

DRAFT

Nature Reserve of Orange County

County of Orange
Central/Coastal NCCP/HCP

2021 ANNUAL REPORT



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NATURE RESERVE OF ORANGE COUNTY

ANNUAL REPORT 2021

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Acknowledgements

The Natural Communities Coalition appreciates and thanks the reserve landowners and land managers whose hard work and collaboration makes a significant contribution to the health of the Reserve and this Annual Report.

Cover Photo

*The federally threatened California gnatcatcher (*Polioptila californica*; CAGN) is one of three target species covered under the Orange County Central/Coastal Subregion Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP).*

Photo by Nathan Taxel, Upper Newport Bay, OC Parks

BACKGROUND

The Implementation Agreement for the County of Orange NCCP/HCP Central and Coastal Subregion specifies that an Annual Report be prepared each year to describe activities of the non-profit management corporation and of landowners and land managers within the reserve system. The annual report contains a progress report for the preceding year and a work plan for the following year. This report is being submitted to the US Fish and Wildlife Service and California Department of Fish and Wildlife to fulfill that requirement for the years 2021/2022. Guidelines provided by the Wildlife Agencies were used in the preparation of this report.

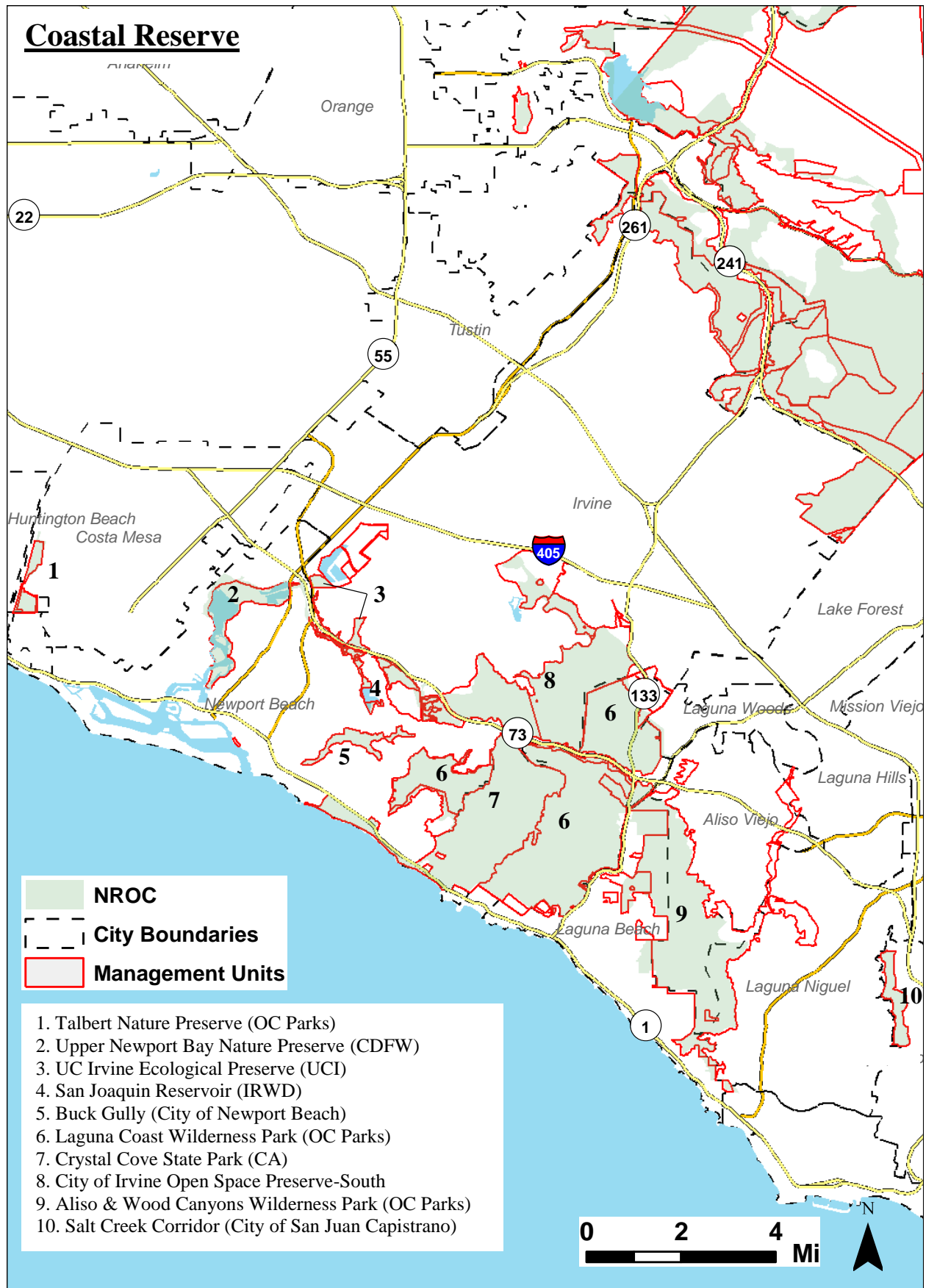
INTRODUCTION

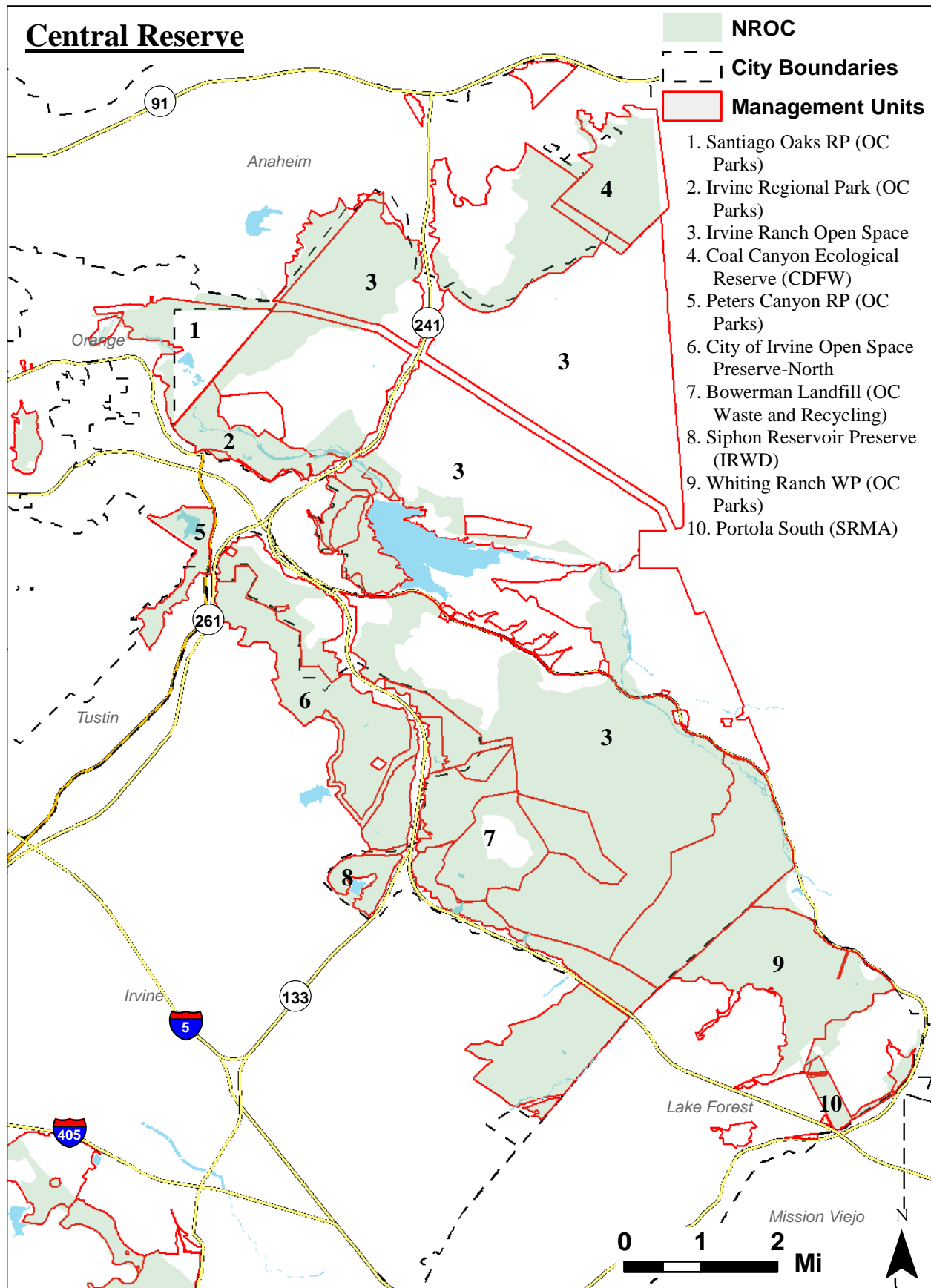
The Natural Communities Coalition is the 501(c)(3) non-profit corporation that was formed to manage the Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) for the Central and Coastal Subregion of Orange County. Its mission is to “*Coordinate with landowners, managers and other partners to ensure the persistence of the Reserve’s natural communities, including the full spectrum of native plant and animal species, through protection, study and restoration of native habitats and natural processes*”. Thirty-nine sensitive species are protected, including nine plant and thirty animal species. The primary vegetation type in the Reserve is coastal sage scrub, coexisting in an intricate mosaic of oak woodland, native grassland, chaparral, Tecate cypress and riparian communities.

NCC helps coordinate science and land management activities of reserve landowners and managers in the nearly 38,000-acre reserve system. Additionally, it conducts biological research and monitoring, and implements habitat restoration and enhancement programs in coordination with landowners and managers. The overall biological goal of the Reserve program is to conserve healthy, functioning ecosystems at a landscape level. This is accomplished through adaptive management, a flexible approach that is open to change based on new scientific information.

RESERVE MAPS

Two maps of the Reserve system, Coastal Subregion and Central Subregion, and associated non-Reserve open space have been included in this annual report for easy reference.





1.0 NCC ORGANIZATIONAL GOVERNANCE AND ANNUAL REPORT OVERVIEW

1.1 Board of Directors Milestones in 2021

March

- NCC Board of Directors held elections for Public At-Large Directors and Alternates representing Business, Environment, and Recreational interests.
- The tax returns for the October 1, 2019, through September 30, 2020, fiscal year were reviewed and accepted by the board.
- NCC received board approval to apply for a Local Assistant Grant from the State of California to work in partnership with the USGS on assessing the ecological threat from competition in the reserve between one of the reserve's target species-- Orange throated whiptail, and the introduced Sonoran whiptail.
- Board of Directors unanimously approved the NROC 2020 Annual Report and 2021 Work Plan for submission to the Wildlife Agencies. The Annual Report used a new NCC web-based format which requires representatives of participating landowners to answer the same land management questions and allows for comparisons between and among lands enrolled in the reserve.

June

- NCC approved the funding to support 50 percent of Orange County Parks' research proposal for a year-long mountain lion study at Whiting Ranch Wilderness Park conducted by U.C. Davis.

September

- Board of Directors approved the 2021-22, fiscal year budget.
- The U.S. Fish and Wildlife Service and the NCC Board of Directors signed a Memorandum of Understanding that changed both the role of the Service and board participation titles from what was originally described in the Implementation Agreement back in 1996 of the Central and Coastal Subregion of the NCCP/HCP for Orange County, California.
- The NCC Board of Directors approved a Minor Boundary Amendment (MA 19-01), removing the Irvine Lake Recreational Parcel from the reserve in exchange for extinguishing reserved development rights on an adjacent parcel.

December

- NCC Board of Directors approved the September 30, 2021, audited financial statement as presented by Windes, Inc.

2.0 NCC SCIENTIFIC PROGRAM STATUS AND WORK PLAN 2021-22

2.1 Introduction

The primary responsibility of NCC is to facilitate implementation of an effective management program that maintains the long-term net habitat value of the coastal sage scrub habitat mosaic within the Central-Coastal Subregion. Through its biological monitoring and research program, NCC gathers key information on the status and trends of the biological resources and operation of natural systems found within the Reserve. Knowledge gained from these activities informs development of the Reserve's science-based management program implemented by the signatories of the NCCP/HCP, with support from NCC, in an adaptive framework.

Habitat restoration and enhancement is critical to maintaining and enhancing the long-term viability and function of the habitat within the Reserve and serves a key role in the Reserve's management program. As defined by the NCCP/HCP, any activity designed to enhance existing biological functions, or restore biological functions that were present historically but no longer are present within the Reserve is treated as a restoration or enhancement activity. Traditionally, the focus of NCC's habitat restoration program has been on the restoration of the conditions that support the target species and habitat, however, the program has the flexibility to be expanded to include the enhancement or restoration of the full range of habitats included within the Reserve, as well as the monitoring and associated adaptive management of ongoing operation and maintenance activities, public access and recreation uses, and fire management programs.

The Work Plan Table (Section 2.2) and accompanying Project Descriptions (Section 2.3) provide updates on the progress and accomplishments of twenty-two projects sponsored by NCC during the 2021 calendar year. Four projects are now recognized as complete. All others are ongoing or new projects scheduled to be implemented in 2021. Project Descriptions were written to facilitate development of a project database that allows for the standardization of tracking project status, cost, matching contributions, landowner involvement, and accomplishments. In addition, the information provided in the summary table allows projects to be directly linked to project reports, GIS data, and contracts, as well as assigns projects to different program classes and areas, and by resource.

The total approved Work Program budget for FY 2021-22 is \$1,756,700 Consistent with the State's NCCP Program and NCC Strategic Plan, the budget for FY 2021-22 includes funding for multi-year science and land management initiatives developed to support a broad-based ecosystem approach to the protection and long-term management of biological diversity present within the Reserve. Multi-year initiatives are organized across the six focus areas of wildland fire, recreation, habitat restoration, invasive species, wildlife management, and biological monitoring.

Following discussions with members of the NCC Board, Technical Advisory Committee, key partners and stakeholders, the importance of identified multi-year initiatives was ultimately recognized and seconded by participants of the Science Integration Meeting hosted by NCC in early 2016 and then again by NCC board members and key partners in the NCC 2019 - 2021

Strategic Planning Workshop held in September 2018. A new, 3-year strategic plan workshop is anticipated for the spring 2022.

Multi-year initiatives supported by the present-year budget include several resource management and monitoring activities in direct support of the mission of the Reserve. These include: a partnership among OCFA, UCCE, OC Parks, State Parks, and IRC, to monitor and treat invasive beetles threatening oak and riparian woodlands; partnership with UC Irvine on development of strategies for monitoring changes in the coastal sage scrub habitat mosaic and habitat restoration; a NCC staff led initiative to work with partners and experts on creation of dashboard metrics of relevance to partners, the public, and elected officials concerning the health of the Reserve; continue development of management strategies to improve breeding opportunities for western spadefoot; and partner-supported, repeat, region-wide surveys for Cactus Wren and California Gnatcatcher.

The budget continues to support empowerment of reserve partners as they direct implementation of a coordinated, unified approach to the management of invasive plants with support from the California Invasive Plant Council under contract with NCC. With respect to recreation management, the budget allows NCC staff to continue to engage national leaders in the field of recreation ecology from Utah State University and Oregon State University to work with OC Parks, State Parks, and other partners on development of a long-term recreation management plan for the Reserve, providing the much-needed balance between human-use and resource protection within the Reserve.

Lastly, the new budget affords NCC staff the opportunity to implement key elements of the Wildland Fire Management Plan over the next few years. Such elements include limiting fire spread and rates of ignitions along the wildland-urban interface and roadsides, implementing the Fuel Management Standards, and other fire management activities associated with natural resource protection. Considering some of these elements fall outside of the Reserve, progress will require partner and contractor-based training, and establishment of new partnerships with other agencies, such as Caltrans, through implementation of priority initiatives identified by COAST and the county-wide Community Wildfire Protection Plan.

In summary, the concentrated effort to develop multi-year initiatives of relevance to the long-term management needs of the Reserve has been more than five years in the making. From meeting minutes to communications with the Board, workshop reports to programmatic elements memorialized in the NROC Annual Report, all relevant information shared during this process is now archived on the NCC Website.

Multi-year initiatives supported by the budget reach further than previously funded activities as they create a partner-based collaborative supporting science-based decision making and novel communication processes. Through implementation of the initiatives identified in the new fiscal budget, a foundation is set in place providing stability in terms of the direction of the science program and partners with access to a diverse and talented team of natural resource management professionals and scientists working on focus areas of highest priority to the Reserve.

2.2 2021-2022 NCC Work Plan Table

	Project Name	Project Status†	Project Progression *	Fund**	Matching Funds Secured	2020-21	2021-22	Orange County Parks	Orange County Waste and Recycling	City of Irvine	Crystal Cove State Park	CA Dept. of Fish and Wildlife	City of Newport Beach	University of California, Irvine	Irvine Ranch Water District	Transportation Corridor Agencies	The Irvine Company	Metropolitan Water District
1	Cactus Scrub UCI Rest/Measure M	C		R	Y	\$55,000	--							X				
2	Invasive Plant Program Mgmt	O		R		\$139,500	\$73,200	X		X	X	X	X	X				
3	Invasive Plant Control	O		R		\$138,250	\$163,700	X		X	X	X	X	X				
4	Cowbird Trapping	O		C		\$40,000	\$47,500	X		X	X				X			
5	Mountain Lion Project	O		E		\$10,000	\$10,000	X	X	X		X			X	X	X	
6	NCC Database Mgmt	O		E		--	\$50,000	X	X	X	X	X	X	X	X	X	X	X
7	Target Bird Monitoring	O		E	Y	--	--	X	X	X	X	X	X	X	X	X	X	X
8	Cactus Salvage Portola/Orchard Hills	O		R		\$21,300	\$11,200	X		X	X						X	
9	Land Manager Training	P		E		--	\$71,500	X	X	X	X	X	X	X	X	X	X	X
10	Western Spadefoot Mgmt	O		R	Y	\$290,000	\$274,000	X	X	X	X	X	X	X	X	X	X	X
11	Rec Mgmt & Human Valuation	O		R		\$100,000	\$15,600	X		X	X	X	X	X		X	X	
12	Rec Mgmt & Mobility Data	C		R		\$9,600	--	X		X	X	X	X	X		X	X	
13	Vegetation Monitoring & Communication	O		E	Y	\$205,000	\$180,000	X	X	X	X	X	X	X	X	X	X	X
14	Trail Use Study	N		R		\$14,000	\$61,000	X		X	X	X	X	X			X	
15	NDVI Fuels Map	O		E	Y	--	\$24,000	X										
16	UCI EP Fuel Mod	C		R		\$32,500	--							X				
17	Whiting Ranch Mtn Lion Study	N		R	Y	--	\$75,000	X										
18	Laguna Canyon Fuels Mod	O		R	Y	--	\$5,000	X		X								

	Project Name	Project Status†	Project Progression*	Fund**	Matching Funds Secured	2020-21	2021-22	Orange County Parks	Orange County Waste and Recycling	City of Irvine	Crystal Cove State Park	CA Dept. of Fish and Wildlife	City of Newport Beach	University of California, Irvine	Irvine Ranch Water District	Transportation Corridor Agencies	The Irvine Company	Metropolitan Water District
19	2018 Fires Rare Plant Survey	C		R	Y	\$17,000	--	X				X						
20	Health Assessment	N		E		\$75,000	\$137,000	X	X	X	X	X	X	X	X	X	X	X
21	Local Seed Network	N		R		\$10,000	\$95,000	X	X	X	X	X	X	X	X	X	X	X
22	Grazing Plan – Pilot Study	N		R		\$75,000	\$463,000	X										
					Endowment:	\$290,000	\$472,500											
					Restoration:	\$902,150	\$1,236,700											
					Cowbird:	\$40,000	\$47,500											
					Total:	\$1,232,150	\$1,756,700											

* Green = Project is on or ahead of schedule; Yellow = Project requires additional attention by NCC staff and/or contractors; Red = Project requires substantial attention by NCC staff and/or contractors, White = Project is approved, but not initiated

** R = Restoration & Acquisition Fund; E = Endowment Fund; C = Cowbird Fund

† C = Complete; O = Ongoing; N = New; P = Postponed

2.3 Project Descriptions

List of Acronyms

BMPs = Best Management Practices
CCSP = Crystal Cove State Park
CDFW = California Department of Fish and Wildlife
CEB = Center for Environmental Biology
CMT = Core Management Team
CNB = City of Newport Beach
CNPS = California Native Plant Society
COAST = County of Orange Area Safety Taskforce
COI = City of Irvine
EEMP = Environmental Enhancement Management Program
HCP = Habitat Conservation Plan
HREP = Habitat Restoration and Enhancement Plan
IC = Irvine Company
IRC = Irvine Ranch Conservancy
IRWD = Irvine Ranch Water District
LAG = Local Assistance Grant
LCF = Laguna Canyon Foundation
LCWP = Laguna Coast Wilderness Park
MOU = Memorandum of Understanding
MWD = Metropolitan Water District
NCC = Natural Communities Coalition
NCCP = Natural Community Conservation Plan
NROC = Nature Reserve of Orange County
OCFA = Orange County Fire Authority
OCIM = Orange County Invasive Management
OCP = Orange County Parks
OCTA = Orange County Transportation Authority
OCWR = Orange County Waste and Recycling
SDMMP = San Diego Management and Monitoring Program
TAC = Technical Advisory Committee
TCA = Transportation Corridor Agencies
TNC = The Nature Conservancy
UCI = University of California, Irvine
UCLA = University of California, Los Angeles
UNB = Upper Newport Bay
USDA = US Department of Agriculture
USFWS = US Fish and Wildlife Service
USGS = US Geological Survey
VegCAMP = Vegetation Classification and Mapping Program
WCS = Wildlands Conservation Science

Reporting Template for NCCP-related Science and Land Management Projects

Project Title	Abbreviated project title limited to 100 characters
Contractor(s)/Researcher	Contractors or researchers associated with the project
Time Period	Years project has been active and current project end date
Total Project Cost	Total project costs since start date (NCC + matching funds)
Amount Budgeted	NCC 2020-2021 spent and 2021-2022 budgeted
Fund	Endowment, Restoration, or Cowbird Funds (NCC-specific category)
Matching Contribution(s)	Agency (Dollar Amount)
Landowner Involvement	Landowners whose land is accessed for purposes of conducting the project
Project Status	Project may be Complete, Ongoing, or New
Project Progression	Project is on or ahead of schedule (Green), Project requires additional attention by staff and/or contractors (Yellow), Project requires substantial attention by staff and/or contractors, project is in jeopardy of not progressing (Red), Project is approved, but not initiated (White)
Program Class	Identify program class from the following categories: Monitoring/Research, Land Management, Planning, Education/Training, Database Management
Program Area	Identify program area from the following categories: Wildland Fire, Weed Control, Habitat Restoration, Recreation, Sensitive Biological Resources, Invasive Wildlife Control
Resource	Natural resource benefiting from project implementation
Project Purpose	Brief description limited to 50 words
Available Report(s)	Project reports associated with the project (project description linked to associated reports in online library)
Available GIS Product(s)	GIS data associated with the project (project description linked to associated GIS files in online library)
Overview	Project background limited to 1000 words (static between years)
Progress	Progress made to date (includes a description of past-year activities as well as activities to be achieved in the new calendar year)
Key Milestones Schedule	Project milestones (with due dates identified): Date milestone achieved
Key Findings	Updated each year as applicable
Notes	Updated each year as applicable

1. Cactus Scrub UCI Rest/Measure M

Project Title	Cactus Scrub UCI Rest/Measure M
Contractor(s)/Researcher	Land IQ; Nakae & Associates
Time Period	2011-2021
Total Project Cost	\$401,900
Amount Budgeted	2020-2021: \$55,000
Fund	Restoration
Matching Contribution(s)	OCTA: \$359,400
Landowner Involvement	UCI
Project Status	Completed
Project Progression	--
Program Class	Land Management
Program Area	Habitat Restoration
Resource	Coastal Sage Scrub
Project Purpose	Restoration of 8.5 acres of coastal cactus scrub at UC Irvine Ecological Preserve
Available Report(s)	<u>2021 Performance Monitoring Report – Measure M Cactus Scrub Restoration for the UC Irvine Ecological Preserve. Prepared by Land IQ. Jun. 2021.</u>
Available GIS Product(s)	--

Overview

The Measure M Cactus Scrub Restoration Project is funded under the OCTA Measure M environmental mitigation program. This project involves the restoration of approximately 8.5 acres of highly disturbed and non-native grassland habitat to coastal cactus scrub within the UC Irvine Ecological Preserve (UCIEP). The \$359,000 Measure M grant awarded to NCC ran through 2019.

Progress

The 8.5 acres of cactus scrub restoration was initiated in late 2011 with seeding occurring in late 2012. Native vegetation cover was lower in 2021 at 85% compared to 106% in 2019. Total non-native cover decreased substantially to 4%. A summary of the monitoring effort was submitted by Land IQ in June. The project is complete and was approved by the Wildlife Agencies in late 2021.

2. Invasive Plant Program Mgmt

Project Title	Invasive Plant Program Mgmt
Contractor(s)/Researcher	Hamilton Biological; Calflora, Cal-IPC, IRC, CNPS
Time Period	2004-2022
Total Project Cost	\$917,585
Amount Budgeted*	2020-2021: \$139,500; 2021-2022: \$73,200
Fund	Restoration
Matching Contribution(s)	--
Landowner Involvement	OCP, OCWR, COI, CCSP, CDFW, CNB, UCI, IRWD, TCA, IC,

	MWD
Project Status	Ongoing
Project Progression	On schedule
Program Class	Land Management/Planning
Program Area	Weed Control
Resource	All
Project Purpose	Management (i.e., mapping, coordination, and reporting) of NCC and partner-sponsored weed control activities
Available Report(s)	<i>Five-year Invasive Plant Management Plan for the Coastal Portion of the County of Orange Central & Coastal Subregion NCCP/HCP. Prepared by California Invasive Plant Council. Jan. 2017.</i> <i>Five-year Invasive Plant Management Plan for the Central Portion of the County of Orange Central & Coastal Subregion NCCP/HCP. Prepared by California Invasive Plant Council. Feb. 2019.</i> <i>2021 Early Detection/Rapid Response Survey Report Coastal Orange County NCCP/HCP Reserve. Prepared by Hamilton Biological. Dec. 2021.</i>
Available GIS Product(s)	<i>Calflora Weed Manager (www.calflora.org)</i>

*Change in budget from 2020 reflects a rearrangement in content of tasks within invasive plant management program. See project #3 for tasks related to invasive plant control.

Overview

Implementation of NCC's invasive plant control program requires multi-agency coordination and collaboration. With the creation of the Core Management Team (CMT) in 2016, consisting of representatives from State Parks, OC Parks, and the IRC, coupled with advanced planning conducted under the guidance of the California Invasive Plant Council (Cal-IPC), NCC is focused on facilitating the Subregion-wide planning and implementation of the invasive plant program over the course of the next decade. To this end, NCC has contracted with the Cal-IPC to develop a coordinated, unified approach to prioritizing invasive plant control efforts across the Reserve.

Progress

As of early 2015, Cal-IPC had completed the planning phase of the project, determining the next steps in developing expert recommendations for: (1) strategic prioritization for invasive plant management; and (2) early detection/rapid response protocol for new invasive plant populations. The CMT and Cal-IPC facilitated creation of a new overarching five-year management plan for the coastal (2017) and central (2019) portions of the Subregion. Together these provide detailed guidance and recommendations for land managers on the weed management priorities in specified management units. An updated five-year plan for the Coastal Reserve will be developed in 2022.

In 2017, members of the CMT began use of Calflora's Weed Manager to archive and report control and mapping activities across the lands under their management. Activities reported include the early detection surveys. Each organization affiliated with the CMT has created their own group to organize activities under their management in one central place for purposes of reporting and sharing observations, treatment history and other program features with members, prior to making information associated with new records available to all Calflora users. In 2021, CDFW and UCI was added, as members, to the Calflora's Weed Manager under the OC Coordinating Group.

Several ongoing needs remain, with updates, as described below.

1. Reporting on each year's work – At the end of each season, OCP, CSP and IRC need to report on that year's work. The summary of work will be produced primarily through Calflora, and is aggregated into a single report to NCC. There are challenging issues associated with reporting, such as how weed populations are defined and measured. *Need:* An individual or agency needs to be tasked with coordinating data submittal and aggregating data into a report for NCC. Focus for 2022: Through the development of a custom reporting tool through Calflora, CalIPC is assisting NCC in using the reporting tool to produce an annual report and individual users will be able to generate their own customized report.

2. Assessing species – New species need to be assessed to characterize impact, which is used in prioritizing management. Cal-IPC uses a Plant Assessment Form (PAF) for species already having an observable impact, and a Plant Risk Evaluation (PRE) for species suspected of being problematic. *Need:* Cal-IPC needs to draft PAFs/PREs for new plants and get these reviewed by its expert committee.

3. Planning each season's work – Each November-January the Core Management Team (CMT) should meet to set a plan for the next year's management and EDRR (Early Detection and Rapid Response) activities. This involves reviewing the management plans for the subregion and using that framework for setting priorities in light of priorities set in previous years, the results of treatment in previous years and funding available. *Need:* An entity to coordinate the CMT in the process of designing annual work plans. Update: NCC coordinates annual planning meeting(s) to update the species priority list, the EDRR survey plan, and review work assignments.

4. Configuring Calflora – CMT partners are using Calflora's Weed Manager as a shared data platform. The tools are still evolving, and the CMT collaboration will benefit from working with Calflora and like-minded collaborations (e.g., OneTam) to help Weed Manager's features best serve their needs. Needed features in development in 2022-2023 include: being able to easily see each other's data; improved record keeping (e.g., functionality of apps and history stacking of populations); being able to print maps; and having appropriate reports (e.g., custom report generator). Update: Coordinating communications with regional partnerships occurs through periodic meeting updates led by Calflora and OCWMA (Orange County Watershed Management Area). Updates include advancements on database tools and trainings, led by OC Parks (e.g., video tutorials for tools, plant ID trainings), made available to users.

In 2022, contractors will again be working in tandem to implement the early detection surveys in both coastal and inland areas of the Subregion and the subsequent rapid response treatments of populations discovered in 2021 and prior years. Calflora's Weed Manager is again to be made available for another 12-month period to the member organizations of the Core Management Team to help track and share information tied to invasive plant management activities. IRC will again be under contract to serve as GIS support for partners on use of Weed Manager in 2022.

Key Milestones

1. Prepare and Submit Final Five-year Management for Coastal Reserve (Due: 30 September 2016): *Completed in Jan., 2017—To be updated in 2022.*
2. Compare Results of 2011 and 2016 Helicopter Surveys Report (Due: 30 June 2017): *additional information was provided to Cal-IPC from Wildlands Conservation Science after flying additional acreage in 2017. Completed Feb. 2019*
3. Prepare and Submit Final Five-year Management Plan for Central Reserve (Due: 31 December 2017): *Completed Feb., 2019—To be updated in 2023.*
4. Complete and Submit FINAL Annual Reports for Early Detection Surveys (Due: 31 December): *Completed by Hamilton Biological.*

Key Findings

By the close of 2017, a total of three groups were formed under Calflora's Weed Manager (<http://www.calflora.org/entry/weed-mgr.html>) and populated with members for the IRC, California State Parks, and OC Parks. In 2021, UCI and CDFW were added as members under the OC Coordinating Group. An illustrated plant list of the priority one (to be eradicated Reserve-wide) and two (eradicate in certain watersheds) is reviewed during the planning meeting. The invasive plant species list is now available through Calflora (http://www.calflora.org/app/ipl?list_id=px927).

3. Invasive Plant Control

Project Title	Invasive Plant Control
Contractor(s)/Researcher	Nakae & Associates; Sage Environmental; Laguna Canyon Foundation (LCF)
Time Period	2000-2022
Total Project Cost	\$3,209,000
Amount Budgeted*	2020-2021: \$138,500; 2021-2022: \$163,700
Fund	Restoration
Matching Contribution(s)	--
Landowner Involvement	OCP, COI, CCSP, CNB, CLB, UCI, CDFW
Project Status	Ongoing
Project Progression	On schedule
Program Class	Land Management
Program Area	Weed Control
Resource	Coastal Sage Scrub
Project Purpose	Implementation of top weed control priorities identified in the

	NROC HREP and 5-year invasive plant management plans for the County of Orange NCCP/HCP Central & Coastal Subregion
Available Report(s)	<u>Fourth Year Treatment Completion Report for Canary Island St. John's Wort Project, City of Laguna Beach, County of Orange, California. Prepared by LCF, Aug. 2021.</u>
Available GIS Product(s)	<i>Calflora Weed Manager (www.calflora.org)</i>

*Change in budget from 2020 reflects a rearrangement in content of tasks within invasive plant management program. See project #2 for tasks related to invasive plant management.

Overview

NCC is actively working with partners and contractors to control invasive plant species populations according to a collaboratively developed management plan. This project is progressing in conjunction with the invasive plant program management activities described in project #2.

Progress

Starting in 2017, the CMT formalized the Early Detection - Rapid Response Program covering the Coastal Reserve, which has now been expanded to cover most of the NROC. Trails were prioritized by potential risk of invasion and are surveyed periodically according to that risk. Ensuring a rapid response is available following early detections of emergent invasive plant species provides the greatest likelihood of successful containment of otherwise problematic invasive plant populations.

Since 2018, NCC contracted with Sage Environmental Group to revisit and treat populations of high-priority emergent invasive plant species discovered in 2017-19 during the early detection field surveys conducted in coastal and inland portions of the Subregion, respectively. Populations of high-priority species requiring immediate treatment following their discovery were treated. Similar to years past, Nakae and Sage Environmental will continue treating high-priority species as identified through the EDRR surveys as well as existing populations.

Laguna Canyon Foundation continues to treat St. John's wort in Laguna Beach. The fourth year of treatment summary report is listed in the above table.

Key Milestones

1. Coordinate with group on Field Schedule (Due: March each year): *Completed*
2. Complete and Submit Report for Early Detection Invasive Plant Survey (Due: 31 December each year): *Completed*

Notes

With increased usage of Calflora's Weed Manager, greater efficiencies in information sharing are being experienced by partners leading to increased coordination among land managers and consultants searching for and treating invasive plant populations of management concern (see Project #2).

4. Cowbird Trapping

Project Title	Cowbird Trapping
Contractor(s)/Researcher	Leatherman Bioconsulting, Inc.
Time Period	1999-2022
Total Project Cost	\$808,500
Amount Budgeted	2020-2021: \$40,000; 2021-2022: \$47,500
Fund	Cowbird
Matching Contribution(s)	--
Landowner Involvement	OCP, COI, IC, CCSP
Project Status	Ongoing
Project Progression	On schedule
Program Class	Land Management
Program Area	Invasive Wildlife Control
Resource	Least Bell's Vireo
Project Purpose	Reduce incidence of cowbird nest parasitism for sensitive bird species, specifically California Gnatcatcher and Least Bell's Vireo
Available Report(s)	<u>2021 San Joaquin Hills Transportation Corridor Brown-Headed Cowbird Trapping Program Report. Prepared by Leatherman Bioconsulting, Inc. Sep. 2021.</u>
Available GIS Product(s)	--

Overview

Per an agreement between the Transportation Corridor Agencies (TCA), USFWS, CDFW, and NCC, the responsibility of implementing the San Joaquin Hills Transportation Corridor Brown-headed Cowbird (BHCB) Trapping Program was transferred from TCA to NCC in 1999. As part of this agreement, TCA also provided an endowment to NCC to cover the costs of implementing the program. The trapping methodology is modified, as needed, through evaluation of prior year trapping success and the annual performance of the endowment. Additional funds, independent of the original program endowment, from the County of Orange and the Irvine Company have provided for the deployment of three to four traps a year during this time period.

