

The logo for Rincon Consultants, Inc. is a blue shape resembling the state of New Mexico, with the word "rincon" written in white lowercase letters inside it.

rincon

# RINCON CONSULTANTS, INC.

Environmental Scientists | Planners | Engineers

A wide-angle photograph of a river, identified as Temescal Wash, flowing through a dry, hilly landscape. The water is calm and reflects the surrounding trees and sky. The banks are rocky and sparsely vegetated with dry grasses and shrubs. In the background, rolling hills are visible under a clear blue sky.

## Bedford-Coldwater GSA Investigation of Groundwater/Surface Water Interactions at Temescal Wash

5/18/2023

# Project Background

## Project Goals

- Evaluate the interaction of surface water and groundwater
- Improve the GSP's sustainable management criteria and protect GDEs

## Key Deliverables

- Identifying locations for up to five shallow groundwater monitoring wells
- Develop a monitoring plan



# Project Elements

- Desktop Review
- Initial Site Reconnaissance
- Vegetation Survey
- Detailed Desktop Review
- Proposed Piezometer Location
- Permitting Constraints Analysis
- LiDAR Flight
- Monitoring Well Specification and Bid Package
- Develop Monitoring Program



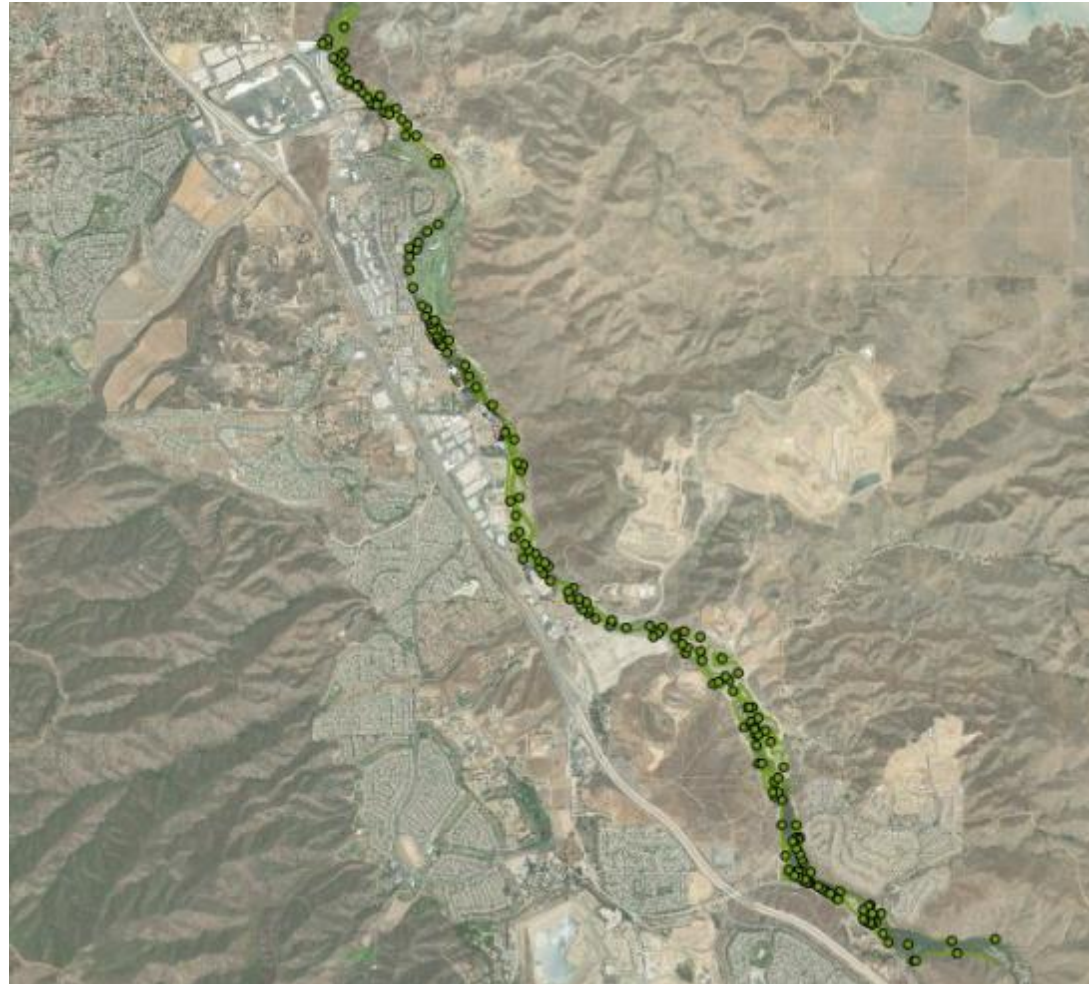
# Data Collected

- Vegetation Survey
- Drone Imagery
- Historical Imagery
- NDVI/NDMI



# Detailed Vegetation Survey

Performed April 24-26



# Detailed Vegetation Survey

- Refine the extent of potential GDEs
- Confirm polygons used to collect NDVI/NDMI data
- Inform locations for future monitoring



# Drone Imagery

- Flight performed April 18
- Collected imagery from three areas of interest
- Processed data to show orthoimagery and terrain



