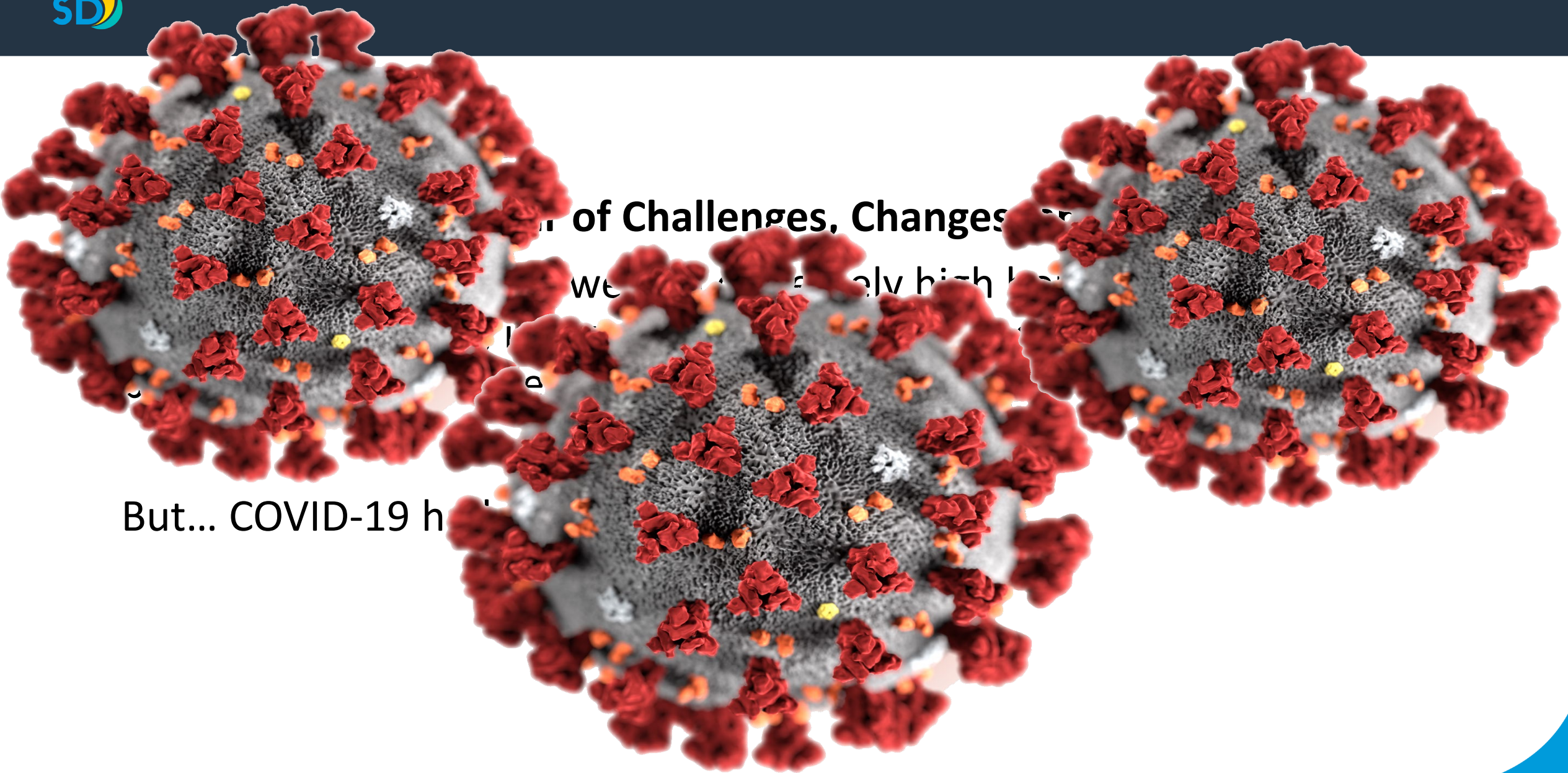


# 2020 SDMMMP End-of-Year Meeting

## Digital Data Collection Design, Implementation, and Results

**Your Spare Bedroom, Kitchen Table, or Couch**  
**December, 9<sup>th</sup> 2020**





of Challenges, Changes

we have a very high level

But... COVID-19 has

# City of San Diego

## Open Space Division: Preserves and Parks

### • Quick Facts:

#### • Ten Ranger Districts

(Black Mountain, Los Penasquitos, Tri-Canyons, San Diego River, Chollas Creek, Mission Trails, Canyons, Otay Valley, Mission Bay, Balboa Park)