Progress

Approximately 5,050 BHCBs have been captured and removed from the local population over the last 20+ years of implementing the program. Throughout the program, the number of traps used in a season has ranged from 7 to 24. In 2017, in accordance with the 2016-18 Strategic Plan for the NCC, staff reviewed and identified potential changes in the management program for the BHCB. In addition to reviewing program logistics and capture history for both the San Joaquin Hills and the Eastern Transportation Corridor, in 2017 staff discussed modifications with the USFWS, CDFW, researchers, contractors, and partnering organizations who are familiar with BHCB trapping efforts both locally and across the region.

Creation of a vision for reorganization of the program was initiated in 2018 and is the discussion is anticipated to continue in 2022. For the 2022 season, the budget was increased to include time for scouting new trapping locations. Historical data will be compiled and analyzed for spatial and temporal patterns in capture rates to help optimize the trapping program.

5. Mountain Lion Project

Project Title	Mountain Lion Project
Contractor(s)/Researcher	UC Davis (Vickers)
Time Period	2011-2022
Total Project Cost	\$125,000
Amount Budgeted	2020-2022: \$10,000; 2022-2022: \$10,000
Fund	Endowment
Matching Contribution(s)	--
Landowner Involvement	OCP, OCWR, COI, IC, CDFW, IRWD, TCA
Project Status	Ongoing
Project Progression	On schedule
Program Class	Monitoring/Research
Program Area	Sensitive Biological Resources
Resource	Mammalian Carnivores
Project Purpose	Inform land management strategies around: (1) landscape connectivity and conservation; (2) health and disease; and (3) minimizing conflicts between cougars and people.
Available Report(s)	<i>See below</i>
Available GIS Product(s)	--

Overview

The ongoing study of the mountain lion (*Puma concolor*) in southern California is headed by Dr. Walter Boyce and Dr. Winston Vickers of the Wildlife Health Center at UC Davis. Dr. Vickers is the field lead for the project. This mountain lion or cougar research focuses on: (1) landscape connectivity and wildland conservation, including road crossings and the effects of fire; (2) genetics, health, and disease, especially focused on diseases transmitted between cougars and other species, exposure to rodenticides, and genetic assessment of the population; (3) minimizing conflicts between cougars and people; (4) and predation on bighorn sheep and interactions with deer in the Peninsular Mountain Ranges. The study area encompasses Orange, Riverside, and San Diego Counties. Cougars have been captured, sampled, and GPS-collared over a wide portion of these counties. Cougars from the study have utilized lands as far north as the Highway 91 and 241 Toll Road junction in the northern Santa Ana Mountains in Orange County and approximately 50 miles south of the border in Mexico.

Progress

To address the goals of the third phase of the study, the researchers continued field efforts to complete capturing, sampling, and GPS collaring of cougars. In addition, researchers conducted extensive camera monitoring of wildlife corridors and crossings in the Santa Ana Mountains. Included in this list of areas, are all of the major wildlife crossings along the studied sections of the 241 Toll Road in Orange County.

Key Findings

The mortality data collected during the study suggests that cougars throughout southern California face significant, and likely increasing, threats secondary to habitat loss and

fragmentation, continued expansion of the human population, roads, and development. Genetic and corridor analyses completed in 2016 highlight the importance of male lions as genetic dispersers, with home ranges averaging approximately 145 square miles in size. The isolating nature of urban development and creation of major state highways has isolated extant populations of mountain lions.

Publications in peer-reviewed scientific literature resulting from the work include the following:

Benson JF, Mahoney PJ, Vickers TW, Sikich JA, Beier P, Riley SPD, Ernest HB, Boyce WM. 2019. Extinction vortex dynamics of top predators isolated by urbanization. Ecol App 29:3. <https://doi.org/10.1002/eap.1868>

Gustafson KD, Vickers TW, Boyce WM, Ernest HB. A single migrant enhances genetic diversity of an inbred puma population. Royal Society Open Science (2017) 4:170115. <http://dx.doi.org/10.1098/rsos.170115>

Zeller KA, Vickers TW, Ernest, HB, Boyce WM. Multi-level, multi-scale resource selection functions and resistance surfaces for conservation planning: Pumas as a case study. PLoS ONE (2017) 12(6): e0179570. <https://doi.org/10.1371/journal.pone.0179570>

Zeller KA, McGarigal K, Cushman SA, Beier P, Vickers TW, Boyce WM. 2017. Sensitivity of resource selection and connectivity models to landscape definition. Landscape Ecol (2017) 32:835. <https://doi.org/10.1007/s10980-017-0489-8>

*Vickers TW, Sanchez JN, Johnson CK, Morrison SA, Botta R, Smith T, Cohen BS, Huber PR, Ernest HB, Boyce WM. 2015. Survival and mortality of Pumas (*Puma concolor*) in a fragmented, urbanizing landscape. PLOS 1 10:7. doi: [10.1371/journal.pone.0131490](https://doi.org/10.1371/journal.pone.0131490)*

Notes

The project is a collaborative effort with many partners assisting in funding and logistics. NCC was a minor financial contributor to the project in 2011 (\$25,000) and 2012-2021 (\$10,000 each year). In 2022, NCC will again make a contribution (\$10,000) to UC Davis in support of the project. Over the years, NCC funding has allowed the principal investigators to expand analyses, spend extra time on capture or camera work, and replace equipment not otherwise covered by other funding.

6. NCC Database Mgmt

Project Title	NCC Database Mgmt
Contractor(s)/Researcher	ESRI, Vestra
Time Period	2014-2022
Total Project Cost	\$158,393
Amount Budgeted	2020-21:--, 2021-22: \$70,000
Fund	Endowment
Matching Contribution(s)	TNC: \$75,323
Landowner Involvement	OCP, OCWR, COI, CCSP, CDFW, CNP, UCI, IRWD, TCA, IC, MWD

Project Status	Ongoing-delayed
Project Progression	Resuming after postponement due to changes in direction and NCC/partner staffing
Program Class	Database Management
Program Area	Multiple
Resource	Multiple
Project Purpose	Develop a coordinated approach to the long-term management of ecological data within the NCCP/HCP Reserve that focuses on system integration, interoperability, and user efficiency
Available Report(s)	<i>Analysis and Prioritization of Rare Plant Occurrence Data in NROC. Prepared by UCI.</i> Report 2019 and Publication 2020
Available GIS Product(s)	https://sites.uci.edu/rareplants/RarePlantGeodatabase.gdb

Overview

For NCC to effectively use science to inform adaptive resource management, the integration of data collection, processing, analysis, storage, retrieval and sharing is paramount among participants in the NCCP/HCP. While every partner in the NCCP/HCP operates independent systems for storage and access to data relevant to the Reserve, the integration of these tools and long-term coordination and management of the collaborative process is critical to NCC's mission to coordinate effective management of the natural resources present within the Reserve.

Progress

The County, as the signatory responsible for hosting and managing the spatial data (GIS) associated with implementation of the NCCP/HCP, is to receive and archive all reports, data, and meta-data, and share spatial data and models generated by NCC-funded projects. Because of the high level of complexity of the data in general and the variation of data collected and methodologies used across all the studies, NCC, in the designed schema employed by the County's contractor in 2014-15 (Vestra Resources), chose to organize ecological data archived with the County into a two-tiered hierarchy. The highest level is a set of point feature classes organized into taxonomical types, and the second, or detailed, level is organized based on NCC projects.

In 2022, NCC staff plans to engage Vestra Resources, ESRI, and OC Parks staff to further develop the database.

In 2017, NCC invested time in further development of the online library of project reports hosted on the NCC-website. Initially, the web-based library of reports is to cover the last five years of funded work, and then subsequently, be advanced to cover the full 25+-year history of the organization. This effort is ongoing.

Rare Plant Database- A full compilation of the rare plant GIS database was completed in 2018. The database, covering more than 90 species of rare plants, designated as rare by California Native Plant Society (and other agencies), includes data from multiple sources, including the

USFWS, The Nature Conservancy, IRC, CA Natural Diversity Database, and Calflora. Following the data validation phase, available spatial information on the distribution and density of individual species coupled with information on species attributes were combined to produce individual range maps for each species. The database is archived with the County GIS Manager and NCC, but require an update with recent post-fire and associated RMP surveys. This database is expected to be incorporated into the NCC database system in development with OC Parks staff and Vestra Resources Consulting.

7. Target Bird Monitoring

Project Title	Target Bird Monitoring
Contractor(s)/Researcher	USGS; SDMMMP; Leatherman BioConsulting, Inc.
Time Period	2014-2024
Total Project Cost	\$762,000
Amount Budgeted	2020-2021: -- 2021-2022: --
Fund	Endowment
Matching Contribution(s)	TNC: \$147,000
Landowner Involvement	OCP, OCWR, COI, CCSP, CDFW, CNB, UCI, IRWD, TCA, IC, MWD
Project Status	Ongoing
Project Progression	On schedule
Program Class	Monitoring/Research
Program Area	Sensitive Biological Resources
Resource	Target Bird Species – California Gnatcatcher and Cactus Wren
Project Purpose	Develop a comprehensive monitoring program for both the California Gnatcatcher and Cactus Wren
Available Report(s)	<u>2020 California Gnatcatcher Survey Report 2020. Prepared by Leatherman Bioconsulting, Inc. Jan. 2021.</u> <u>2016 California Gnatcatcher Survey Report. Prepared by Leatherman Bioconsulting, Inc. Jan. 2017.</u> <u>2018 Cactus Wren Habitat Assessment and Focused Surveys. Prepared by Leatherman Bioconsulting, Inc. Dec. 2018.</u>
Available GIS Product(s)	2018 CACW Study Metadata; 2018 CACW Study GIS Deliverable

Overview

In support of development and implementation of NCC's long-term Target Bird Species monitoring program, NCC has launched a collaborative planning project with the US Geological Survey (USGS), San Diego Management Monitoring Program (SDMMMP), The Nature Conservancy (TNC), and Colorado State University (CSU), focused on identifying goals, strategies, and objectives, in support of the long-term management and assessment of the NCCP/HCP Program in supporting conservation of the two target species. In the development of the plans, emphasis is to be placed on the identification of robust, but cost-efficient, monitoring strategies that are well-coordinated with other southern California NCCP/HCPs.

Progress

At the California Gnatcatcher Regional Monitoring Workshop, in addition to discussing the results of the 2016 surveys and estimates, revisions to the underlying habitat suitability model were presented by Dr. Kris Preston (SDMMP). Regional surveys for the California Gnatcatcher were completed in 2020 and are tentatively scheduled to be repeated in 2024. The reports for the surveys conducted in NROC are listed in the above table.

NCC partnered with The Nature Conservancy in 2017 to survey all mapped habitat across the Coastal and Central Subregion for the presence of Cactus Wren in 2018. Field surveys were designed to include surveys in areas recently burned in the Canyon 2 Fire (October 2017), providing the first assessment of the impact of the fire on Cactus Wren. A repeat survey is anticipated in 2023 with a regional, coordinated effort.

In support of conservation measures being undertaken within the greater southern California region, NCC, together with The Nature Conservancy, SDMMP, and the CDFW, hosted a symposium in March 2019. The focus for the symposium was on formulating a regional conservation strategy for the Cactus Wren in southern California.

8. Cactus Salvage Portola/Orchard Hills

Project Title	Cactus Salvage Portola/Orchard Hills
Contractor(s)/Researcher	Land IQ; Nakae; Stice Company
Time Period	2014-2022
Total Project Cost	\$1,278,332
Amount Budgeted	\$2020-2021: \$21,300, 2021-2022: \$11,200
Fund	Restoration
Matching Contribution(s)	--
Landowner Involvement	OCP, COI, CCSP, IC
Project Status	Ongoing
Project Progression	On schedule
Program Class	Land Management
Program Area	Habitat Restoration
Resource	Coastal Sage Scrub
Project Purpose	Salvage topsoil and cactus material from development sites for use in the restoration of coastal sage scrub and cactus scrub within the NROC
Available Report(s)	<u>2021 Performance Monitoring Report Year 5 – Whiting Ranch Wilderness Park Cactus Salvage and Restoration Project. Prepared by Land IQ. Jun. 2021.</u> <u>2021 Performance Monitoring Report Year 6 – Crystal Cove State Park Cactus Salvage and Cactus Scrub Restoration Project. Prepared by Land IQ. Aug. 2021.</u> <u>2020 IROS Soil Salvage Final Report. Prepared by IRC. Oct. 2020.</u>
Available GIS Product(s)	--

Overview

Separate opportunities emerged in 2014 and 2015 to work with partnering organizations, specifically the IRC, OC Parks, State Parks, and the Irvine Company to salvage topsoil and cactus from future development sites located outside of the NROC for use in the restoration of coastal sage scrub and cactus scrub within the NROC. These opportunities involve conducting salvage operations within the geographic areas of Portola Hills, Portola Center, and Orchard Hills. Working together with IRC, TNC, contractors, and the landowners, topsoil and cactus were salvaged from the sites for distribution within the NROC.

Progress

In 2014, native cactus was salvaged from the Portola Hills development site and used at the West Loma and Mule Deer restoration sites managed by the IRC on behalf of OC Parks, and City of Irvine, respectively. Also, in 2014, cactus was captured from the same salvage site and moved for planting at CCSP, following site preparation activities across 9.7 acres of degraded habitat above Muddy Canyon. The new restoration at CCSP complements 4.0 acres of ongoing, NCC-sponsored, cactus scrub restoration occurring in the State Park.

To save mature cactus present at the Portola Center development site prior to clearing activities, mature cactus clumps were salvaged in February 2015 and planted in a fallow field adjacent to the McFadden Ranch House at Whiting Ranch. The total amount of salvaged cactus clumps planted at the McFadden Ranch House (500) is expected to support approximately 20 acres of new cactus scrub restoration within Whiting Ranch and neighboring areas of the Reserve for many years.

Expanding upon the salvage activities, in the fall of 2015, cactus scrub restoration was initiated across 5.7-acres of disturbed non-native grassland habitats at Whiting Ranch. As summarized in the 2021 report, the project has met the performance standards and the project is considered complete.

In the late winter of 2015-16 a fourth salvage project was initiated. Working with IRC, OC Parks, and the Irvine Company, NCC partnered to salvage 4,000 CY of native topsoil and mature cactus from the development site owned by the Irvine Company located in North Irvine (Orchard Hills) for purposes of restoring approximately seven acres of coastal sage scrub habitat (at West Loma, Hicks Canyon, and Portola Staging Area) and select breeding sites for the Cactus Wren within the NROC at six sites (Buck Gully, Quail Hill, Mule Deer/North Laguna Canyon, West Loma, Limestone Canyon, Portola Orchard). Coordination with, and funding from The Nature Conservancy (TNC), resulted in additional clumps and pads being transported and planted on easement lands bordering the Reserve at West Loma in both 2014 and 2015.

Key Findings

In 2014 and 2015, a total of 22.5 acres of cactus scrub (15.4 acres) and coastal sage scrub (7.1 acres) restoration have been initiated within the NROC through soil and cactus salvage efforts. Additionally, over the same period, in support of the creation of new nesting opportunities for the

Cactus Wren, 1,600 pads, 100 segments, and 152 cactus clumps were strategically planted across six sites within the NROC.

Site maintenance and performance monitoring has been conducted during the last several years, with monitoring reports listed in the table above summarizing the recent progress of the restored sites.

Notes

For a portion of the CCSP restoration site, one more year of monitoring in 2022 will be conducted to evaluate the effectiveness of hand seeding vs. one-step hydroseeding in a non-irrigated setting. The purpose is to determine if the development of the hand-seeded areas, which may be a cost-effective method in some settings, performs comparably to hydroseeding. The results will inform future restoration efforts.

9. Land Manager Training

Project Title	Land Manager Training
Contractor(s)/Researcher	Land IQ, Nakae & Associates
Time Period	2014-2022
Total Project Cost	\$70,000
Amount Budgeted	2020-2021: --; 2021-2022: \$71,500
Fund	Endowment
Matching Contribution(s)	--
Landowner Involvement	OCP, OCWR, COI, CCSP, CDFW, CONB, UCI, IRWD, TCA, IC, MWD
Project Status	Ongoing-Postponed
Project Progression	Delayed due to COVID-19 and changes in staffing
Program Class	Education/Training
Program Area	Habitat Restoration
Resource	Coastal Sage Scrub
Project Purpose	Provide land manager training in the field of habitat restoration and fuels management
Available Report(s)	--
Available GIS Product(s)	--

Overview

The land manager training program is to provide both classroom and field-based training in the field of habitat restoration and fuels management. As envisioned, training would involve site visits to active habitat restoration sites and fuel modification zones both within and outside the NCCP/HCP Reserve, demonstration projects, as well as field and lab-based lectures on pertinent restoration and fuel management topics, including, but not limited to: soils, mycorrhizae, site selection, site preparation, seed collection, use of topsoil, seed and planting, irrigation, vegetation thinning, and site maintenance. The training program would be offered to land managers, landowners, and key partners involved with the Central/Coastal OC NCCP/HCP.

Progress

The first expression of the program providing land managers with training on priority natural resource issues is now considered to be complete. Consistent with the new strategic plan for NCC, a second expression of the program is scheduled to be initiated in 2022.

In 2014, NCC, together with Land IQ, sponsored a two-day training workshop on the role of soils in habitat restoration for land managers, researchers, and conservation practitioners. The workshop featured the soil scientist, David Kelley, and was structured to offer a morning in-class lecture experience followed by an afternoon field program on both days. The relationship between soils and southern California plant communities was highlighted, as well as techniques in soil assessment and habitat restoration methodologies.

In the spring of 2015, NCC, together with Land IQ, sponsored a second workshop on soils and restoration in partnership with CCSP. The two-day training workshop was designed to highlight two long-running restoration projects on the bluffs at CCSP and San Onofre State Beach. The two projects emphasize the role of soil compaction and microbes in the restoration of coastal sage scrub. Over the course two-days in April, participants, together with David Kelley and the team from Land IQ, explored both restorations and discussed the specific strategies used to overcome the unique challenges presented by each site.

In May 2017, following approval of the Wildland Fire Management Plan and Stakeholder Implementation Guide, NCC staff hosted a workshop for landowners and stakeholders discussing the evolution and important components of the Wildland Fire Management Plan. Contractors, Michael Huff (Dudek) and Carol Rice (Wildland Res Mgt), involved with development of the plan and individual stakeholder guides, participated in the meeting, addressing questions, and providing the audience with an overview of the process involved with plan development.

Following finalization of the Habitat Restoration and Enhancement Plan Update, NCC is planning to host multiple training sessions highlighting the utility of the new product in aiding and designing landscape-scale restoration within the reserve. In 2022, NCC staff will be hosting several training sessions structured through field trips coupled with a demonstration restoration project implementing the HREP.

Key Milestones

1. Organize and Host Soils Workshop (Due: 31 December 2014): *Completed Nov. 2014*
2. Organize and Host Soils Workshop II (Due: 15 May 2015): *Completed Feb. 2015*
3. Organize and Host Training Session on Habitat Restoration and Enhancement Plan Update (Due: 31 December 2019): *To Be Scheduled in 2022*

10. Western Spadefoot Mgmt

Project Title	Western Spadefoot Mgmt
Contractor(s)/Researcher	UCLA, USGS, Land IQ, Nakae & Associates
Time Period	2016-2022

Total Project Cost	\$1,287,575
Amount Budgeted	2020-2021: \$290,000, 2021-2022: \$274,000
Fund	Restoration
Matching Contribution(s)	\$757,000 (Wildlife Conservation Board)
Landowner Involvement	OCP, OCWR, COI, CCSP, CDFW, CNB, UCI, IRWD, TCA, IC, MWD
Project Status	Ongoing
Project Progression	On schedule
Program Class	Research/Monitoring
Program Area	Sensitive Biological Resources
Resource	Western Spadefoot
Project Purpose	Identify movement corridors or hotspots of genetic diversity for purposes of directing the location and informing the restoration strategy for construction of new breeding pools to augment the viability of the Western Spadefoot in Central-Coastal OC
Available Report(s)	<u>2020 Western Spadefoot Toad Habitat Restoration Monitoring Report. Prepared by Land IQ Mar. 2021.</u> <u>Installation Report- San Joaquin Hills Upland Habitat Restoration & Seasonal Pond Creation for Western Spadefoot. Prepared by Land IQ, Jun. 2020.</u> <u>Spadefoot Toad Hydroperiod Model Evaluation Report: 2019/2020 Water Year. Prepared by R. Cooper, UCLA. Oct. 2020.</u>
Available GIS Product(s)	--

Overview

Initial funding covers a two-year study conducting cutting-edge genetic analysis of western spadefoot breeding sites within and around the NROC. The work is to include analysis of comprehensive historical specimens sampled over the last two decades from throughout southern California, and new samples to be non-destructively collected in 2016 and 2017 breeding seasons. Collectively, this effort will use population and landscape genetics methods to: quantify population size and connectivity as it has existed across the region historically, and in present-day; evaluate whether current, relatively passive management has led to healthy and stable populations; and, identify regions within the migratory capacity of the species where newly constructed vernal pool breeding sites stand the best chance of augmenting the viability of the species across Orange County, focusing on Central-Coastal.

The second phase of work is centered on construction of seasonal pools and upland restoration in select areas of the San Joaquin Hills utilized by western spadefoot for breeding. Creation of new breeding sites and restoration of adjoining upland habitat in the coastal subarea is recognized as essential to the long-term conservation of western spadefoot in the Subregion. Increasing breeding opportunities for spadefoot toads in the San Joaquin Hills is expected to both contribute to increases in overall population size and long-term persistence of metapopulation dynamics appearing to be present along the coast.

Progress

Lab work conducted in 2016 at UCLA included DNA extraction, preparation of DNA libraries, and submission of completed libraries for sequencing. Results of the work indicated *S. hammondi* is comprised of two genetically and ecologically distinct northern and southern clusters that, pending further analysis, may be recommended for recognition as unique species. In 2018, results of the work on the conservation genomics of the species were shared by UCLA with project team members and communicated by NCC staff to the NCC Executive Committee.

The project team spear-headed pursuit of grant-funding tied to the Local Assistance Grant program new funding made available through the Wildlife Conservation Board tied to Proposition 68. In total, requested funding allows the project team to complete approximately 15 acres of restoration, focusing the work in 5 sites, and construction of 12 seasonal pools of various sizes (consistent with what spadefoot toads are known to use in other areas). Uprooting, transportation, and planting of 125-150 mature, 3 ft tall clumps of salvaged prickly pear cactus (presently growing in a NCC cactus farm in the reserve) along with 2,000 salvaged cactus pads were planted at five of the restoration sites along Moro Ridge and Bommer Ridge. Funding from the state (together with matching funds from NCC) will cover described activities through March 2022, facilitating the seasonal pools two-years post construction and associated upland restoration through planting and seeding, and three full years of site maintenance. NCC is committed to additional maintenance and monitoring of the upland restoration and created pools through 2025, three-years beyond the limits of the grant period.

Key Milestones

1. Siting and Pool Design Report (Due: 31 December 2019): *Completed*
2. Production of Restoration Plan (Due: 31 December 2019): *Completed*
3. Production of Installation Memo (Due: 30 June 2020): *Completed*
4. First-Year Restoration Monitoring Report (Due: 31 Mar 2021): *Completed*
5. Second-Year Upland Restoration and Completion of Seasonal Pool Construction (Due: 15 March 2022):
6. Final Monitoring Report - Habitat Restoration (Due: 15 March 2022):
7. Final Report - Effectiveness Monitoring of Pools and Western Spadefoot (Due: 15 March 2022):

11. Recreation Mgmt & Human Valuation

Project Title	Recreation Mgmt & Human Valuation
Contractor(s)/Researcher	Utah State University; Oregon State University
Time Period	2017-2022
Total Project Cost	\$604,100
Amount Budgeted	2020-2021: \$100,000; 2021-2022: \$15,600
Fund	Restoration
Matching Contribution(s)	--
Landowner Involvement	OCP, OCWR, COI, CCSP, CDFW, CONB, UCI, IRWD, TCA, IC, MWD
Project Status	Ongoing

Project Progression	Delayed due to COVID-19
Program Class	Planning
Program Area	Recreation
Resource	Coastal Sage Scrub; Target Species
Project Purpose	Identify highest ranking recreation management priorities related to natural resource protection present within the NCCP-Reserve
Available Report(s)	<u>2021 Research and Findings Summary. By USU Research Team. Presentation to NCC Partners. Dec. 2021.</u> <u>2019 Recreation Use and Human Valuation on the NROC, CA. Project Progress and Data Collection Summary. Prepared by USU. Oct., 2019.</u> <u>2019 Recreation Use and Human Valuation on the NROC, CA. Appendices. Prepared by USU. Oct., 2019.</u>
Available GIS Product(s)	--

Overview

Managers of urban-proximate wildland settings must often strike a careful balance with providing nature-based recreation experiences with the maintenance of ecological integrity. With over 3 million residents within a 30-minute drive of the natural areas of central and coastal Orange County, the demand for recreation experiences is ever present, and increasing. Equally important is the increasing need and desire for the conservation of natural resources and preservation of the rich natural heritage of an iconic area of the California coast.

The Natural Communities Coalition has partnered with national leaders in the field of recreation ecology from Utah State University and Oregon State University to implement a multi-year project designed to address ecological aspects, human benefits and values, and contemporary management approaches tied to recreation within the region. The research project, as designed, is to have four overall dimensions: 1) a determination of visitor use levels and spatial distributions; 2) an assessment of biophysical resource conditions; 3) an understanding of visitor perceptions, values and judgements; and 4) providing scientific expertise in park planning and management.

Progress

In December, 2017 and 2018, Chris Monz (Utah State University) and his team presented their results at working sessions organized for members of the TAC, representatives of landowning agencies, and land managers. Their analysis of responses was from close to 2,000 interviews of park visitors conducted and movement data collected from over 1,200 park visitors during the same time period.

Due to factors associated the COVID-19 pandemic, field sampling was postponed in 2020. Field work was delayed but resumed in 2021. In December 2021, Dr. Monz and his team presented their findings at a NCC partner meeting. Analysis and write up of the 2021 data is ongoing and will be provided to the partners and posted to the NCC website library and [project site](#), once it is complete.

Key Findings

The survey provided a reliable measurement tool to evaluate visitor motivations. Following analysis of the results of hundreds of completed surveys, the primary motivations of visitors were found to be solitude and escape, learning about and experiencing nature, and spiritual renewal. Motivations differed across areas by visitor type. Almost two to one, park visitors could be described as more nature-oriented than exercise-oriented visitors. Visitors reported a strong attachment to place, poor understanding of conservation history of visited parks, and belief in the importance of conservation, but still wanting to be a participant in the story and have the chance to experience the land.

12. Recreation Management & Mobility Data

Project Title	Recreation Mgmt & Mobility Data
Contractor(s)/Researcher	StreetLight Data; Utah State University
Time Period	2018-2021
Total Project Cost	\$420,120
Amount Budgeted	2020-2021: \$9,600
Fund	Restoration
Matching Contribution(s)	--
Landowner Involvement	OCP, OCWR, COI, CCSP, CDFW, CONB, UCI, IRWD, TCA, IC, MWD
Project Status	Completed
Project Progression	--
Program Class	Monitoring
Program Area	Recreation
Resource	Coastal Sage Scrub; Target Species
Project Purpose	Identify human-use patterns most relevant to recreation management priorities within the NCCP-Reserve
Available Report(s)	Using Mobile Device Data to Estimate Visitation in Parks and Protected Areas: An Example from the Nature Reserve of Orange County, CA. By C. Monz et al. Sep. 2019. Mobile Device Data Analysis to Determine the Demographics of Park Visitors. By C. Monz et al. Nov. 2020.
Available GIS Product(s)	--

Overview

Active management and intelligent design of recreational opportunities in urban-proximate natural parks and wilderness areas are increasingly recognized as essential to balancing the need to provision nature-based recreation experiences to large numbers of urban residents with the maintenance of ecological integrity of rich natural resources present on conserved lands. Mobility data made available through satellite-based vehicular navigation systems and smartphone-based applications provides a novel way to measure park use. At the course-scale, across the County of Orange Central and Coastal NCCP/HCP Subregion, mobility data allows for identification of visitor use patterns to parks (and entrance points), providing novel

information to managers describing visitor volume, and timing distributed across years, season, day of the week, and time of day.

The envisioned work complements ongoing research describing motivations, perceptions, and values of visitors performed by Utah State University. When combined, the two recreation management projects are poised to lead to advances in development of a landscape-level recreation management plan for the Reserve System that makes good use of the best available science, allowing for the creation of increased recreational opportunities, while assuring the protection of sensitive natural resources present throughout the enrolled open space.

Progress

In early 2018 the Natural Communities Coalition entered into an agreement with StreetLight Data allowing access to the online platform StreetLight InSight. In 2019, NCC staff continued to advance work with the online platform. Specifically, staff is interested in using the platform to generate a “heat map” of visitor use within parks. Such generated information can lead to the identification of trails (both authorized and unauthorized) that are heavily used within the reserve system, allowing for researchers and land managers to evaluate the ecological condition of natural resources in intensively utilized areas and changes in human behavior associated with increased crowding. Due to factors associated the COVID-19 pandemic, progress was delayed. The research project, as designed, is to complement the work conducted by USU and OSU advancing development of a landscape-level recreation management plan for the NCCP/HCP Reserve System (see project #11).

Key Findings

Findings are presented in two reports listed in the table above and available on the NCC website (see [Recreation Management under Projects](#)). Analysis and write up of this data will continue in 2022 and shared with our partners through presentation(s) and reports.

13. Vegetation Monitoring & Communication

Project Title	Vegetation Monitoring & Communication
Contractor(s)/Researcher	UCI, Conservation Biology Institute, Wildspring ecology
Time Period	2017-2021
Total Project Cost	\$849,000
Amount Budgeted	2020-2021: \$205,000; 2021-2022: \$180,000
Fund	Endowment
Matching Contribution(s)	Voth Family Foundation (\$150,000); The Nature Conservancy (\$291,250)
Landowner Involvement	OCP, OCWR, COI, CCSP, CDFW, CNB, UCI, IRWD, TCA, TIC, MWD
Project Status	Ongoing
Project Progression	Delayed due to COVID-19
Program Class	Monitoring/Research
Program Area	Sensitive Biological Resources
Resource	Coastal Sage Scrub
Project Purpose	Monitor landscape-level change in vegetative composition and

	structure through time and create dashboard metrics concerning the health of the Reserve
Available Report(s)	<u>Oak Monitoring Report. Prepared by UCI. Feb. 2020.</u> <u>Vegetation Community Monitoring: Goals and Objectives. Prepared by CBI. Mar. 2020.</u> <u>Vegetation Community Monitoring: Goals and Objectives Appendices. Prepared by CBI. Mar. 2020.</u> <u>Vegetation Monitoring Report. Prepared by UCI, Sep. 2020.</u>
Available GIS Product(s)	--

Overview

Discussed collectively among partnering agencies and organizations over the last several years, development of an effective vegetation monitoring program for the Reserve is being led by UC Irvine's Center for Environmental Biology (CEB), Conservation Biology Institute, and WildSpring Ecology. The program, as presently outlined, will provide defensible, objective measures of the extent and quality of coastal sage scrub and associated habitats within the Reserve and adjacent conservation lands. Collected information is to capture changes in vegetative community composition, structure, and dynamics over time, promoting a shared understanding of the vegetative response to drivers and informing decisions related to management.

Progress

In 2017, CEB completed a multi-year assessment of change in the cover of coastal sage scrub based on analysis of transect data collected within the Subregion over the last ten years by San Diego State University and UC Irvine. The analysis resulted in publication in 2018. In 2019, NCC contracted with Conservation Biology Institute (CBI) and WildSpring Ecology to review and propose changes to sampling and response design, and revision of program goals and objectives. Contracted work in 2020-21 includes running appropriate analyses to provide greater spatial coverage of the coastal subarea, as well as, ensure the program is well-positioned to answer prominent questions tied to the recovery of shrublands following repeat fire and short, long-term effects of drought, habitat recovery following restoration, and sustained treatment of invasive species.

Key Milestones

1. Assessment of Change in CSS Cover (Due: 30 September 2017): *published May, 2018.*
2. Refinement of Vegetation Monitoring (Due: 15 December 2017): *In progress*
3. Delivery of Vegetation Data with Relevant Meta-data (Due: each year): *Ongoing*
4. Delivery of Vegetation Data Report (Due: each year): *Ongoing*
5. Delivery of Oak Monitoring Data with Relevant Meta-data (Due: each year): *Ongoing*
6. Delivery of Oak Monitoring Report (Due: each year): *Ongoing*
7. Submission of a Final Goals and Objectives Report by CBI (Due: 31 December 2019): *Completed*

8. Submission of a Veg Monitoring Sampling Design Final Report (Due: 31 December 2021): *Delayed*

Notes

The vegetation monitoring work performed by CEB in 2019-22 is funded at a nearly 50:50 cost share between TNC and NCC. The complementary work by Conservation Biology Institute/WildSpring Ecology is focusing on (1) revising goals and objectives and (2) updating sampling and response design. A report on goals and objectives was finalized at the beginning of 2020. Due to COVID-19, progress on the final write up for design update is delayed until mid-2022. However, the revised plot sampling design was given to UCI and the adjusted sampling scheme is being implemented in 2021 and 2022. Following the implementation phase of the new design, detailed reports will be submitted every three years, but data collected will be provided annually.

14. Trail Use Study

Project Title	Trail Use Study
Contractor(s)/Researcher	Utah State University
Time Period	2021-2022
Total Project Cost	\$14,000
Amount Budgeted	2020-2021: \$14,000; 2021-2022: \$61,000
Fund	Restoration
Matching Contribution(s)	--
Landowner Involvement	OCP
Project Status	New
Project Progression	Ongoing
Program Class	Monitoring
Program Area	Recreation
Resource	Coastal Sage Scrub; Target Species
Project Purpose	Identify human-use patterns through change in trails use type in the NCCP/HCP Reserve
Available Report(s)	--
Available GIS Product(s)	--

Overview

Parks and open-space in close proximity to population centers are often highly desirable as people in our increasingly urban society seek opportunities to experience nature for exercise and renewal on a regular basis. This demand has increased, in some cases dramatically, with the recent COVID-19 pandemic since outdoor recreation is viewed as a relatively safe activity. These trends raise concerns as to whether other protected area goals are being compromised, such as the conservation of habitat for plant and wildlife species.

Trails are focal aspects of the visitor experience in parks and natural areas and thus trail use and trail condition quality can have a significant effect on visitor's overall experience. OC Parks will be employing direct management strategies on select trail segments in order to provide

access to a wide range of recreation activities, maintain a safe and enjoyable experience, and assure that visitor use and associated behaviors are not resulting in resource (ecological) damage. This study will work closely with OC Parks to study the short term (6 month to 1 year) ecological and social consequences of various trail management strategies under consideration and based on these findings, will develop longer-term monitoring approaches and recommendations.

The survey will collect data about visitor demographics, experience-use history, knowledge, and evaluative questions on the trail management, resource conditions and social conditions experienced. Perceptions of trail safety and conflict between activity types will be explored as well as potential tradeoffs between recreation use, conservation goals and safety.

Visitor use levels on treatment and control trail segments will be determined using automated trail counting techniques to document temporal patterns of visitor use on a continuous basis for the study period. Extensive trail characteristics will be measured and monitored including trail slope, aspect, type of trail tread, elevation variation (i.e., tread rugosity).

Progress

Initial visitor surveys and trail condition mapping were conducted in spring 2021 prior to any changes in management strategies on trail use. Post-treatment surveys and mapping were completed in late summer following the end of the experiment change. Analysis of data and report writing is expected to be complete in early 2022.