# Drone Imagery





# Historical Imagery



1953

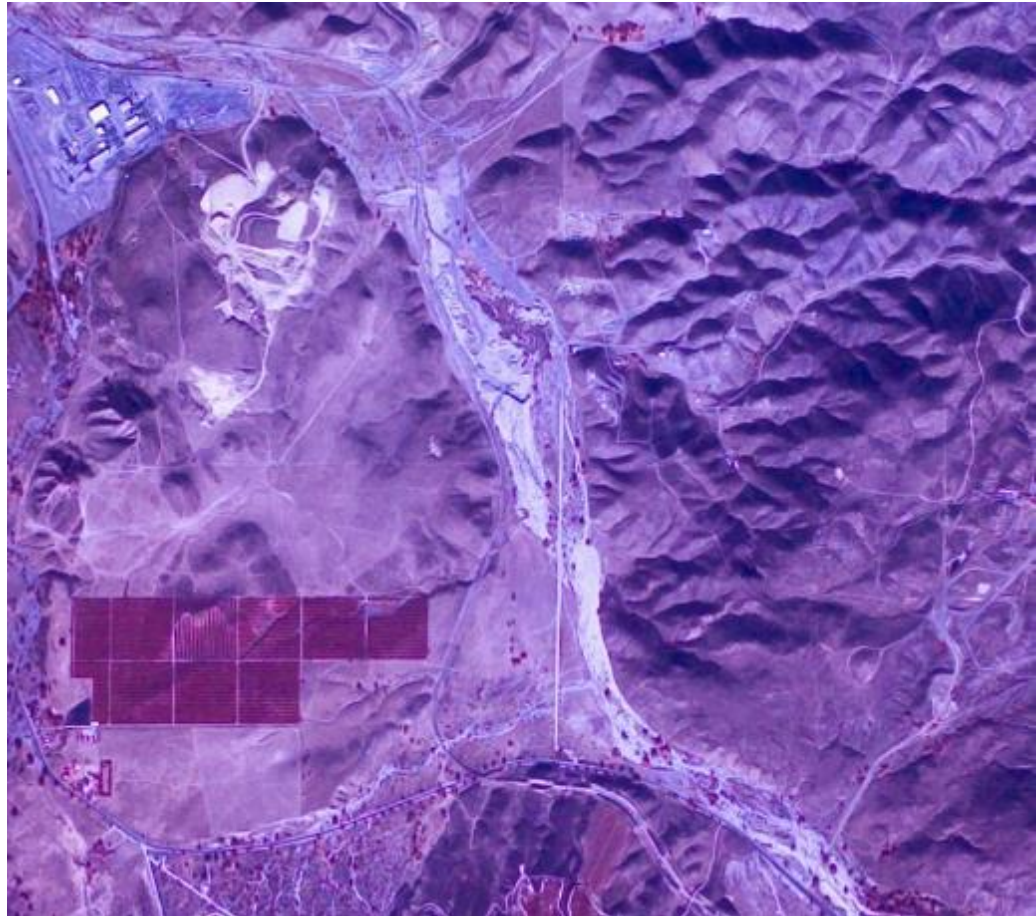


1963

# Historical Imagery