#### • Over 28,000 acres of land

#### • 85 Species of Plants and Animals Listed in our MSCP


#### • Millions of Visitors Each Year



## The Five W's of The Open Space Digital Data Collection Effort Explained....

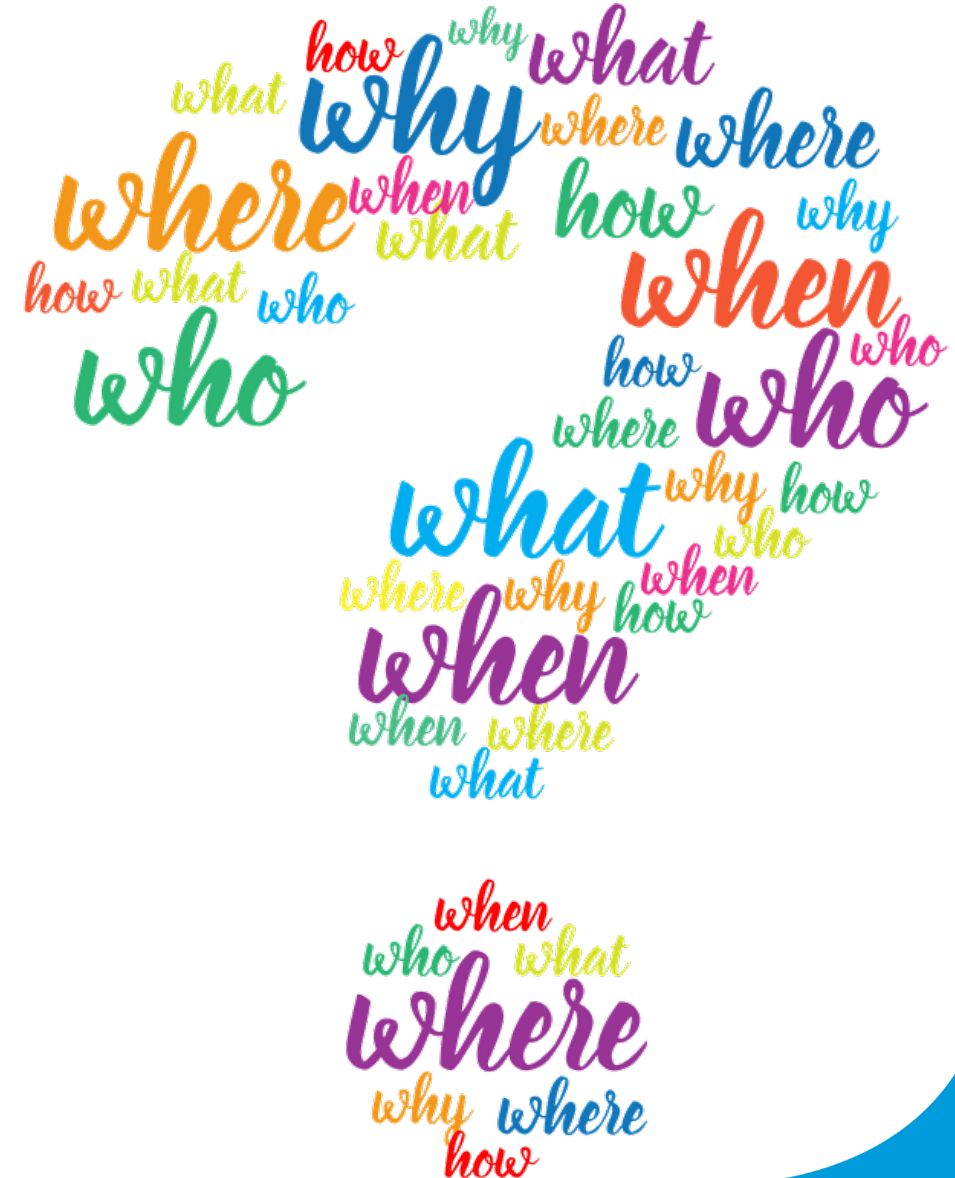
 **Who:** Biologists, Park Rangers, Grounds Maintenance Managers