15. NDVI Fuels Map

Project Title	NDVI Fuels Map
Contractor(s)/Researcher	Eagle Aerial/Quantum Spatial, OCFA
Time Period	2019-2022
Total Project Cost	--
Amount Budgeted	2020-2021: --; 2021-2022: \$24,000
Fund	Endowment
Matching Contribution(s)	CalFire Fire Prevention Grant ~\$5,000,000
Landowner Involvement	All, OCFA
Project Status	Ongoing
Project Progression	On schedule
Program Class	Fire Management/Invasive Spp. Management
Program Area	Monitoring, Restoration
Resource	Oak Woodland, Riparian
Project Purpose	Map existing GSOB/ISHB infested areas, identify likely new areas to be invaded, support treatments to reduce GSOB/ISHB spread
Available Report(s)	--
Available GIS Product(s)	OCFA Imagery Grid Map OCFA Imagery Cache

Overview

The Normalized Differenced Vegetation Index (NDVI) is considered a reliable indicator of plant biomass and vegetation primary productivity and time series have been routinely used to measure vegetation dynamics and ecosystem phenology over large geographic areas. Important variables include the magnitude of greening, peak activity, and drying phases of vegetation, providing information on key aspects of vegetation functionality, such as seasonality, productivity and inter-annual variability. These factors are critical for fire resource and management planning since the phenological status of vegetation represents the main driver affecting fuel availability and moisture content.

Originally, the goal of the project was to explore the appropriate spatial and temporal scale and fuel moisture variable (NDVI vs. other similar derived variable) in mapping the condition of fuels. The recent progression of GSOB/ISHB in Orange County resulted in a realignment of the goals and focus the mapping through the OCFA GSOB/ISHB fire prevention grant. In 2018 OCFA was awarded a CalFire Fire Prevention Grant to monitor and remove heavily infested GSOB/ISHB trees throughout the State Responsibility Area. NDVI mapping and spread modeling will be used to identify areas of weakened trees and to facilitate identification of potentially new infested areas and monitor for changes following treatments.

Progress

Eagle Aerial (EA), partnering with Quantum Spatial (QS), are tasked with collecting imagery and ISHB/GSOB spread prediction modeling. Flights for 2019-2021 were scheduled for both spring and fall. The purpose in the timing of the flights is to facilitate analysis of the seasonal changes in vegetation condition, growth, and disease progression in 2021, OCFA compiled imagery for most of the county into a database for sharing with our partners (the link to imagery products is in the above table). Acquisition flights for fall 2021 are complete and imagery is being processed.

Monitoring data to track disease progression, collected by OC Parks, State Parks, and others, was shared with EA/QS. These data sets, combined with repeat imagery, will be used in developing a spread model to identify potential infection hot spots within the study area to support ongoing treatments by our partners. These products are expected in early 2022.

16. UCI EP Fuel Modification

Project Title	UCI EP Fuel Mod
Contractor(s)/Researcher	UC Irvine
Time Period	2018-2021
Total Project Cost	\$66,500
Amount Budgeted	2020-2021: \$32,500; 2021-2022: --
Fund	Restoration
Matching Contribution(s)	--
Landowner Involvement	UCI
Project Status	Completed
Project Progression	--
Program Class	Fire Management
Program Area	Habitat Restoration

Resource	Coastal Sage/Cactus Scrub
Project Purpose	Research on performance of native flora applicable to fuel modification zones at UC Irvine Ecological Preserve
Available Report(s)	Wildfire Safety and Healthy Habitats: UCI EP Defensible Space Project Report. Prepared by UCI. Jun. 2021. Wildfire Safety and Healthy Habitats Demo Project. UCI EP Outreach Fuel Mod Poster. Prepared by UCI. Feb. 2019.
Available GIS Product(s)	--

Overview

Generally, modification of vegetation around structures for fire protection does not occur with the Reserve. Yet, there is a large amount of space along the perimeter of the Reserve where vegetation is treated to protect urban communities and other infrastructure. Impacts to the Reserve occur through reduction of native vegetation and spread of invasive species. To support the ongoing effort to incorporate native flora into fuel modification zones and public outreach on the benefits of limiting impacts to native habitat, NCC partnered with UCI on a project at the Ecological Preserve (EP). The goal of this demonstration project was to provide information on the potential use of native plant material, focusing on native cactus, to improve fuel modification zone habitat condition while still providing for defensible space. The objectives were to evaluate the effects of cactus clump size on cactus growth rate, native forb cover, and weed control effort. Plots were split, with half being irrigated to determine if watering, which is common in fuel modification zones, had an influence on cactus growth and native cover.

Progress

UCI Field technicians and community volunteers prepped the planting sites, harvested and planted cactus pads/segments, collected and sowed native seed into plots, and weeded and monitored sites through spring 2021. Results of the study include:

- Moisture content of cactus is maintained through the dry season, up to 5 times higher than the other native vegetation;
- cactus clump size had an influence: max height and % native cover were higher in large clumps, and non-native cover was higher in small clumps;
- Seeding plots resulted in only a marginally significant higher native cover, possibly due to drought conditions during the study, but spp. richness was higher in seeded plots;
- Irrigating the plots resulted in lower native cover and higher non-native cover.

While the project is complete, the sites continues to provide educational opportunities for UCI students and the public.

In 2019, UCI CEB staff held two outreach events at the University Hills Community Center. The events focused on engaging with the community to emphasize the value of the EP as both a resource for people and as important habitat for wildlife. The first was an "Introduction to the

Ecological Preserve” event attended by approximately 35 residents where the poster for the defensible space project was displayed, along with fuel modification information. The second, in October, was a fire safety education event in collaboration with OCFA attended by approximately 50 residents. At these events, staff engaged with guests to discuss fire ecology, wildfire risk reduction and fuel modification, as well as the importance of native plants and the role of the NCCP/HCP.

17. Whiting Ranch Mountain Lion Study

Project Title	Whiting Ranch Mountain Lion Study
Contractor(s)/Researcher	UC Davis
Time Period	2021-2023
Total Project Cost	\$150,000
Amount Budgeted	2021-2022: \$75,000
Fund	Endowment
Matching Contribution(s)	OC Parks: \$75,000
Landowner Involvement	OC Parks
Project Status	New
Project Progression	On Schedule
Program Class	Monitoring
Program Area	Biological Resources
Resource	Wildlife
Project Purpose	Monitor mountain lion activity in Whiting Ranch Park
Available Report(s)	--
Available GIS Product(s)	--

Overview

The UC Davis Wildlife Health Center (UCD-WHC) has been researching mountain lions in the region for the last 20 years, and the mountain lion study has been under T. Winston Vickers' personal direction for the majority of that time. Thanks to the cooperation of OC Parks with the UCD-WHC mountain lion study in the past, GPS collar data has given us a basic understanding of how several mountain lions have used the Park. However, no extensive data exists on human patterns of use, how mountain lions are currently using the park, and where those patterns of use may overlap spatially and temporally.

OC Parks would like a study of the trail system use by pumas and humans that would be similar to a study our UCD-WHC mountain lion study team completed in Cuyamaca State Park in San Diego County for similar reasons (increased human interactions with mountain lions including attacks) and with some of the same goals.

Progress

The project is in the early stages, with camera trapping underway throughout the park. Using camera data and historic GPS data (with current GPS data, if available) determine spatial and temporal patterns of human and mountain lion use of trails, with a goal of determining if "hotspots" exist spatially or temporally where encounters between the two are more likely.

18. Laguna Canyon Fuels Mod

Project Title	Laguna Canyon Roadside Hardening
Contractor(s)/Researcher	Sage Environmental
Time Period	2018-2022
Total Project Cost	\$5,000
Amount Budgeted	2020-2021: -; 2021-2022: \$5,000
Fund	Restoration
Matching Contribution(s)	CalFire Fire Prevention Grant \$3,676,400; OCFA, CoLB
Landowner Involvement	OCP
Project Status	Ongoing
Project Progression	On schedule
Program Class	Restoration
Program Area	Biological Resources
Resource	Native Habitat
Project Purpose	Harden roadside strip from annual grassland to cactus-dominated vegetation to reduce fire spread potential from roadside ignitions and improve habitat.
Available Report(s)	--
Available GIS Product(s)	--

Overview

Through the city fire department, Laguna Beach (LBFD) was awarded a grant from the CalFire Fire Prevention Fund to reduce the fire hazard and improve the native habitat in Laguna Canyon. The project consists of hazardous fuels reduction in the urban community-wildland interface along Laguna Canyon Road and restoration in Laguna Coast Wilderness Park. Restoration was included in the project to fulfill the California Climate Investments carbon sequestration requirement of the grant program. NCC will contribute staff time and funding to the project, focusing on planting cactus along Laguna Canyon Road as an experimental approach to reduce the potential for fire spread into the Reserve from roadside ignitions.

Progress

CEQA was completed in early 2020. As per the CEQA filing, biological survey will be conducted prior to site prep. Site preparation was completed using crews from OCFA and the CA Conservations Corps. Approximately 2,500 cactus pads were planted in the early spring. Several weed maintenance and cactus pad watering events were conducted in the spring and early summer. Due to herbivory and less than normal rainfall, approximately 500 pads were planted in winter 2021 to replace pads that were either eaten or dried up. Weed maintenance and watering, as needed, will continue in the spring 2022.

19. 2018 Fires Rare Plant Survey

Project Title	2018 Fires Rare Plant Survey
Contractor(s)/Researcher	Fred Roberts
Time Period	2019-2021
Total Project Cost	\$29,000
Amount Budgeted	2020-2021: \$17,000
Fund	Restoration

Matching Contribution(s)	TNC: \$4,000
Landowner Involvement	OCP, CDFW, CHSP
Project Status	Completed
Project Progression	--
Program Class	Monitoring
Program Area	Sensitive Biological Resources
Resource	Rare Plants, Invasive Plants
Project Purpose	Inventory, map, and determine the distribution of rare plants in Canyon 1 & 2, Aliso, and Santiago Fires burn area, and map yellow star thistle and Sahara Mustard in Coal Canyon area.
Available Report(s)	2021 Aliso & Wood Canyon WP Post-Fire Rare Plant Survey Report. Prepared by Fred Roberts. Mar. 2021. 2021 Santiago Fire Rare Plant Survey Final Report. Prepared by Fred Roberts. Mar. 2021.
Available GIS Product(s)	GIS files and spreadsheets- see OCP GIS Manager

Overview

The 2018 Aliso and Santiago Fires provided an opportunity to conduct a post-fire rare plant survey in support of the NCCP/HCP Rare Plant Monitoring and Management Program. This project was similar in scope to the recent 2017 Canyon Fires project. The purpose was to identify new populations of rare and sensitive plant species and update the status of existing populations within the burn perimeter for two years.

Progress

The contract with Fred Roberts for a 2-year post-fire survey is complete. Final reports are list in the above table. Remaining tasks are to incorporate this data into the NCC rare plant database and archive the information so that it is accessible to our partners.

20. Health Assessment

Project Title	Reserve Health Assessment
Contractor(s)/Researcher	O'Herron Consulting
Time Period	2019-2022
Total Project Cost	\$6,200
Amount Budgeted	2020-21: \$75,000; 2021-2022: \$137,000
Fund	Endowment
Matching Contribution(s)	--
Landowner Involvement	OCP, OCWR, COI, CCSP, CDFW, CONB, UCI, IRWD, TCA, IC, MWD
Project Status	Ongoing
Project Progression	Delayed due to changes in NCC staffing
Program Class	Monitoring
Program Area	Sensitive Biological Resources
Resource	All
Project Purpose	Creation of dashboard metrics of relevance to partners, the public, and elected officials reporting on the health of the reserve

Available Report(s)	--
Available GIS Product(s)	--

Overview

To improve the ability of NCC and NCCP/HCP participants to report on the ecological health of the Habitat Reserve and inform management, NCC staff will develop and adopt a reporting mechanism and timelines for assessing the status and trends of target and select covered species and habitat types. The purpose is to inform the NCC Board and other key audiences of progress and challenges in the implementation of the NCCP/HCP, as well as a way to adapt priority monitoring and management efforts within the Reserve.

Progress

In 2021, NCC staff convened representatives from partner land owners/managers, the Wildlife Agencies, and O'Herron Consulting to complete the following tasks.

1. Identify highest priority species and covered habitats to assess condition and trend through evaluation of available monitoring data;
2. Identify highest priority threats and stressors for these species and habitats;
3. Identify data gaps to prioritize for future monitoring efforts.

Associated dashboard and collateral materials are to be generated, streamlining communication concerning the health of protected natural resources of the Nature Reserve of Orange County. At present time, the approach used to conduct the assessment by the Tamalpais Lands Collaborative (TLC or ONE TAM) in evaluating ecological health indicators for Mount Tamalpais' natural resources (<http://www.onetam.org/peak-health>) is being considered as a model to consider when progressing through the early planning stages of the initiative. Currently, the representatives meet monthly to discuss the above tasks. The coordinated effort will continue through 2022.

21. Local Seed Network

Project Title	Local Seed Network
Contractor(s)/Researcher	Sapsucker Consulting
Time Period	2019-2022
Total Project Cost	\$20,000
Amount Budgeted	2020-2021: \$20,000: 2021-2022: \$95,000
Fund	Restoration
Matching Contribution(s)	--
Landowner Involvement	OCP, OCWR, COI, CCSP, CDFW, CONB, UCI, IRWD, TCA, IC, MWD
Project Status	Ongoing
Project Progression	Delayed
Program Class	Land Management
Program Area	Habitat Restoration

Resource	All
Project Purpose	Support habitat restoration through development of locally sourced native seed and plant material
Available Report(s)	--
Available GIS Product(s)	--

Overview

Assuming the approach for landscape-level restoration presented in the revised HREP is adopted, questions remain concerning the mechanics of how participating land-owning organizations will scale-up restoration across the Reserve over the next decade. In past discussions, potential roles for NCC in helping partners move from tens of acres to hundreds of acres under active management at any one time have centered on the coordination and organization of seed collection and storage activities and, ultimately, creation of a seed collaborative or local seed network supporting seed bulking. Consistent with the 2019-2021 strategic plan, NCC staff, are tasked with convening a business enterprise meeting involving local and regional experts in which participants identify initial steps needed to advance planning behind creation of a local native seed network.

Progress

To support advancement of the discussed initiative, NCC staff has met with partners and local and regional experts almost monthly for the last half of 2021 to discuss the local current capacity for growing and supplying native plant material for landscape scale effective habitat restoration. Through these discussions, our contractor has developed a draft of the following:

- Genetic management plan with seed transfer zones
- 5-yr seed forecast of restoration projects
- Preliminary seed mixes and rates
- Business structure options

Among the objectives for 2022 are to establish a contract for the development of a strategic plan which will include roles and responsibilities, funding options, and a business model. Also included in these discussions will be how to expand capacity among nurseries and gardens, the standards governing seed collection, production and storage, and the gaps in capacity that could be filled by a NCC-supported business enterprise investment.

22. Grazing Plan – Best Practices

Project Title	Grazing Plan BMPs
Contractor(s)/Researcher	Land IQ
Time Period	2021-27
Total Project Cost	\$49,000
Amount Budgeted	2020-2021: \$75,000, 2021-2022: \$463,000
Fund	Restoration
Matching Contribution(s)	--
Landowner Involvement	OC Parks

Project Status	New
Project Progression	On Schedule
Program Class	Land Management
Program Area	Habitat Restoration
Resource	All
Project Purpose	Address use of grazers for control of invasive species and fuels to ensure management outcomes do not have adverse, unanticipated consequences for the Reserve
Available Report(s)	2019 Sage Associates Summary Report
Available GIS Product(s)	--

Overview

Consistent with the NCC 2019-2022 Strategic Plan, the NCC staff are to evaluate and engage a contractor to develop a grazing management plan and pilot grazing study for the NCCP/HCP reserve. The feasibility assessment was intended to explore the reserve for potential areas to graze and engage our partners as to their interest in using grazing as a management tool. Outreach and discussion with our partners were conducted through a 2-day field tour. One outcome of the outreach was the identification of Weir Canyon as a potential site for a grazing pilot study.

In 2021, NCC contracted with Land IQ to support the development of a grazing management plan specific to Weir Canyon, and a pilot program to assess conservation grazing as a land management tool for vegetation communities common to Weir Canyon and the Reserve. Included in the plan will be an experimental approach to assessing impacts of conservation based grazing. The following studies will be conducted with the pilot study.

1. Conservation grazing, birds, and food webs (PI: Dr. Eric Wood, Cal State LA)
2. Conservation grazing and salamanders (PI: Dr. Amanda Zellmer, Occidental College)
3. Conservation grazing effect and mycorrhizal diversity and productivity (PI: Dr. Kathleen Treseder, UCI)
4. Native plant recruitment and conservation grazing (PI: Land IQ)

Progress

Initial assessment is complete. Next steps are to develop a work plan for both a general grazing management plan/BMPs and a grazing pilot project in Weir Canyon based on discussions with partners from the initial assessment. Establishing the necessary infrastructure, securing a partnership with a ranch managers, and establishing a monitoring program are some of our high priority objectives for 2022.

2.4 Habitat Restoration and Enhancement Summary Table

Total acres of new, ongoing, and completed upland habitat restoration sponsored by NCC in 2021 organized by management area.

Land Area	New	Ongoing	Completed	Total
Laguna Coast Wilderness Park (OCP)	--	8	6.2*	14.2
Whiting Ranch Wilderness Park (OCP)	--	--	9.7	9.7
Crystal Cove State Park	--	16.7	4.0	20.7
San Diego Creek (OCFCD)	--	--	0.2	0.2
Bonita Canyon (TCA)	--	--	0.6	0.6
Coyote Canyon Landfill (OCWR)	--	--	0.3	0.3
UC Irvine Ecological Preserve	--	--	12.5	12.5
Irvine Ranch Open Space (OCP)	--	4.3	--	4.3
City of Irvine Open Space**	--	2.9	--	2.9
Total	--	31.9	33.5	65.4

**Includes 3.7 acres of elderberry enhancement*

OCP = Orange County Parks

OCFCD = Orange County Flood Control District

TCA = Transportation Corridor Agencies

OCWR = Orange County Waste & Recycling

***Portola Staging Site*

3.0 NROC CONSERVATION CUSTODIAL FUNDS

3.1 2021 Pacific Pocket Mouse Custodial Fund

Pursuant to a Letter of Agreement between the US Fish and Wildlife Service, the California Department of Fish and Wildlife, and the Natural Communities Coalition, a fund was created in 1998 to support research, recovery and enhancement efforts for the Pacific pocket mouse.

The agreement originally obligated Chandis Sherman (now Headlands Reserve LLC) to deposit funds annually for seven years into a segregated custodial account held by NCC, for a total of \$350,000. All funding has been received. Funds are dispersed at the direction of USFWS and CDFW for projects in support of pocket mouse research, recovery and enhancement.

The Pacific Pocket Mouse Custodial Fund investment account started the 2021 calendar year with a balance of \$121,390.55. The custodial fund on December 31, 2021 had a balance of \$135,009.78. The \$13,619.23 increase was the result of no expenditures and stellar performance of the investments.

3.2 2021 Cowbird Fund

The beginning balance of the Cowbird Fund January 1, 2021, was \$2,152,107.70, and the ending balance on December 31, 2021, was \$2,393,442.39. A total of \$39,997.33, was spent on the Brown-headed cowbird management program in 2021. The results are summarized in project descriptions (Section 2.0) above.

The 2022 NCC work plan will evaluate in conjunction with the Wildlife Agencies and contractor recent and future trap locations to maximize program effectiveness and potential changes to the monitoring and trapping scientific protocols that may improve efficiencies and help manage costs over the term of the effort.

4.0 NCCP/HCP RESERVE MANAGEMENT PLANS & POLICIES

4.1 Wildland Fire Management Plan

The 2022 work plan will be developed in the 2022-2024 NCC Strategic Plan, which is planned for spring 2022. Working with partners on the implementation of the Wildland Fire Management Plan (WFMP) and other activities in support of the NCCP/HCP is an ongoing priority. Key elements include: educate land owners/managers on the theory, science, and implementation of actions specified in the plan; assessment of the status and condition of vegetation management along fuel modification zones; and coordinating management activities with our partners. One focus of the work plan will be an update to the WFMP. Some elements of the update will be identifying fuel management zones in the reserve, and updating pre-fire management priorities. Important 2021 milestones and activities for 2022 are described below.

- County of Orange Area Safety Taskforce (COAST)/Emerging Tree Pests of Orange

County (EMTPOC): two working groups composed of representatives from fire departments, public utilities, transportation agencies, natural resource management agencies, landowners, non-profit groups, and other community members from across the county. The focus of COAST is to jointly identify problems and propose solutions for wildfire prevention. EMTPOC is an information sharing group that reviews the current status of tree pests including species infestations, new detections, and best management practices on treating infected areas. NCC's Wildland Fire Management Coordinator (WFMC) will continue participating in the groups to discuss, plan, and implement initiatives aimed at decreasing fire risk and increasing fire safety, and managing tree pest infestations throughout the county. Main activities for 2022 include tracking grant opportunities and supporting grant applications, and outreach to increase exposure and regional collaboration.

- Roadside Ignition Reduction Strategic Plan: After a productive start in 2017, efforts to develop a strategic plan through the COAST Roadside Subcommittee stalled due to changes in Caltrans personnel. Several fire prevention grant applications, on behalf of COAST, for funds to develop a strategic plan were declined. The WFMC is coordinating with city of Laguna Beach and OCFA on the cactus fire barrier project as part of the larger defensible space fuel reduction grant. In spring of 2021, *Opuntia littoralis* pads were planted along Laguna Canyon Road adjacent the Caltrans ROW. The goal of the project is to replace the non-native annual grass with cactus to "harden" the road shoulder against fire spreading into the wilderness from roadside ignitions.
- County-Wide Community Wildfire Protection Plan (CWPP): Through COAST, the plan was completed and signed in mid-2017. Several grants have been submitted and awarded over the past several years, including the tree beetle monitoring and treatment grant led by OCFA. The grants will fulfill strategies listed in the CWPP. The CWPP was updated in 2021, which included a revision to the priority project table. Assisting our partners in fire and fuels management project development and submission to grant programs will continue in 2022. Participating on project implementation will help strengthen professional relationships, and benefit the Reserve by providing more opportunities for collaboration on fire and fuels management.
- Assessment of fuel modification zones/Defensible Space Zone Management Plan (OC Parks): The plan's scope-of-work includes developing best management practices for defensible space zones, treatment protocols and inspections, examples of well-maintained zones, and steps involved in implementing a project that minimizes impacts to habitat. Components of the plan are applicable to newer communities; however the focus is on areas adjacent to older communities that may need to update an existing fuel modification plan. While the project is on hold with the contractor, efforts will be made to continue addressing components of the plan through other projects in 2022. Information relevant to the Reserve will be incorporated into the revision of the NROC WFMP.

- Fire Resource Advisory (READ) Information and Contact Protocol: Update to the fire resource and tactical advisory maps for use during wildfires will be a continuous effort. These maps are important reference documents to inform fire suppression tactical response during a wildfire in the Reserve. Activities for 2022 include continued participation in the OC Parks READ group meetings, review maps with resource managers, update the geodatabase of sensitive species location data, transfer of resource data to the OCFA Wildland Resource App, and increase situational awareness and communication between fire responders and resource managers.

Fire Incidents

Wildfire activity in 2021 was yet again record-setting in California. Approximately 2.6 million acres burned in nearly 8,850 fires. The fire season was considered extreme in terms of fire behavior as indicated by the type of records that were set. Four of the top twenty largest wildfires in California occurred in 2021. Fortunately, the fire season in the county was very low with only 23 recorded vegetation fires. The largest was approximately 21.6 acres in Laguna Nigel. There were three wildfires in and adjacent the Reserve summarized in Table 1. Human activity continues to be the main cause of ignitions.

Table 1. Fire statistics for the NROC in 2021. FMU, Fire Management Unit.

Date	FMU	Fire Name; Area	Cause	Total Acres	Acres in NROC
05/26	10.03	Windy Ridge, IROS	Unk	1.7	1.7
06/16	2.10, 4.05	Laguna, LCWP	Arson	10.6	7.5
07/24	4.02	Bonita, LCWP	Vehicle	1.0	1.0
Total				13.3	10.2

Fuels Management

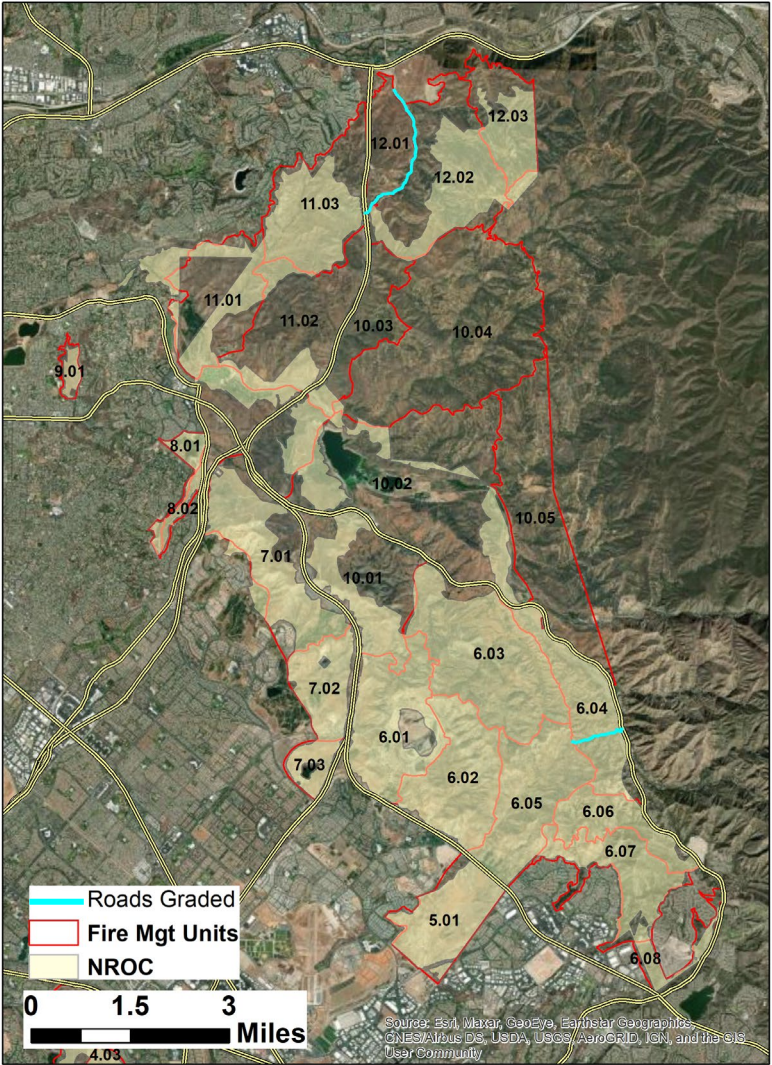
Roadside Vegetation Management: OCFA is contracted by SCE and land owners to perform annual secondary road (dirt roads and trails within and adjacent the NROC) maintenance which includes road edge vegetation treatments. For 2021, there was road grading conducted but no roadside vegetation management. Because of the low rainfall year there was minimal maintenance needed. The map and table below identifies the location of maintenance activities.

Estimated miles of roads graded by land owner/management unit.

Management Unit	Miles Treated
IROS-Gypsum Canyon	2.4
IROS-Limestone Canyon	0.9
Total	3.3

Note- Vegetation treatments were not performed with the road grading operations.

Figure 2. Road maintenance locations in 2021 on the Central Reserve. Numbers correspond to fire management units (red lines) identified in the Wildland Fire Management Plan.



4.2 Habitat Restoration & Enhancement Plan (HREP)

The HREP was completed and approved by the NCC Board of Directors in 2003, and has periodically been reviewed but not updated since that time. In September, 2015, NCC engaged Land IQ, a consulting firm specializing in habitat restoration, in a three-year effort to review and revise the plan, and propose a list of prioritized sites within the Reserve for specific restoration actions. Key themes being addressed over the course of the project include: landscape-scale restoration actions; sources of uncertainty tied to climate change, fire, seedbank condition; adaptive management; cost-effect methods; natural rainfall driven restoration; maximization of return of investment; integration of planning efforts; measure of success; and stakeholder and resource agency engagement.

During the three plus years on the project, Land IQ has developed GIS-based models supporting identification of site-specific ecologically appropriate vegetation community restoration targets, advanced development of Best Management Practices based on lessons learned from active and historic restoration projects and practitioner expertise, and finalized a generalized, adaptive management approach for landscape-scale habitat restoration across the Reserve. The finalized, updated HREP was submitted to the NCC Board of Directors and Wildlife Agencies for approval in March 2019.

A land manager training project, with reviews of the key points of the HREP combined with a demonstration restoration site, has been postponed until 2022-23. The project will assist the land managers in incorporating the plan into their land management activities that focus on restoration.

4.3 Recreation Management Plan

In support of a long-term recreation management program for the NROC, NCC partnered with national leaders in the field of recreation ecology from Utah State University and Oregon State University in 2016 to plan and implement a multi-year research project. As designed, the project is to have four overall dimensions focused on: (1) determining visitor use levels and spatial distributions; (2) assessment of biophysical resource conditions; (3) understanding of visitor perceptions, values, and judgements; and (4) providing of scientific expertise in park planning and management.

Working with signatories of the NCCP/HCP and other partners, the project leads identified fourteen management units within the Nature Reserve of Orange County as a high priority for assessment and monitoring of recreation use and associated management uses. The project will employ both continuous assessment and sampling approaches to establish baseline conditions. Work is to include field assessment of the location and condition of trails, sites, and other areas of visitor use, determination of the spatial distribution of use, and assessment of visitor attributes and preferences, demographics, motivations, values and judgments of resource and social conditions. Work will be conducted in two distinct phases. The first phase was three years in duration, with social and biophysical field sampling which ended in 2019, with a summary report provided to our partners (for reports, see our [recreation management project page](#)).

The second phase, focused on informing management and conservation goals, includes development of visitor norm curves, thresholds of acceptability, and mapping tied to resource

condition, was expected to be initiated in 2020 and carry through 2022. Due to the COVID-19 pandemic the 2020 field season was postponed until 2021. A summary report, as well as recreation management workshops, is anticipated in spring and summer 2022.

4.4 Grazing Management Plan

Though a Grazing Management Plan was adopted, large scale grazing in the reserve by livestock ceased in 2002. In 2021 NCC staff began exploring a cattle grazing pilot project coordinating with the Wildlife Agencies, OC Parks, grazing management contractors, ecologists specializing in grassland species covered by the NCCP/HCP and ranchers to design a comprehensive monitoring system of pre-grazing and post-grazing vegetation and vertebrate species conditions in order to establish a baseline and assess the habitat restoration and fuel management potential of the pilot project.

If the planning, cost assessment and ecological monitoring is found to be acceptable by all parties, NCC has tentatively set 2024 as a target date to launch the pilot cattle grazing project.

5.0 IMPACTS TO COASTAL SAGE SCRUB HABITAT IN THE COUNTY OF ORANGE CENTRAL/COASTAL SUBREGION NCCP/HCP 2021

5.1 Authorized Take in the Reserve System by Participating Landowners as Reported to NCC in 2021

Since 2018, the NROC Annual Report has tracked in tabular form impacts to coastal sage scrub habitat within the boundary of the Central and Coastal Subregion of Orange County. The table below is an updated accounting resulting from Wildlife Agencies records and reporting of signatories to the Central and Coastal Subregion NCCP/HCP of Orange County Implementation Agreement for the 2021 calendar year.

As in 2018, the University of California Regents are not included in the table because they have not utilized any of the credits authorized in the Implementation Agreement for the Central and Coastal Subregion NCCP/HCP for Orange County. The figures in the table are based on Wildlife Agencies' archives, records from past Annual Reports, input from landowning signatories in response to the Wildlife Agencies' March 7, 2017 letter, and subsequent written communication from signatories in 2021 to NCC. The Wildlife Agencies provided additional updates to the Take accounting tables in their comments on the 2019 NROC Annual Report. Those values are reflected in the following table along with comments.

Aside from the Wildlife Agencies' amendments to the 2019 Authorized Take Report, Metropolitan Water District is the only signatory to the Central and Coastal Subregional NCCP/HCP to have reported Take to the Natural Communities Coalition in calendar year 2021.

