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To:	Jenna Bobsein Project Manager – Lower Kissimmee Basin Stormwater Treatment Area	From:	Gabe Pelletier and Bob Roy Stantec Consulting Topsham, ME Office
File:	195602889	Date:	December 7, 2023

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**Reference: Peer Review of Wildlife Hazard Review – Proposed Lower Kissimmee Basin Stormwater Treatment Area**

**Background**

The proposed Lower Kissimmee Basin Stormwater Treatment Area (LKBSTA) project (Project) is located in Okeechobee County, approximately 6 miles upstream of Lake Okeechobee. The project is intended to reduce total phosphorus loads from priority areas of the lake watershed, thereby helping the state achieve the Lake Okeechobee total maximum daily load goals and the goals and objectives of the Lake Okeechobee Basin Management Plan. The LKBSTA, as presently planned, includes the creation of several interconnected herbaceous freshwater wetlands adjacent to the C-38 canal.

The Federal Aviation Administration (FAA) Advisory Circular (AC) No. 150/5200-33C *Hazardous Wildlife Attractants on or near Airports* provides guidance on the types of projects, land uses, or habitats that can attract wildlife species that are hazardous to air travel and other airport and aircraft operations. The LKBSTA is located within a 5-mile radius of the Okeechobee County airport (OBE) – this is within the recommended separation distance for specified land uses near airports. To address these potential concerns, the LKBSTA project developer, Ecosystem Investment Partners, LLC hired an FAA Qualified Airport Wildlife Biologist (QAWB), working for company ESA, to conduct a Wildlife Hazard Review for the LKBSTA relative to its potential effect on aviation safety associated with OBS.

ESA completed their hazard review and provided a memo report of their survey and assessment, dated October 30, 2023. Stantec Consulting Services LLC (Stantec) has been hired by the South Florida Water Management District (District) to provide a peer review of ESA's wildlife hazard assessment. The peer review of the Wildlife Hazard Review conducted by ESA was completed by Stantec QAWB Gabe Pelletier, and Stantec Wildlife Biologist Bob Roy, a Certified Wildlife Biologist. We completed our review using ESA's memo report, additional background information provided by the District, various FAA ACs, and a review of publicly available databases and natural resource information.

**Memo Review and Assessment**

ESA completed their Wildlife Hazard Review of the LKBSTA in the context of the project design, the existing landscape in which it is located, relevant FAA guidance, existing OBE strike data, and data compiled during a site visit to the area on October 18, 2023. ESA also used available information and local experience to identify species likely to occur in the area, along with hazard rankings for those species (or species guilds), relative to air safety. The stated purpose of the site visit was "to review the proposed project site and to also review similarly situated existing STA(s) to identify existing conditions and to gauge potential wildlife usage and changes expected to occur with the development of the proposed project". ESA did not conduct a site visit to OBE.

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During the October 18, 2023, site visit to LKBSTA, ESA confirmed the existing land cover conditions at the proposed project site and confirmed the presence of avian species that had been previously documented within the footprint of the project including sandhill cranes, great blue heron, and red-tailed hawks.

In addition to ESA's site visit to LKBSTA, ESA conducted a review of two existing stormwater treatment areas (STAs) in the vicinity of OBE. The Taylor Creek STA is located approximately 2 miles northeast of OBE and the Lakeside Ranch STA is located slightly more than 12 miles southeast of OBE and adjacent to the Lake Okeechobee shoreline. ESA selected the Lakeside Ranch STA as an appropriate reference site because it provided a good comparison of wildlife likely to utilize LKBSTA. Additionally, the Lakeside STA was developed in two phases and ESA's CAWB was able to observe conditions in areas of the STA that have become fully established (which they note took 2 years to achieve) and in areas that were more recently developed and where the final wetland vegetation cover has not been fully established. They noted that the older portion of the STA was heavily vegetated with dense cattails and that wildlife activity was generally low. The newer portion of the STA contained basins with patches of wetland vegetation and open water. Wildlife use of these areas was noted to be greater, though they acknowledged that wildlife use is expected to drop once the vegetation in these areas develops to become more similar to the older portion of the STA.