 **What:** ESRI Programs: Survey 123, Collector, ArcGIS Online

 **When:** Implemented in 2018 for MSCP Rare Plant Monitoring, and rolled out in early 2019 for Ranger staff on a limited basis, March 2020 program was rolled out with City-Wide Ranger Training Academy

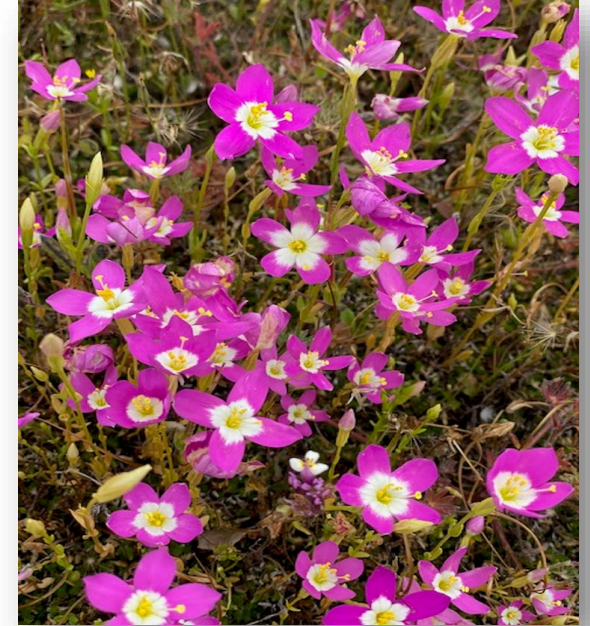
 **Where:** Currently this tool has been used in all of our Open Space parks and preserves

 **Why?...**



# Why?

- Easy to design , develop, and use
- No more paper forms to lose
- Instantly available to land managers and rangers
- Eliminates time and mistakes in transcription, and presentation
- Visually impactful
- Universal smartphone compatibility
- The entire SANDAG GIS Data Catalog in your hand









# Design: if you can work in MS Excel you can design your own survey

Management Actions - Jessie Version - Excel

Table Tools

Berninger, Mark

File Home Insert Draw Page Layout Formulas Data Review View Help Acrobat Design Search

Share Comments

D15 (view map to specify location)

	A	B	C	D	E	F	G
	type	name	label	hint	constraint	constraint_message	required
1	dateTime	DateTime	Date & Time				
2	email	email	E-mail:				
3	select_multiple Persons	Persons	Person(s):				
4	text	RangerNum	Ranger #(s):				
5	text	Name_PA	Pesticide Applicator Name(s):				
6	text	Name_GMW	GMW Name(s):				
7	text	Name_GMM	GMM Name(s):				
8	text	Name_Biologist	Biologist Name(s):				
9	text	NameOther	Other Person(s):				
10	integer	Num_mm_actions	How Many Management Actions Were Completed?				
11	begin repeat	Management_action	Management Action Details:	(for each action)			
12	select_one Preserve_name	Preserve_name	Park / Preserve Name:				
13	text	PreserveOther	Other Park / Preserve Name:				
14	geopoint	Location	Location:	(view map to specify location)			
15	select_one Action	Action	Management Action:	(select one)			
16	integer	NumParticipants	Number of People Participating in Interpretive Walk / Event:				
17	select_multiple Enforcement	Enforcement	Enforcement Action(s):				
18	select_multiple DogOffLeash	DogOffLeash	Dog Off Leash Action(s):				
19	select_multiple TransientEncampment	TransientEncampment	Transient Encampment Action(s):				
20	select_multiple IllegalDumping	IllegalDumping	Illegal Dumping Actions(s):				
21	text	fence_length_install	Estimated Length of Fence Installed (feet):				
22	text	fence_length_repair	Estimated Length of Fence Repaired (feet):				
23							

survey choices settings types

Display Settings

100%

Hint  
This will act as extra information that can help to answer the survey question (e.g., Distances should be entered in miles).