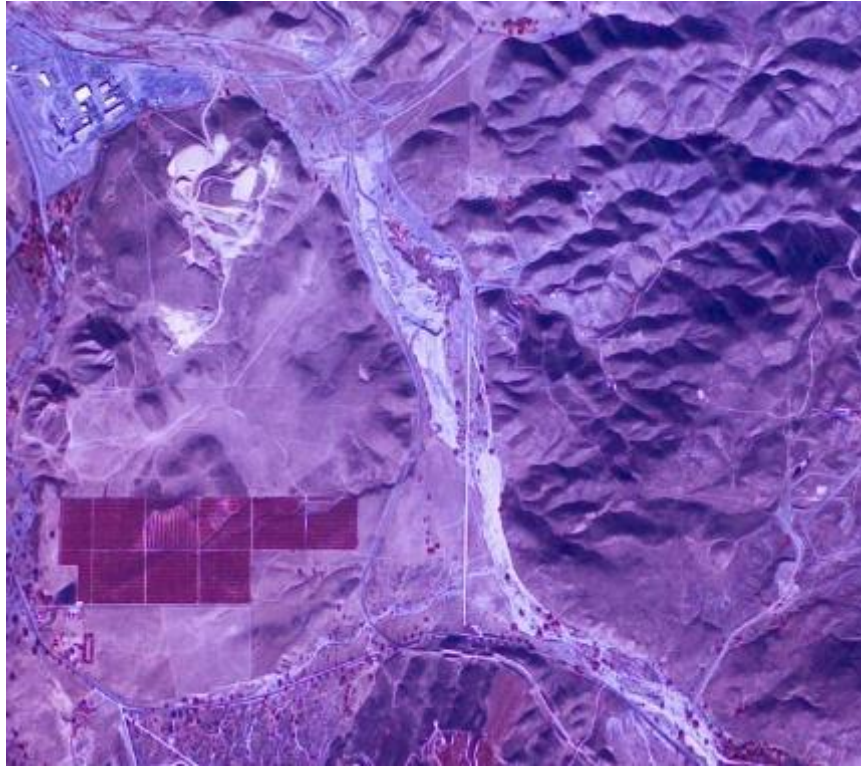


1963



1975

# Historical Imagery



1975



1980

# Historical Imagery



1980