Date	Participating Landowner	Location and/or Project Name	CSS Impacts By Project (acres)	Remaining Authorized Take (acres)	Take Accounting Concurrence Between Wildlife Agencies & Landowner	Comment
12/01/96	OC Parks	Laguna Coast Wilderness Park (LCWP) Riding & Hiking Trail	0.1	394.9	Yes	
03/05/98	OC Parks	Laguna Cyn Rd Emergency Repair	0	394.9	Yes	
12/01/98	OC Parks	Santiago Oaks Regional Park – Suncal Encroachment	0	394.9	Yes	Boundary Amendment approved in 1999
12/01/98	OCW&R	Phase V-A Liner Project at Frank R. Bowerman Landfill (FRB)	16.5	378.4	Yes	
12/01/99	OCW&R	Phase V-B/C Liner Project at FRB Landfill	13.1	365.3	Yes	
12/08/00	OCW&R	Phase V-D at FRB Landfill	16.0	349.3	Yes	
02/01/02	OC Parks	El Modena Orange Oak Acres Mutual Water Company waterline, Santiago Oaks	0	349.3	Yes	
12/01/02	OCW&R	FRB Landfill Emergency Landslide Remediation	13.04	336.26	Yes	
12/01/02	OCW&R	FRB Landfill Phase VII-A	5.2	331.06	Yes	

Date	Participating Landowner	Location and/or Project Name	CSS Impacts By Project (acres)	Remaining Authorized Take (acres)	Take Accounting Concurrence Between Wildlife Agencies & Landowner	Comment
12/01/03	OCW&R	FRB Desilting Basin	2.4	328.66		Take reported by CDFW
12/01/04	OCW&R	FRB Landfill Phase V-D Stockpile	1.19	327.47	Yes	
12/01/05	OCW&R	FRB Landfill Fuel Mod. Program	0.48	326.99	Yes	
12/01/05	OCW&R	Canyon II Stockpile	1.56	325.43	Yes	
12/01/05	OCW&R	FRB Landfill Phase VII-B	13.85	311.58	Yes	
12/01/07	OCPW	Laguna Cyn Rd.	21.51	290.07	No	Unable to locate final accounting of impacts. Will assume 21.51 from BO unless documentation stating otherwise can be submitted.
12/01/07	OCW&R	FRB Landslide Back-cut Project	19.68	270.39	Yes	
12/01/08	OCW&R	Drainage 1	6.04	264.35	Yes	
12/01/10	OC Parks	Aliso and Wood Cyns Wilderness Park (AWCWP) Car Wreck Trail	0.03	264.32		Take source: CDFW Based of aerial photograph
12/01/10	OC Parks	Santiago Oaks Regional Park: Bumblebee, Chutes and Weir Cyn Trails Improvements	0	264.32	Yes	Wildlife Agencies recommend coordination with NCC on future trail projects
12/01/10	OCW&R	FBR Landfill Phase VIII-C	7.2	257.12	Yes	
12/01/11	OC Parks	AWCWP: Mentally Sensitive Trail	0	257.12	Yes	Wildlife Agencies recommend coordination with NCC on future trail project

Date	Participating Landowner	Location and/or Project Name	CSS Impacts By Project (acres)	Remaining Authorized Take (acres)	Take Accounting Concurrence Between Wildlife Agencies & Landowner	Comment
12/01/11	OC Parks	AWCWP: Wood Cyn Trail Bank, Wood Creek Dip Crossing and Valido & Mathis Cyn Trails	0	257.12	Yes	Mathis Cyn Trail added by CDFW
12/01/13	OC Parks	Irvine Ranch Open Space: Limestone Ridge Trail	0	257.12	Yes	Wildlife Agencies recommend coordination with NCC on future trail projects
12/01/13	OC Parks	Irvine Ranch Open Space: Marel Spur Trail	0	257.12	Yes	Wildlife Agencies recommend coordination with NCC on future trail projects
12/01/13	OC Parks	AWCWP: Cholla Trail	0	257.12	Yes	Wildlife Agencies recommend coordination with NCC on future trail projects
12/01/13	OC Parks	LCWP: Los Trancos Trail	0	257.12	Yes	Wildlife Agencies recommend coordination with NCC on future trail projects
12/01/13	OC Parks	AWCWP: Hillcrest HOA Drainage	0	257.12	Yes	Wildlife Agencies recommend coordination with NCC on future trail projects
12/01/13	OC Parks	LCWP: Ridge Park Road Trail	0	257.12	Yes	Wildlife Agencies recommend coordination with NCC on future trail projects
12/01/13	OC Parks	Whiting Ranch Wilderness Park: Cactus Hill Trail	0	257.12	Yes	Wildlife Agencies recommend coordination with NCC on future trail projects
12/01/13	OCW&R	FRB Landfill: South Basin/Wetland Basin	0.32	256.8	Yes	
12/01/13	OCW&R	FRB Landfill: WCR	0.72 4.9	251.18		4.9 ac Take source: CDFW

Date	Participating Landowner	Location and/or Project Name	CSS Impacts By Project (acres)	Remaining Authorized Take (acres)	Take Accounting Concurrence Between Wildlife Agencies & Landowner	Comment
12/01/13	OCW&R	FRB Landfill: East Flank Landslide Remediation	8.96	242.22	Yes	
12/01/14	OC Parks	LCWP: Marijuana Grove	0	242.22	Yes	Wildlife Agencies recommend coordination with NCC on future projects of this nature
12/01/14	OC Parks	AWCWP: Cholla Trail	0	242.22	Yes	Wildlife Agencies recommend coordination with NCC on future trail projects
12/01/14	OC Parks	LCWP: Lizards Trail	0.7	241.52	Yes	
12/01/14	OC Parks	LCWP: Emerald Cyn Bridges and Trail Improvements	0	241.52	Yes	Wildlife Agencies recommend coordination with NCC on future trail projects
12/01/14	OC Parks	Little Sycamore Bridge and Trail Improvements	0	241.52	Yes	Wildlife Agencies recommend coordination with NCC on future trail projects
12/01/14	OCW&R	FRB Landfill: Phase VIII-C	1.5	240.02	Yes	
12/01/14	OCW&R	East Loma Landslide	2.22	237.8	Yes	
12/01/14	OCW&R	FRB Landfill: East Flank Landslide Remediation	5.44	232.36	Yes	
12/01/15	OC Parks	AWCWP: Main Entrance Facility Improvements	0.79	231.57	Yes	
12/01/15	OCW&R	FRB Landfill: Office Facility Expansion	1.3	230.27	Yes	
12/01/15	OCW&R	FRB Landfill: Phase VIII-B1	1.91	228.36	Yes	

Date	Participating Landowner	Location and/or Project Name	CSS Impacts By Project (acres)	Remaining Authorized Take (acres)	Take Accounting Concurrence Between Wildlife Agencies & Landowner	Comment
01/01/04	OC Parks	LCWP: Nix Nature Center	0.35	228.01	No	Constructed after NCCP/HCP. To be reviewed by County and Wildlife Agencies in 2019
01/01/02	OC Parks	Upper Newport Bay Interpretive Center	2.7	225.31	Yes	
01/01/10	OCPW	Alton Pkwy	0	225.31	Yes	
01/01/98	OC Parks	LCWP: Camarillo Trail	0.01	225.3	Yes	
01/01/08	OCPW	San Diego Creek Maintenance Project	1.6	223.7	Yes	
01/01/17	OCW&R	FRB Landfill: Phase VII-B2	8.72	214.98	Yes	
2018	OC Parks	Whiting Ranch WP	0.06	214.92		
County of Orange			Total Take 180.08	Beginning Balance 395		

Date	Participating Landowner	Location and/or Project Name	CSS Impacts By Project (acres)	Remaining Authorized Take (acres)	Take Accounting Concurrence Between Wildlife Agencies & Landowner	Comment
07/1997	Irvine Company	Laidlaw Gasline	0.07	1.93	Yes	
06/1999	Irvine Company	Tustin Ranch Estates	0.16	1.77	Yes	
01/2001	Irvine Company	Chambord Entry Wall	0.07	1.7	Yes	
10/2002	Irvine Company	Coyote Cyn Gas Probes	0.0001	1.6959	Yes	
02/2003	Irvine Company	Bommer Cyn East Fork Ranch Road	0.094	1.6019	Yes	
06/2008	Irvine Company	Santiago Hills Phase II: Infrastructure Improvements-Irvine Regional Park and Peters Canyon Reservoir	0.5484	1.0535	Yes	
Irvine Company			Total Take 0.9465	Beginning Balance 2		

Date	Participating Landowner	Location and/or Project Name	CSS Impacts By Project (acres)	Remaining Authorized Take (acres)	Take Accounting Concurrence Between Wildlife Agencies & Landowner	Comment
02/13/97	Irvine Ranch Water District (IRWD)	Allen-McColloch Pipeline	0.005	59.995	Yes	
02/14/97	IRWD	Parcel 4 Sewer and Cart Path north of Spillway	0.18	59.815	Yes	
07/27/99	IRWD	Shady Cyn Reservoir & Pipeline	1.6	58.215	Yes	
09/19/00	IRWD	Shady Cyn Sewer	0.14	57.825	Yes	
12/01/14	IRWD	Baker Water Plant/ Serrano Creek Outlet	0	45.375	Yes	Utilized In-Lieu Mitigation Fee Program
12/01/14	IRWD	Baker Raw Water Pump Station and Pipeline Project	0	45.375	Yes	
12/01/15	IRWD	Serrano Summit	0	45.375	Yes	Utilized In-Lieu Mitigation Fee Program
	IRWD	Siphon Reservoir Interim Facilities	0.04	45.335	Yes	CDFW Records. No date
	IRWD	Irvine Lake Pipeline North Conversion Project	0.96	44.375	Yes	CDFW Records. No date
Irvine Ranch Water District			Total Take 15.625	Beginning Balance 60		

Date	Participating Landowner	Location and/or Project Name	CSS Impacts By Project (acres)	Remaining Authorized Take (acres)	Take Accounting Concurrence Between Wildlife Agencies & Landowner	Comment
2003	Southern California Edison (SCE)	Shady Cyn Special Linkage: Convert Overhead 66kV to Underground (Santiago-Crown-Morro 66kV)	1	1.4	Yes	
2003	SCE	Santiago-Coygen-Crown Project	1	0.4		Take source: USFWS
Southern California Edison			Total Take 2.0	Beginning Balance 2.4		

Date	Participating Landowner	Location and/or Project Name	CSS Impacts By Project (acres)	Remaining Authorized Take (acres)	Take Accounting Concurrence Between Wildlife Agencies & Landowner	Comment
08/01/03	Crystal Cove State Park (CCSP)	El Morro Conversion Sewer Project	0.04	17.92		
08/04/03	CCSP	Historic District Cottages and Infrastructure Project (PPUP implementation)	2.48	12.96		
Crystal Cove State Park			Total Take 2.52	Beginning Balance 12.96		

Date	Participating Landowner	Location and/or Project Name	CSS Impacts By Project (acres)	Remaining Authorized Take (acres)	Take Accounting Concurrence Between Wildlife Agencies & Landowner	Comment
01/10/20	Metropolitan Water District (MWD)	Orange County Feeder Blow-Off Structure Rehabilitation Project (CM-2)	0.23	45.07		Section 7 Consultation
Metropolitan Water District			Total Take 0.23	Beginning Balance 45.3		

5.2 Take by Non-Participating and Participating Landowners – In-Lieu and Other Mitigation Fee Options

The US Fish and Wildlife Service, and the California Department of Fish and Wildlife approved one Non-Participating Landowners project to utilize the In-Lieu Mitigation Fee Option in 2021. There was a total take of 0.035 acres of coastal sage scrub outside of the Reserve and a \$3,047.40 mitigation payment made. The table below summarizes the project impacts and approved mitigation:

Non-Participating Landowner	Participating Landowner	Project Description	Acres of CSS Approved Take	Approved In-Lieu Mitigation Fee	Date Fee Received by NCC
Monarch Coast II, LLC		Storm Drain Installation	0.035	\$3,047.40	10/05/2021

Totals			0.035	\$3,047.40	
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6.0 ACCOUNTING OF FUNDS RECEIVED AND DISPERSED BY NCC

No funds were dispersed to NCCP/HCP participants. However, NCC provided in-kind contributions, and science and land management services through its contracts to landowners in the form of invasive plant eradication and habitat restoration on reserve lands. For a detailed breakdown of expenditures and success of the program in 2021, see Section 2 above.

7.0 BOUNDARY CHANGES/MINOR AMENDMENTS IN THE RESERVE SYSTEM

There was only one Boundary Amendment request processed by the NCC Boundary Amendment and Acquisition Committee and approved by the Natural Communities Coalition Board of Directors in 2021.

Land Manager Name

Ca Dept Fish Wildlife

Reporting Year

2021

Park, open space or management unit

Coal Canyon ER

Website

<https://wildlife.ca.gov/Lands/Places-to-Visit/Coal-Canyon-ER>

Land owning entity:

California Department of Fish and Wildlife

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

During 2021, fences and trails were routinely monitored and no major impacts to the habitat were observed even though there was evidence of unauthorized motorized vehicles entering Coal Canyon ER. As such, no major changes or modifications are planned for 2021. The trail camera stolen will be replaced and maintained to continue monitoring of unauthorized activities. If funding is available, a new gate will be installed at the boundary with the Cleveland National Forest and three bollards will be installed at the entry point adjacent to Chino Hills State Park.

Additionally, two high priority invasive species exist in or adjacent to Coal Canyon ER, *Centaurea solstitialis* (yellow star thistle) and *Brassica tournefortii* (Sahara mustard). Efforts to monitor and control these populations by CA Department of Fish and Wildlife (CDFW) and partners will occur in 2022. Additional inter-agency coordination will be performed to efficiently manage populations across jurisdictional boundaries.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

Open Access (see website above)

b. Is there an official written policy governing property closure conditions and procedures?

Yes

Description of closure conditions and procedures.

According to Title 14, Sections 550 and 630, closures can occur for resource protection and other reasons deemed appropriate by CDFW and with approval from the Regional Manager.

ii. Has the policy been officially modified since the previous year's annual report?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
NA	NA	NA	NA

d. Is there an official written policy governing special events use of the property?

Yes

Description of special events use for the property.

According to Title 14, section 550, "an activity, use, event or gathering on department land...may be allowed with written authorization from the department, typically in the form of a Special Use Permit. When allowed, special uses occur on a limited basis as defined in the Special Use Permit or other authorizing document. An authorized special use on department land shall not conflict with the normal uses, purposes or management of the department land."

ii. Has the policy been officially modified since the previous year's annual report?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Reserve Manager	1	0.07
Habitat Assistant	1	0.1
Scientific Aids	1	0.14

3. Property Supervisor Contact Information

Name	Title	Email	Phone
Amanda Swanson	Reserve Manager	Amanda.Swanson@Wildlife.ca.gov	949-640-9961

B. Visitation

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

The trail camera that was originally installed at Coal Canyon ER was stolen. As such, we do not have an estimate for 2021. A new trail camera will be installed in 2022.

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future

annual reports is to have estimates for three consecutive years to document visitation trends.

2021 Not Available

2020 - 2,920

2019 Not Available

2018 Not Available

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

No new types of park users were observed within the past year, although there is evidence that use of unauthorized motor vehicles (i.e. trucks, motorized bikes) has continued to occur. For this reason, bollards may be installed at some point to curtail unauthorized use of the trails, pending availability of funding. CDFW will work with the U.S. Forest Service on replacing the gate at the boundary with Cleveland National Forest. The gate no longer locks, and if funding is available, CDFW will work with partners to replace the gate.

e. Were there any special events held for which special use permits were issued for the property?

No

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
NA	No significant impacts to habitat were observed from unauthorized property uses	NA	NA

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

Yes

i. If yes, summarize methodology in the space below and describe the general trend you observed for the property, and identify any specific trails where conditions are found to be degraded and any actions proposed or taken to address the degradation.

Access roads/trails into Coal Canyon ER are routinely monitored by CDFW staff. Only major incidents of degradation are documented, with no major incidents observed during 2021. Maintenance of access roads is performed on an annual basis by Southern California Edison.

ii. Are notes, photographs or other documentation of the monitoring performed archived?

No

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

No

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the

property?

No

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

No

VI. Invasive Species Control

A. Plants

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

No

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

Yes

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

In April 2021, UC Cooperative Extension in collaboration with CDFW and OCFA placed ISHB traps near the entrance of a riparian corridor to determine whether ISHB existed within the area. For much of the year, no ISHB were observed, but in the fall of 2021, two beetles were found on one sticky trap within Coal Canyon ER.

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

No

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

No invasive beetle occurrences were discovered prior to 2021.

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

No

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

Yes

Research (ongoing or new)?

No

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

No

Non-mitigation habitat restoration initiated?

No

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

Staff will continue to monitor and manage high priority species *Brassica tournefortii* (Sahara mustard) and *Centaurea solstitialis* (yellow star thistle) populations in Coal Canyon ER. Since these species are also found on adjacent properties, inter-agency communication will be conducted to share information and coordinate management.

Invasive beetle control actions to be undertaken by land owner or contractor?

No

Other invasive species (please describe):

Staff will work with partners including UC Cooperative Extension, Orange County Parks, Irvine Ranch Conservancy, Orange County Fire Authority, and NCC on how to best survey and treat if needed, trees infested with invasive beetles. CDFW will also work with neighboring land owners and partners to develop a survey and treatment strategy.

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

No

Land Manager Name

Ca Dept Fish Wildlife

Reporting Year

2021

Park, open space or management unit

Laguna Laurel ER

Website

<https://wildlife.ca.gov/Lands/Places-to-Visit/Laguna-Laurel-ER>

Land owning entity:

California Department of Fish and Wildlife

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

During 2021, monitoring of trail conditions, fencing, and signage was routinely performed with no major issues observed. All infrastructure was mapped, including an old fence that is planned for removal.

CA Department of Fish and Wildlife (CDFW) will continue to work with the County of Orange to improve monitoring and management of high priority weeds within Laguna Laurel ER. As the County owns Laguna Coast Wilderness Park which surrounds Laguna Laurel ER, CDFW will coordinate closely with the County for weed management, trail monitoring, and obtaining visitor estimates during 2021. Signage, trail conditions and fencing will also be regularly surveyed and maintained as necessary.

CDFW is also planning to conduct ~3-acre habitat enhancement project in collaboration with the Laguna Canyon Foundation.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

Open Access (see website above)

b. Is there an official written policy governing property closure conditions and procedures?

Yes

i. If yes, attach a PDF of the policy in the space below or provide a brief written summary

[19-20-Waterfowl-Upland-Lands-Regs-final2_09.12.19.pdf](#)

Description of closure conditions and procedures.

According to Title 14, Sections 550 and 630, closures can occur for resource protection and other reasons deemed appropriate by CDFW and with approval from the Regional Manager.

ii. Has the policy been officially modified since the previous year's annual report?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
NA	NA	NA	NA

d. Is there an official written policy governing special events use of the property?

Yes

i. If yes, attach a PDF of the policy or provide a brief written summary in the space below

[19-20-Waterfowl-Upland-Lands-Regs-final2_09.12.19-1.pdf](#)

Description of special events use for the property.

According to Title 14, section 550, "an activity, use, event or gathering on department land...may be allowed with written authorization from the department, typically in the form of a Special Use Permit. When allowed, special uses occur on a limited basis as defined in the Special Use Permit or other authorizing document. An authorized special use on department land shall not conflict with the normal uses, purposes or management of the department land."

ii. Has the policy been officially modified since the previous year's annual report?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Reserve Manager	1	0.07
Habitat Assistant	1	0.1
Scientific Aids	1	0.14

3. Property Supervisor Contact Information

Name	Title	Email	Phone
Amanda Swanson	Reserve Manager	Amanda.Swanson@Wildlife.ca.gov	949-640-9961

B. Visitation

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

CDFW does not currently have a method in place for estimating public visitation at Laguna Laurel ER. Estimates provided by Orange County Parks are for all of Laguna Coast Wilderness and would not be an accurate estimate for Laguna Laurel ER.

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

2021 Not Available
2020 Not Available
2019 Not Available
2018 Not Available

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

No new types of park users or uses were observed in the park during 2021.

e. Were there any special events held for which special use permits were issued for the property?

No

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
NA	No significant impacts to habitat were observed from unauthorized property uses	NA	NA

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

Yes

i. If yes, summarize methodology in the space below and describe the general trend you observed for the property, and identify any specific trails where conditions are found to be degraded and any actions proposed or taken to address the degradation.

Trails are routinely monitored by CDFW staff. Only major incidents of degradation are documented and there was no evidence of trail degradation observed in Laguna Laurel ER during 2021. Although one new unauthorized trail had widened due to increased use; OC Parks put up a small temporary fence to reduce use.

ii. Are notes, photographs or other documentation of the monitoring performed archived?

No

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

No

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

No

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

No

VI. Invasive Species Control

A. Plants

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

No

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

No

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

Due to minimal CDFW staff capacity and resources during 2021, follow-up surveys for invasive beetles were not conducted. CDFW will work with partners to better strategize monitor infested trees in 2022.

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

No

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

In July 2020, surveys were conducted in Laguna Coast Wilderness by UC Cooperative Extension for OC Parks. Based on the map provided by OC Parks, Laguna Laurel ER was also surveyed and a small cluster of 2-3 trees with low infestation level were observed near the southern boundary, although specific species and exact numbers are unclear. The report provided by OC Parks likely covers survey results within Laguna Laurel ER as well.

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

No

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

Yes

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

Yes

Research (ongoing or new)?

No

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

No

Non-mitigation habitat restoration initiated?

No

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

As Laguna Laurel ER is surrounded by property owned by the County of Orange, CDFW will monitor high priority weeds in collaboration with Orange County Parks and manage as necessary. No Priority 1 weeds have been documented in Laguna Laurel ER thus far, but Priority 2 species include artichoke thistle (*Cynara cardunculus*), perennial veldt grass (*Ehrharta calycina*), *Arundo donax* and black locust (*Robinia pseudoacacia*). Sahara mustard (*Brassica tournefortii*) has not been documented in Laguna Laurel ER, but populations exist nearby within Laguna Coast Wilderness Park.

Invasive beetle control actions to be undertaken by land owner or contractor?

Yes

Please explain the invasive beetle control actions to be undertaken by land owner or contractor.

Staff will work with partners including Orange County Parks, Orange County Fire Authority, and NCC on how to best survey and treat, if needed, trees infested with invasive beetles.

Other invasive species (please describe):

If other high priority invasive species are identified, CDFW will also work with neighboring land owners and partners to develop a survey and treatment strategy.

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

No

Land Manager Name

Ca Dept Fish Wildlife

Reporting Year

2021

Park, open space or management unit

Upper Newport Bay ER

Website

<https://wildlife.ca.gov/Lands/Places-to-Visit/Upper-Newport-Bay-ER>

Land owning entity:

California Department of Fish and Wildlife

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

During 2021, several efforts were made to manage and survey multiple invasive species including high priority weeds *Limonium ramosissimum* (Algerian sea lavender), European sea lavender (*Limonium duriusculum*), and Sahara mustard (*Brassica tournefortii*). Additionally, monitoring efforts occurred to assess populations of two state and federally listed species, the Ridgway's rail and the California Least tern. There are also two ongoing restoration projects in various stages. Planning and permitting for the Big Canyon Habitat Restoration and Adaptation-Phase 3 (previously 2B/2C) began in early 2021 and is ongoing. Additionally, the Upper Newport Bay Ecosystem Restoration Project, which was completed in 2010, was scheduled to have its 10 year monitoring campaign occur in 2020; however, due to COVID-19 restrictions, three of the four quarters of the fish surveys, avian surveys and water quality assessments were conducted in 2021, with the remaining fourth quarter surveys scheduled for 2022. In December 2021, CA Dept of Fish and Wildlife (CDFW) began working with the County of Orange on the Santa Ana-Delhi Channel Improvement Project who will be planning and permitting for the project in 2022.

Vegetation monitoring, and multiple targeted invasive control efforts will continue into 2022. While no new restoration projects are currently planned for implementation over the next year, the CDFW is heavily involved in the Big Canyon Habitat Restoration and Adaptation Project-Phase 2, which was completed in early 2021 and is currently in its monitoring and maintenance phase; as stated above, planning and permitting of subsequent phase (Phase 3) within Upper Newport Bay ER is ongoing. Plans to improve interpretive signage and kiosk refurbishment is also planned for 2022 for Big Canyon and around the Back Bay Science Center to improve public education and access.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

Both Open and Hosted Limited Access

b. Is there an official written policy governing property closure conditions and procedures?

Yes

i. If yes, attach a PDF of the policy in the space below or provide a brief written summary

[19-20-Waterfowl-Upland-Lands-Regs-final2_09.12.19-4.pdf](#)

Description of closure conditions and procedures.

According to Title 14, under Sections 550 and 630, closures can occur for resource protection and other reasons deemed appropriate by CDFW and with approval from the Regional Manager.

ii. Has the policy been officially modified since the previous year's annual report?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
NA	NA	NA	NA

d. Is there an official written policy governing special events use of the property?

Yes

i. If yes, attach a PDF of the policy or provide a brief written summary in the space below

[19-20-Waterfowl-Upland-Lands-Regs-final2_09.12.19-5.pdf](#)

Description of special events use for the property.

According to Title 14, under section 550, "an activity, use, event or gathering on department land...may be allowed with written authorization from the department, typically in the form of a Special Use Permit. When allowed, special uses occur on a limited basis as defined in the Special Use Permit or other authorizing document. An authorized special use on department land shall not conflict with the normal uses, purposes or management of the department land."

ii. Has the policy been officially modified since the previous year's annual report?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Reserve Manager	1	0.8
Habitat Assistant	1	0.5
Scientific Aids	1	0.3

3. Property Supervisor Contact Information

Name	Title	Email	Phone
Amanda Swanson	Reserve Manager	Amanda.Swanson@Wildlife.ca.gov	949-640-9961

B. Visitation

a. Total number of public visitors to the property based on land owner's estimate:

1296

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

CDFW hosts several educational programs and collaborates with multiple partners including the County of Orange and the Newport Bay Conservancy at the Back Bay Science Center and elsewhere around Upper Newport Bay ER, and the above estimate is determined by combining the total number of individuals participating in each program or event hosted by both CDFW as well as other partners. Due to COVID-19 these numbers were drastically lower during 2021 due to cancellation of outreach programs.

The above number also likely underestimates the number of individuals that visited the Upper Newport Bay ER during 2021 as we do not currently have a consistent, accurate method of calculating all the visitors who use trails or participate in water activities. While educational and outreach programs were cancelled, observations by CDFW staff and other partners indicate that there was a noticeable increase in public activities on water and trails during 2021, especially during the summer months.

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

2020-3,505 visitors

2019-17,448 visitors

2018- 10,553 visitors

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

An increase in drone use was observed, warranting the need for additional signage. Additionally, more individuals were observed feeding wildlife.

e. Were there any special events held for which special use permits were issued for the property?

Yes

i. Provide in the table below a summary of special events held for which special use permits were issued for the property.

Event Date	Type of Special Event	# of Participants
10/31/2021	Newport Dune Triathlon	900

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
NA	No significant impacts to habitat were observed from unauthorized property uses	NA	NA

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

Yes

i. If yes, summarize methodology in the space below and describe the general trend you observed for the property, and identify any specific trails where conditions are found to be degraded and any actions proposed or taken to address the degradation.

Staff are required to routinely walk each trail to assess trail and fence conditions and to determine whether maintenance is required. As trail surveys are conducted on a weekly basis, only major maintenance issues are documented and no new major trail issues were observed during 2021. Only minor issues with trail conditions, fencing, and signage were routinely addressed during 2021 in Upper Newport Bay ER.

ii. Are notes, photographs or other documentation of the monitoring performed archived?

Yes

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

No

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

No

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

No

VI. Invasive Species Control

A. Plants

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

Yes

a. Were the results of the invasive plant control efforts for the property conducted by the land owner/manager or their contractor reported to CalFlora?

Partially

i. If no or partially, please complete the table below:

Treatment Methodology	Invasive Plant Name	Habitat(s) Impacted	Area of Treatment (Square Meters)
Synthetic Herbicide	Melilotus alba (white sweetclover)	dune-sandy nesting island	4,856 (gross area)
Synthetic Herbicide	Erodium cicutarium	dune-sandy nesting island	1,214 (gross area)
Synthetic Herbicide	Brassica tournefortii	disturbed sandy-Shellmaker Island	400 (gross area)
Synthetic Herbicide	Brassica nigra	disturbed, roadside	1,214 (gross area)
Hand-pulling	Invasive Limonium (ramossisimum and duriusculum)	saltmarsh	59,367 (gross area)
Other	Invasive Limonium (ramossisimum and duriusculum)	saltmarsh	1,103 (gross area)

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

No

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

Due to limitations in staff capacity, no surveys were conducted for invasive beetles.

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

Yes

i. If yes, identify the species:

ISHB

ii. Please complete the table limiting your responses to species occurrences or upload a attachment outlining the specifics below:

Infested Tree Species	Invasive Beetle Name	Infested Geographic Area of the Property	# of Infested Trees
Platanus racemosa	ISHB	Big Canyon Nature Park	5
Salix lasiolepis	ISHB	Big Canyon Nature Park	NA

iii. Did active management for invasive beetles occur on the property?

No

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of

actions taken in the space provided and/or upload a specific attachment below:

One informal survey was conducted by the Newport Bay Conservancy in September 2019 within the Reserve boundary. However, due to COVID-19 restrictions and limitations in resources and personnel during 2021, follow up in Big Canyon and new additional surveys did not take place. As part of the Big Canyon Habitat Restoration - Phase 3 project, greater efforts will be taken during 2022 to survey and manage invasive beetles in coordination with the Newport Bay Conservancy, City of Newport Beach, County of Orange, the Natural Communities Coalition and the Emerging Tree Pest Task Force.

While treatment did not occur within the Upper Newport Bay ER boundary, all trees that were infested with ISHB were treated or removed within the upstream Phase 2 area of the Big Canyon Habitat Restoration and Adaptation project.

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

No

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

Yes

Research (ongoing or new)?

Yes

If yes, please enter additional details regarding the research pertaining to resources addressed by NCCP/HCP:

The following ongoing research projects are taking place in the Upper Newport Bay ER:

-Since about 2010, the eelgrass and oyster restoration project has been ongoing and led by Orange County

Coastkeeper, Cal State Fullerton, and Cal State Long Beach. This project continues to explore methods for successful oyster bed and eelgrass restoration through experimental plots established in Upper Newport Bay ER. OC Coastkeeper assesses eelgrass densities, area and growth, water quality, shoreline elevation, oyster bed subsidence and wave attenuation. Data collected by CSUF includes measures of oyster settlement, recruitment, densities, percent shell cover, adult sizes, sedimentation, and bird use of the habitat. Work performed by CSULB includes assessments of infaunal and fish communities and analyses of oyster tissue and sediment for contamination. In 2021, CSULB also performed a survey of their sites via UAV (unmanned aerial vehicle) to assess whether oyster and eelgrass restoration is contributing to shoreline stabilization. The same team conducting these surveys is also part of the program developing standard methods for assessing Marine Protected Areas in California and Upper Newport Bay ER is a pilot site.

-Call counts of Ridgway's rails are conducted annually to assess population dynamics. Monitoring is provided under a Memorandum of Understanding (MOU) with Dick Zembal. The MOU allows for annual nest searches and egg collection to the breeding program at Sea World, although no egg collections occurred during 2020. Surveys were conducted during the start of the breeding season, but were limited to due closure of Back Bay Drive in response to COVID-19 restrictions. The survey data is provided as part of a final annual report submitted to CDFW. In 2020, only 53 pairs were counted, a 16% decline from 2019. In 2021, 59 pairs were counted, a slight increase compared to 2020. The Ridgway's Rail population at UNBER has drastically been declining since 2016, likely due to habitat loss; cordgrass cover decreased dramatically during 2016 and minimal recovery has been observed. Additionally, we began working with a master's student from CSU Long Beach on assessing Ridgway's rail use of platforms for nesting and refuge; cameras are deployed and monitored and she has been collecting data on vegetation and abiotic characteristics of her field sites.

-Surveys of Belding's savannah sparrow were conducted in 2020 and no formal surveys were conducted in 2021. Territories are concentrated in dense pickleweed (*Salicornia* sp.) in the mid marsh, often on elevated hummocks likely to avoid frequent tidal inundation. However, this makes the population more vulnerable to human and pet trespass, mammalian predators, stands of Algerian sea lavender (*Limonium ramosissimum*), and competition with song sparrows in adjacent habitats. Management efforts for 2021 will continue to focus on controlling Algerian sea lavender and reducing human trespass.

-The California Least tern population at Upper Newport Bay ER will continue to be monitored during the 2022 nesting season. During 2021, 10 nests were counted, although none were successful. Camera traps indicated that seven of the nests were depredated by crows with the remaining three nests left abandoned. Like previous years, two scarecrows were placed on the island to alleviate harassment by Black Skimmers; the presence of the scarecrows creates a zone with little Black Skimmer activity, providing additional space for nesting CA Least terns. However, even though the scarecrows created space for the CA Least terns, assessments of images from previous years suggest that severe harassment by Black Skimmers could still occur if chicks or fledglings venture outside of the zone created by the scarecrows. During 2022, the scarecrows and trail cameras will be deployed in April before CA Least terns arrive on-site. Additional predator control efforts to try to reduce depredation and harassment by crows will be conducted. Similar to 2021, the majority of monitoring will be performed remotely from the adjacent bluff to minimize impact, but on-site nest surveys will be done weekly to verify nest locations and maintain trail cameras using the least time-intensive approach.

-In 2010, the Upper Newport Bay Ecosystem Restoration Project was implemented. Bathymetry and vegetation surveys were completed in 2020. To meet the remaining monitoring requirements for the project, three of the four quarters of fish, avian, and water quality monitoring were completed in June, August, and November of 2021. The final survey will be conducted in February 2022.

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

No

Non-mitigation habitat restoration initiated?

No

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

Key high priority species at Upper Newport Bay ER include invasive Limonium (NCC priority 1) and Brassica tournefortii (NCC Sahara mustard; priority 2) all of which will be surveyed and treated to the best of CDFW's capacity and in collaboration with the Newport Bay Conservancy (NBC) and other partners. While only a few plants of Volutaria tubuliflora (Egyptian knapweed; NCC priority 1) and Lepidium latifolium (perennial pepperweed; NCC priority 1) have been observed on CDFW property within the past several years, CDFW staff with NBC will continue to monitor high risk locations within the Reserve.

Other high priority species that the CDFW would like to treat, as feasible, include Arundo donax and various iceplant species due to their presence in highly sensitive riparian, saltmarsh, and dune habitats.

Invasive beetle control actions to be undertaken by land owner or contractor?

Yes

Please explain the invasive beetle control actions to be undertaken by land owner or contractor.

CDFW will work with local partners including the Newport Bay Conservancy, City of Newport Beach, County of Orange, the Natural Communities Coalition and the Emergent Tree Pest Task Force to coordinate monitoring and treatment of invasive beetles in UNBER. Additional surveys will take place in the remainder of Big Canyon and efforts will be taken to conduct surveys at other high risk locations throughout Upper Newport Bay ER.

Other invasive species (please describe):

Other high priority species that have recently been reported within or directly adjacent to the Upper Newport Bay ER include Dittrichia graveolens (stinkwort; NCC priority 1), Iris Pseudacorus (pale yellow iris; NCC priority 1), and spiny softshell turtle, and Caulerpa prolifera. These species and any others that are reported will be managed in collaboration with partners.

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

No

Land Manager Name

Ca Dept Parks Rec

Reporting Year

2021

Park, open space or management unit

Crystal Cove SP

Website

<http://www.crystalcovestatepark.org>

Land owning entity:

California Department of Parks and Recreation

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

2021 was another unprecedented year for Crystal Cove State Park, its close partners, and its staff. The COVID-19 pandemic continued to disrupt park operations and thus normal park use and management. None the less, Crystal Cove State Park continued to be managed in a manner consistent with the habitat protection values of the OC NCCP/HCP, the Park's general plan, and the broader mission of State Parks. We continue to see steady year-to-year increases in visitation to Crystal Cove State Park, both in the backcountry and on our beaches. We have observed an increase in the number and length of unauthorized trails in the Park since the Covid-19 pandemic started; a trend we have seen and heard about elsewhere in the region. State Parks initiated two recreation infrastructure improvements in 2021; the replacement of the Pelican Point bridge and the installation of permeable parking pavers at Reef Point parking lot and Pelican parking lots #3 and #4. Additionally, we removed approximately 150 cubic yards of sediment from lower Los Trancos creek in October 2021 as part of channel/flood control maintenance in the Historic District. Fuel management practices and public access policies for the park were unchanged in 2021. Parks continued to survey and treat invasive plants at a regional scale, including implementation of an EDRR program (in partnership with NCC). We also continued to survey our riparian habitat for ISHB infestations. We removed 45 heavily ISHB infested trees from lower moro canyon in February 2021 in partnership with OCFA. State Parks also carried out its fifth year of the 6-acre "Bowl" habitat restoration project and experiment in collaboration with UC Irvine/CEB. Annual vegetation monitoring (performed by staff and students from UCI's CEB program) indicates CSS restoration areas are on a successful trajectory, while grassland restoration areas are performing poorly (in large part because of intense herbivory). Land IQ, with funding from NCC and the Wildlife Conservation Board (WCB), continued their habitat restoration for western spadefoot toad on moro ridge. And also in 2021, IRC and State Parks continued with site preparations on a 7.5-acre CSS and grassland habitat restoration site in the lower moro area. Lastly, we expect completion of the Natural Resources Management Plan (NRMP) for Crystal Cove in 2022.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures**

a. Public Access Description for the Property

Open Access (see website above)

b. Is there an official written policy governing property closure conditions and procedures?

Yes

Description of closure conditions and procedures.

The 2021 District Superintendent Posted Orders are attached. They go through minor revisions, additions, and subtraction on an annual basis. No changes were made to property closure conditions or procedures in 2021. The Trail Use posted order (925-21-14) was updated in 2021 to reflect restrictions on e-bike use in Crystal Cove State Park.

Relevant posted orders include:

925-19-01 Public Health and Safety Closure (p. 3)

925-19-03 Day use areas - Hours of Closure (p. 5)

925-19-29 Temporary Rain Closures (p. 52)

925-21-14 Trail Usage (pg. 26)

ii. Has the policy been officially modified since the previous year's annual report?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
01/23/2021	Rain	3	Partial
01/29/2021	Rain	3	Partial
03/03/2021	Rain	2	Partial
03/10/2021	Rain	2	Partial
03/15/2021	Rain	1	Partial
10/05/2021	Rain	1	Partial
12/09/2021	Rain	1	Partial
12/14/2021	Rain	4	Partial
12/23/2021	Rain	2	Partial

d. Is there an official written policy governing special events use of the property?

Yes

Description of special events use for the property.