06:56

Ranger Survey

Ranger Management District: \*

(select one)

Welcome! Please recognize other City staff associated with this survey form:

(Ranger numbers or employee names. You do not need to include yourself - your name and email is automatically recorded when you submit this form.)

Please list any collaborators that you would like to acknowledge:

(examples: SD Audubon, Scout Troops, San Diego River Park Foundation, etc.)

What would you like to report?

(select all that apply)

☐ Education / Interpretive Event
 ☐ Encampments
 ☐ Enforcement Actions
 ☐ Field Interview
 ☐ Fire Report
 ☐ Illegal Dumping
 ☐ Management Actions
 ☐ Visitor Assistance / Emergency Response

06:26

Ranger Survey

Management Actions

Park / Preserve Name: \*

Canyons - Tecolote Canyon Natural Park

Site Info

Date & Time \*

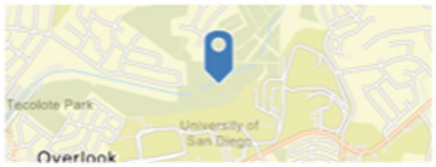
Tuesday, December 1, 2020

9:23 AM

Location: \*

(click on map and drag pin to specific location for action)

32°47'N 117°11'W



Task(s) Completed? \*

☒ Completed
 ☐ Attention Needed

Management Action

(select all management actions needed or completed at this point. Press the + symbol below to add more actions at different locations.)

Fence Install or Repair

06:28

Ranger Survey



☐ Installed new
 ☒ Repaired existing

Estimated Length of Fence (feet):

75

Photo (Optional):

Please limit photos to 1 per action - too many photos can overload the system.


Are these actions vernal pool or sensitive species related?

☒ This action benefits vernal pools.
 ☐ This action benefits sensitive plants and/or wildlife.


Notes:

Replaced old fence post

Select the + sign below to add more management action items to a new location.



1 of 1



All Done!

When you are finished, tap on the check mark in the lower right

06:29

Maps

GPS accuracy 15.9 ft



Management Action: Completed

32.775086°N 117.188654°W

7.9 mi



# Implementation:



**Initial 2018 Version:** *MSCP Rare Plant Monitoring 2018*

**2019 Version:** *MSCP Rare Plant Monitoring 2019*

*Vernal Pool HCP Covered Species Monitoring 2019*

*Ranger Collector 2019*

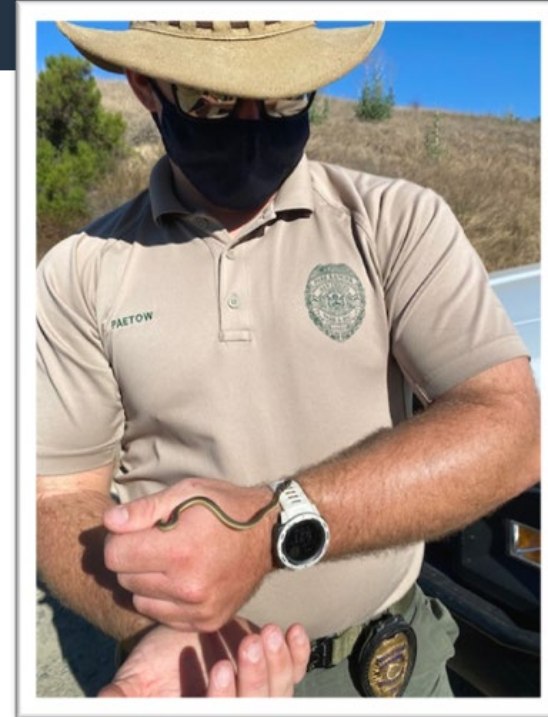
**2020 Version:** *MSCP Rare Plant Monitoring 2020*

*VPHCP Covered Species Monitoring 2020*

*Ranger Survey Collector 2020*

# Implementation:

- Ranger Survey 2020:
- Beta testing group: Enlisting the Help of “Super Users”
- Met with Super Users to enhance and refine the look, feel and functionality of the surveys
- Are we asking the right questions to get the correct answers ?
- Rolled out the Digital Data Collection Program as an optional tool for our rangers in 2020
- Go-Live Day: a two-day Ranger training academy where we went through three scripted scenarios to build familiarity and confidence with the survey and the information it can provide. We trained 29 rangers and grounds maintenance managers.