2003

# Historical Imagery

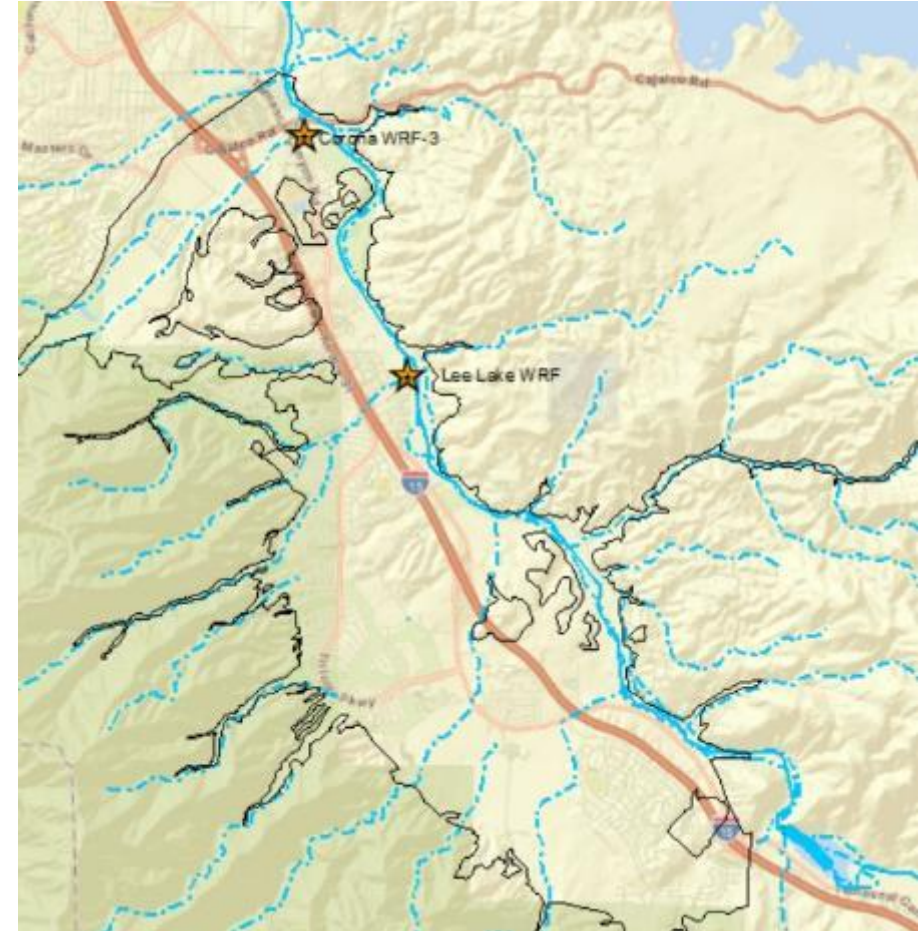
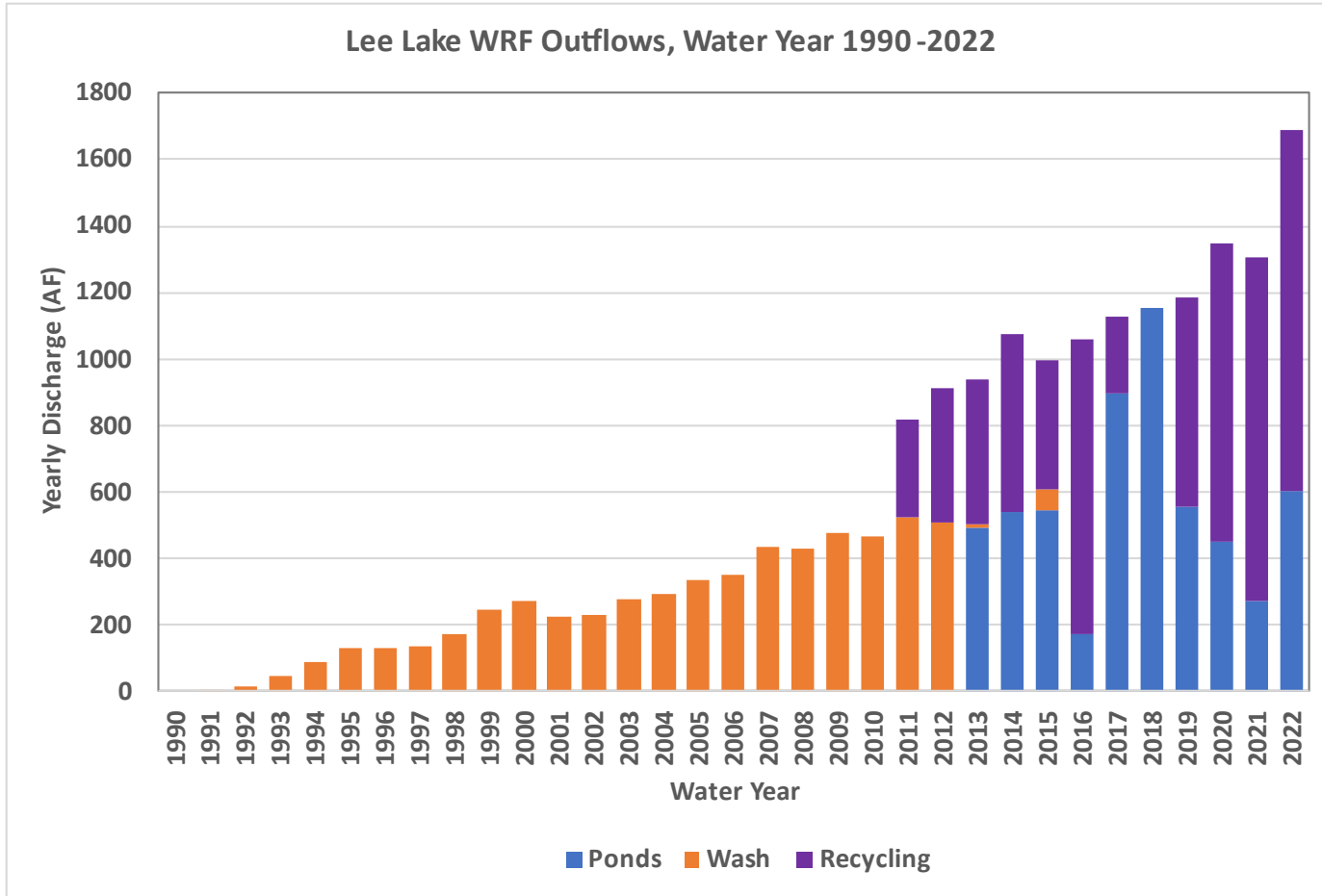