Crystal Cove State Park provides opportunities for the public to permit special events that include but, are not limited to, private and commercial use events. Common examples of private events include weddings, parties, tours, and sporting events. Commercial uses include semi-regular activities such as wellness/fitness training, sporting competitions, nature tours, outdoor skills classes and recreational hikes/walks. CCSP also permits special events to support our Concession/Co-Op partner for fundraising events, education programming and open to the public interpretive events, such as art shows, walking tours and other recreational activities. The Special Event

Application and policies is available for viewing/download at:

<https://www.crystalcovestatepark.org/wp-content/uploads/2019/05/2019-Special-Event-Info.-Application.pdf>

In 2021, Crystal Cove SP permitted a total of 169 private events (w/ 2,886 participants) and 108 commercial events (w/ 4,661 participants). Authorized special events in 2021 were, however, restricted in size and limited to family groups only, per County and State public health agency guidelines. For comparison, approximately 206 special events (131 private and 75 commercial) were permitted in 2020, not including film permits.

ii. Has the policy been officially modified since the previous year's annual report?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Sector Superintendent	1	1
Environmental Scientist	2	1.5
Environmental Science Intern	5	3.75
Special Event coordinator	2	1.75
Interpreter	3	2.5
Facilities Maintenance Manager/Supervisor	4	4
Maintenance Park Aide	20	10.75
Park Aide (seasonal)	45	24
Peace Officer Ranger/Lifeguard	7	7
Lifeguard (seasonal)	64	20

3. Property Supervisor Contact Information

Name	Title	Email	Phone
Kevin Pearsall	Sector Superintendent	kevin.pearsall@parks.ca.gov	

B. Visitation

a. Total number of public visitors to the property based on land owner's estimate:

3276731

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

The day use estimate includes free and paid day use, park entry by any means including by motor vehicle of any type, on foot, on bicycle, by boat or on horseback. Admission based on the use of annual passes is incorporated into this estimate. Additionally, we maintain 9 trail counters in the Crystal Cove back-country to estimate back-country

use, and counts are calibrated to each specific counter location. However, only counts from our trail counters near Ridge Park and Irvine Cove entrance gates were included in the annual estimate to avoid/minimize double counting with visitors entering paid Stat Park parking lots.

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

In 2021, the estimated number of total visitors was 3,276,731. By comparison, we estimated 2,482,805 total visitors in 2020, and 2,064,525 in 2019.

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

E-bike use and to a lesser extent, drone use. The District has posted orders concerning both activities.

e. Were there any special events held for which special use permits were issued for the property?

Yes

i. Provide in the table below a summary of special events held for which special use permits were issued for the property.

Event Date	Type of Special Event	# of Participants
04/24/2021	Rock IT Racing	350
05/08/2021	John Wayne Cancer Run	300
07/30/2021	HB City JGs	500
09/12/2021	Generic/XTERRA Triathlon	800
09/20/2021	Earthroots Field School	25
09/22/2021	Earthroots Field School	25
09/25/2021	Pacific Coast Triathlon	500
10/04/2021	Naturalist at Large	200
10/05/2021	Earthroots Field School	25
10/06/2021	Earthroots Field School	25
10/09/2021	Rock It Racing	300
10/29/2021	Morro School-Boo Blast	750
96 various dates	REI Outdoor School	861

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
Ongoing	Continued use of existing unauthorized trails	CSS	0.01

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

Yes

i. If yes, summarize methodology in the space below and describe the general trend you observed for the property, and identify any specific trails where conditions are found to be degraded and any actions proposed or taken to address the degradation.

Park rangers, lifeguard, and natural resource staff visually inspect trail conditions throughout the year during the course of normal park operations. Following rain events, supervising park ranger(s) or lifeguard(s) assess conditions once roads and trails are dry enough to drive and report back to staff about needed road closures, and where significant damage has occurred. Typically, at the conclusion of each rain season, park staff work with internal heavy equipment or OCFA to repair damaged utility roads. Non-utility roads and trails are repaired by maintenance and natural resource staff using heavy equipment and/or hand tools, as appropriate. Trail assistant volunteers also assist with maintenance of single track portions in the park. In 2021, trail assistant volunteers spent several days maintaining Rattlesnake (single-track) trail with park staff supervision and participation.

ii. Are notes, photographs or other documentation of the monitoring performed archived?

Yes

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

Yes

Facility & Location

Pelican and Reef Point Parking Lots, Coastal bluff

Start Date

2021-11-22

End Date

2021-12-31

Was facility identified in an applicable GDP or RMP?

Yes

Impacts: Habitats or Sensitive Species

Type	Amount (Acres)
NA	0

Coordination with NCC?

No

Nature of Impact: Temporary (# of Acres)

0.05

Nature of Impact: Permanent (# of Acres)

0.005

Restoration Actions Taken?

No

Please describe the actions taken or justify why no such actions were taken

Installation of permeable paving at three parking lots and ADA accessibility improvements at these same facilities. The planned actions will allow Parks to meet water quality compliance standards with the State Water Board that includes the Irvine Coast Area of Biological Significance (ASBS) and ADA requirements.

Documentation: Reports, Notes, Photographs (Provide Reference)

- [Crystal-Cove-NPDES-II-Approved-Plans.pdf](#)

Facility & Location

Pelican Point Bridge Replacement

Start Date

2021-11-22

End Date

2021-12-31

Was facility identified in an applicable GDP or RMP?

Yes

Impacts: Habitats or Sensitive Species

Type	Amount (Acres)
CSS	0.005

Coordination with NCC?

No

Nature of Impact: Temporary (# of Acres)

0.005

Nature of Impact: Permanent (# of Acres)

0.003

Restoration Actions Taken?

Yes

Please describe the actions taken or justify why no such actions were taken

Replacement of an existing vehicle/pedestrian bridge (Pelican Point Bridge) on the Treasure Cove trail just north of the Pelican Point parking lot #1.

Documentation: Reports, Notes, Photographs (Provide Reference)

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

Yes

Facility & Location

Sediment removal in lower Los Trancos Creek

Start Date

2021-10-14

End Date

2021-10-28

Was facility identified in an applicable GDP or RMP?

Yes

Coordination with NCC?

No

Impacts: Habitats or Sensitive Species

Type	Amount (Acres)
Riparian	0.086

Nature of Impact: Temporary (# of Acres)

0.086

Restoration Actions Taken?

No

Please describe the actions taken or justify why no such actions were taken

State Parks removed approximately 150 cubic yards of accumulated sediment within lower Los Trancos creek that presented an imminent flood risk to nearby infrastructure (e.g. pedestrian bridge, office buildings) and historic structures within Crystal Cove State Park. This project is identified as maintenance under Crystal Cove Historic District Preservation and Public Use Plan (PPUP). Riparian vegetation that had encroached on sediment bank within stream channel was removed using chainsaws and disposed of off site. Accumulated sediment was removed using a mini excavator and hand tools. For additional details, please see the attached Notice of Completion (NOC) report to CDFW.

Documentation: Reports, Notes, Photographs (Provide Reference)

- [LosTrancos_NOC_FINALpdf.pdf](#)

V. Habitat Restoration and Enhancement**Did any habitat restoration or enhancement occur on the property?**

Yes

Project Lead

NCC

Mitigation

No

Cactus Scrub Community Acres

10.48

Other Restoration Community Acres

0.22

Other Restoration Community Type

Seasonal ponds (for spadefoot toad)

If this is a formal restoration plan, please provide the name:

Habitat Restoration and Monitoring Plan for Crystal Cove State Park Upland Habitat Restoration & Seasonal Pool Creation—Western Spadefoot (*Spea hammondi*)

Coordination with NCC

Yes

Start Date

2019-11-04

Anticipated End Date

2025-09-01

Performance Monitoring

Yes

Data Archived in GIS Database

Yes

Data Manager

Danny Fry, NCC

Project Lead

Land owner

Provide project name and/or permit number if the project is on behalf of an agency other than the land owner.

Bowl Habitat Restoration in Moro Canyon

Mitigation

No

CSS Community Acres

3

Grassland Community Acres

3

Coordination with NCC

No

Start Date

2017-02-01

Anticipated End Date

2023-09-01

Performance Monitoring

Yes

Data Archived in GIS Database

Yes

Data Manager

Lana Nguyen, State Parks

Project Lead

Third party

Mitigation

Yes

CSS Community Acres

6.5

Grassland Community Acres

1

If this is a formal restoration plan, please provide the name:

Habitat Mitigation and Monitoring Plan, BFI Restoration Site, Crystal Cove State Park

Coordination with NCC

Yes

Start Date

2020-04-01

Anticipated End Date

2029-05-31

Performance Monitoring

Yes

Data Archived in GIS Database

Yes

Data Manager

Yi-Chin, IRC

VI. Invasive Species Control

A. Plants

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

Yes

a. Were the results of the invasive plant control efforts for the property conducted by the land owner/manager or their contractor reported to CalFlora?

Yes, completely

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

Yes

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

State Parks initiated regular/annual surveys for ISHB in Crystal Cove beginning in 2017-2018. Survey efforts in 2021

included detailed surveys of trees in lower moro canyon in preparation for the planned removal of heavily infested trees (see below). Additionally, we conducted regularly monitoring for ISHB in moro canyon, deer canyon, and the coastal terrace using sticky traps and lures. Traps are collected and replaced every 4-6 weeks by SP staff, and "spent" traps are collected by UC extension for processing and beetle identification. A map of sticky trap locations within Crystal Cove SP is available upon request (there is no attachment option here).

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

Yes

i. If yes, identify the species:

ISHB

ii. Please complete the table limiting your responses to species occurrences or upload a attachment outlining the specifics below:

Infested Tree Species	Invasive Beetle Name	Infested Geographic Area of the Property	# of Infested Trees
Willows (arroyo and black)	ISHB	lower moro canyon	45
Arroyo willow	ISHB	Pelican lot 4 area	4

iii. Did active management for invasive beetles occur on the property?

Yes

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

In February of 2021, State Parks partnered with OCFA to remove a total of 45 willow trees in lower moro canyon that were heavily infested with ISHB. The objective was to remove the most heavily infected trees in an effort to slow ISHB spread further up the canyon and to surrounding areas (e.g. HOAs, LCW, etc.). Please see attached document for additional details and rationale.

Optional: upload a concise attachment regarding species occurrences, invasive beetle names, infested area and number of infested trees and actions taken or justify why no such actions were taken:

[ISHB-tree-removal-info-sheet-2.16.21.pdf](#)

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

Yes

Fuel Management Map

[Fuel-Management-Area-Map-CCSP-2021.pdf](#)

01

Coordination with NCC

No

Habitat Type(s) in Which Modification Occurred

- Annual grassland
- Disturbed vegetation
- CSS

General Description of Fuel Modification Technique Employed

- Mowing
- Pruning/thinning
- Shrub matrix/remove dead material

Approximate Area Treated in Acres

6.5

Management Action Consistent with Stakeholder Guide (WFMP)

Yes

New Fuel Management Treatment or Maintenance of Existing

Maintenance

Project Number Referenced on the Map

02

Coordination with NCC

No

Habitat Type(s) in Which Modification Occurred

- Annual grassland
- Disturbed vegetation
- CSS

General Description of Fuel Modification Technique Employed

- Mowing
- Pruning/thinning
- Shrub matrix/remove dead material

Approximate Area Treated in Acres

2.1

Management Action Consistent with Stakeholder Guide (WFMP)

Yes

New Fuel Management Treatment or Maintenance of Existing

Maintenance

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

Yes

Research (ongoing or new)?

Yes

If yes, please enter additional details regarding the research pertaining to resources addressed by NCCP/HCP:

State Parks frequently receives applications to conduct research at Crystal Cove State Park, particularly from local Universities like UC Irvine. Research applications are reviewed and approved by natural resource staff to ensure field work and/or sample collections have no or only minor impact on natural resources, and advance our understanding of the Park and the natural world broadly. For a complete list of approved research projects at CCSP in 2021, please reach out to the Parks' environmental scientists.

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

No

Non-mitigation habitat restoration initiated?

Yes

If yes, please fill out the following

Project Name	Habitat Type	Approximate Location	Area (acres)
No Brains Road Closure	CSS	CCSP, above Moro Station	9
The Bowl - Phase II	CSS	CCSP, center of Park	15

Additional Information:

No Brains Road Closure - This project involves the full removal of No Brains Road through hillslope recontouring, road decompaction, brush boxes, installation of soil berms to slow soil-water transport, and roadside ditch-outs to dissipate rainwater flow. Straw wattle installation in steepest sections. Revegetate road using native seed. As needed weeding. This road is redundant and not been in use for 25+ years. This project will result in the reduction of sediment input into drainages within the park and neighboring facilities and will restore sheet flow to this exposed hill side. This work will dovetail with efforts from partner Natural Communities Coalition, who will close 1/4 mile of the upper reaches of No Brains as part of a restoration project.

The Bowl Phase II project will expand upon an exiting 6 acre CSS habitat restoration project in moro canyon. The project is funded by State Parks NRM Division through funds allocated by the Newsome Administration to support resiliency from wildfire. Efforts in 2022 will include project planning and site preparation (e.g. thatch and invasive plant removal).

Invasive Species Control**Invasive plant control actions to be undertaken by land owner (not NCC)?**

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

State Parks will continue to participate in regular (annual) meetings w/ regional partners (including NCC and OC Parks) to set invasive plant control goals and actions for the reserve system as a whole. We expect to continue to monitor, map, and treat high priority invasive plants as well as treat high-priority EDRR species in 2022, similar in scope and scale to past years.

Invasive beetle control actions to be undertaken by land owner or contractor?

No

Fuel Management Activities**Installation of new fuel management to be undertaken within the reserve?**

No

Maintenance of existing fuel management to be undertaken within the reserve?

Yes

Please explain the maintenance of existing fuel management to be undertaken within the reserve.

State Parks works with two Laguna Beach HOAs to maintain hazard reduction zones adjacent to their property (Emerald Canyon and Irvine Crest Areas). Each year, the HOAs submit Right of Entry permit applications proposing to remove/manage vegetation extending 170 feet from edge of property, with the intensity of removal treatments (every 50 ft) dissipating with distance from property. Because the fuel management occurs in late spring, State Parks conducts nest surveys for birds and delineates any needed buffers from active nests/sensitive resources or postponements of treatments prior to their contractors entering the park to conduct their work.

Land Manager Name

Orange County Parks

Reporting Year

2021

Park, open space or management unit

Aliso & Wood Canyons WP

Website

<http://www.ocparks.com/parks/aliso>

Land owning entity:

OC Parks

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

In 2021, Aliso & Wood Canyons Wilderness Park continued to experience impacted park special events and delayed habitat restoration and invasive weed control activities due to COVID-19, particularly during the first half of the year. Observationally, park visitation appeared to increase. The South Orange County Wastewater Authority (SOCWA) Sludge Force Main Replacement Project was initiated.

In 2022, OC Parks will continue ISHB and invasive weed surveys and control prioritized invasive species, with target plant populations and treatments captured in Calflora.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

Open Access (see website above)

b. Is there an official written policy governing property closure conditions and procedures?

Yes

i. If yes, attach a PDF of the policy in the space below or provide a brief written summary

[RPRT-Closures.pdf](#)

Description of closure conditions and procedures.

Please see:

Sec. 2-5-46 (d). Trails, trespassing and closed areas.

Sec. 2-5-215. Hours.

General practices follow:

Hours – 7:00 am to Sunset

Closures for wet and muddy conditions, as determined by staff

Closures for localized red flag conditions, as determined by staff

Closures following significant fires, as advised by OC Fire Authority and determined by staff

ii. Has the policy been officially modified since the previous year’s annual report?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
01/23/2021	Rain	3	Full
01/29/2021	Rain	2	Full
03/11/2021	Rain	2	Full
12/14/2021	Rain	3	Full
12/23/2021	Rain	9	Full

d. Is there an official written policy governing special events use of the property?

Yes

i. If yes, attach a PDF of the policy or provide a brief written summary in the space below

[RPRT-Competitive-Race-Events-Policy.pdf](#)

Description of special events use for the property.

All special event requests are subject to OC Parks permitting, which includes review by field operations, operations management, and natural resources. Permits are subject to compliance with special conditions tailored to individual events and resources within the park.

ii. Has the policy been officially modified since the previous year’s annual report?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Supervising Park Ranger	1	Y
Park Ranger	1	Y
Resource Specialist	1	Y
Maintenance Worker	1	Y
Park Attendant	1	Y

3. Property Supervisor Contact Information

Name	Title	Email	Phone
Brad Barker	Supervising Park Ranger	brad.barker@ocparks.com	949.923.2201
Alisa Flint	Natural Resources Program Coordinator	alisa.flint@ocparks.com	949.585.6470

B. Visitation

a. Total number of public visitors to the property based on land owner's estimate:

380000

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

2021 estimate is approximate. Staff estimates are generally based on parking, trail cameras/counters, volunteers, and observation.

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

2020 - 338,735

2019 - 106,705

2018 - App. 145,000

2017 - App. 144,000

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

No

e. Were there any special events held for which special use permits were issued for the property?

Yes

i. Provide in the table below a summary of special events held for which special use permits were issued for the property.

Event Date	Type of Special Event	# of Participants
11/13/2021	Mountain bike challenge ride	App. 100

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
N/A	--	--	--

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

Yes

i. If yes, summarize methodology in the space below and describe the general trend you observed for the property, and identify any specific trails where conditions are found to be degraded and any actions proposed or taken to address the degradation.

Trail conditions are monitored via ranger patrols, maintenance inspections, visitor reports, and wildlife cameras. All single-track trails received annual drainage and tread repair following the rainy season and all fire roads were graded.

Various trails were assessed in partnership with NCC and Utah State University to consider directional and/or designation changes to enhance user flow and safety.

ii. Are notes, photographs or other documentation of the monitoring performed archived?

Yes

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

No

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

Yes

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

Yes

VI. Invasive Species Control

A. Plants

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

Yes

a. Were the results of the invasive plant control efforts for the property conducted by the land owner/manager or their contractor reported to CalFlora?

Yes, completely

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

Yes

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

Please see attached report

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

Yes

i. If yes, identify the species:

ISHB

ii. Please complete the table limiting your responses to species occurrences or upload a attachment outlining the specifics below:

Infested Tree Species	Invasive Beetle Name	Infested Geographic Area of the Property	# of Infested Trees
Please see attached file	--	--	--

iii. Did active management for invasive beetles occur on the property?

Yes

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

Please see attached report for most recent facility data

Optional: upload a concise attachment regarding species occurrences, invasive beetle names, infested area and number of infested trees and actions taken or justify why no such actions were taken:

[K.-Aliso-Woods-and-Canyon-Regional-Park-Interpretive-Area-Parking-Lots-Cycle-6-map.pdf](#)

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

Yes

Fuel Management Map

[ALWO-FC-1.03-City-Grazing.pdf](#)

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

Yes

Research (ongoing or new)?

Yes

If yes, please enter additional details regarding the research pertaining to resources addressed by NCCP/HCP:

Monitoring - Focused California gnatcatcher surveys (NCC) - continued

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

Yes

If yes, please fill out the following

Project Name	Habitat Type	Approximate Location	Area (acres)
Coastal Treatment Plant Export Sludge Force Main Replacement Project	Riparian transitional, Upland transitional	Within park	0.62

Non-mitigation habitat restoration initiated?

No

Additional Information:

Mitigation for the Force Main project is permitted by SOCWA. The timeline for mitigation implementation remains to be determined.

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

OC Parks will continue targeting high-priority species as outlined in the 5-year Invasive Plant Management Plan for the Coastal Reserve of the Nature Reserve of Orange County. Sahara mustard and Dittrichea remain focus species. Calflora and Early Detection / Rapid Response training will continue for staff and volunteers, including Laguna Canyon Foundation, in 2022.

Invasive beetle control actions to be undertaken by land owner or contractor?

Yes

Please explain the invasive beetle control actions to be undertaken by land owner or contractor.

Monitoring will continue; identified amplifier trees will be removed and identified asset trees will be preventatively treated. Adaptive management will be informed by research, monitoring data, and best practices.

Other invasive species (please describe):

Cowbird trapping (NCC)

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

Yes

Please explain the maintenance of existing fuel management to be undertaken within the reserve.

Existing road/trail maintenance, including vegetation brushing and weed abatement, will continue.

Land Manager Name

Irvine Ranch Conservancy

Reporting Year

2021

Park, open space or management unit

Irvine Ranch Open Space

Website

<https://letsgooutside.org>

Land owning entity:

County of Orange

Land managing entity if different from above:

Irvine Ranch Conservancy

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

The Irvine Ranch Open Space received approximately 3,643 visitors for guided activities in 2021, which was slightly higher than in 2020. The number of guided activities offered has been impacted by COVID restrictions and closures due to the fires in 2020.

Regular annual inspections were conducted to assess erosion and vegetation encroachment within the designated trail system. Routine post-winter trail repairs were performed, and regular quarterly vegetation trimming was performed. Planned maintenance for 2022 will include approved realignment of the upper segment of the Dripping Springs Trail and reconstruction of infrastructure components destroyed during the 2020 Silverado and Bond fire events, (Raptor Bridge, Shoestring Bridge, West and East Sinks Viewing areas).

Trail width and trailside vegetation quality are monitored yearly, and there has been no significant change in trail width over time. Trail conditions are monitored continuously, and maintenance occurs as needed. Restoration and enhancement of multiple habitats is being conducted over 100 acres. In 2021, planting and monitoring were conducted for a CDFW-funded Tecate cypress enhancement project that was initiated in 2020. Supplemental planting and maintenance occurred on OCTA- and OCWR-funded mitigation restoration projects in Agua Chinon and OCTA- as well as landowner-funded restoration projects at West Loma Ridge impacted by the Silverado and Bond fires in 2020. Surveys and control of both invasive plant species and invasive beetles are ongoing and will continue in 2022.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures**

a. Public Access Description for the Property

Both Open and Hosted Limited Access

b. Is there an official written policy governing property closure conditions and procedures?

Yes

Description of closure conditions and procedures.

Unofficial: INTERNAL PROTOCOLS

OC Parks in collaboration with Irvine Ranch Conservancy uses internal protocols for cancellation of activities and closure of access to trails and roads that may occur in order to be consistent with the applicable resource plans. This may follow significant rain events and during periods of high fire danger such as official Red Flag Warnings. IRC will recommend closures for weather and other reasons, subject to the concurrence of the OC Parks Operations Manager. The OC Parks Operations Manager will provide additional guidance on closures based on trail condition assessments and provide status updates using trail status maps.

ii. Has the policy been officially modified since the previous year's annual report?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
01/01/2021	Rainstorm(s) wet and muddy conditions	1	Partial
01/01/2021	COVID-19 Public Program Closure	131	Full
01/15/2021	Red Flag Warning - Extreme Fire Conditions	2	Full
01/19/2021	Red Flag Warning - Extreme Fire Conditions	1	Full
01/23/2021	Rainstorm(s) wet and muddy conditions	4/2	Full/Partial
01/29/2021	Rainstorm(s) wet and muddy conditions	3/4	Full/Partial
03/03/2021	Rainstorm(s) wet and muddy conditions	2/3	Full/Partial
03/10/2021	Rainstorm(s) wet and muddy conditions	5	Full
03/15/2021	Rainstorm(s) wet and muddy conditions	2/3	Full/Partial
10/25/2021	Rainstorm(s) wet and muddy conditions	3/4	Full/Partial
11/21/2021	Red Flag Warning - Extreme Fire Conditions	1	Full
11/24/2021	Red Flag Warning - Extreme Fire Conditions	3	Full
12/10/2021	Rainstorm(s) wet and muddy conditions	1	Full
12/14/2021	Rainstorm(s) wet and muddy conditions	4/5	Full/Partial
12/23/2021	Rainstorm(s) wet and muddy conditions	9	Full

d. Is there an official written policy governing special events use of the property?

Yes

Description of special events use for the property.

OC Parks and IRC have developed internal guidelines in our efforts to adaptively manage human access at the Irvine Ranch Open Space. Currently, the Irvine Ranch Open Space allows one large event per month, per geographical management area (for example Black Star Canyon, Fremont Canyon, etc.). A large event is defined from 100 participants up to 600 participants. Additionally, the public activity calendar for each area where a large event is scheduled is blocked out for 1-3 days following the event to allow for a rest period. Trails available for special event use may be adjusted or completely restricted depending on surveyed nest locations or other sensitivities during breeding/nesting season. Special events will be rescheduled or cancelled in areas burned in major wildfires for at least one growing season to allow the area to recover with reduced human presence.

ii. Has the policy been officially modified since the previous year's annual report?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Operations Manager	1	
Supervising Park Ranger II	1	
Park Ranger II	2	
Resource Specialist	1	
Park Maintenance Supervisor	1	
Park Maintenance Worker 1	1	

3. Property Supervisor Contact Information

Name	Title	Email	Phone
John Gump	Operations Manager	john.gump@ocparks.com	949-585-6481
Irvine Ranch Conservancy		4727 Portola Parkway Irvine, CA 92620	714-508-4757

B. Visitation**a. Total number of public visitors to the property based on land owner's estimate:**

3643

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

Activity attendance numbers are based on registration data from the www.letsgooutside.org website. The number includes all volunteers and public participants on public and private activities implemented on the Landmarks, including recreation, trail work, restoration, special events, and training. In 2021, visitor numbers for guided activities were provided to the landowners quarterly.

Irvine Ranch Conservancy (IRC) manages the website www.letsgooutside.org, which was created to promote public activities within the Landmarks areas, manage public activity registration, manage volunteer assignments, obtain public participant feedback, and create automated reporting functions for all public and volunteer-only activities. The current system allows the general public to register for public activities online. After online registration, the processing is as follows:

- Waiver created
- Post Activity Report generated by activity Lead confirming attendance of registrants and volunteers.
- Waivers verified and archived in activity database
- Monthly attendance reports generated which feed into research projects that correlate human access and wildlife movement in the Irvine Ranch Open Space to help the Conservancy make adaptive management decisions.

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

2021 3,643
 2020 3,173
 2019 8,536

Please note the numbers of participants in guided activities for the past three years have been revised down due to a previous calculation error. The number of guided activities offered has been impacted by COVID restrictions and closures due to the fires in 2020, specifically Limestone Canyon, access to which will resume in 2022.

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

2021- No.
 2020- Increased trespassing during early covid months, this phased out after a few months.
 2019 -Yes, eBikes - when observed were advised by staff that eBikes are not permitted. Had a handful of observations, some eBike users obliged, others claimed ADA exception and were allowed. There may have been a small undetermined number of users with eBikes that were not identified during Wilderness Access Days and permitted special events.

e. Were there any special events held for which special use permits were issued for the property?

Yes

i. Provide in the table below a summary of special events held for which special use permits were issued for the property.

Event Date	Type of Special Event	# of Participants
10/30/2021	Black Star Canyon 9.2k into the wild trail run event	169
11/20/2021	Fremont Canyon OC MTB 17m Cross Country Ride	115
12/04/2021	Fremont Canyon Into the Wild 28k trail run event	143

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
0			

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

Yes

i. If yes, summarize methodology in the space below and describe the general trend you observed for the property, and identify any specific trails where conditions are found to be degraded and any actions proposed or taken to address the degradation.

Trail conditions are monitored regularly throughout the year and after any significant rainfall event (>0.25"), and maintenance occurs within the limits of the trail-tread on an as-needed basis. Annual preventative maintenance includes, but is not limited to, filling rills and ruts, implementing industry standard natural surface erosion control measures (water bars, grade dips, grade reversals, grade nicks, etc.), trail armoring, and sediment removal from existing erosion control features. Vegetation trimming is limited to maintenance of the scheduled trail widths per the approved RRMP. No trails were observed to have excessive erosion that required any maintenance beyond the routine anticipated annual post-winter repairs. Additionally, trail width and trailside vegetation quality are measured at fixed points throughout the Reserve. At each point, photos are taken in each direction of the trail and to either side (4 total). To date, no significant change in trail width has been identified.

ii. Are notes, photographs or other documentation of the monitoring performed archived?

Yes

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

Yes

Facility & Location

Re-establishment of the Creek Trail Shown on the Irvine Ranch Open Space RRMP (Exhibits F & G) – 4' wide multi-use trail, was completed for the primary segment located West of Santiago Canyon Road. Approximately 2,450 lineal feet of the trail was re-established at the upper and lower portions of the trail intersecting with the existing Limestone Ridge and eastern toe of slope near Santiago Canyon Road within the approximate coordinates of 33°44'33.7"N 117°40'28.8"W and 33°44'50.2"N 117°40'31.8"W.

Start Date

2021-04-15

End Date

2021-06-15

Was facility identified in an applicable GDP or RMP?

Yes

Impacts: Habitats or Sensitive Species

Type	Amount (Acres)
Mixed - Degraded annual grassland and chaparral	.225

Coordination with NCC?

No

Nature of Impact: Permanent (# of Acres)

-0.225

Restoration Actions Taken?

No

Please describe the actions taken or justify why no such actions were taken

Disturbance limited to the re-established trail footprint only

Documentation: Reports, Notes, Photographs (Provide Reference)

Facility & Location

Implemented the final extension of the Overlook trail shown on the Irvine Ranch Open Space RRMP (Exhibit G) - 4' wide multi- use trail approximately 1,350 lineal feet - The upper and lower portions of the trail intersect with the existing Upper Weir Canyon Road and Gypsum Canyon Road at the approximate coordinates of 33°49'53.3"N 117°43'07.4"W and 33°50'02.8"N 117°43'05.8"W.

Start Date

2021-08-15

End Date

2021-09-15

Was facility identified in an applicable GDP or RMP?

Yes

Impacts: Habitats or Sensitive Species

Type	Amount (Acres)
Mixed - Degraded annual grassland and chaparral	0.124

Coordination with NCC?

No

Nature of Impact: Permanent (# of Acres)

0.124

Restoration Actions Taken?

No

Please describe the actions taken or justify why no such actions were taken

Disturbance limited to the approved trail footprint only

Documentation: Reports, Notes, Photographs (Provide Reference)**IV. Infrastructure Facility Construction and Maintenance****Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?**

No

V. Habitat Restoration and Enhancement**Did any habitat restoration or enhancement occur on the property?**

Yes

Project Lead

Third party

Mitigation

Yes

CSS Community Acres

26.1

Grassland Community Acres

34.2

Riparian Community Acres

1.2

Woodland Community Acres

1

If this is a formal restoration plan, please provide the name:

West Loma II - HMMP: West Loma Subwatershed

Coordination with NCC

Yes

Start Date

2013-10-21

Anticipated End Date

2022-12-31

Performance Monitoring

Yes

Data Archived in GIS Database

Yes

Data Manager

Yi-Chin Fang

Project Lead

Third party

Mitigation

No

CSS Community Acres

37.57

Grassland Community Acres

14.37

If this is a formal restoration plan, please provide the name:

West Loma I - Phase II Restoration Plan for Orange County Parks West Loma Subwatershed

Coordination with NCC

Yes

Start Date

2010-01-01

Anticipated End Date

2026-06-30

Performance Monitoring

Yes

Data Archived in GIS Database

Yes

Data Manager

Yi-Chin Fang

Project Lead

Third party

Mitigation

Yes

CSS Community Acres

0.8

Riparian Community Acres

0.5

If this is a formal restoration plan, please provide the name:

Agua Chinon OCTA - HMMP: Agua Chinon Subwatershed

Coordination with NCC

Yes

Start Date

2013-01-01

Anticipated End Date

2023-06-30

Performance Monitoring

Yes

Data Archived in GIS Database

Yes

Data Manager

Yi-Chin Fang

Project Lead

Third party

Mitigation

Yes

CSS Community Acres

6.89

Riparian Community Acres

7.65

Woodland Community Acres

2.42

If this is a formal restoration plan, please provide the name:

Agua Chinon OCWR - HMMP: Agua Chinon Wash San Diego Creek Watershed

Coordination with NCC

Yes

Start Date

2013-01-01

Anticipated End Date

2023-06-30

Performance Monitoring

Yes

Data Archived in GIS Database

Yes

Data Manager

Yi-Chin Fang

Project Lead

Third party

Mitigation

No

Woodland Community Acres

2

If this is a formal restoration plan, please provide the name:

Enhancing Tecate Cypress to Promote Population Resilience

Coordination with NCC

Yes

Start Date

2019-11-13

Anticipated End Date

2022-03-31

Performance Monitoring

Yes

Data Archived in GIS Database

Yes

Data Manager

Yi-Chin

Project Lead

Third party

Mitigation

No

CSS Community Acres

0.5

Grassland Community Acres

0.4

Woodland Community Acres

0.4

If this is a formal restoration plan, please provide the name:

Augustine Staging Area Beautification and Enhancement

Coordination with NCC

Yes

Start Date

2020-01-01

Anticipated End Date

2029-03-31

Performance Monitoring

No

Data Archived in GIS Database

Yes

Data Manager

Yi-Chin Fang

VI. Invasive Species Control**A. Plants**

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

Yes

a. Were the results of the invasive plant control efforts for the property conducted by the land owner/manager or their contractor reported to CalFlora?

Yes, completely

B. Beetles**1. Were active surveys conducted on the property for invasive beetles?**

Yes

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

GSOB-infested coast live oaks were identified in Weir Canyon in 2014 and have been monitored and treated each year. In 2017, a sycamore in Weir was discovered to have signs of ISHB infestation and was subsequently removed. Sycamores in Upper Weir and Agua Chinon Canyons were surveyed in 2020, but no infestations were detected.

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

Yes

i. If yes, identify the species:

GSOB

ii. Please complete the table limiting your responses to species occurrences or upload a attachment outlining the specifics below:

Infested Tree Species	Invasive Beetle Name	Infested Geographic Area of the Property	# of Infested Trees
Coast Live Oak	GSOB	Weir and Gypsum Canyon	331

iii. Did active management for invasive beetles occur on the property?

Yes

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

GSOB-infested coast live oaks were identified in Weir Canyon in 2014 and have been monitored and treated each year. In 2018, the infestation was found to have spread to isolated trees in Gypsum Canyon. In April and May 2021, approximately 3,250 coast live oaks, including known infested trees and adjacent uninfested trees, were treated with carbaryl.

In 2017, a sycamore in Weir was discovered to have signs of ISHB infestation and was subsequently removed. Sycamores in Upper Weir and Agua Chinon Canyons were surveyed in 2020, but no infestations were detected.

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

No

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

Yes

Research (ongoing or new)?

Yes

If yes, please enter additional details regarding the research pertaining to resources addressed by NCCP/HCP:

Trail condition monitoring is being revised to capture larger trail segments and to incorporate drone imagery to provide more information. There is ongoing long-term vegetation monitoring, which includes post-fire data collection, as well as monitoring and research related to invasive tree pests and western spadefoot.

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

Yes

What is the nature of the anticipated construction or maintenance project? (Check all that apply)

- Trails

Location where above work is proposed to take place? (GPS approximate center of project location and record below):

Upper Agua Chinon (bypass) trail implementation: shown on the Irvine Ranch Open Space RRMP (Exhibit G) - part of the long-term reduction of roads within the Limestone Canyon Preserve. - 4' wide multi-use trail approximately 2.02 miles. The lower and upper portions of the trail intersect with the existing Agua Chinon Road at the approximate coordinates of 33°41'40.6"N 117°41'21.5"W and 33°42'03.1"N 117°40'50.2"W. - a portion of the existing Agua Chinon road segment (approximately 3,990 lineal feet, 12' width) to be reclaimed to natural habitat and reduced to a 4' wide multi-use trail.