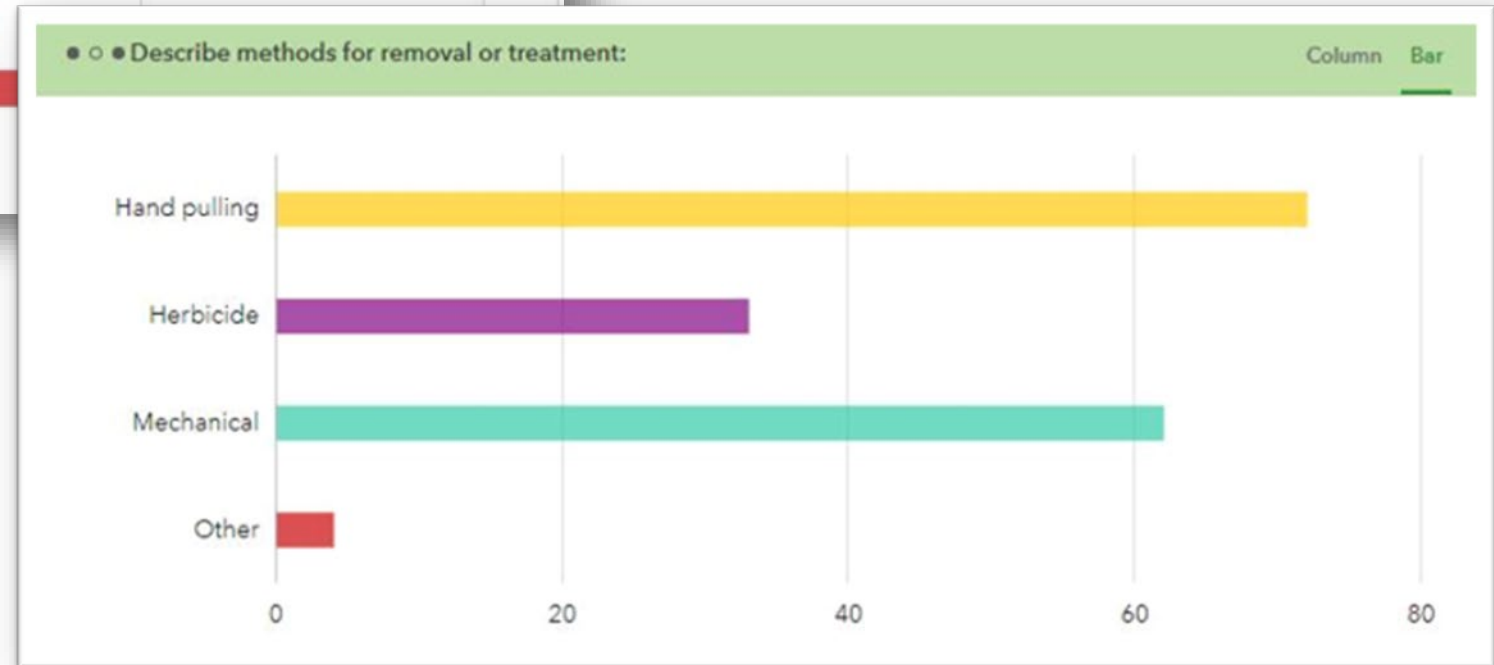




# Results

- Thousands of Individual Entries Quantifying : Volunteer events, Management Actions, Transient Activity, Fires, Etc.
- Ability to sort for specific categories , geographic location, reporter, ranger district
- Instantly Available and instantly recalled years later
- Sharable data and customizable data collection templates for regional conservation monitoring
- Easily Digestible for non-biologists and executives
- Visually Powerful







