

MONTHLY BIOLOGICAL MONITORING REPORT

FAIRVIEW PARK Mitigation Project Management and Inspection Costa Mesa, California

Prepared For:

City of Costa Mesa

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Executive Summary

This report has been prepared by Endemic Environmental Service, Inc. (EES) for the City of Costa Mesa located in Costa Mesa, Orange County, California. This report details the Fairview Park riparian mitigation monitoring according to the contract between EES and City of Costa Mesa. It also includes an overview of any activities at the park including vandalism, trash, erosion, plants and wildlife surveys, nesting bird survey, vernal pools and other activities described below and monitored observations can be found on Table 1.

1. Wetlands Quarterly Biological Reports, grassland and oak woodland

Oaks are watered three times a week at this time. A annual report will be submitted in December.

2. On site Project Manager, Implementation of Master Plan and consultation with staff

Part of this task includes participation in meetings with the City of Costa Mesa Staff. Fairview Park inspections are conducted multiple times per week where the following are observed:

Mitigation Site Monitoring

The goal is to detect broad-scale changes in aquatic and riparian ecological conditions by observing selected ecological drivers, stressors, and processes. Specific measurable objectives determine the status and long term trends in selected parameters such as removal of algae, cattail and invasive plants from channels that connect ponds.

This report will include monitoring notes from container plants that were planted at channel 2: Elderberry (*Sambucus mexicana*), Wild rose (*Rosa californica*), Gooseberry (*Ribes californicum*). The container plants are growing well and were strategically planted between channel 2 and 3 to avoid illegal trails. The plants are watered twice a week and weeding when necessary.

Vandalism

Any act involving property damage, such as graffiti and/or property defacement.

Trash

Report illegally dumped trash or garbage at all areas of the park.

Erosion

Report of trail degradation in order to reduce aquatic system disturbance for vernal pools, excessive muddy trails, widening of trails and creation of undesired trails.



Vernal pools activity

Monitor vernal pools conditions, rare plants, overall biodiversity and any activities that may cause any sort of disturbance to the habitat.

3. Maintenance Services for grassland and tarplant

This section includes the removal of invasive plants in different areas of the park that will be reported on in the daily activities table.

4. Quarterly Maintenance Services for wetland ponds and channels

Endemic staff currently remove algae almost daily in the wetlands to reduce mosquito habitat and maintain water flow.

5. Four seasonal tours

No tours were done at this time.

6. As-need Environmental Studies

EES inspects and investigates concerns related to managing and protecting natural resources and public safety, as directed by the City of Costa Mesa Staff. EES created a map of invasive plants at the wetlands to efficiently plan and manage daily tasks at the wetlands (see **Map 1**), at the bluffs and canyon (see **Map 2**) and near Vernal pool 1 (see **Map 3**). All maps are updated monthly according to bird activity and weed removal. Endemic coordinates with the City Maintenance Department to monitor and schedule mowing activities, when necessary.

Bird Nest Surveys, Monitoring, and Mitigation Inspections

All avian nests at Fairview Park have been monitored and mapped within the wetlands area during nesting season March through October. The intention is to avoid interference on their reproduction and also maintain compliance with environmental laws and regulations.

Plant and Wildlife Species Surveys

Rare plants and animals are documented during park inspections, which are included in this report. This information will provide insight on the locations and general behavior of special status species that will aid in the management of the species and overall planning of Fairview Park in context of the Fairview Park Master Plan.

Biomonitoring for Trail Maintenance and Mowing

Before any trail maintenance or mowing services start at Fairview Park, a Biologist will provide a biomonitoring survey to inspect the area carefully before begin the operation. For larger areas and sensitive habitats such as areas of native plants, dense brush, stream sides and stands of trees, the EES biological team will conduct a plant and bird survey



before and during the operation. All work that has the potential to disturb or destroy the nest should cease in the immediate vicinity.

Water Quality

EES staff conducts water quality tests at the wetlands to monitor water quality and prevent any future problems. Results can be seen on Table 2.

Daily Tasks at Fairview Park

EES daily tasks include monitoring and reporting on the function of the water pumps, flow of the channels from pond to pond, invasive plant removal, watering plants, clearing algae and report any unusual activities at Fairview Park. Additionally to the regular schedule, EES inspects and reports unusual activities that may occur at Fairview Park. Activities described in **Table 1**. will be updated weekly and reported to the City of Costa Mesa.