Impact Size

TBD

Habitat Type

Degraded grassland/scrub, chaparral, CSS

Identify any project lead(s) (i.e., utility, government department):

Irvine Ranch Conservancy - Adam Maywhort

Director
Planning & Infrastructure

What is the nature of the anticipated construction or maintenance project? (Check all that apply)

- Trails

Location where above work is proposed to take place? (GPS approximate center of project location and record below):

Upper Dripping Springs Trail Realignment: IRC recommends the realignment of the existing upper segment of the Dripping Springs Trail intersecting the Sandtrap Trail. The realignment will bypass and restore to native habitat approximately 2,172 lineal feet of existing trail with grades in excess of 20%. The new alignment segment, approximately 2,577 lineal feet of trail will consist of grades averaging 10% or less with limited short segments up to 15% consistent with industry standard methods for trail construction. The upper and lower portions of the trail intersect with the existing Sandtrap Trail the existing Dripping Springs Trail within the in the approximate coordinates of 33°44'17.2"N 117°41'41.9"W and 33°44'08.6"N 117°41'19.1"W.

Impact Size

0.021 Acre

Habitat Type

Chaparral and Degraded grassland

Identify any project lead(s) (i.e., utility, government department):

Irvine Ranch Conservancy - Adam Maywhort
Director
Planning & Infrastructure

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

Yes

What is the nature of the anticipated construction or maintenance project? (Check all that apply)

- Other

Location where above work is proposed to take place? (GPS approximate center of project location and record below):

West Sinks Viewing area re-build: Implement the re-construction of the West Sinks Viewing Deck destroyed in the October 26, 2020 Silverado Fire. Deck will be reconstructed in the same location without the bench seating area to allow for increased standing room to help encourage social distancing for visitors. Deck surface will be re-built utilizing a "Rammed Earth" process in lieu of engineered wood and steel fabricated deck. Railing system will be constructed that is consistent with the USFD, USDA, OSHA and AASHTO standards for railing systems in "Moderate Risk" Areas. Center point coordinates of the viewing deck 33°43'05.8"N 117°40'17.4"W.

Impact Size

None

Habitat Type

Previously existing infrastructure

Identify any project lead(s) (i.e., utility, government department):

Irvine Ranch Conservancy - Adam Maywhort
Director
Planning & Infrastructure

What is the nature of the anticipated construction or maintenance project? (Check all that apply)

- Other

Location where above work is proposed to take place? (GPS approximate center of project location and record below):

East Sinks Viewing area re-build: Implement the re-construction of the West Sinks Viewing Deck destroyed in the October 26, 2020 Silverado Fire. Deck will be reconstructed in the same location without the bench seating area to allow for increased standing room to help encourage social distancing for visitors. Deck surface will be re-built utilizing a "Rammed Earth" process in lieu of engineered wood and steel fabricated deck. Railing system will be constructed that is consistent with the USFD, USDA, OSHA and AASHTO standards for railing systems in "Moderate Risk" Areas. Center point coordinates of the viewing deck 33°43'05.8"N 117°40'17.4"W.

Impact Size

None

Habitat Type

Previously existing infrastructure

Identify any project lead(s) (i.e., utility, government department):

Irvine Ranch Conservancy - Adam Maywhort
Director
Planning & Infrastructure

What is the nature of the anticipated construction or maintenance project? (Check all that apply)

- Other

Location where above work is proposed to take place? (GPS approximate center of project location and record below):

Overlook Viewing Deck and approach trail: Implement the construction of the viewing deck and approach trail for the Overlook Trail viewpoint. 24' radius circular at-grade viewing deck with 3' wide by 80' long approach trail. Center point coordinates of the viewing deck 33°49'39.7"N 117°43'24.1"W.

Impact Size

0.016 Acre

Habitat Type

Degraded grassland

Identify any project lead(s) (i.e., utility, government department):

Irvine Ranch Conservancy - Adam Maywhort
--

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

No

Non-mitigation habitat restoration initiated?

Yes

If yes, please fill out the following

Project Name	Habitat Type	Approximate Location	Area (acres)
Pilot Project to Enhance Butterfly Habitat in Limestone Canyon	Forbland/grassland	Limestone Canyon	0.3

Additional Information:

Anticipated start date: 2022-07-01

Anticipated end date: 2025-06-30

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

IRC will continue to monitor and treat priority invasive plants and report the results in Calflora.

Invasive beetle control actions to be undertaken by land owner or contractor?

Yes

Please explain the invasive beetle control actions to be undertaken by land owner or contractor.

IRC will continue to monitor and chemically treat known GSOB infestation in Weir and Gypsum Canyons as well as survey for GSOB and ISHB in other part of the Reserve.

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

No

Land Manager Name

Orange County Parks

Reporting Year

2021

Park, open space or management unit

Irvine RP

Website

<http://www.ocparks.com/parks/irvine>

Land owning entity:

OC Parks

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

In 2021, Irvine Regional Park continued to experience impacted park special events due to COVID-19, particularly during the first half of the year. Park visitation continued to increase. A 21-acre fire occurred in July in the Green Meadows area of the park, burning planted sycamores and oaks in a day-use area as well as a small amount of degraded coastal sage scrub (< 0.25 ac) along the park's perimeter road. OC Parks projects completed include OC Zoo improvements and a drainage repair. These small-footprint projects took place in the interior, turf portion of the park, and had no impacts to native habitat.

In 2021, OC Parks will continue invasive weed surveys and control of prioritized species, with plant population and treatment captured in Calflora.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

Open Access (see website above)

b. Is there an official written policy governing property closure conditions and procedures?

Yes

i. If yes, attach a PDF of the policy in the space below or provide a brief written summary

[RPRT-Closures-1.pdf](#)

Description of closure conditions and procedures.

Please see:

Sec. 2-5-46 (d). Trails, trespassing and closed areas.

Sec. 2-5-215. Hours.

General practices follow:

Hours – 7:00 am to Sunset

Closures for wet and muddy conditions, as determined by staff

Closures for localized red flag conditions, as determined by staff

Closures following significant fires, as advised by OC Fire Authority and determined by staff

ii. Has the policy been officially modified since the previous year's annual report?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
01/23/2021	Rain	1	Full
01/29/2021	High winds	1	Full
11/25/2021	High winds	1	Full
12/23/2021	Rain	9	Full

d. Is there an official written policy governing special events use of the property?

Yes

i. If yes, attach a PDF of the policy or provide a brief written summary in the space below

[RPRT-Competitive-Race-Events-Policy-1.pdf](#)

Description of special events use for the property.

All special event requests are subject to OC Parks permitting, which includes review by field operations, operations management, and natural resources. Permits are subject to compliance with special conditions tailored to individual events and resources within parks.

ii. Has the policy been officially modified since the previous year's annual report?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Supervising Park Ranger	1	Y
Park Ranger	2	Y
Resource Specialist	1 (covers Irvine, Peters & Santiago Oaks)	Y
Maintenance Supervisor (multiple classes)	2	Y
Maintenance Worker (multiple classes)	12	Y
Maintenance Worker	2	N
Office Technician	1	Y

3. Property Supervisor Contact Information

Name	Title	Email	Phone
Arturo Castillo	Supervising Park Ranger	arturo.castillo@ocparks.com	714.973.6834
Alisa Flint	Natural Resources Program Coordinator	alisa.flint@ocparks.com	949.585.6470

B. Visitation

a. Total number of public visitors to the property based on land owner's estimate:

1377944

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

Staff estimates are y based on parking revenues, monthly trends, and observation.

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

2020 - 1,100,000 (adjusted from previous reporting)

2019 - 1,000,000

Data for previous years is unavailable

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

No

e. Were there any special events held for which special use permits were issued for the property?

Yes

i. Provide in the table below a summary of special events held for which special use permits were issued for the property.

Event Date	Type of Special Event	# of Participants
05/15/2021	Mountain bike skills workshops	Unavailable
06/27/2021	Mountain bike clinic	Unavailable
09/25/2021	Mountain bike poker ride	Unavailable

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
N/A	--	--	--

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

Yes

i. If yes, summarize methodology in the space below and describe the general trend you observed for the property, and identify any specific trails where conditions are found to be degraded and any actions proposed or taken to address the degradation.

Trail conditions are monitored via ranger patrols, maintenance inspections, visitor reports, and wildlife cameras. All park trails received annual drainage and tread repair following the rainy season and fire roads were graded as needed.

ii. Are notes, photographs or other documentation of the monitoring performed archived?

Yes

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

Yes

Facility & Location

Large mammal exhibit - OC Zoo, Irvine Regional Park

Start Date

2021-01-01

End Date

2022-03-31

Was facility identified in an applicable GDP or RMP?

Yes

Impacts: Habitats or Sensitive Species

Type	Amount (Acres)
N/A (turf)	

Coordination with NCC?

Yes

Restoration Actions Taken?

No

Please describe the actions taken or justify why no such actions were taken

The project to expand the OC Zoo large mammal exhibit occurred within NCCP boundaries but had no habitat impacts. The location is in the interior of the park and vegetation was comprised of turf with scattered oak trees. All oak trees remain. The grant-funded project includes a protective restriction over the expansion to ensure the site remains dedicated to park use in perpetuity.

Documentation: Reports, Notes, Photographs (Provide Reference)

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

Yes

Facility & Location

Drainage - Irvine Regional Park

Start Date

2021-01-01

End Date

2021-05-31

Was facility identified in an applicable GDP or RMP?

Yes

Coordination with NCC?

No

Impacts: Habitats or Sensitive Species

Type	Amount (Acres)
N/A	< 0.25 ac

Restoration Actions Taken?

Yes

Please describe the actions taken or justify why no such actions were taken

The project included improving an existing drainage swale within the turf area of Irvine Regional Park. Following work, the site was seeded with native species and continues to be weeded in 2022.

Documentation: Reports, Notes, Photographs (Provide Reference)

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

No

VI. Invasive Species Control

A. Plants

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

Yes

a. Were the results of the invasive plant control efforts for the property conducted by the land owner/manager or their contractor reported to CalFlora?

Yes, completely

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

Yes

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

Please see attached report

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

Yes

i. If yes, identify the species:

ISHB

ii. Please complete the table limiting your responses to species occurrences or upload a attachment outlining the specifics below:

Infested Tree Species	Invasive Beetle Name	Infested Geographic Area of the Property	# of Infested Trees
Please see attached	--	--	--

iii. Did active management for invasive beetles occur on the property?

Yes

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

Please see attached report for most current facility data

Optional: upload a concise attachment regarding species occurrences, invasive beetle names, infested area and number of infested trees and actions taken or justify why no such actions were taken:

[Irvine-Regional-Cycle-6-Map.pdf](#)

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

No

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

No

Research (ongoing or new)?

Yes

If yes, please enter additional details regarding the research pertaining to resources addressed by NCCP/HCP:

Wildlife camera traps - ongoing

Christmas bird count - ongoing

Owl count - continued

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

Yes

What is the nature of the anticipated construction or maintenance project? (Check all that apply)

- Waterlines, reservoirs, associated facilities and regional water storage and treatment facilities

Location where above work is proposed to take place? (GPS approximate center of project location and record below):

33*47'52.70" N, 117*44'59.13" W

Impact Size

Tbd

Habitat Type

Riparian scrub

Identify any project lead(s) (i.e., utility, government department):

Water District - Will be permitted

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

No

Non-mitigation habitat restoration initiated?

No

Additional Information:

The amount and location of potential mitigation for water line infrastructure remain to be determined.

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

OC Parks will continue targeting high-priority species as outlined in the 5-year Invasive Plan Management Plan for the Central Reserve of the Nature Reserve of Orange County. Sahara mustard, Dittrichea, spiny emex, and fountain grass will remain focus species

Calflora and Early Detection / Rapid Response training will continue for staff and volunteers in 2022.

Invasive beetle control actions to be undertaken by land owner or contractor?

Yes

Please explain the invasive beetle control actions to be undertaken by land owner or contractor.

Monitoring will continue; identified amplifier trees will be removed and identified asset trees will be preventatively treated. Adaptive management will be informed by research, monitoring data, and best practices.

Other invasive species (please describe):

Control of imported red fire ants (OC Vector Control)

Cowbird trapping (NCC)

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

Yes

Please explain the maintenance of existing fuel management to be undertaken within the reserve.

Existing road/trail maintenance, including vegetation brushing, and weed abatement will continue.

Land Manager Name

Orange County Parks

Reporting Year

2021

Website

<http://www.ocparks.com/parks/lagunac>

Land owning entity:

OC Parks

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

In 2021, Laguna Coast Wilderness Park continued to experience impacted park special events and delayed habitat restoration and invasive weed control activities due to COVID-19, particularly in the first half of the year. A fire ignited along the 73 and burned approximately 145 acres of coastal sage scrub. The NCC-sponsored spadefoot toad habitat restoration and CDFW-sponsored Pacific pocket mouse reintroduction projects continued. A grant-funded restoration project at Rattlesnake Canyon was implemented by Laguna Canyon Foundation (LCF) after delays in 2020.

In 2022, it is anticipated the Caltrans-OC Public Works joint road improvement project at Laguna Canyon Road and El Toro Road will commence, and associated mitigation plans will be finalized with regulatory agencies. OC Parks, LCF, and volunteers will continue ISHB and invasive weed surveys and control prioritized species, with target plant population and treatment captured in Calflora. OC Parks may inventory the park trail system with drone mapping.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

Open Access (see website above)

b. Is there an official written policy governing property closure conditions and procedures?

Yes

i. If yes, attach a PDF of the policy in the space below or provide a brief written summary

[RPRT-Closures-2.pdf](#)

Description of closure conditions and procedures.

Please see:

Sec. 2-5-46 (d). Trails, trespassing and closed areas.

Sec. 2-5-215. Hours.

General practices follow:

Hours – 7:00 am to Sunset

Closures for wet and muddy conditions, as determined by staff

Closures for localized red flag conditions, as determined by staff

Closures following significant fires, as advised by OC Fire Authority and determined by staff

ii. Has the policy been officially modified since the previous year's annual report?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
01/23/2021	Rain	3	Full
01/29/2021	Rain	2	Full
03/11/2021	Rain	2	Full
12/14/2021	Rain	3	Full
12/23/2021	Rain	9	Full

d. Is there an official written policy governing special events use of the property?

Yes

i. If yes, attach a PDF of the policy or provide a brief written summary in the space below

[RPRT-Competitive-Race-Events-Policy-2.pdf](#)

Description of special events use for the property.

All special event requests are subject to OC Parks permitting, which includes review by field operations, operations management, and natural resources. Permits are subject to compliance with special conditions tailored to individual events and resources within parks.

ii. Has the policy been officially modified since the previous year's annual report?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Supervising Park Ranger	1	Y
Park Ranger	1	Y
Resource Specialist	1	Y
Maintenance Supervisor	1	Y
Maintenance Worker (multiple classes)	2	Y
Office Technician	1	Y

Park Attendant	1	N
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3. Property Supervisor Contact Information

Name	Title	Email	Phone
Matt Stegner	Supervising Park Ranger	matthew.stegner@ocparks.com	949.923.2258
Matt Major	Natural Resources Program Coordinator	matt.major@ocparks.com	657.266.4701

B. Visitation

a. Total number of public visitors to the property based on land owner's estimate:

381851

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

2021 visitation is an estimate. Staff estimates are generally based on parking, trail cameras and counters, and observation.

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

2021 - 381,851

2020 - 388,392

2019 - 132,774

2018 - 156,944

2017 - 169,027

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

No

e. Were there any special events held for which special use permits were issued for the property?

No

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
N/A	--	--	--

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

Yes

i. If yes, summarize methodology in the space below and describe the general trend you observed for the property, and identify any specific trails where conditions are found to be degraded and any actions proposed or taken to address the degradation.

Trail conditions are monitored via wildlife cameras, ranger patrols, maintenance inspections, and reports from Laguna Canyon Foundation staff, park visitors, and volunteers.

All single-track trails received annual drainage, tread repair, and brushing following the rainy season and all fire roads were graded and brushed.

Various trails were assessed in partnership with NCC and Utah State University to consider directional and/or designation changes to enhance user flow and safety.

ii. Are notes, photographs or other documentation of the monitoring performed archived?

Yes

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

No

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

No

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

No

VI. Invasive Species Control

A. Plants

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

Yes

a. Were the results of the invasive plant control efforts for the property conducted by the land owner/manager or their contractor reported to CalFlora?

Yes, completely

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

Yes

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

Please see attached report

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

Yes

i. If yes, identify the species:

ISHB

ii. Please complete the table limiting your responses to species occurrences or upload a attachment outlining the specifics below:

Infested Tree Species	Invasive Beetle Name	Infested Geographic Area of the Property	# of Infested Trees
Please see attached	--	--	--

iii. Did active management for invasive beetles occur on the property?

Yes

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

Please see attached report for most recent facility data

Optional: upload a concise attachment regarding species occurrences, invasive beetle names, infested area and number of infested trees and actions taken or justify why no such actions were taken:

[L.-Laguna-Coast-Wilderness-Park-Interpretive-Center-and-Parking-Lots-Cycle-6-map.pdf](#)

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

No

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

Yes

Research (ongoing or new)?

Yes

If yes, please enter additional details regarding the research pertaining to resources addressed by NCCP/HCP:

Plant collection for fuel loading information (Greater Laguna Coast Fire Safe Council, City of Laguna Beach, CSU Long Beach)

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

No

Non-mitigation habitat restoration initiated?

Yes

If yes, please fill out the following

Project Name	Habitat Type	Approximate Location	Area (acres)
73 Fire Dozer Scar Repair	Coastal sage scrub	Park ridgeline south of and parallel to 73	3.0

Additional Information:

It is anticipated that the project plan to restore impacts from fire suppression repair from the 73 Fire will be finalized and initiated in 2022.

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

OC Parks will continue targeting high-priority species as outlined in the 5-year Invasive Plant Management Plan for the Coastal Reserve of the Nature Reserve of Orange County. Sahara mustard, Dittrichea, veldtgrass, and St. John's wort remain focus species.

Calflora and Early Detection / Rapid Response training will continue for staff and volunteers, including Laguna Canyon Foundation, in 2022.

Invasive beetle control actions to be undertaken by land owner or contractor?

Yes

Please explain the invasive beetle control actions to be undertaken by land owner or contractor.

Monitoring will continue; identified amplifier trees will be removed and identified asset trees will be preventatively treated. Adaptive management will be informed by research, monitoring data, and best practices.

Other invasive species (please describe):

Cowbird trapping (NCC)

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

Yes

Please explain the maintenance of existing fuel management to be undertaken within the reserve.

Existing Nix Interpretive Center fuel modification and facility road/trail maintenance, including vegetation brushing and weed abatement, will continue. Existing fuels management activities by the City of Laguna Beach (goat grazing program) and Emerald Bay HOA (coordinated with NCC) will continue.

Land Manager Name

Orange County Parks

Reporting Year

2021

Park, open space or management unit

Peters Canyon RP

Website

<http://www.ocparks.com/parks/peters>

Land owning entity:

OC Parks

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

2021 visitation to Peters Canyon Regional Park increased from the prior year. COVID-19 continued to impact park special events. Per the approved park General Development / Resource Management Plans, planned improvements and repairs were made to Cactus Loop and Peters Creek Trail to enhance long-term sustainability.

In 2022, additional GDP/RMP projects are anticipated to initiate, including public restrooms at the south end of the park and reroutes to portions of Eucalyptus and East Ridge Trails for sustainability. OC Parks will continue ISHB and invasive weed surveys and control prioritized species, with target plant populations and treatments captured in Calflora. OC Parks may inventory the park trail system with drone mapping.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

Open Access (see website above)

b. Is there an official written policy governing property closure conditions and procedures?

Yes

i. If yes, attach a PDF of the policy in the space below or provide a brief written summary

[RPRT-Closures.pdf](#)

Description of closure conditions and procedures.

Please see:

Sec. 2-5-46 (d). Trails, trespassing and closed areas.

Sec. 2-5-215. Hours.

General practices follow:

Hours – 7:00 am to Sunset

Closures for wet and muddy conditions, as determined by staff

Closures for localized red flag conditions, as determined by staff

Closures following significant fires, as advised by OC Fire Authority and determined by staff

ii. Has the policy been officially modified since the previous year’s annual report?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
Data unavailable	Rain	Data unavailable	Full
Data unavailable	High winds	Data unavailable	Full

d. Is there an official written policy governing special events use of the property?

Yes

i. If yes, attach a PDF of the policy or provide a brief written summary in the space below

[RPRT-Competitive-Race-Events-Policy.pdf](#)

Description of special events use for the property.

All special event requests are subject to OC Parks permitting, which includes review by field operations, operations management, and natural resources. Permits are subject to compliance with special conditions tailored to individual events and resources within parks.

ii. Has the policy been officially modified since the previous year’s annual report?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Supervising Park Ranger	1	Y
Park Ranger	1	Y
Resource Specialist	1 (covers Peters, Santiago Oaks & Irvine)	Y

3. Property Supervisor Contact Information

Name	Title	Email	Phone
Steve Jax	Supervising Park Ranger	steve.jax@ocparks.com	714.973.6612
Alisa Flint	Natural Resources Program Coordinator	alisa.flint@ocparks.com	949.585.6470

B. Visitation

a. Total number of public visitors to the property based on land owner's estimate:

362242

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

Staff estimate based on parking data and observation of monthly trends.

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

2020 - 130,000

2019 - 97,500

Data for previous years is currently inaccessible

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

No

e. Were there any special events held for which special use permits were issued for the property?

Yes

i. Provide in the table below a summary of special events held for which special use permits were issued for the property.

Event Date	Type of Special Event	# of Participants
07/23/2021	Trail race	Unavailable

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
N/A	--	--	--

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

Yes

i. If yes, summarize methodology in the space below and describe the general trend you observed for the property, and identify any specific trails where conditions are found to be degraded and any actions proposed or taken to address the degradation.

Trail conditions are monitored via ranger patrols, maintenance inspections, and park visitor reports. New unauthorized trails were quickly closed as soon as they were detected.

All single-track trails received annual drainage, tread repair, and brushing following the rainy season and all fire roads were graded and brushed.

ii. Are notes, photographs or other documentation of the monitoring performed archived?

No

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

No

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

No

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

No

VI. Invasive Species Control

A. Plants

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

Yes

a. Were the results of the invasive plant control efforts for the property conducted by the land owner/manager or their contractor reported to CalFlora?

Yes, completely

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

Yes

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

Please see attached report

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

Yes

i. If yes, identify the species:

ISHB

ii. Please complete the table limiting your responses to species occurrences or upload a attachment outlining the specifics below:

Infested Tree Species	Invasive Beetle Name	Infested Geographic Area of the Property	# of Infested Trees
Please see attached	--	--	--

iii. Did active management for invasive beetles occur on the property?

Yes

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

Please see attached report for most recent facility data

Optional: upload a concise attachment regarding species occurrences, invasive beetle names, infested area and number of infested trees and actions taken or justify why no such actions were taken:

[A.-Peters-Canyon-Regional-Park-Cycle-6-Map.pdf](#)

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

No

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

Yes

Research (ongoing or new)?

Yes

If yes, please enter additional details regarding the research pertaining to resources addressed by NCCP/HCP:

Small mammal trapping (CSU Long Beach) - new
Least Bells vireo surveys (OC Public Works) - ongoing
Christmas bird count (Sea & Sage Audubon) - ongoing
Post-fire rare plant surveys (NCC) - continued

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

Yes

What is the nature of the anticipated construction or maintenance project? (Check all that apply)

- Trails

Location where above work is proposed to take place? (GPS approximate center of project location and record below):

33°46'46.59"N, 117°45'33.32"W

Impact Size

Estimated 1.0 acres

Habitat Type

Coastal sage scrub and ruderal

Identify any project lead(s) (i.e., utility, government department):

OC Public Works - Regional Trails Plan (timeline unknown)

What is the nature of the anticipated construction or maintenance project? (Check all that apply)

- Trails

Location where above work is proposed to take place? (GPS approximate center of project location and record below):

33°45'45.02" N, 117°46'05.87" W

Impact Size

Tbd

Habitat Type

CSS

Identify any project lead(s) (i.e., utility, government department):

OC Parks - Per park Master Plan. Final reroute for unsustainable road still under evaluation.

What is the nature of the anticipated construction or maintenance project? (Check all that apply)

- Restrooms

Location where above work is proposed to take place? (GPS approximate center of project location and record below):

33*45'40.91" N, 117*46'13.10" W

Impact Size

< 0.06 ac

Habitat Type

Eucalyptus

Identify any project lead(s) (i.e., utility, government department):

OC Parks - Per park Master Plan

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

No

Non-mitigation habitat restoration initiated?

No

Additional Information:

OC Public Works mitigation for Peters Canyon Wash is reported separately.

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

OC Parks will continue targeting high-priority species as outlined in the 5-year Invasive Plan Management Plan for the Central Reserve of the Nature Reserve of Orange County. Sahara mustard, spiny emex, artichoke thistle, and castor bean remain focus species.

Calflora and Early Detection / Rapid Response training will continue for staff and volunteers in 2022.

Invasive beetle control actions to be undertaken by land owner or contractor?

Yes

Please explain the invasive beetle control actions to be undertaken by land owner or contractor.

Monitoring will continue; identified amplifier trees will be removed and identified asset trees will be preventatively treated. Adaptive management will be informed by research, monitoring data, and best practices.

Other invasive species (please describe):

Cowbird trapping (NCC)

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

Yes

Please explain the maintenance of existing fuel management to be undertaken within the reserve.

Existing road/trail maintenance, including vegetation brushing and weed abatement, will continue.

Land Manager Name

Orange County Parks

Reporting Year

2021

Park, open space or management unit

Santiago Oaks RP

Website

<http://www.ocparks.com/parks/santiago>

Land owning entity:

OC Parks

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

El Modena Open Space is included under the management of Santiago Oaks Regional Park. In 2021, Santiago Oaks saw an increase in visitation. The park continued to experience impacted special events and delayed trail projects due to COVID-19, especially in the first half of the year.

In 2022, OC Parks will continue ISHB and invasive weed surveys and control prioritized species, with target plant populations and treatments captured in Calflora. OC Parks may inventory the park trail system with drone mapping.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

Open Access (see website above)

b. Is there an official written policy governing property closure conditions and procedures?

Yes

i. If yes, attach a PDF of the policy in the space below or provide a brief written summary

[RPRT-Closures-1.pdf](#)

Description of closure conditions and procedures.

Please see:

Sec. 2-5-46 (d). Trails, trespassing and closed areas.

Sec. 2-5-215. Hours.

General practices follow:

Hours - 7:00 am to Sunset

Closures for wet and muddy conditions, as determined by staff
 Closures for localized red flag conditions, as determined by staff
 Closures following significant fires, as advised by OC Fire Authority and determined by staff

ii. Has the policy been officially modified since the previous year's annual report?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
01/23/2021	Rain	1	Full
01/29/2021	High winds	1	Full
11/25/2021	High winds	1	Full
12/14/2021	Rain	5	Full
12/23/2021	Rain	9	Full

d. Is there an official written policy governing special events use of the property?

Yes

i. If yes, attach a PDF of the policy or provide a brief written summary in the space below

[RPRT-Competitive-Race-Events-Policy-1.pdf](#)

Description of special events use for the property.

All special event requests are subject to OC Parks permitting, which includes review by field operations, operations management, and natural resources. Permits are subject to compliance with special conditions tailored to individual events and resources within parks.

ii. Has the policy been officially modified since the previous year's annual report?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Supervising Park Ranger	1	Y
Park Ranger	1	Y
Resource Specialist	1 (covers Santiago Oaks, Irvine & Peters)	Y
Office Technician	1	Y

3. Property Supervisor Contact Information

Name	Title	Email	Phone
Travis Martz	Supervising Park Ranger	travis.martz@ocparks.com	714.973.6621
Alisa Flint	Natural Resources Program Coordinator	alisa.flint@ocparks.com	949.585.6470

B. Visitation

a. Total number of public visitors to the property based on land owner's estimate:

196049

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

Staff estimates are based on parking revenues and observation of monthly trends.

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

2020 - 150,000

2019 - 100,000

Data for previous years is currently inaccessible

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

No

e. Were there any special events held for which special use permits were issued for the property?

Yes

i. Provide in the table below a summary of special events held for which special use permits were issued for the property.

Event Date	Type of Special Event	# of Participants
05/15/2021	Mountain bike skills workshops	Unavailable
06/27/2021	Mountain bike clinic	App. 100
08/22/2021	Mountain bike clinic	App. 100
09/25/2021	Mountain bike poker ride	Unavailable

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
N/A	--	--	--

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

Yes

i. If yes, summarize methodology in the space below and describe the general trend you observed for the property, and identify any specific trails where conditions are found to be degraded and any actions proposed or taken to address the degradation.

Trail conditions are monitored via ranger patrols, maintenance inspections, visitor reports, and wildlife cameras. Trails received annual drainage, tread repair, and brushing following the rainy season, and roads were graded and brushed as needed.

The Windes and Pacifica Trails remained closed following Canyon Fire 2 for minor rerouting and repairs.

Various trails were assessed in partnership with NCC and Utah State University to consider directional and/or designation changes to enhance user flow and safety.

ii. Are notes, photographs or other documentation of the monitoring performed archived?

Yes

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

No

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

No

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

No

VI. Invasive Species Control

A. Plants

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

Yes

a. Were the results of the invasive plant control efforts for the property conducted by the land owner/manager or their contractor reported to CalFlora?

Yes, completely

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

Yes

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

Please see attached report

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

Yes

i. If yes, identify the species:

ISHB

ii. Please complete the table limiting your responses to species occurrences or upload a attachment outlining the specifics below:

Infested Tree Species	Invasive Beetle Name	Infested Geographic Area of the Property	# of Infested Trees
Please see attached	--	--	--

iii. Did active management for invasive beetles occur on the property?

Yes

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

Please see attached report for most recent facility data

Optional: upload a concise attachment regarding species occurrences, invasive beetle names, infested area and number of infested trees and actions taken or justify why no such actions were taken:

[B.-Santiago-Oaks-Regional-Park-Cycle-6-map.pdf](#)

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

No

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

Yes

Research (ongoing or new)?

Yes

If yes, please enter additional details regarding the research pertaining to resources addressed by NCCP/HCP:

Small mammal trapping (CSU Long Beach)

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

No

Non-mitigation habitat restoration initiated?

No

Additional Information:

OC Waste & Recycling mitigation is reported separately.

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

OC Parks will continue targeting high-priority species as outlined in the 5-year Invasive Plant Management Plan for the Central Reserve of the Nature Reserve of Orange County. Sahara mustard and fountain grass (El Modena) are focus species.

Calflora and Early Detection / Rapid Response training will continue for staff and volunteers in 2022.

Invasive beetle control actions to be undertaken by land owner or contractor?

Yes

Please explain the invasive beetle control actions to be undertaken by land owner or contractor.

Monitoring will continue; identified amplifier trees will be removed and identified asset trees will be preventatively treated. Adaptive management will be informed by research, monitoring data, and best practices.

Other invasive species (please describe):

N/A

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

Yes

Please explain the maintenance of existing fuel management to be undertaken within the reserve.

Existing road/trail maintenance, including vegetation brushing, and weed abatement will continue.

Land Manager Name

Orange County Parks

Reporting Year

2021

Website

<http://www.ocparks.com/parks/talbert>

Land owning entity:

OC Parks

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

In 2021, surveys of target species and habitat types were conducted and infrastructure elements were assessed in Talbert Regional Park as part of park master planning efforts.

In 2022, OC Parks will continue developing a park Master Plan. Staff and contractors will also continue ISHB and invasive weed surveys and control prioritized species, with plant populations and treatments captured in Calflora.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

Open Access (see website above)

b. Is there an official written policy governing property closure conditions and procedures?

Yes

i. If yes, attach a PDF of the policy in the space below or provide a brief written summary

[RPRT-Closures-2.pdf](#)

Description of closure conditions and procedures.

Please see attached file:

Sec. 2-5-46 (d). Trails, trespassing and closed areas.

Sec. 2-5-215. Hours.

General practices follow:

Hours – 7:00 am to Sunset

Closures for wet and muddy conditions, as determined by staff

Closures for localized red flag conditions, as determined by staff

Closures following significant fires, as advised by OC Fire Authority and determined by staff

ii. Has the policy been officially modified since the previous year's annual report?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
Data unavailable	Rain	Data unavailable	Full

d. Is there an official written policy governing special events use of the property?

Yes

i. If yes, attach a PDF of the policy or provide a brief written summary in the space below

[RPRT-Competitive-Race-Events-Policy-2.pdf](#)

Description of special events use for the property.

All special event requests are subject to OC Parks permitting, which includes review by field operations, operations management, and natural resources. Permits are subject to compliance with special conditions tailored to individual events and resources within parks.

ii. Has the policy been officially modified since the previous year's annual report?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Supervising Park Ranger	1 (covers Talbert & Upper Newport Bay)	Y
Park Ranger	1 (covers Talbert & Upper Newport Bay)	Y
Resource Specialist	1 (covers Talbert & Upper Newport Bay)	Y
Maintenance Supervisor	1 (covers Talbert & Upper Newport Bay)	Y
Maintenance Worker (multiple classes)	9 (covers Talbert & Upper Newport Bay)	Y
Office Technician	1 (covers Talbert & Upper Newport Bay)	Y

3. Property Supervisor Contact Information

Name	Title	Email	Phone
Derrick Ankerstar	Supervising Park Ranger	derrick.ankerstar@ocparks.com	714.923.2294
Alisa Flint	Natural Resources Program Coordinator	alisa.flint@ocparks.com	949.585.6470

B. Visitation

a. Total number of public visitors to the property based on land owner's estimate:

760000

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

Staff estimates are based on monthly trends.

*Estimate includes both Talbert and Upper Newport Bay

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

2020 - App. 700,000

2019 - 654,000

Data for previous years currently inaccessible

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

No new types of park users were noted, but staff observed a continued increase in encampments.

e. Were there any special events held for which special use permits were issued for the property?

No

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
N/A	--	--	--

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

Yes

i. If yes, summarize methodology in the space below and describe the general trend you observed for the property, and identify any specific trails where conditions are found to be degraded and any actions proposed or taken to address the degradation.

Trail conditions are monitored via ranger patrols, maintenance inspections, and visitor reports.

All roads were graded and brushed as needed following rainy season.

ii. Are notes, photographs or other documentation of the monitoring performed archived?

No

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

No

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

No

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

No

VI. Invasive Species Control

A. Plants

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

Yes

a. Were the results of the invasive plant control efforts for the property conducted by the land owner/manager or their contractor reported to CalFlora?

Yes, completely

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

Yes

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

Please see attached report

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

Yes

i. If yes, identify the species:

ISHB

ii. Please complete the table limiting your responses to species occurrences or upload a attachment outlining the specifics below:

Infested Tree Species	Invasive Beetle Name	Infested Geographic Area of the Property	# of Infested Trees
Please see attached	--	--	--

iii. Did active management for invasive beetles occur on the property?

Yes

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

Please see attached report for most recent data

Optional: upload a concise attachment regarding species occurrences, invasive beetle names, infested area and number of infested trees and actions taken or justify why no such actions were taken:

[E.-Talbert-Regional-Park-Cycle-6-Map.pdf](#)

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

No

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

Yes

Please explain why the GDP and/or Master Plan was created anew or amended.

Talbert Regional Park is in need of a Master Plan. Planning efforts and biological studies initiated in 2020 and continued in 2021.

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

No

Research (ongoing or new)?

No

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

No

Non-mitigation habitat restoration initiated?

No

Additional Information:

OC Public works mitigation is reported separately.

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

OC Parks will continue targeting high-priority species as outlined in the 5-year Invasive Plant Management Plan for the Coastal Reserve of the Nature Reserve of Orange County. Pampas grass, perennial pepperweed, Arundo, palms, and iceplant remain focus species.

Calflora and Early Detection / Rapid Response training will continue for staff and volunteers in 2022.

Invasive beetle control actions to be undertaken by land owner or contractor?

Yes

Please explain the invasive beetle control actions to be undertaken by land owner or contractor.