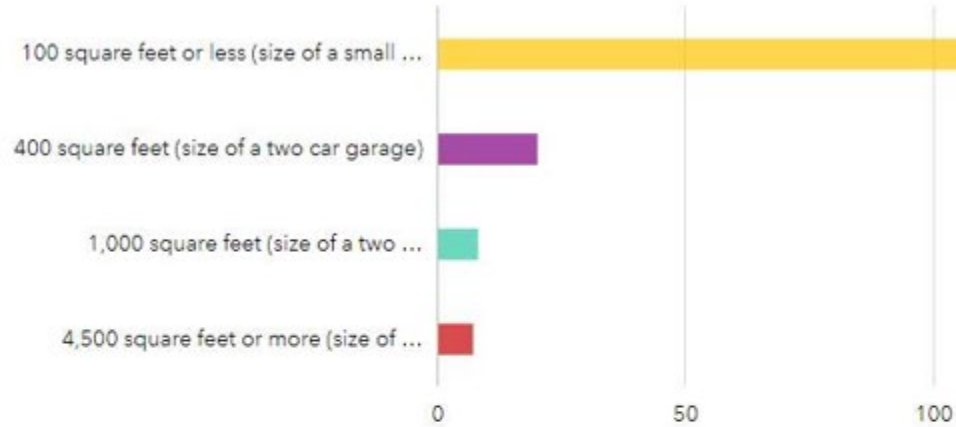
- ○ ● Describe invasive species:

Word cloud



### Approximate Area Disturbed

Column Bar Pie Map



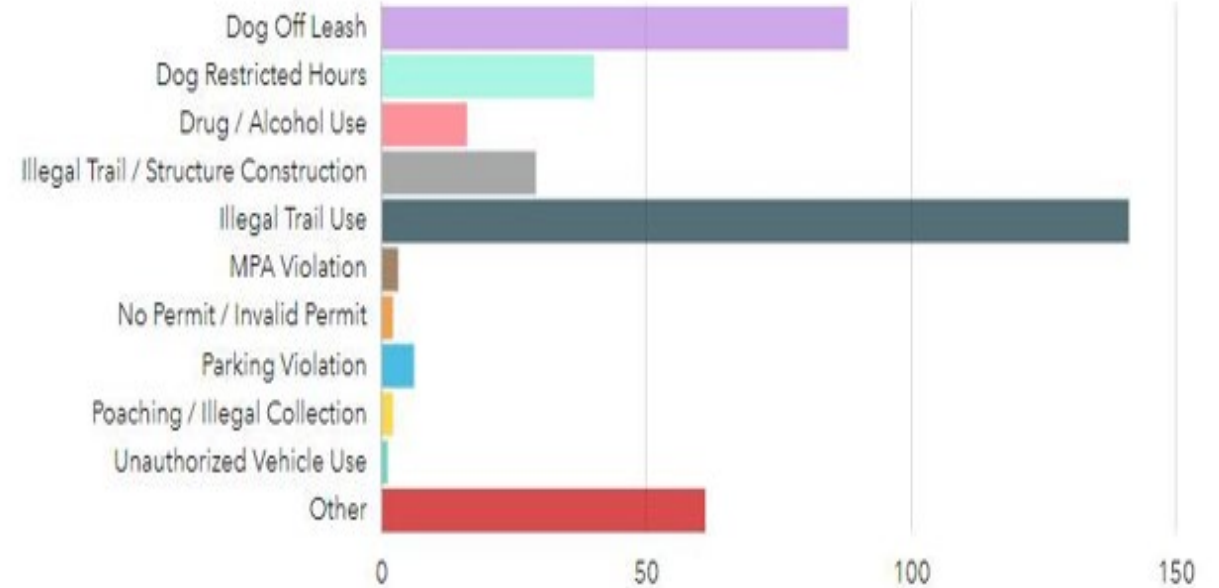
[Hide table](#)

☒ Empty categories

Answers	Count	Percentage
100 square feet or less (size of a small bedroom)	123	77.85%
400 square feet (size of a two car garage)	20	12.66%
1,000 square feet (size of a two bedroom apartment)	8	5.06%
4,500 square feet or more (size of basketball court)	7	4.43%