Table 1. Daily activities at Fairview Park

Date	Activities/Notes
11/1/2018	<ul style="list-style-type: none"> ● Water Quality test (see Appendix 1 - Figure 1) ● Redirecting water at Pond F (see Appendix 1 - Figure 2) ● Watered plants at Channel 2 and Mesa
11/2/2018	<ul style="list-style-type: none"> ● Continuing to redirect water at Pond F ● Water oaks ● Algae removal at Pond E
11/5/2018	<ul style="list-style-type: none"> ● Homeless activity at Channel 1 (see Appendix 1 - Figure 3) ● Maintenance path at Pond A (see Appendix 1 - Figure 4) ● Plants at Channel 2 watered ● Invasive plants removal at the canyon (Castor bean)
11/6/2018	<ul style="list-style-type: none"> ● Invasive plants removal (Tamarix) (see Appendix 1 - Figure 5) ● Vandalism at Channel 1 (Someone removed native elderberry tree) (see Appendix 1 - Figure 6) ● Invasive plants removal at channel 1 (Pampas grass) ● Watered oaks and mesa plants
11/7/2018	<ul style="list-style-type: none"> ● Weirs were cleared at Pond B (see Appendix 1 - Figures 7 and 8) ● Invasive plants removal at Pond B (Pampas grass) ● Watered plants at Channel 2
11/8/2018	<ul style="list-style-type: none"> ● Watered oaks and mesa plants ● Algae removal at Pond E (see Appendix 1 - Figures 9 and 10) ● Weirs were cleared ● Invasive plants removal at Canyon (Tree tobacco)



11/9/2018	<ul style="list-style-type: none"> ● Reclaim pump was turned on due to low water pressure. ● Watered plants on channel 2 ● Algae removal at Pond F
11/12/2018	<ul style="list-style-type: none"> ● Veterans Day
11/13/2018	<ul style="list-style-type: none"> ● Removal of mustard piles at mesa and grassland ● Weirs were cleared at Pond C ● Watered plants at Mesa and planted oaks
11/14/2018	<ul style="list-style-type: none"> ● Fixing fence at Mesa (see Appendix 1- Figure 11) ● Watered plants at Channel 2 ● Algae removal at Pond E
11/15/2018	<ul style="list-style-type: none"> ● Fence repairs at Mesa ● Invasive plants removal at Mesa (piles of mustard) ● Cutting cattails at channel 2 ● Watered planted oaks and plants at mesa ● Water quality testing
11/16/2018	<ul style="list-style-type: none"> ● Watered plants at Channel 2 ● Cattail removal at Channel 2 (see Appendix 1 - Figure 12 and 13) ● Cleared weirs at Channel D and E
11/19/2018	<ul style="list-style-type: none"> ● Watered mesa and planted oaks ● Cutting cattail at channel 2 ● Algae removal at Pond E
11/20/2018	<ul style="list-style-type: none"> ● watered plants at Channel 2 ● Cut and removal of cattail at Pond E
11/21/2018	<ul style="list-style-type: none"> ● Watered mesa and oaks ● Algae removal at Pond F ● Cattail removal at Channel 2
11/22/2018	<ul style="list-style-type: none"> ● Thanksgiving
11/23/2018	<ul style="list-style-type: none"> ● Black Friday
11/26/2018	<ul style="list-style-type: none"> ● Reclaim pump was turned on ● Invasive plants removal from Vernal Pool 1 (Castor bean and Tree tabacco) ● Watered mesa and planted oaks ● Algae removal from Pond F
11/27/2018	<ul style="list-style-type: none"> ● Channel F water channel completed ● Watered plants at Channel 2 ● Fence repairs at mesa
11/28/2018	<ul style="list-style-type: none"> ● Watered oaks and mesa ● Algae removal at Pond E ● Cleared weirs at Pond B and A
11/29/2018	<ul style="list-style-type: none"> ● Rain day ● Reclaim pump was turned off to avoid flooding ● Channels and Ponds were checked for flooding



	<ul style="list-style-type: none"> • All weirs were cleared
11/30/2018	<ul style="list-style-type: none"> • Reclaim pump was turned back on • Invasive plants removal near oaks • Weirs cleared at all ponds

Table 2. Water Quality tests at Fairview Park

EES collects water from the center of all ponds to test temperature, barometric pressure and dissolved oxygen. Water testing allows specific problems to be tested such as muck build up, algae growth, and suspended solids. According to the results, EES staff will be able to maintain water quality (WQ) and prevent major problems that may affect surrounding environment and land use. During the month of november, WQ was tested on 11/01 and 11/15 however the tests on 11/01 will not be considered for this report because the equipment was not calibrated and may have reported wrong results.