Monitoring will continue; identified amplifier trees will be removed and identified asset trees will be preventatively treated. Adaptive management will be informed by research, monitoring data, and best practices.

Other invasive species (please describe):

N/A

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

Yes

Please explain the maintenance of existing fuel management to be undertaken within the reserve.

Existing road/trail maintenance, including vegetation brushing, and weed abatement will continue.

Land Manager Name

Orange County Parks

Reporting Year

2021

Park, open space or management unit

Upper Newport Bay NP

Website

<http://www.ocparks.com/parks/newport>

Land owning entity:

OC Parks

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

In 2021, Upper Newport Bay Nature Preserve saw visitation increase and continued to experience impacted park special events and delayed habitat restoration and weed control efforts due to COVID-19, particularly in the first half of the year. Volutaria control continued in partnership with Newport Bay Conservancy (NBC) and the California Department of Fish and Wildlife (CDFW).

In 2022, OC Parks, NBC, and volunteers will continue invasive weed surveys and control prioritized species, with target plant populations and treatments captured in Calflora.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

Open Access (see website above)

b. Is there an official written policy governing property closure conditions and procedures?

Yes

i. If yes, attach a PDF of the policy in the space below or provide a brief written summary

[RPRT-Closures-3.pdf](#)

Description of closure conditions and procedures.

Please see attached file:

Sec. 2-5-46 (d). Trails, trespassing and closed areas.

Sec. 2-5-215. Hours.

General practices follow:

Hours – 7:00 am to Sunset

Closures for wet and muddy conditions, as determined by staff

Closures for localized red flag conditions, as determined by staff

Closures following significant fires, as advised by OC Fire Authority and determined by staff

ii. Has the policy been officially modified since the previous year’s annual report?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
Data unavailable	Rain	Data unavailable	Partial

d. Is there an official written policy governing special events use of the property?

Yes

i. If yes, attach a PDF of the policy or provide a brief written summary in the space below

[RPRT-Competitive-Race-Events-Policy-3.pdf](#)

Description of special events use for the property.

All special event requests are subject to OC Parks permitting, which includes review by field operations, operations management, and natural resources. Permits are subject to compliance with special conditions tailored to individual events and resources within parks.

ii. Has the policy been officially modified since the previous year’s annual report?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Supervising Park Ranger	1 (covers Upper Newport & Talbert)	Y
Park Ranger	1 (covers Upper Newport & Talbert)	Y
Resource Specialist	1 (covers Upper Newport & Talbert)	Y
Maintenance Supervisor	1 (covers Upper Newport & Talbert)	Y
Maintenance Worker (multiple classes)	9 (covers Upper Newport & Talbert)	Y
Office Technician	1 (covers Upper Newport & Talbert)	Y

3. Property Supervisor Contact Information

Name	Title	Email	Phone
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Derrick Ankerstar	Supervising Park Ranger	derrick.ankerstar@ocparks.com	714.923.2294
Alisa Flint	Natural Resources Program Coordinator	alisa.flint@ocparks.com	949.585.6470

B. Visitation

a. Total number of public visitors to the property based on land owner's estimate:

760000

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

Staff estimates are based on monthly trends.

*Estimate includes both Upper Newport and Talbert

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

2020 - 700,000

2019 - 654,000

Data for previous years currently inaccessible

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

No

e. Were there any special events held for which special use permits were issued for the property?

No

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
N/A	--	--	--

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

Yes

i. If yes, summarize methodology in the space below and describe the general trend you observed for the property, and identify any specific trails where conditions are found to be degraded and any actions proposed or taken to address the degradation.

Trail conditions are monitored via ranger patrols, maintenance inspections, and visitor reports.

All trails received annual drainage and tread work repairs and brushing following the rainy season. All roads were graded and brushed as needed.

ii. Are notes, photographs or other documentation of the monitoring performed archived?

No

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

No

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

No

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

No

VI. Invasive Species Control

A. Plants

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

Yes

a. Were the results of the invasive plant control efforts for the property conducted by the land owner/manager or their contractor reported to CalFlora?

Yes, completely

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

Yes

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

Please see attached report

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

Yes

i. If yes, identify the species:

ISHB

ii. Please complete the table limiting your responses to species occurrences or upload a attachment outlining the specifics below:

Infested Tree Species	Invasive Beetle Name	Infested Geographic Area of the Property	# of Infested Trees
Please see attached	--	--	--

iii. Did active management for invasive beetles occur on the property?

Yes

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

Please see attached report for most recent facility data

Optional: upload a concise attachment regarding species occurrences, invasive beetle names, infested area and number of infested trees and actions taken or justify why no such actions were taken:

[D.-Upper-Newport-Bay-Preserve-Cycle-6-Map.pdf](#)

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

No

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

Yes

Research (ongoing or new)?

No

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

No

Non-mitigation habitat restoration initiated?

No

Additional Information:

OC Parks and Newport Bay Conservancy to undertake small-scale habitat and wildlife enhancement projects.

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

OC Parks will continue targeting high-priority species as outlined in the 5-year Invasive Plant Management Plan for the Coastal Reserve of the Nature Reserve of Orange County. Volutaria, perennial pepperweed, Brazilian pepper trees, and artichoke thistle remain target species.

Calflora and Early Detection / Rapid Response training will continue for staff and volunteers, including Newport Bay Conservancy, in 2022.

Invasive beetle control actions to be undertaken by land owner or contractor?

Yes

Please explain the invasive beetle control actions to be undertaken by land owner or contractor.

Monitoring will continue; identified amplifier trees will be removed and identified asset trees will be preventatively treated. Adaptive management will be informed by research, monitoring data, and best practices.

Other invasive species (please describe):

N/A

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

Yes

Please explain the maintenance of existing fuel management to be undertaken within the reserve.

Existing road/trail maintenance, including vegetation brushing, and weed abatement will continue.

Land Manager Name

Orange County Parks

Reporting Year

2021

Park, open space or management unit

Whiting Ranch WP

Website

<http://www.ocparks.com/parks/whiting>

Land owning entity:

OC Parks

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

In 2021, Whiting Ranch Wilderness Park visibly increased from the prior year, even with parking lots closed for several weeks due to COVID-19 restrictions and park closures due to fire and mountain lion activity. The northwest portion of the park burned in the October 2020 Silverado Fire. There was a noted increase in mountain lion activity as well as increases in creation and use of unauthorized trails, which was addressed as detected. COVID-19 restrictions impacted park special events.

In 2021, OC Parks staff will provide temporary fencing and small-scale restoration to enhance areas of the park impacted by fire suppression activities. Staff will continue invasive weed surveys and control of prioritized species, with plant population and treatment captured in Calflora, and may inventory the park trail system with drone mapping.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

Open Access (see website above)

b. Is there an official written policy governing property closure conditions and procedures?

Yes

i. If yes, attach a PDF of the policy in the space below or provide a brief written summary

[RPRT-Closures-4.pdf](#)

Description of closure conditions and procedures.

Please see attached file:

Sec. 2-5-46 (d). Trails, trespassing and closed areas.

Sec. 2-5-215. Hours.

General practices follow:

Hours – 7:00 am to Sunset

Closures for wet and muddy conditions, as determined by staff

Closures for localized red flag conditions, as determined by staff

Closures following significant fires, as advised by OC Fire Authority and determined by staff

ii. Has the policy been officially modified since the previous year's annual report?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
Data unavailable	Rain	Data unavailable	Full
Data unavailable	Mountain lion activity	Data unavailable	Full

d. Is there an official written policy governing special events use of the property?

Yes

i. If yes, attach a PDF of the policy or provide a brief written summary in the space below

[RPRT-Competitive-Race-Events-Policy-4.pdf](#)

Description of special events use for the property.

All special event requests are subject to OC Parks permitting, which includes review by field operations, operations management, and natural resources. Permits are subject to compliance with special conditions tailored to individual events and resources within parks.

ii. Has the policy been officially modified since the previous year's annual report?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Supervising Park Ranger	1	Y
Park Ranger	1	Y
Maintenance Supervisor	1	Y
Maintenance Worker	1	Y

3. Property Supervisor Contact Information

Name	Title	Email	Phone
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Candi Hubert	Supervising Park Ranger	candice.hubert@ocparks.com	949.923.2244
Matt Major	Natural Resources Program Coordinator	matt.major@ocparks.com	657.266.4701

B. Visitation

a. Total number of public visitors to the property based on land owner's estimate:

230000

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

2021 visitation is an estimate. Staff estimates are generally based on monthly trends, parking data, and observation

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

2020 - App. 175,000

2019 - App. 100,000

Data currently unavailable for prior years

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

No new types of park users were noted, but staff observed and increase in use of existing unauthorized trails, geocaching, e-bike use, and encampments.

e. Were there any special events held for which special use permits were issued for the property?

Yes

i. Provide in the table below a summary of special events held for which special use permits were issued for the property.

Event Date	Type of Special Event	# of Participants
10/23/2021	Mountain bike ride event	150
11/07/2021	Mountain bike poker ride	Unavailable
12/16/2021	Mountain bike ride event	Unavailable

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
N/A	--	--	--

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

Yes

i. If yes, summarize methodology in the space below and describe the general trend you observed for the property, and identify any specific trails where conditions are found to be degraded and any actions proposed or taken to address the degradation.

Trail conditions are monitored via ranger patrols, maintenance inspections, visitor reports, and cameras/trackers. All trails received annual drainage and tread work repair as well as brushing following the rainy season. All roads were graded and brushed as needed.

ii. Are notes, photographs or other documentation of the monitoring performed archived?

No

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

No

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

No

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

No

VI. Invasive Species Control

A. Plants

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

Yes

a. Were the results of the invasive plant control efforts for the property conducted by the land owner/manager or their contractor reported to CalFlora?

Yes, completely

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

Yes

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

Please see attached report

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

Yes

i. If yes, identify the species:

ISHB

ii. Please complete the table limiting your responses to species occurrences or upload a attachment outlining the specifics below:

Infested Tree Species	Invasive Beetle Name	Infested Geographic Area of the Property	# of Infested Trees
Please see attached	--	--	--

iii. Did active management for invasive beetles occur on the property?

Yes

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

Management efforts are focused on front-country locations. Please see attached previous survey and map of PSHB trap placement in the park.

Optional: upload a concise attachment regarding species occurrences, invasive beetle names, infested area and number of infested trees and actions taken or justify why no such actions were taken:

[WR_trap-locations.pdf](#)

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

No

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

Yes

Research (ongoing or new)?

Yes

If yes, please enter additional details regarding the research pertaining to resources addressed by NCCP/HCP:

Wildlife cameras (OC Parks)

ISHB monitoring (UC Davis)

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

No

Non-mitigation habitat restoration initiated?

No

Additional Information:

NCC-funded restoration is reported separately.

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

OC Parks will continue targeting high-priority species as outlined in the 5-year Invasive Plant Management Plan for the Central Reserve of the Nature Reserve of Orange County. Sahara mustard remains a focus.

Calflora and Early Detection / Rapid Response training will continue for staff and volunteers in 2022.

Invasive beetle control actions to be undertaken by land owner or contractor?

Yes

Please explain the invasive beetle control actions to be undertaken by land owner or contractor.

Monitoring will continue; identified amplifier trees will be removed and identified asset trees will be preventatively treated. Adaptive management will be informed by research, monitoring data, and best practices.

Other invasive species (please describe):

N/A

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

Yes

Please explain the maintenance of existing fuel management to be undertaken within the reserve.

Existing road/trail maintenance, including vegetation brushing, and weed abatement will continue.

Land Manager Name

OC Public Works

Reporting Year

2021

Park, open space or management unit

OCPW

Website

<http://www.ocpublicworks.com/>

Land owning entity:

OC Public Works/OC Flood Control District

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

OC Public Works actively manages six compensatory mitigation sites in the NCCP Reserve, all on OC Parks land. OC Public Works did not use any take credits in 2021. OC Public Works anticipated using 1.33 acres of take in the Laguna Coastal Streams watershed for a joint road project [SR-133] with Caltrans in 2020; however, construction of that project has been delayed. This anticipated take will roll over to 2022 in addition to two other projects currently in the design phase: Loma Ridge Road Widening (0.01 acre) Peter's Canyon Bikeway (0.77 acre) .

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

No Public Access

b. Is there an official written policy governing property closure conditions and procedures?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
00/00/0000	Not applicable		

d. Is there an official written policy governing special events use of the property?

Yes

Description of special events use for the property.

OC Flood Control District property is not accessible to the public. Any access by contractors wishing to perform work within District property is subject to provision of an encroachment permit per Orange County, California Code of Ordinances (Title 9 - Water Quality--Orange County Flood Control District / Division 2 --Encroachments).

With regard to District-owned lands in the NCCP Reserve, tracking of take impacts is the responsibility of OC Public Works/Environmental Resources - Mitigation Program. Encroachment permits authorizing access to District lands is tracked by OC Public Works/ Development Services - Permitting.

ii. Has the policy been officially modified since the previous year's annual report?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Manager, Mitigation Program	1	.05

3. Property Supervisor Contact Information

Name	Title	Email	Phone
Jennifer Shook	Manager, Mitigation Program	Jennifer.Shook@ocpw.ocgov.com	(714) 955-0615

B. Visitation**b. What method(s) is/are used to estimate visitation? Summarize in the box below.**

OC Flood Control District property is not accessible to the public. Any access by contractors wishing to perform work within District property is subject to provision of an encroachment permit per Orange County, California Code of Ordinances (Title 9 - Water Quality--Orange County Flood Control District / Division 2 --Encroachments).

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

Not applicable.

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

Not applicable.

e. Were there any special events held for which special use permits were issued for the property?

No

f. In the table provided below, please identify any documented impacts to habitat from unauthorized

property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
00/00/0000	Not applicable		

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

Yes

i. If yes, summarize methodology in the space below and describe the general trend you observed for the property, and identify any specific trails where conditions are found to be degraded and any actions proposed or taken to address the degradation.

Some flood control access/service trails are used for passive recreation (walking/hiking/biking). Monitoring of access and service roads to/along/around District flood control channels and basins is conducted by OC Public Works - Operations & Maintenance Department.

ii. Are notes, photographs or other documentation of the monitoring performed archived?

Yes

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

No

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

No

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

No

VI. Invasive Species Control

A. Plants

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

No

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

No

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

OC Public Works road infrastructure and OC Flood District drainage infrastructure lies mostly outside of the Reserve areas. The few small areas of property within the Reserve are monitored for potential invasive beetle impacts during ongoing routine maintenance, but formal surveys have not been conducted.

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

No

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

OC Public Works road infrastructure and OC Flood District drainage infrastructure lies mostly outside of the Reserve areas. The few small areas of property within the Reserve are monitored for potential invasive beetle impacts during ongoing routine maintenance and trees that pose a threat to public safety or have the potential to impede flood flows are removed. OC Public Works does manage mitigation sites on OC Parks property within the Reserve and monitor for invasive beetle activity. If we identify a growing problem, as signaled by branch or tree-die back, formal surveys will be initiated.

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

No

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

No

Research (ongoing or new)?

No

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

Yes

What is the nature of the anticipated construction or maintenance project? (Check all that apply)

- Access roads

Location where above work is proposed to take place? (GPS approximate center of project location and record below):

33.582694, -117.761047

Impact Size

1.33 acre

Habitat Type

CSS

Identify any project lead(s) (i.e., utility, government department):

Caltrans
OC Public Works

What is the nature of the anticipated construction or maintenance project? (Check all that apply)

- Other

Location where above work is proposed to take place? (GPS approximate center of project location and record below):

33.784712, -117.758715

Impact Size

0.77 acre (Class 1 bikeway along Jamboree Road)

Habitat Type

CSS

Identify any project lead(s) (i.e., utility, government department):

OC Public Works (design lead)
OC Parks
Caltrans (Federal Partner since federal funds will be used)

What is the nature of the anticipated construction or maintenance project? (Check all that apply)

- Arterial and other identified roads

Location where above work is proposed to take place? (GPS approximate center of project location and record below):

33.771056, -117.744533

Impact Size

0.01 (Road widening along Loma Ridge Road)

Habitat Type

CSS

Identify any project lead(s) (i.e., utility, government department):

OC Public Works

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

Yes

If yes, please fill out the following

Project Name	Habitat Type	Approximate Location	Area (acres)
	Riparian woodland/scrub	Peter's Canyon Regional Park (lower reach)	2

Non-mitigation habitat restoration initiated?

No

Additional Information:

The Lower Peters Canyon mitigation project continued to be postponed and will hopefully be installed in 2022.

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

OC Public Works mitigation program conducts invasive control as part of our routine maintenance of mitigation sites. Work is minimal as most of our sites are fairly well established with little non-native seed back by this point.

Invasive beetle control actions to be undertaken by land owner or contractor?

No

Other invasive species (please describe):

OC Public Works Agricultural Commissioner's office handles invasive species control for unincorporated property and OC Flood Control District.

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

No

Land Manager Name

OC Waste Recycling

Reporting Year

2021

Park, open space or management unit

OCWR

Website

<https://oclandfills.com/>

Land owning entity:

Orange County

Land managing entity if different from above:

Orange County Waste & Recycling

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

In 2022, OCWR has planned construction of the Phase 8A-1 landfill development project, beginning in July. Roughly, 0.75acre of coastal sage scrub may be impacted. Fuel modification will continue around the FRB Landfill's main structures. Mitigation project maintenance will continue with post fire recovery.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

No Public Access

b. Is there an official written policy governing property closure conditions and procedures?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
1/1/2021	Open space areas on FRB Landfill are not open to visitors.	365	full

d. Is there an official written policy governing special events use of the property?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Sr. Environmental Resource Specialist	1	100%

3. Property Supervisor Contact Information

Name	Title	Email	Phone
David Tieu	Landfill Deputy Director	david.tieu@ocwr.ocgov.com	949 551-7102

B. Visitation

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

No tours were provided to visitors in 2021, due to COVID-19.

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

2021: 0 visitors. The open space areas of the landfill are not open to visitors. Anticipated visitor numbers are expected to be 0 for 2022, until the Loma Ridge connection trail is established.

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

None, no new types of visitors.

e. Were there any special events held for which special use permits were issued for the property?

No

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
0/0/00	no impacts		

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

Yes

i. If yes, summarize methodology in the space below and describe the general trend you observed for the property, and identify any specific trails where conditions are found to be degraded and any actions proposed or taken to address the degradation.

There are access roads and seldom used trails on the landfill. The roads are graded 2-3 times a year to repair erosion and ruts, and remove weedy vegetation. The one trail is not maintained regularly at this time.

ii. Are notes, photographs or other documentation of the monitoring performed archived?

No

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

No

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

No

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

Yes

Project Lead

Land owner

Provide project name and/or permit number if the project is on behalf of an agency other than the land owner.

West Channel

Mitigation

Yes

CSS Community Acres

1

Riparian Community Acres

9

Coordination with NCC

No

Start Date

1998-01-01

Anticipated End Date

2026-06-01

Performance Monitoring

Yes

Data Archived in GIS Database

No

Project Lead

Land owner

Provide project name and/or permit number if the project is on behalf of an agency other than the land owner.

FRB Wetlands Basin (Corps 404 Permit SPL-2006-212-CJF and Water Quality Cert. 200600212-cjf)

Mitigation

Yes

Riparian Community Acres

2.27

Other Restoration Community Acres

2.07

Other Restoration Community Type

wetlands

Coordination with NCC

Yes

Start Date

2013-11-01

Anticipated End Date

2024-11-01

Performance Monitoring

No

Data Archived in GIS Database

No

Project Lead

Land owner

Provide project name and/or permit number if the project is on behalf of an agency other than the land owner.

East Fank restoration

Mitigation

Yes

Other Restoration Community Acres

1

Other Restoration Community Type

chaparral

If this is a formal restoration plan, please provide the name:

not formal

Coordination with NCC

No

Start Date

2017-01-01

Anticipated End Date

2024-01-01

Performance Monitoring

No

Data Archived in GIS Database

No

VI. Invasive Species Control

A. Plants

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

Yes

a. Were the results of the invasive plant control efforts for the property conducted by the land owner/manager or their contractor reported to CalFlora?

No, not at all

i. If no or partially, please complete the table below:

Treatment Methodology	Invasive Plant Name	Habitat(s) Impacted	Area of Treatment (Square Meters)
Synthetic Herbicide	Brassica nigra	CSS, disturbed, grassland, chaparral	1,000 square meters
Synthetic Herbicide	Nicotiana glauca	CSS, disturbed,	10 square meters
Synthetic Herbicide	Oncosiphon piluliferum	disturbed	100 square meters

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

No

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

A cursory inspection was performed. A more involved survey will be performed in 2022.

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

No

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of

actions taken in the space provided and/or upload a specific attachment below:

No signs of beetle observed on site in previous years.

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

Yes

Fuel Management Map

[FRB-fuel-mod-map.jpg](#)

Project Number Referenced on the Map

FRB office fuel modification

Coordination with NCC

No

Habitat Type(s) in Which Modification Occurred

- CSS

General Description of Fuel Modification Technique Employed

- Pruning/thinning

Approximate Area Treated in Acres

2

Management Action Consistent with Stakeholder Guide (WFMP)

Yes

New Fuel Management Treatment or Maintenance of Existing

Maintenance

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

No

Research (ongoing or new)?

No

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

Yes

What is the nature of the anticipated construction or maintenance project? (Check all that apply)

- Landfill gas recovery facilities
- Monitoring wells and maintenance facilities

Location where above work is proposed to take place? (GPS approximate center of project location and record below):

Phase 8A-1 development of the landfill will impact approximately 0.75 acre of CSS vegetation.

Impact Size

0.75 acre

Habitat Type

CSS

Identify any project lead(s) (i.e., utility, government department):

David Tieu at OC Waste & Recycling

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

No

Non-mitigation habitat restoration initiated?

No

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

Landfill will continue to maintain invasive weeds

Invasive beetle control actions to be undertaken by land owner or contractor?

Yes

Please explain the invasive beetle control actions to be undertaken by land owner or contractor.

A beetle survey will be performed in 2022

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

Yes

Please explain the maintenance of existing fuel management to be undertaken within the reserve.

Fuel modification surrounding FRB landfill structures will continue to be maintained.

Land Manager Name

Irvine Ranch Conservancy

Reporting Year

2021

Park, open space or management unit

City of Irvine

Website

<https://letsgooutside.org>

Land owning entity:

City of Irvine

Land managing entity if different from above:

Irvine Ranch Conservancy

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

The City of Irvine Open Space Preserve received approximately 2,304 visitors for guided activities in 2021. However, data from a trail counter placed at West Fork indicate similarly high levels of self-guided access as observed in 2020, which was four-to five times that estimated in 2019.

Regular annual inspections were conducted to assess erosion and vegetation encroachment within the designated trail system. Routine post-winter trail repairs were performed, and regular quarterly vegetation trimming was performed. Planned maintenance for 2022 will include additional trail-tread hardening at the lower portion of the Fox Run Trail and additional control post and cable fencing at the northern section of the Quail Hill Loop Trail.

Trail width and trailside vegetation quality are monitored yearly, and there has been no significant change in trail width over time. Trail conditions are monitored continuously, and maintenance occurs as needed. Planting and weed control for a habitat restoration and enhancement project in Bommer were conducted in 2021. Surveys and control of both invasive plant species and invasive beetles is ongoing and will continue in 2022.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

Both Open and Hosted Limited Access

b. Is there an official written policy governing property closure conditions and procedures?

Yes

Description of closure conditions and procedures.

Irvine Ranch Conservancy (IRC) will be responsible for monitoring conditions in the Open Space Preserve, facilities, and trails, and will use its best judgment, experience, and knowledge of Best Management Practices to determine when the Open Space Preserve or parts of the Open Space Preserve should be temporarily closed (including consideration of whether adjacent open space areas are closed or open). IRC will immediately inform the Director of Community Services and designated staff, the Open Space Patrol, and City staff in Bommer Canyon via email or text message of the need to temporarily close certain areas. Because of the timely nature of most temporary closures, the City shall respond within one hour of receipt of such messages should it disagree with or require clarification of IRC's intent to close facilities. In the absence of a response, the Conservancy will proceed with temporary closure.

IRC will also inform adjacent land managers of the closure and coordinate with them on closure activities on daily-access trails. The City Public Safety Department and Open Space Patrol may also initiate closure of the Open Space Preserve or facilities for: police investigations; search and rescue; and other special events related to public safety. The City's responsibilities regarding temporary closure and re-opening of trails and/or facilities includes deploying City staff to close the main gates and parking areas at trailheads, placing/removing temporary closure barriers at Bommer Canyon Trailhead, Quail Hill Trailhead and any other mutually agreed upon access locations, and assisting IRC in executing the temporary closure when needed and requested. IRC will supply temporary closure signs/barriers as well as create and install seasonal information signs that reference a phone number where the public can obtain updated closure/re-opening information. Public activities led by IRC that are cancelled due to trail conditions will have a cancellation notice posted with the activity on the website and also emailed to all registered participants. The City will enforce terms and conditions of each temporary closure through its Open Space Patrol and Public Safety personnel.

IRC will maintain a telephone hotline with a local or toll-free number for the public to obtain information on any closures and re-opening schedule. The hotline number will be displayed on informational and temporary signage to aid the public in understanding the closure.

ii. Has the policy been officially modified since the previous year's annual report?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
01/01/2021	COVID-19 Public Program Closure	65	Full
01/15/2021	Red Flag Warning - Extreme Fire Conditions	2	Partial
01/19/2021	Red Flag Warning - Extreme Fire Conditions	1	Partial
01/23/2021	Rainstorm(s) wet and muddy conditions	4	Full
01/29/2021	Rainstorm(s) wet and muddy conditions	4/9	Full/Partial
03/03/2021	Rainstorm(s) wet and muddy conditions	3	Full
03/10/2021	Rainstorm(s) wet and muddy conditions	3	Full
10/25/2021	Rainstorm(s) wet and muddy conditions	3	Full
11/21/2021	Red Flag Warning - Extreme Fire Conditions	1	Partial
11/24/2021	Red Flag Warning - Extreme Fire Conditions	3	Partial

12/13/2021	Rainstorm(s) wet and muddy conditions	3	Full
12/23/2021	Rainstorm(s) wet and muddy conditions	8	Full

d. Is there an official written policy governing special events use of the property?

Yes

Description of special events use for the property.

The City is responsible for processing and administration of special use permits, special event permits, and other access permit requests upon review by IRC for compliance with the NCCP and applicable Recreation and Resource Management Plans. These include but are not limited to individual permits for such activities as photography shoots, recreational or exercise programs, special events in Bommer Cattle Camp that extend into the open space, and other access authorized or managed by the City, which will be coordinated with the IRC.

All permits will include access notification requirements for the permit holder which will include notification to the email access@irconservancy.org. After permits have been issued, IRC will coordinate notification of permitted access activities by the permit holder with appropriate City staff, City Permits Office, and Open Space Patrol rangers. IRC maintains and will continue to maintain an email address (access@irconservancy.org) where advance notification of access to the Preserve by permit holders can be posted and distributed electronically to relevant individuals including City staff.

ii. Has the policy been officially modified since the previous year's annual report?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Parks & Open Space Administrator	1	1
Community Services Manager	1	1
Open Space Ranger	1	1

3. Property Supervisor Contact Information

Name	Title	Email	Phone
Casey Gnadt	Parks & Open Space Administrator	cgnadt@cityofirvine.org	949-724-7621
Dave Cardon	Open Space Ranger	dcardon@cityofirvine.org	949-724-7000
Kristin Auer	Community Services Manager	kauer@cityofirvine.org	949-724-7462

B. Visitation

a. Total number of public visitors to the property based on land owner's estimate:

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

Activity attendance numbers for guided activities are based on registration data on the www.letsgooutside.org website. The visitor numbers for these activities are provided to landowners on a quarterly basis. The number includes all volunteers and public participants on implemented public and private activities on the Landmarks, including recreation, trail work, restoration, special events, and training.

IRC manages the website www.letsgooutside.org, which was created to promote public activities within the Landmarks areas, manage public activity registration, manage volunteer assignments, obtain public participant feedback, and create automated reporting functions for all public and volunteer-only activities. The current system allows for the general public to register for public activities online. After online registration, processing is as follows:

- Waiver created
- Post Activity Report generated by activity Lead confirming attendance of registrants and volunteers.
- Waivers verified and archived in activity database
- Monthly attendance reports generated which feed into research projects that correlate human access and wildlife movement in the Irvine Ranch Open Space to help the Conservancy make adaptive management decisions.

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

2021 2,304

2020 1,184

2019 3,712

Note that these numbers are only for guided activities and do not reflect the increase in self-guided access first observed in 2020. Data from a trail counter placed at West Fork indicate a four-to five-fold increase in activity in 2020 and 2021 compared to 2019 (39,524 in 2021, 41,913 in 2020, and 8,046 in 2019). Please note the numbers of participants in guided activities for the past three years have been revised down due to a previous calculation error. The number of guided activities offered has been impacted by COVID restrictions and closures due to the fires in 2020.

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

No

e. Were there any special events held for which special use permits were issued for the property?

No

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
Various Dates	Trail Short-cutting	Black Mustard	600 sq.ft

C. Monitoring Performed by Land Owner or Land Manager**a. Does land owner or its land managing representative monitor trail conditions annually?**

Yes

i. If yes, summarize methodology in the space below and describe the general trend you observed for the property, and identify any specific trails where conditions are found to be degraded and any actions proposed or taken to address the degradation.

Trail conditions are monitored regularly throughout the year and after any significant rainfall event (>0.25"), and maintenance occurs within the limits of the trail-tread on an as-needed basis. Annual preventative maintenance occurs during the months of September and October and includes, but is not limited to, filling rills and ruts, implementing industry standard natural surface erosion control measures (water bars, grade dips, grade reversals, grade nicks, etc.), trail armoring, and sediment removal from existing erosion control features. Vegetation trimming occurs between August 15th and February 15th and is limited to maintenance of the scheduled trail widths per the approved RRMP. No trails were observed to have excessive erosion that required any maintenance beyond the routine anticipated annual post-winter repairs. Additionally, trail width and trailside vegetation quality are measured at fixed points throughout the Reserve. At each point, photos are taken in each direction of the trail and to either side (4 total). To date, no significant change in trail width has been identified.

ii. Are notes, photographs or other documentation of the monitoring performed archived?

Yes

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

Yes

Facility & Location

Implemented the approved realignment of the existing upper segment of the Fox Run Trail intersecting Serrano Ridge Road. The realignment bypassed two sections of existing trail (3' width) approximately 880 lineal feet with grades in excess of 30%. The new alignment segments, approximately 1,190 lineal feet of 3' wide trail, maintained grades averaging 10% or less consistent with industry standard methods for trail construction. The upper and lower portions of the trail intersect with the existing Serrano Ridge road and the existing Fox Run Trail within the in the approximate coordinates of 33°37'04.0"N 117°46'28.7"W and 33°37'22.6"N 117°46'40.0"W.

Start Date

2021-12-28

End Date

2021-12-30

Was facility identified in an applicable GDP or RMP?

Yes

Impacts: Habitats or Sensitive Species

Type	Amount (Acres)
CSS	.08 acres

Coordination with NCC?

No

Nature of Impact: Permanent (# of Acres)

0.08

Restoration Actions Taken?

Yes

Please describe the actions taken or justify why no such actions were taken

Existing trail alignment permanently closed allowing for passive natural restoration. .06 acre.

Documentation: Reports, Notes, Photographs (Provide Reference)**IV. Infrastructure Facility Construction and Maintenance****Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?**

Yes

Facility & Location

Due to their proximity to the neighboring communities and popularity, the Bommer Meadow and Turtle Ridge trails have been historically impacted by a series of minor social trails that bypass the constructed turns. In order to curb the instance of social short-cuts on these trail segments, approximately 1,300 lineal feet of heavy duty, 2-inch schedule 80 galvanized pipe and 5/16-inch (7x19) galvanized wire rope fencing. The additional fencing is highly resistant to damage or modification and has already resulted in a near-complete cessation of shortcutting activities. Coordinates: Bommer Meadow: 33.627086, -117.806050 through 33.625603, -117.805073 Turtle Ridge: 33.612876, -117.806679 through 33.612850, -117.803337

Start Date

2021-10-01

End Date

2021-12-16

Was facility identified in an applicable GDP or RMP?

No

Coordination with NCC?

No

Impacts: Habitats or Sensitive Species

Type	Amount (Acres)
No Habitat Impact	0

Restoration Actions Taken?

No

Please describe the actions taken or justify why no such actions were taken

N/A

Documentation: Reports, Notes, Photographs (Provide Reference)**V. Habitat Restoration and Enhancement****Did any habitat restoration or enhancement occur on the property?**

Yes

Project Lead

Third party

Mitigation

No

CSS Community Acres

14

If this is a formal restoration plan, please provide the name:

Bommer Canyon Habitat Restoration Plan

Coordination with NCC

Yes

Start Date

2018-08-20

Anticipated End Date

2027-06-30

Performance Monitoring

Yes

Data Archived in GIS Database

Yes

Data Manager

Yi-Chin Fang

VI. Invasive Species Control**A. Plants**

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

Yes

a. Were the results of the invasive plant control efforts for the property conducted by the land owner/manager or their contractor reported to CalFlora?

Yes, completely

B. Beetles**1. Were active surveys conducted on the property for invasive beetles?**

Yes

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

Invasive shothole borer is known to occur in the City of Irvine Open Space Reserve, so surveys are conducted

annually to determine if management is needed.

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

Yes

i. If yes, identify the species:

ISHB

ii. Please complete the table limiting your responses to species occurrences or upload a attachment outlining the specifics below:

Infested Tree Species	Invasive Beetle Name	Infested Geographic Area of the Property	# of Infested Trees
Arroyo Willow	ISHB	Bommer Canyon	13
Arroyo Willow	ISHB	Shady Canyon	1
Black Willow	ISHB	Bommer Canyon	2
Sycamore	ISHB	Bommer Canyon	10
Sycamore	ISHB	Shady Canyon	7

iii. Did active management for invasive beetles occur on the property?

No

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

All infested trees that were surveyed are of low-to-moderate severity without dieback, so no management action was recommended.

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

No

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

Yes

Research (ongoing or new)?

Yes

If yes, please enter additional details regarding the research pertaining to resources addressed by NCCP/HCP:

Trail condition monitoring is being revised to capture larger trail segments and to incorporate drone imagery to provide more information. There is ongoing long-term vegetation monitoring as well as monitoring and research related to invasive tree pests and western pond turtle.

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

Yes

What is the nature of the anticipated construction or maintenance project? (Check all that apply)

- Trails

Location where above work is proposed to take place? (GPS approximate center of project location and record below):

Fox Run trail-tread hardening: The existing Fox Run Trail will receive localized tread-hardening at various locations within the lower 900 lineal feet of the trail. The trail hardening will consist of rock armoring utilizing industry standard methods with local sourced rocks and boulders currently located within the existing trail-tread. Boulders will be re-positioned and buttressed as needed to create a more sustainable tread surface for trail users.

Approximate coordinates: 33.626545, -117.780663 through 33.625054, -117.780469 Quail Hill Loop Trail control fencing: Additional wood post & cable fencing (approximately 1,000 lineal feet) will be incorporated into the northern segment of the trail. Fencing will be implemented to match existing fence units and located at the trail's edge to delineate the trail from the adjacent habitat areas. Approximate coordinates: 33.657730, -117.792424 through 33.660543, -117.790460

Impact Size

None

Habitat Type

No habitat impacts

Identify any project lead(s) (i.e., utility, government department):

Adam Maywhort Director
Planning & Infrastructure Irvine Ranch Conservancy

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

No

Non-mitigation habitat restoration initiated?

No

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

IRC will continue to monitor and treat priority invasive plants and report the results in Calflora.

Invasive beetle control actions to be undertaken by land owner or contractor?

