The spotting scope featured magnification of 20 to 60X and at or close to 60X provided a field of view around the outfall of 20 to 25 meters.
* Sampling/observations occurred between 0600 and 1100 hours.
* Three hours were selected at random each day and 15 minutes of each hour were sampled randomly within each hour.
* Sample/Observation times ranged from 3 to 5 minutes. Breaks were allowed within the 3 to 5 minute observation period to record data and or refresh one’s eyes but not reduce the observation time.
* Focus on an individual pelican, ideally through the entire observation period, but this was not always possible.

***Data Collected:***

* The number of AWP and other avian predators was recorded at the beginning and end of each observational period.
* Observed and recorded feeding behavior of AWP’s based on:
  + Number of bill dips
  + Number of head raises, low or high
  + Number of head raises associated with bill dips as an indicator of success in capturing prey
* Notes in comments, as feasible, interaction of AWP with other avian predators present
* Presence of any breeding AWP as identified by presence of horns
* Any noted reaction to current sprinkler operation
* Any noted reaction to Hazing Activities conducted by APHIS

***Project Related Data:***

* Juvenile salmonid and shad abundance in JFF SMP samples as indicator of relative abundance at outfall (incorporated in Project Data Spreadsheet)
* Relative abundance based on 24-hour separator counts of juvenile salmonids and adult shad (COE provided data on adult shad). This data also incorporated into Project Data Spreadsheet.

***Develop Project Data Spreadsheet:***  *Work in progress, available on request*

***A Summary of Observations to date:***

* *114 individual observations periods over 13 days*
* *561 American White Pelicans tallied, 284 Commorants tallied (initial counts)*
* *Max number of AWP observed in one observation period: 20*
* *Avg. number of AWP observed per observation: 4.4*
* *Maximum number of Bill Dips observed for an individual: 30*
* *Avg. number of Bill Dips per individual: 3.8*
* *Relative “success rate” based on bill raises: 27.8 %*
* *Although we were not able to visually identify any prey taken, based on the species composition from the SMP samples, subyearling chinook are the most likely prey.*
* *Initial review of data shows more Pelicans present and active with higher hourly counts of subyearling chinook across the separator*
* *No juvenile shad were present in the SMP samples throughout the observation period.*
* *Adult shad numbers reported falling back over the separator were typically less than 50 a day with a one day peak of 108.*
* *Several observations of interactions between AWP and Cormorants. Pelicans were observed chasing them away from around the pipe and even physically removing them with their bills. Our observations suggest to us that pelicans are competing for prey with Cormorants.*