### Enforcement Type:

Column Bar Pie Map







## # Dogs:

1

## Filter

All

Options Filter by map extent Zoom to Clear selection Refresh



# DRAFT Vernal Pool HCP 2019 Information Dashboard

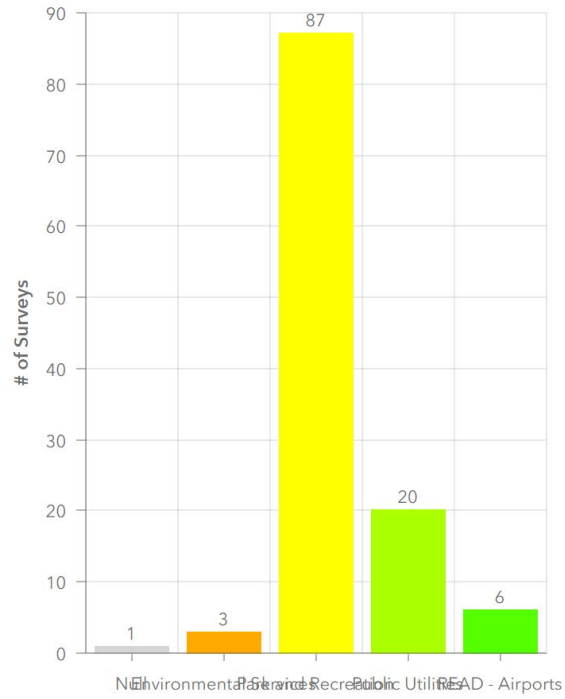
Monitoring and Management Surveys

## Number of Vernal Pools per Site

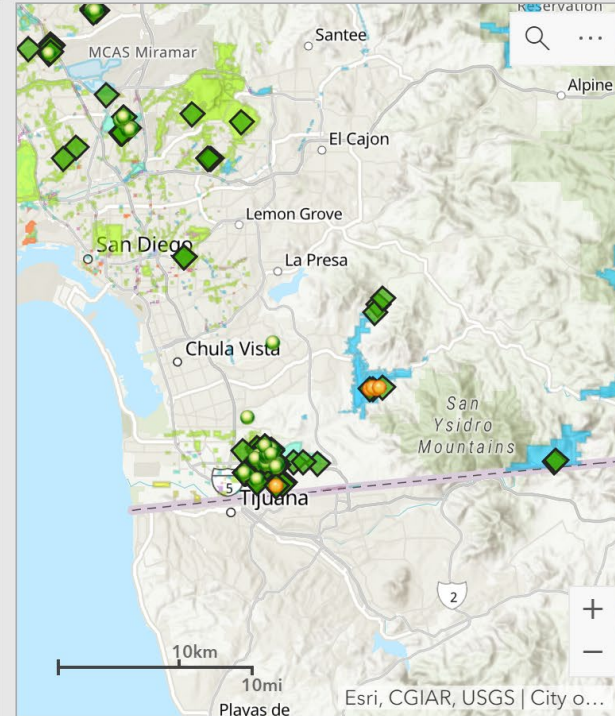


**\*\*3,311 Total Vernal Pools\*\***

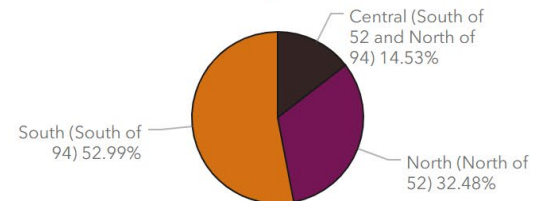
## Management Surveys Completed in City Departments



Last update: a few seconds ago



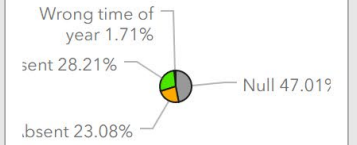
## Areas of San Diego Management Surveys have been Completed



2019

Last update: a few seconds ago

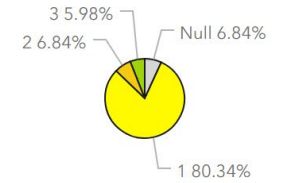
## Visibility of Fairy Shrimp



2019

Last update: a few seconds ago

## Management Level of Sites



2019

Last update: a few seconds ago

## Survey Locations with Pondered Water



2019

Last update: a few seconds ago

Public Covered Plant Monitoring

**6**

Completed Surveys

Last update: a few seconds ago

Public Management

**0**

Completed Surveys

Last update: a few seconds ago

City Covered Plant Monitoring

**131**

Completed Surveys

Last update: a few seconds ago

City Management

**117**

Completed Surveys

Last update: a few seconds ago





THANK YOU!!







**Mark Berninger**

**[MBerninger@SanDiego.gov](mailto:MBerninger@SanDiego.gov)**