Stantec believes that the use of the Lakeside STA as a reference site for the LKBSTA is appropriate. The Lakeside STA is within a more similar landscape context than the Taylor Creek STA and a review of aerial imagery confirms that the size and type of wetland habitats that will likely develop at LKBSTA are more consistent with what has and will develop at the Lakeside STA. Their reported observations on the two types of wetland plant communities present at the Lakeside STA, based on time since development, provide useful insight into how conditions at the proposed LKBSTA will develop. Furthermore, Stantec believes that the site visit to LKBSTA was conducted at an appropriate time of year when hazardous species would be present.

ESA provided two tables of wildlife species known to be hazards to aircraft and potentially occurring in the project and OBE vicinity. The hazardous species table is based on FAA data and provides a relative hazard score for species based on several criteria. ESA notes that many of the species on this FAA hazard list can, or are known to, occur in the vicinity of OBE. Additionally, ESA notes that multiple species on the "top 10" from the list of species hazardous to aircraft list currently occur at the proposed project area. The list of species with potential to occur at the LKBSTA is based on project data and a review of online reported eBird data ([www.ebird.org](http://www.ebird.org)) and provides a breakdown of potential species use, by broad wetland habitat type that will develop in the short, and long-term, at the LKBSTA.

ESA provided an analysis of reported wildlife strikes at OBE over the most recent 10-year period. Only six strikes were reported during that time and included 4 unknown birds, 1 vulture, and 1 crow. Additionally, ESA provided data on the annual flight activity at OBE, which averages ~50,000 operations per year. ESA also provided FAA data on the flight heights at which most aircraft-wildlife interactions occur. Most bird and wildlife strikes occur at low elevations (less than 500 feet above ground level) or on the ground, within an airport's air operations area. ESA's memo report acknowledges that the LKBSTA is located 4.5-5 miles from OBE, a fact that reduces any potential affect, or increase, that the project could have on air traffic hazards in and out of OBE. ESA did not include information about the location of the strikes relative to the airport but, due to the distance that LKBSTA is from OBE, this omission is reasonable.

Overall, ESA concludes that the LKBSTA, if vegetated as designed, does not represent a significantly greater wildlife hazard to aircraft at OBE than what is occurring under existing conditions, which includes proximity to Lake Okeechobee. This is based on their review of available species presence data, the planned development, similar nearby developments, and the location of the LKBSTA at the periphery of the FAA recommended separation distance from OBE. We believe that this is a reasonable and appropriate conclusion. We do not find any deficiencies in the information reviewed or the approach that ESA took to evaluate the potential increase in risk that the project could have on local air traffic safety. While we've noted

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that ESA did not include a visit to OBE during their field survey in the area, we do not believe that any on-site observations at OBE would change this overall conclusion.

ESA does go on to describe that development of the LKBSTA could result in a temporary increase in acreage of open water or mixed open water/marsh habitat within 5 miles of OBE, a scenario which is presented as likely short-lived so long as the desired vegetated cover of dense cattail stands is achieved after 2 or more years. They also note that, given the LKBSTA will be developed in 2 phases, this short-term influence may be more prolonged as each phase is developed. Finally, ESA recommends monitoring of avian populations and airspace use in the vicinity of the project during construction and continuing until the targeted vegetation cover has fully developed. If monitoring indicates that wildlife activity deviates from expectations, ESA recommends mitigative actions be considered, including additional plantings to hasten the development of the target vegetation cover or wildlife deterrent activities to reduce attractiveness of the area to species that are hazardous to aircraft. We believe these wildlife monitoring and as necessary mitigation strategies to be reasonable and appropriate measures and should be considered and reviewed as the project moves forward.

We thank you for the opportunity to provide this peer review for the District. We believe that ESA completed a reasonable and appropriate hazard review of the LKBSTA to air traffic associated with OBE. We did not note any deficiencies in the assessment approach or information reviewed that would change the ultimate conclusion that ESA made regarding the proposed project. If you have any questions about our peer review efforts and this report, please do not hesitate to contact us.

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