Water testing 11/01/18	Pond A	Pond B	Pond C	Pond D	Pond E
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Water testing 11/15/18	Pond A	Pond B	Pond C	Pond D	Pond E
Temperature	22.5°C	18 °C	16.7 °C	15.5 °C	16.7°C
Barometric pressure	754.5 mmhg	754.7 mmhg	754.7 mmhg	754.7 mmhg	754.8mmhg
Dissolved oxygen (%)	83.9%	81.7%	85.7 %	94.5 %	84.4%
Dissolved oxygen (ppm)	7.25 ppm	7.79ppm	8.74 ppm	9.43 ppm	8.18 ppm



APPENDIX 1 – Photos



Figure 1. Staff testing DO at Pond A



Figure 2. Redirecting water at Pond F



Figure 3. Homeless activity at Channel 1

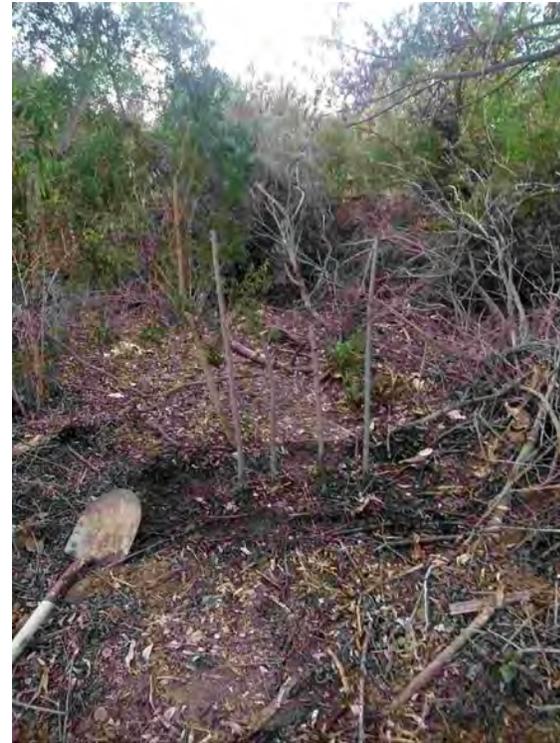


Figure 4. Maintenance path at Pond A





Figure 5. Invasive plants removal



Figure 6. Vandalism at Channel 1



Figure 7. Weirs were cleared at Pond B (Before)



Figure 8. Weirs were cleared at Pond B (After)





Figure 9. Algae removal at Pond E (Before)



Figure 10. Algae removal at Pond E (After)



Figure 11. Fence repair at Mesa





Figure 12. Cattail removal at Channel 3 (Before) **Figure 13.** Cattail removal at Channel 3 (After)

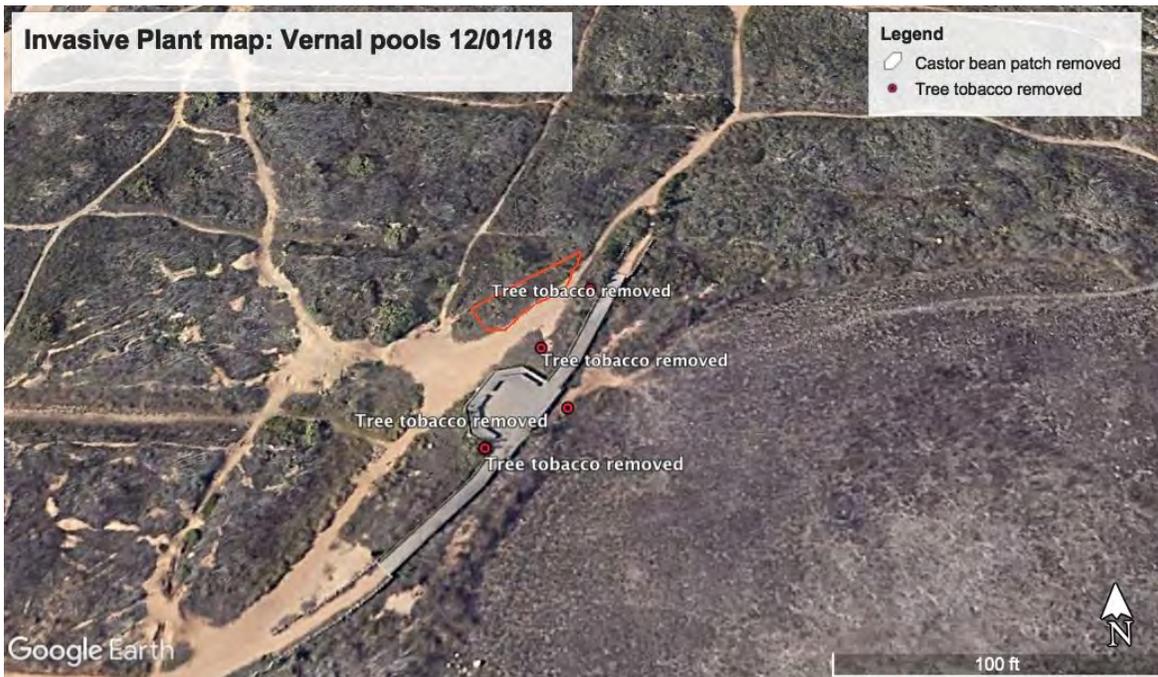


Map 1. Invasive plants at Wetlands, November, 2018





Map 2. Invasive plants at Bluffs and Canyon, November, 2018



Map 3. Invasive Plants at Vernal pool 1, November 2018