2003



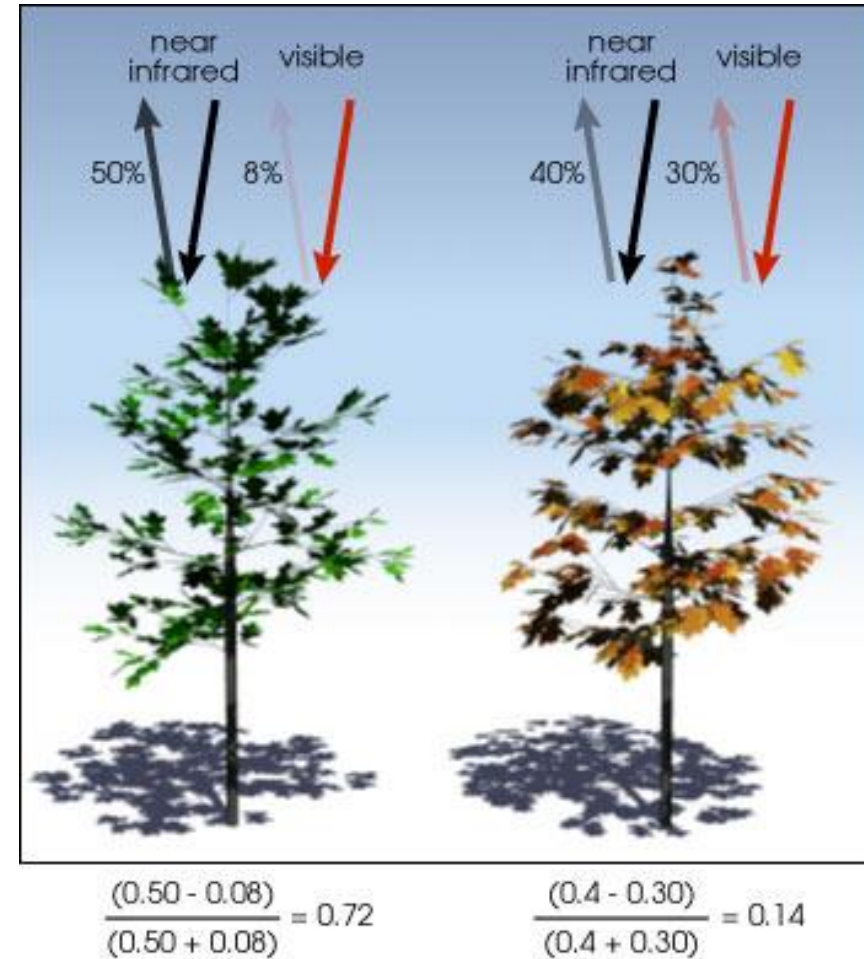
2022

# Lee Lake WRF Outflows



# NDVI/NDMI

- Normalized Difference Vegetation Index/Normalized Difference Moisture Index
- NDVI – greenness, NDMI – water stress
- Can be used as an indicator of vegetation health