Yes

Please explain the invasive beetle control actions to be undertaken by land owner or contractor.

IRC will continue to monitor ISHB in Bommer Canyon and Shady Canyon and recommend action as needed.

Other invasive species (please describe):

Invasive amphibians crayfish are monitored as part of annual western pond turtle population assessments.

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

No

Land Manager Name

Irvine Ranch Conservancy

Reporting Year

2021

Park, open space or management unit

Newport Beach

Website

<https://letsgooutside.org>

Land owning entity:

City of Newport Beach

Land managing entity if different from above:

Irvine Ranch Conservancy

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

The Buck Gully trail received approximately 66,529 visitors in 2021 based on trail counter data and participation in guided activities.

Regular annual inspections were conducted to assess erosion and vegetation encroachment within the designated trail system. Routine post-winter trail repairs were performed, and regular quarterly vegetation trimming was performed. Planned maintenance for 2022 will include additional trail-tread hardening at the eastern portion of the Buck Gully Trail.

In 2021, planting and maintenance activities were performed to restore the illegal trail cut that occurred in 2019. Site preparation continued on a 1.5-acre restoration and was initiated at a new 1.4-acre site.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

Open Access (see website above)

b. Is there an official written policy governing property closure conditions and procedures?

Yes

Description of closure conditions and procedures.

Cancellation of public activities and temporary closure of access to trails and roads will occur consistent with the applicable RRMPs, NCCP terms and conditions, and other deed restrictions and in connection with significant events, including but not limited to: National Weather Service Red Flag Warnings (or other high wind/high fire-risk periods); active fire; wet or muddy conditions; earthquake; damage due to inappropriate or unauthorized use; or any other event deemed a threat to the Buck Gully Reserve or public safety.

IRC will be responsible for monitoring conditions in the Buck Gully Reserve, facilities, and trails, and will use its best judgment, experience, and knowledge of Best Management Practices to determine when the Reserve or parts of the Reserve should be temporarily closed (including consideration of whether adjacent open space areas are closed or open). The Conservancy will immediately inform the designated City staff, and the Park Patrol via email or text message of the need to temporarily close and re-opening certain areas. The City Public Safety Department and Park Patrol may also initiate closure of the Buck Gully Reserve or facilities for police investigations; search and rescue, and other special events related to public safety.

The City's responsibilities regarding temporary closure and re-opening of trails and/or facilities includes deploying City staff to close or re-open the trailheads, placing/removing temporary closure barriers at trail entrances located at 5th and Poppy Avenues, along San Joaquin Hills Road and any other mutually agreed upon access locations, and assisting the Conservancy in executing the temporary closure when needed and requested. The Conservancy will supply temporary closure signs/barriers to be used by Park Patrol staff during temporary closures. Public programs led by the Conservancy that are cancelled due to trail conditions will have a cancellation notice posted with the activity on the website (see Communications Section for discussion of the website) and also emailed to all registered participants. The City will enforce terms and conditions of each temporary closure through its Park Patrol and Public Safety personnel.

ii. Has the policy been officially modified since the previous year's annual report?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
1/1/2021	Rainstorm(s) wet and muddy conditions	4	Full
01/01/2021	COVID-19 Public Program Closure	95	Full
01/23/2021	Rainstorm(s) wet and muddy conditions	6	Full
01/29/2021	Rainstorm(s) wet and muddy conditions	11	Full
03/03/2021	Rainstorm(s) wet and muddy conditions	7	Full
03/10/2021	Rainstorm(s) wet and muddy conditions	5	Full
03/15/2021	Rainstorm(s) wet and muddy conditions	5	Full
10/25/2021	Rainstorm(s) wet and muddy conditions	8	Full
12/14/2021	Rainstorm(s) wet and muddy conditions	9	Full
12/23/2021	Rainstorm(s) wet and muddy conditions	9	Full

d. Is there an official written policy governing special events use of the property?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Recreation and Senior Services Director	1	1
Recreation Supervisor	1	.9
Park Patrol Ranger	1	.25

3. Property Supervisor Contact Information

Name	Title	Email	Phone
Laura Detweiler	Recreation and Senior Services Director	ldetweiler@newportbeachca.gov	949-644-3148

B. Visitation

a. Total number of public visitors to the property based on land owner's estimate:

66520

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

Trail counter data indicated there were 66,025 visitors in addition to 495 participants in Irvine Ranch Conservancy (IRC) volunteer-led activities (see below).

IRC manages the website www.LetsGoOutside.org, which promotes public access activities in the Buck Gully Reserve and Irvine Ranch Natural Landmarks, manages public activity registration, manages volunteer assignments, obtains public participant feedback, and creates automated reporting functions for activities. The registration system that IRC maintains on behalf of the City allows the public to easily find and sign up for offered activities online. Once an individual completes registration for an activity, they receive an automated confirmation e-mail with a map to the location and additional instructions specific to the program they have signed up for (clothing, trail conditions, etc.). The registered individual's information is also auto-populated into a Release of Liability Waiver that the volunteer or staff member leading the activity can print in advance of the activity. The pre-printed document is used both as the sign-in sheet and the Release of Liability Waiver, streamlining the sign-in process and allowing minimal time before the event can depart. Information is collected and utilized in accordance with the City of Newport Beach Personal Information Privacy Act.

After the activity, the activity leader returns to the website to fill out an online post-activity report form. This form confirms each participant's attendance in the database. Website functionality includes activity reports that are used to provide quarterly attendance reports, volunteer service hours, numbers of volunteers, number of activities, and other information to the City as well as for NCCP reporting. Guided activity visitor numbers are reported to the landowner on a quarterly basis.

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

2021 66,520

2020 53,560

2019 38,581

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

No. Presence of e-bike users on the one-way trail system was noted in 2020.

e. Were there any special events held for which special use permits were issued for the property?

No

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
08/26/2021	Illegal trail	Coastal Sage Scrub	0.05

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

Yes

i. If yes, summarize methodology in the space below and describe the general trend you observed for the property, and identify any specific trails where conditions are found to be degraded and any actions proposed or taken to address the degradation.

Trail width and trailside vegetation quality are measured at fixed points. At each point, photos are taken in each direction of the trail and to either side (4 total). To date, no significant change in trail width has been identified. Additionally, qualitative trail monitoring occurs throughout the year and after any significant rainfall event (>.25").

Trail damage is reported to IRC's Infrastructure team, and issues are addressed as soon as possible. Trails are monitored on a regular basis throughout the year, and maintenance occurs within the limits of the trail-tread on an as-needed basis. Annual preventative maintenance occurs during the months of September and October.

Maintenance includes, but is not limited to, filling rills and ruts and implementing industry-standard natural surface erosion control measures (water bars, grade dips, grade reversals, grade nicks, etc..). Trail armoring continues to be a key maintenance component for the year-round wet conditions due to upslope runoff. Vegetation trimming occurs between August 15th and February 15th and is limited to maintenance of the scheduled trail widths per the approved RRMP. No trails were observed to have excessive erosion that required any maintenance beyond the routine anticipated annual post-winter repairs.

ii. Are notes, photographs or other documentation of the monitoring performed archived?

Yes

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

No

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

No

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

Yes

Project Lead

Third party

Mitigation

Yes

CSS Community Acres

0.5

Coordination with NCC

Yes

Start Date

2020-02-01

Anticipated End Date

2023-06-30

Performance Monitoring

Yes

Data Archived in GIS Database

Yes

Data Manager

Yi-Chin Fang

If this is a formal restoration plan, please provide the name:

Buck Gully Unauthorized Trail Restoration and Maintenance Project

Project Lead

Third party

Mitigation

No

CSS Community Acres

1.5

Coordination with NCC

Yes

Start Date

2020-11-01

Anticipated End Date

2023-06-30

Performance Monitoring

Yes

Data Archived in GIS Database

Yes

Data Manager

Yi-Chin Fang

Project Lead

Third party

Mitigation

No

CSS Community Acres

1.4

Coordination with NCC

Yes

Start Date

2021-01-08

Anticipated End Date

2028-06-30

Performance Monitoring

Yes

Data Archived in GIS Database

Yes

Data Manager

Yi-Chin Fang

VI. Invasive Species Control**A. Plants**

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

Yes

a. Were the results of the invasive plant control efforts for the property conducted by the land owner/manager or their contractor reported to CalFlora?

Yes, completely

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

Yes

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

Invasive shothole borer is known to occur in the Buck Gully Reserve, so surveys are conducted annually to determine if management is needed.

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

Yes

i. If yes, identify the species:

ISHB

ii. Please complete the table limiting your responses to species occurrences or upload a attachment outlining the specifics below:

Infested Tree Species	Invasive Beetle Name	Infested Geographic Area of the Property	# of Infested Trees
Arroyo Willow	ISHB	Buck Gully	11
Red Willow	ISHB	Buck Gully	1
Sycamore	ISHB	Buck Gully	1

iii. Did active management for invasive beetles occur on the property?

No

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

All infested trees that were surveyed are of low-to-moderate severity without dieback, so no management actions were recommended.

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

No

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

Yes

Research (ongoing or new)?

Yes

If yes, please enter additional details regarding the research pertaining to resources addressed by NCCP/HCP:

Trail condition monitoring is being revised to capture larger trail segments and to incorporate drone imagery to provide more information.

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

Yes

What is the nature of the anticipated construction or maintenance project? (Check all that apply)

- Trails

Location where above work is proposed to take place? (GPS approximate center of project location and record below):

Approximately 1,500 lineal feet of the existing trail-tread within the easter portion of the Buck Gully trail located between the coordinates from 33.603010, -117.842368 through 33.603003, -117.845900 Multiple locations with historical occurrences of post-rain excessive dry-out periods will have trail tread-hardening implemented throughout an approximate 1,500 lineal foot area of the eastern section of the Buck Gully Trail. Hardening will include excavation of the existing trail surface followed by a combination of buttressing with rip rap, gravel, C-mix, and or "True-Grid" composite turf mat. The tread-hardening will provide a more suitable all-weather condition with better stability and shorter post-rain dry-out periods.

Impact Size

Approximately .14 acre of natural surface soil. No vegetation impacts.

Habitat Type

N/A

Identify any project lead(s) (i.e., utility, government department):

Adam Maywhort Director, Planning & Infrastructure Irvine Ranch Conservancy

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

No

Non-mitigation habitat restoration initiated?

No

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

IRC will continue to monitor and treat priority invasive plants and report the results in Calflora.

Invasive beetle control actions to be undertaken by land owner or contractor?

Yes

Please explain the invasive beetle control actions to be undertaken by land owner or contractor.

IRC will continue to monitor ISHB in Buck Gully and recommend action as needed.

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

No

Land Manager Name

Irvine Ranch Conservancy

Reporting Year

2021

Park, open space or management unit

Irvine Company

Website<https://letsgooutside.org/>**Land owning entity:**

Irvine Company (Irvine Company is the third party in some instances - see below)

Land managing entity if different from above:

Irvine Ranch Conservancy

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

The Irvine Company has continued to comply fully with its resource agency permit conditions through ongoing maintenance, monitoring, and reporting on all of its habitat mitigation sites within the Reserve. It also continues to meet the performance standards as required in each of the mitigation monitoring years. The Company's dedication to habitat restoration, specifically riparian habitat, within the Reserve is evident in the sites becoming fully established habitat for special-status species. No habitat impacts, fuel management, or public access occurred in 2021, and no significant changes or modifications are planned in 2022.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

No Public Access

b. Is there an official written policy governing property closure conditions and procedures?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
N/A			

d. Is there an official written policy governing special events use of the property?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
N/A	N/A	N/A

3. Property Supervisor Contact Information

Name	Title	Email	Phone
Irvine Ranch Conservancy		4727 Portola Parkway Irvine CA 92620	714-508-4757

B. Visitation

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

N/A

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

N/A

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

None

e. Were there any special events held for which special use permits were issued for the property?

No

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
N/A			

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

N/A

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

No

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

No

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

Yes

Project Lead

Land owner

Provide project name and/or permit number if the project is on behalf of an agency other than the land owner.

The Irvine Co. is both the land owner and third party.

Mitigation

Yes

Riparian Community Acres

7.38

If this is a formal restoration plan, please provide the name:

Planning Area 1 Habitat Mitigation and Monitoring Plan, dated Oct 2015

Coordination with NCC

Yes

Start Date

2015-01-01

Anticipated End Date

2022-12-31

Performance Monitoring

Yes

Data Archived in GIS Database

Yes

Data Manager

Yi-Chin Fang

Project Lead

Third party

Mitigation

Yes

CSS Community Acres

3.21

Riparian Community Acres

1.26

Woodland Community Acres

0.34

If this is a formal restoration plan, please provide the name:

HMMP: OCTA Agua Chinon Subwatershed

Coordination with NCC

Yes

Start Date

2013-01-01

Anticipated End Date

2024-06-30

Performance Monitoring

Yes

Data Archived in GIS Database

Yes

Data Manager

Yi-Chin Fang

VI. Invasive Species Control**A. Plants**

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

Yes

a. Were the results of the invasive plant control efforts for the property conducted by the land owner/manager or their contractor reported to CalFlora?

Partially

i. If no or partially, please complete the table below:

Treatment Methodology	Invasive Plant Name	Habitat(s) Impacted	Area of Treatment (Square Meters)
-----------------------	---------------------	---------------------	-----------------------------------

Other	Invasives were treated as part of the HMMP annual maintenance within the 7.43 acres and not conducted as part of a widespread invasive treatment control plan.		
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B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

No

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

Invasive beetles have not previously been observed, and suitable habitat is limited.

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

No

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

Invasive beetles have not been observed to occur on the property.

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

No

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

No

Research (ongoing or new)?

No

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

Yes

If yes, please fill out the following

Project Name	Habitat Type	Approximate Location	Area (acres)
Ongoing riparian maintenance and monitoring	Riparian	Orchard Hills NH3 & NH4	7.43

Non-mitigation habitat restoration initiated?

No

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

IRC will continue to monitor and treat priority invasive plants and partially report the results in Calflora.

Invasive beetle control actions to be undertaken by land owner or contractor?

No

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

No

Land Manager Name

UC Irvine

Reporting Year

2021

Park, open space or management unit

Ecological Preserve

Website

<https://ecopreserve.ucnrs.org/>

Land owning entity:

University of California Irvine

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

UCI Nature staff, students, and volunteers completed the main implementation phase of defensible space demonstration project and submitted a report titled: Wildfire Safety and Healthy Habitat: UCI Ecological Preserve Defensible Space Demonstration Project. In 2021, seeds from wildland collected native forbs were seeded into subplots within a larger study area of seeded and unseeded, irrigated and unirrigated treatment areas planted with cactus. Species were selected due to their presence elsewhere in the preserve, their low stature, and annual phenology, allowing the ability to mow them late spring/summer to decrease fuel load without negatively impacting their ability to produce seed. Density, growth, and reproduction were monitored among treatments, in addition to plant moisture content of select shrub species and cacti from inland and coastal areas of Orange County.

Restoration stewardship events were held multiple times a month for the defensible space project and the drought net restoration study in 2021. Additionally, a dedicated team of 3-4 volunteers began to patrol and control invasive species weekly at the preserve in 2020-2021. Sea and Sage Audubon conducts monthly bird surveys and data from set routes is entered into ebird. UCI Nature is also working with volunteers to maintain a camera trap at the culvert at the base of Research Park drainage leading to the Bonita Canyon corridor.

White-tailed kites have nested over the years in the eucalyptus along the border of the preserve. Numbers of kite observations and nesting kites have declined considerably in the county based on monitoring records over the past 20 years or so. In 2021 UCI Nature implemented a monitoring program with 3 volunteers to track their activity with respect to hunting and nesting within a grid system superimposed on the preserve to track the locations of their behavior. Staff are working with University administrators in Physical and Environmental Planning to fund a study on White-tailed Kites in an effort to summarize and document this pattern and investigate their foraging and nesting preferences with detailed observations and radio transmitters.

UCI Nature began planning for a restoration project on the San Joaquin Landfill, which is owned by the University of California and enrolled in the NROC. This project will be implemented in 5 acre increments. UCI Nature staff have also participated in the Seed Cooperative, which is helpful for UCI in efforts to acquire native seed for the project that better represents the diversity of native flora and is appropriately sourced from local populations.

II. Use Policies, Monitoring and Management

A. Use Policies, Procedures and Oversight

1. Use Policies and Procedures

a. Public Access Description for the Property

Open Access (see website above)

b. Is there an official written policy governing property closure conditions and procedures?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
1/01/21	none	0	0

d. Is there an official written policy governing special events use of the property?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Executive Director	1	.25

3. Property Supervisor Contact Information

Name	Title	Email	Phone
Megan Lulow	Executive Director	mlulow@uci.edu	949-500-8754

B. Visitation

a. Total number of public visitors to the property based on land owner's estimate:

35000

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

Rough estimation based on asking a handful of frequent resident users and staff observations. Estimates were broken down by week day use and weekend use and then summed.

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future

annual reports is to have estimates for three consecutive years to document visitation trends.

2019- 26,700

2020- 39,000

2021- 35,000

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

No.

e. Were there any special events held for which special use permits were issued for the property?

No

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
1/01/2021	none	none	0

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

No

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

No

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

No

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

No

VI. Invasive Species Control

A. Plants

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

Yes

a. Were the results of the invasive plant control efforts for the property conducted by the land owner/manager or their contractor reported to CalFlora?

Yes, completely

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

No

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

The trees infested with beetles are in three areas of NCCP owned by UCI: 1) a riparian gully dominated by eucalyptus in the Ecological Preserve, 2) a riparian area of Research Park west of the Ecological Preserve and along the 73 where the wildlife culvert occurs (included within attachment of 2017 survey), and the other is along San Diego Creek adjacent to the UCI San Joaquin Marsh and San Joaquin Landfill. Surveys were conducted in 2017 marking uninfested and lightly infested trees in the Research Park area, and observed, but not surveyed in the other two areas. Another survey would be helpful to identify change of status in previously uninfested or lightly infested trees and for the other unsurveyed areas, but we are short on staff time to do this.

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

Yes

i. If yes, identify the species:

ISHB

ii. Please complete the table limiting your responses to species occurrences or upload a attachment outlining the specifics below:

Infested Tree Species	Invasive Beetle Name	Infested Geographic Area of the Property	# of Infested Trees
sycamore	PSHB	see attachment	data on uninfested or lightly infested trees in search area, others were infested

iii. Did active management for invasive beetles occur on the property?

No

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

Attached is a summary of a survey conducted among UCI riparian areas, one of which is within the NCCP. Since then, infested trees have been observed in two other areas owned by UCI within the NCCP. We had engaged with Akif for treatment options, but have had insufficient funds to implement them. Another survey would be good to conduct at this time prior to treatment.

Optional: upload a concise attachment regarding species occurrences, invasive beetle names, infested area and number of infested trees and actions taken or justify why no such actions were taken:

[Site-aerials-cover-estimate-raw-data-28.sep2017.pdf](#)

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

Yes

Fuel Management Map

[Final-Report-Fuel-Modification-Zones.pdf](#)

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

No

Research (ongoing or new)?

Yes

If yes, please enter additional details regarding the research pertaining to resources addressed by NCCP/HCP:

1. Staff with UCI Nature and the Center for Environmental Biology continued monitoring planted cacti, and in 2021 added plots seeded with native annuals as part of the Fire Safety and Healthy Habitats Project. A report was submitted to NCC staff and is attached in the fuels modification section. Some areas were irrigated and others were not. Irrigation was initiated fall 2020 and follows the historic monthly average based on precipitation records up to 2000. Water is supplemented to this level based on ambient rains. Six species of native annual wildflowers that were known to occur on the preserve were seeded into twelve test plots- *Phacelia cicutaria*, *Cryptantha intermedia*, *Eucrypta chrysanthemifolia*, *Uropappus lindleyi*, *Daucus pusillus* *Psuedognaphalium californica*, and *Deinandra fasciculata*. These species germinated again in December 2021, in what appears to be even greater numbers than their first season January-May 2021. Sections that were irrigated had greater plant growth, but not density of seeded species, but they also took more time to control weeds. Both *O. littoralis* and *C. prolifera* had excellent survivorship rates despite 2020-2021 being a significant drought year. *O. littoralis* was sampled for moisture content in inland and coastal areas and was found to be an excellent candidate to utilize as vegetation cover in fuel

modification/defensible

space zones. Compared to other common native shrubs that were measured, they had up to three times the water content and held on to the moisture in their tissues longer into the dry season. Among the native shrubs measured, *Encelia californica* had the highest moisture content and responded to irrigation, whereas *Artemisia californica* and *Salvia mellifera* did not respond to the irrigation treatment.

2. Research and maintenance continued in the Drought Net restoration study in the Ecological Preserve in 2021. Subplots were seeded with select species and a root:shoot growth study was conducted in the greenhouse with *Stipa pulchra* seed collected from coastal and inland areas. There were differences in growth from coastal and inland areas, but it was variable among species and traits. Timing of irrigation follows monthly historic averages up to the year 2000, similar to the Fire Safety and Healthy Habitats irrigation schedule. Replacement shrubs were planted in January 2021 to supplement shrubs that died from the fungal die-back in 2020.

3. A kite monitoring study was initiated superimposing a grid over the preserve to track kite locations and better understand habitat preferences of the kites. Volunteers are working with staff to collect data. In 2022 this survey will be continued and expanded to other grassland areas on UCI property. Blocks of mowed and unmowed grassland will be compared to help determine if shorter statured grassland is preferred over senescent grassland with mustard stalks.

4. Dr. Kailen Mooney's common garden study of *Artemisia californica* populations continued in 2021 and will continue into 2022.

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

Yes

What is the nature of the anticipated construction or maintenance project? (Check all that apply)

- Other

Location where above work is proposed to take place? (GPS approximate center of project location and record below):

33degree38'28.45" 117degrees50'35.55"

Impact Size

10'x6'

Habitat Type

annual grassland

Identify any project lead(s) (i.e., utility, government department):

UCI Nature, Megan Lulow

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

No

Non-mitigation habitat restoration initiated?

Yes

If yes, please fill out the following

Project Name	Habitat Type	Approximate Location	Area (acres)
Landfill Restoration	Ruderal	San Joaquin Landfill	5

Additional Information:

UCI Nature along with the Office of Physical and Environmental Planning are planning a restoration project of the San Joaquin Landfill in 5 acres increments. In 2022, we will be completing a conceptual plan and sharing and getting feedback back from partners, including OCWR. We may start with some non-native invasive control in the first 5 acre section during the planning phase to get a head start on the weeds.

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

The Preserve will be included in NCC's early detection program. We will also continue surveying and control of select invasive non-native species with the help of volunteers. This effort is focused on the Preserve more so than other NROC areas on University property

Invasive beetle control actions to be undertaken by land owner or contractor?

No

Other invasive species (please describe):

We hope to work with students to conduct monitoring of our 2017 ISHB tagged trees.

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

Yes

Please explain the maintenance of existing fuel management to be undertaken within the reserve.

We will continue to maintain and monitor the wildfire safety and healthy habitats demonstration project. We hope to expand it with more funding and during a year conducive to seeding a planting. We would add seed we have already collected in previous years of the project.

Land Manager Name

Irvine Ranch Water Dist

Reporting Year

2021

Park, open space or management unit

San Joaquin Reservoir

Website

<http://www.irwd.com>

Land owning entity:

Irvine Ranch Water District

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

There were no major management efforts completed this year.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

No Public Access

b. Is there an official written policy governing property closure conditions and procedures?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
01/01/2020	Private Property		

d. Is there an official written policy governing special events use of the property?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Natural Resources Manager	1	

3. Property Supervisor Contact Information

Name	Title	Email	Phone
Ian Swift	Natural Resources Manager	swift@irwd.com	(949)433-5837

B. Visitation

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

There is no public visitation

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

There is no public visitation

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

There is no public visitation

e. Were there any special events held for which special use permits were issued for the property?

No

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
01/01/2020	No Impacts noted		

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

N/A

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

No

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

No

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

No

VI. Invasive Species Control

A. Plants

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

No

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

No

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

No surveys were conducted based on type/usage of site.

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

No

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

No beetles have been surveyed at site.

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

No

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

No

Research (ongoing or new)?

No

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

No

Non-mitigation habitat restoration initiated?

No

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

No

Invasive beetle control actions to be undertaken by land owner or contractor?

No

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

No

Land Manager Name

Irvine Ranch Water Dist

Reporting Year

2021

Park, open space or management unit

Syphon Reservoir Preserve

Website

<https://www.irwd.com>

Land owning entity:

Irvine Ranch Water District

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

No new management practices have occurred this year.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

No Public Access

b. Is there an official written policy governing property closure conditions and procedures?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
01/01/2020	Not open for public		

d. Is there an official written policy governing special events use of the property?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Natural Resources Manager	1	

3. Property Supervisor Contact Information

Name	Title	Email	Phone
Ian Swift	Natural Resources Manager	swift@irwd.com	(949)433-5837

B. Visitation

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

No visitors are allowed at this location.

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

Total visitors is same as last year.

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

No.

e. Were there any special events held for which special use permits were issued for the property?

No

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
	No impact		

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

N/A

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

No

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

No

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

No

VI. Invasive Species Control

A. Plants

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

No

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

No

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

No surveys were conducted due to the type of premises.

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

No

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

No surveys deemed necessary due to type of premises.

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

No

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

No

Research (ongoing or new)?

No

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

No

Non-mitigation habitat restoration initiated?

No

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

No

Invasive beetle control actions to be undertaken by land owner or contractor?

No

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

No

Land Manager Name

Transportation Corridor Agencies

Reporting Year

2021

Park, open space or management unit

Bonita Creek

Website

<https://www.thetollroads.com>

Land owning entity:

Transportation Corridor Agencies

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

Bonita Creek Channel work plan for 2022 includes: as needed exotic species and trash removal, maintenance/modifications of the Austin Sand Filter at Bison Avenue, and minimal maintenance along the maintenance path.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

Open Access (see website above)

b. Is there an official written policy governing property closure conditions and procedures?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
10/11/2021	Site was closed during the Caltrans MacArthur Project.	Unknown	Full Closure

d. Is there an official written policy governing special events use of the property?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
Chief Engineer and Environmental Planning Officer	1	Yes
Manager, Environmental Planning	1	Yes
Environmental Analyst	1	Yes

3. Property Supervisor Contact Information

Name	Title	Email	Phone
David Speirs	Chief Engineer and Environmental Planning Officer	dspeirs@thetollroads.com	949-754-3488
Doug Feremenga	Manager, Environmental Planning	dferemenga@thetollroads.com	949-754-3496
Virginia Gomez	Environmental Analyst	vgomez@thetollroads.com	949-754-3487

B. Visitation

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

N/A

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

N/A

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

N/A

e. Were there any special events held for which special use permits were issued for the property?

No

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
N/A			

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

Yes

i. If yes, summarize methodology in the space below and describe the general trend you observed for the property, and identify any specific trails where conditions are found to be degraded and any actions proposed or taken to address the degradation.

Staff does quarterly monitoring of the path. Staff observations note only as needed maintenance along the path. Some trimming of overgrown vegetation along the path is done, as necessary, to ensure a clear path for users.

ii. Are notes, photographs or other documentation of the monitoring performed archived?

Yes

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

No

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

No

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

No

VI. Invasive Species Control

A. Plants

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

No

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

No

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

While no active surveys were completed, staff conducts visual inspections during routine monitoring activities of the site and is not aware of any beetle infestation in the area.

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

No

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

N/A

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

No

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

No

Research (ongoing or new)?

No

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

No

Non-mitigation habitat restoration initiated?

No

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

Exotic species removal of eucalyptus saplings and pampas grass seedlings performed if needed.

Invasive beetle control actions to be undertaken by land owner or contractor?

No

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

No

Land Manager Name

Transportation Corridor Agencies

Reporting Year

2021

Park, open space or management unit

Coyote Canyon

Website

<https://www.thetollroads.com>

Land owning entity:

County of Orange

Land managing entity if different from above:

Transportation Corridor Agencies

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

Coyote Canyon had no maintenance activities in 2021, and no plans for maintenance activities in 2022. A guided tour for the IBTTA International Conference mobile workshop was conducted on October 10, 2021 in coordination with the County of Orange.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

No Public Access

b. Is there an official written policy governing property closure conditions and procedures?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
N/A			

d. Is there an official written policy governing special events use of the property?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
N/A		

3. Property Supervisor Contact Information

Name	Title	Email	Phone
David Speirs	Chief Engineer and Environmental Planning Officer	dspeirs@thetollroads.com	949-754-3488
Doug Feremenga	Manager, Environmental Planning	dferemenga@thetollroads.com	949-754-3496
Virginia Gomez	Environmental Analyst	vgomez@thetollroads.com	949-754-3487

B. Visitation

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

N/A

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

N/A

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

N/A

e. Were there any special events held for which special use permits were issued for the property?

No

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
	N/A		

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

N/A

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

No

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

No

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

No

VI. Invasive Species Control

A. Plants

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

No

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

No

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

N/A. The habitat isn't expected to support beetles.

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

No

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

N/A

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

No

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

No

Research (ongoing or new)?

No

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

No

Non-mitigation habitat restoration initiated?

No

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

No

Invasive beetle control actions to be undertaken by land owner or contractor?

No

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

No

Land Manager Name

SW Resource Mgt Assoc

Reporting Year

2021

Park, open space or management unit

Portola South

Land owning entity:

Southwest Resource Management Association

I. Executive Summary

Provide a brief summary of the highlights relating to habitat impacts, restoration, fuel management and public access, as well as significant changes or modifications planned next year.

SRMA has been conducting access control for mountain bikes, installed numerous "no access" signs on bike trails, performed weed control on 4 acres of the property and will be restoring a 4.10 acre area on the south side of the property into CSS and chaparral plant communities. Temporary irrigation will be installed to overhead water both container plants and seed beginning late winter of 2022, pending approval of the SRMA board and connection to IRWD temporary water supply. No fuel management or other activity is required on the property and no public access is allowed, although the Edison walking trail dissects the parcel and has been a management issue for SRMA. No other changes in land management are planned.

II. Use Policies, Monitoring and Management**A. Use Policies, Procedures and Oversight****1. Use Policies and Procedures****a. Public Access Description for the Property**

No Public Access

b. Is there an official written policy governing property closure conditions and procedures?

No

c. In the table provided below please identify the number of times the property was closed and the circumstances

Date of Closure	Reason for Closure	Duration of Closure (Days)	Full or Partial Closure
All year	Habitat damage	365	Full

d. Is there an official written policy governing special events use of the property?

No

2. Oversight: Property Dedicated Staffing by Position

Position Title	Number of Positions	FTE
SRMA Ranger	1	part time

3. Property Supervisor Contact Information

Name	Title	Email	Phone
Kerwin Russell	Field Supervisor	krussell@srma-ca.org	9095534349

B. Visitation

a. Total number of public visitors to the property based on land owner's estimate:

100

b. What method(s) is/are used to estimate visitation? Summarize in the box below.

None. Site is not open to public, although walk-through does occur, but is not promoted.

c. Compare the estimated number of total visitors this year to the past two years in the space provided below. If estimates for previous years do not exist for the property, please know the goal in future annual reports is to have estimates for three consecutive years to document visitation trends.

Same

d. Were there new types of park users or uses observed over the past year (e.g., geocaching, use of drones, ebikes, etc.) that could warrant a management response or need for development of a new visitor policy? Please list new users and/or uses below.

Yes, but not allowed/promoted. Ebikes. Additional fences and signs are being installed to reduce impacts from this activity.

e. Were there any special events held for which special use permits were issued for the property?

No

f. In the table provided below, please identify any documented impacts to habitat from unauthorized property uses.

Date of Observation	Description of Impact	Habitat Type	Estimated Acres
Numerous	Trail and plant damage/erosion	CSS	1.5

C. Monitoring Performed by Land Owner or Land Manager

a. Does land owner or its land managing representative monitor trail conditions annually?

Yes

i. If yes, summarize methodology in the space below and describe the general trend you observed for the property, and identify any specific trails where conditions are found to be degraded and any actions proposed or taken to address the degradation.

Off road trails are not provided. Any old trails are decommissioned and any new trails are removed through blocking with brush, fencing and signage.

ii. Are notes, photographs or other documentation of the monitoring performed archived?

Yes

III. Recreation Facility Construction and Maintenance

Did any recreational facility construction or maintenance occur or do such facilities occur on the property?

No

IV. Infrastructure Facility Construction and Maintenance

Did any infrastructural facility construction or maintenance occur or do such facilities occur on the property?

No

V. Habitat Restoration and Enhancement

Did any habitat restoration or enhancement occur on the property?

Yes

Project Lead

Land owner

Provide project name and/or permit number if the project is on behalf of an agency other than the land owner.

Trumark Habitat Restoration Project for CDFW and USFWS

Mitigation

Yes

CSS Community Acres

4.12

If this is a formal restoration plan, please provide the name:

Trumark

Coordination with NCC

No

Start Date

2022-03-01

Anticipated End Date

2026-12-30

Performance Monitoring

Yes

Data Archived in GIS Database

Yes

Data Manager

Jose Iniguez / Shani Pynn

VI. Invasive Species Control

A. Plants

NCC Contractor Results will be summarized based on Cal Flora records.

1. Did the land owner/manager or their staff, volunteers or contractor treat invasive plant species on the property?

Yes

a. Were the results of the invasive plant control efforts for the property conducted by the land owner/manager or their contractor reported to CalFlora?

No, not at all

i. If no or partially, please complete the table below:

Treatment Methodology	Invasive Plant Name	Habitat(s) Impacted	Area of Treatment (Square Meters)
Mechanical	Black Mustard	CSS	90,000

B. Beetles

1. Were active surveys conducted on the property for invasive beetles?

No

Please explain why or why weren't active surveys conducted on the property for invasive beetles.

Lack of funding and time

2. Were any invasive beetle occurrences discovered prior to or during the reporting year on this property?

No

Provide a brief summary or explanation regarding species occurrences and justify the actions or lack of actions taken in the space provided and/or upload a specific attachment below:

See above

VII. Fire Management Activities

Fire incident reports to be completed by NCC and summarized in Section 4.1 of this annual report.

A. Fuel Management

Did any fuel management projects occur on the property?

No

VIII. Work Plan

Proposed Work Plan for Use, Monitoring and Management

Property closure policy: new or amended?

No

Property special use policy: new or amended?

No

GDP and/or Master Plan: new or amended?

No

Change in methodology for estimating property visitor use?

No

Implement new or continue protocols for monitoring changes in trail conditions and/or reporting?

Yes

Research (ongoing or new)?

Yes

If yes, please enter additional details regarding the research pertaining to resources addressed by NCCP/HCP:

Rare plants and insects surveys conducted by NCC partner or research group.

Recreational Facility Construction and Maintenance (As defined in Section III)

Recreation facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Infrastructure Facility Construction and Maintenance (As defined in Section IV)

Infrastructure facility construction or maintenance with anticipated temporary or permanent habitat impacts?

No

Habitat Restoration and Enhancement (For only projects 0.25 acres or more)

Mitigation habitat restoration to be initiated?

Yes

If yes, please fill out the following

Project Name	Habitat Type	Approximate Location	Area (acres)
Trumark	CSS	South portion	4.12

Non-mitigation habitat restoration initiated?

No

Additional Information:

Weeding and trail exclusion

Invasive Species Control

Invasive plant control actions to be undertaken by land owner (not NCC)?

Yes

Please explain the invasive plant control actions to be undertaken by land owner (not NCC).

Control of wood species (arundo, castor bean, tree tobacco) and some herbaceous plants such as mustard, tocalote and tumbleweed.

Invasive beetle control actions to be undertaken by land owner or contractor?

No

Fuel Management Activities

Installation of new fuel management to be undertaken within the reserve?

No

Maintenance of existing fuel management to be undertaken within the reserve?

No