T&E AGENDA: 09/10/2018
ITEM: d (3)

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: TRANSPORTATION & ENVIRONMENT COMMITTEE

FROM: Kerrie Romanow

SUBJECT: SEE BELOW

DATE: August 22, 2018

Approved

Date 8-23-18

SUBJECT: WILDLIFE HABITAT AT THE SAN JOSÉ – SANTA CLARA REGIONAL WASTEWATER FACILITY

RECOMMENDATION

Accept this report highlighting established wildlife habitat at the San José-Santa Clara Regional Wastewater Facility, and ongoing habitat management activities for the Western Burrowing Owl.

OUTCOME

Provide an update to the Transportation and Environment (T&E) Committee on established and managed wildlife habitat on San José-Santa Clara Regional Wastewater Facility[1] (RWF) bufferlands.

BACKGROUND

Prior to the development of major urban centers in the South Bay, marshes and grasslands surrounding the RWF's current location were known to be magnet habitat for migrating water birds, marine and freshwater fish, and Western Burrowing Owls.

Lower South San Francisco Bay, particularly the waters of Lower Coyote Creek and Alviso Slough, have long been identified as a productive nursery for marine and freshwater fish. Improved water quality, resulting from clean discharges from the RWF, combined with restored

[1] *The legal, official name of the facility remains San José-Santa Clara Water Pollution Control Plant, but beginning in early 2013, the facility was approved to use a new common name, the San José-Santa Clara Regional Wastewater Facility.*

habitat made possible by the South Bay Salt Pond Restoration project, have improved the local ecosystem, as seen by increased fish and bird populations.

Likewise, Western Burrowing Owls, a Federal and State Species of Special Concern, have been documented to nest at the RWF bufferlands for the past decade; however, numbers had declined until the City and its partners initiated habitat improvements in 2012. City staff implemented activities based on the City's Interim Burrowing Owl Management Plan as temporary measures until the Plant Master Plan (PMP) was adopted in November 2013. As part of the PMP's goal to improve habitat and minimize impacts to the local and global environment, it designated 180 acres as Burrowing Owl habitat. In 2014, the City was granted title to a 21.4-acre parcel of land by Cisco Technologies, creating a total of 201-acres of Burrowing Owl habitat.

It is noteworthy that our regional wastewater facility, treating sewage from one-fifth of the Bay Area's population, has become a magnet for a remarkable diversity of creatures, from tiny minnow-sized fish to bald eagles.

ANALYSIS

The City's documentation of biological abundance and diversity in the vicinity of the RWF discharge indicates that the stability of the freshwater discharges from the RWF fosters an extremely robust local ecosystem that surpasses other regions of the Bay. By many measures (invertebrate and fish abundance being the most notable), environmental health near the RWF discharge surpasses even adjacent areas of the Lower South Bay that are also undergoing restoration but are further away from the RWF discharge.

The City and the South Bay Salt Pond Restoration Project have contracted with UC Davis fish researchers since 2010 to evaluate fish populations in this area. According to Dr. Jim Hobbs, the principal investigator, waters and marshes immediately downstream of the RWF are harboring some of the densest and most diverse populations of fishes seen in San Francisco Bay.

The RWF performs this monitoring and supplements the UC Davis fish monitoring with additional in-house monitoring of water quality and biological health to provide assurance to ratepayers and the general public that investment in wastewater treatment helps protect all beneficial and ecological uses of Lower Coyote Creek and the Bay. New results collected during the past year indicate that longfin smelt, a state threatened fish species, now spawn in the area. The longfin smelt requires specific environmental conditions such as high dissolved oxygen and an appropriate mix of freshwater and saltwater in order to achieve successful spawning. The highly oxygenated freshwater discharge from the RWF is believed to contribute to the recent success for the longfin smelt.

Fish abundance leads to bird abundance, and bird abundance and diversity is a key success metric for the Salt Pond Restoration effort. The number of gulls, a scavenger species that can also be destructive to more sensitive species' nesting areas, in the former salt ponds has declined dramatically, while duck abundance and diversity has increased since the ponds were opened to

the Bay in 2005. This shift in bird populations indicates a healthier system is being restored. The RWF continuously provides clean freshwater to the system, which helps algae, invertebrates, and fish thrive.

An additional component of the RWF monitoring is regular measurement of the abundance and diversity of microscopic algae known as phytoplankton. These algae are the building blocks of a healthy ecosystem, but some species of algae can be unhealthy or toxic to wildlife or people if they occur in large enough amounts. The RWF monitoring has detected almost exclusively healthy levels of good algae. However, for the first time, in September to December 2017, monitoring detected very low levels of Microcystis, a freshwater species that can produce harmful toxins under certain conditions. The presence of this toxin producing species is most likely due to the high freshwater flows associated with large storms in early 2017. These storms lowered the salinity in the entire system, creating fresher conditions that are favorable for Microcystis growth. The amounts of Microcystis measured during this period were below health advisory levels and no adverse effects to wildlife were ever observed. The RWF monitoring program continues to track the phytoplankton species, and Microcystis levels dropped even further below the already low levels.

The combination of responsible sewage treatment and stormwater practices, the restoration of the Coyote Creek Lagoon, Coyote Creek, Guadalupe River, and the Salt Pond Restoration Project, have all contributed to the improved habitat conditions observed today. So much wildlife resides at and around the RWF that predators, like Bald Eagles and Peregrine Falcons, have taken notice and established hunting grounds.

Burrowing Owls

The 201 acres of Burrowing Owl habitat in the in RWF bufferlands continues to be the most successful nesting site in the Bay Area. In 2016, the City partnered with the Santa Clara Valley Habitat Agency (SCVHA) to provide management activities for the Burrowing Owl habitat. The City's efforts have been paying off with the Burrowing Owl population experiencing significant growth and stability, while the overall trend across Santa Clara County have been showing a continued decline.

The SCVHA and the City finalized the Burrowing Owl Monitoring and Management Plan for the RWF bufferlands in 2017, which incorporates owl habitat management best practices and habitat enhancement measures recommended by Western Burrowing Owl specialists Dr. Lynn Trulio and Phil Higgins. SCVHA and the Santa Clara Valley Audubon Society bring in volunteers to conduct activities described in this Plan, such as maintaining proper vegetation height and weed control.

The most recent Burrowing Owl population surveys conducted identified a total of 28 owls with 11 adults and 17 chicks in July 2018. While recent years have shown an increasing trend in the population of owls in the RWF bufferlands, populations can fluctuate for various reasons, such as reaching a maximum population carrying capacity for a designated habitat area or observing

increased numbers of predators. Staff will continue to coordinate with SCVHA to manage the site and develop long-term conservation strategies.

EVALUATION AND FOLLOW UP

PBCE prepares quarterly memos to T&E to report on Mitigation Monitoring and Reporting Requirements for individual projects, including for burrowing owl mitigation parcels that are required as a condition of approval of development permits. ESD will continue to provide burrowing owl breeding season reports to PBCE.

PUBLIC OUTREACH

This memorandum will be posted on the City's website for the September 10, 2018 T&E agenda.

COORDINATION

This report has been coordinated with the City Attorney's Office and the Department of Planning, Building and Code Enforcement.

COMMISSION RECOMMENDATION/INPUT

This item is scheduled to be heard at the September 13, 2018 Treatment Plant Advisory Committee meeting. A report with the committee's recommendation will be included in an upcoming City Council meeting agenda, date to be determined.

CEQA

File No. PP11-043, Environmental Impact Report for the San José/Santa Clara Water Pollution Control Plant Master Plan.

/s/
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