# NDVI/NDMI



September 2003



September 2004



# NDVI/NDMI



September 2003



September 2004

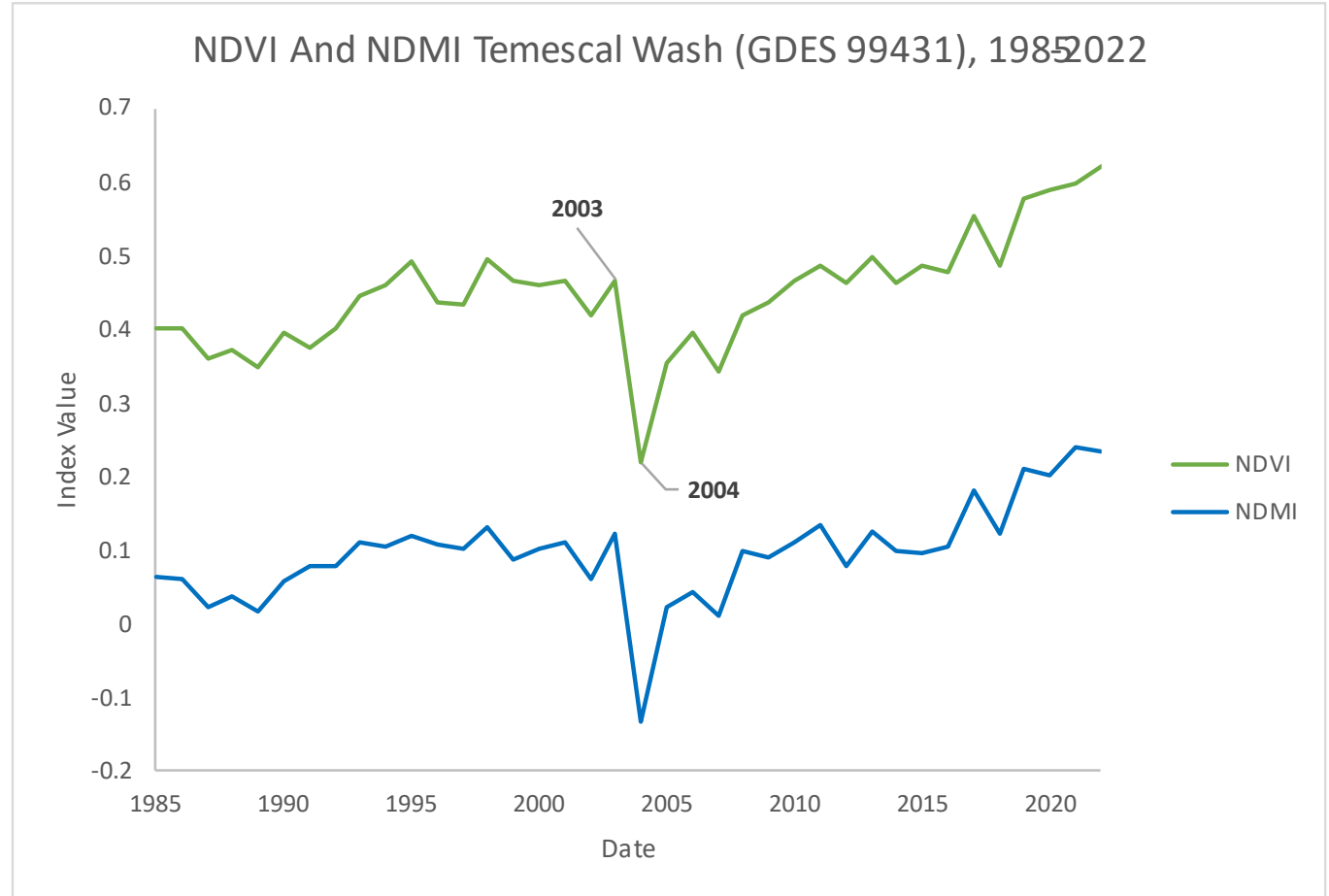
# NDVI/NDMI



September 2003



September 2004



# Project Schedule

Item	Details
<b>Deliverables</b>	
Task 2 - Health and Safety Plan	<b>3/15</b>
Task 2 – Area of interest KMZ	<b>3/17</b>
Task 2 - Site Recon	<b>4/4</b> preparation, <b>4/11</b> site visit
Task 2 - Aerial imagery	<b>4/11-4/13</b> (collection), <b>4/25</b> (processing completion)
Task 3 – Letter Report. public database results, historic photograph analysis, and bedrock depth and groundwater flow	<b>4/28</b>
Task 4 - Vegetation Survey Workplan	<b>4/21</b>
Task 4 – Detailed vegetation community map	<b>4/26 - 4/28</b> (1 week field), <b>6/2</b> (report/maps)
Task 5 - Groundwater monitoring well/piezometer locations	<b>5/5</b> (initial for CEQA/Permitting iterations)
Task 6 - Environmental permitting and regulatory constraints analysis	<b>6/2</b> (4 weeks following biology info and well locations identified)
Task 8 - LiDAR data acquisition	<b>JUNE</b> collection – time TBD
Task 11 - Groundwater monitoring well/piezometer design and bid package	6/9
Task 7 - Monitoring Plan draft presentation	7/15
Task 7 - Monitoring Plan Final	7/31

# Next Steps

- Determine Potential Monitoring Well Locations
- Provide Monitoring Well Specifications
- Perform Permitting Constraints Analysis
- LiDAR Flight – Anticipated June 2023
- Develop Monitoring Plan
- Present Draft Monitoring Plan to the Board

