



SANTA CLARA PUEBLO OFFICE OF ENVIRONMENTAL AFFAIRS

CHALLENGES IN MONITORING DIFFERENT WATERBODIES ON SANTA CLARA PUEBLO
Southwest Tribal Clean Water Act Training – Isleta Casino
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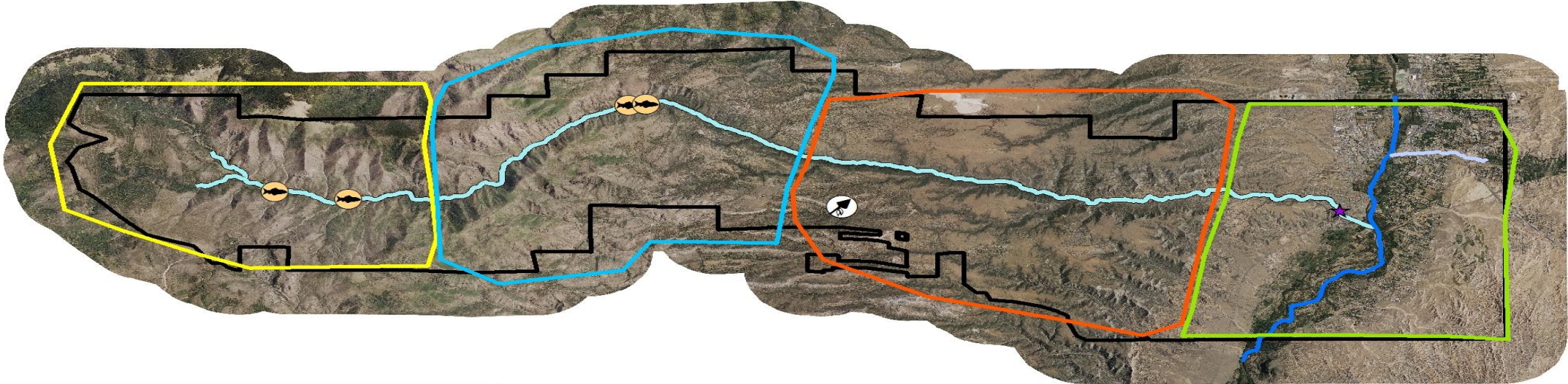
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Eco Zones with Specific Locations



Santa Clara Pueblo Lands

- ★ Tribal Administration
- 📍 Puye Cliff Dwellings Site
- 👉 SCP Ponds
- Santa Clara Creek
- Rio Grande River
- Santa Cruz River
- ▭ Santa Clara Reservation Boundary

EUREKA MANTA 2 ANALYSIS

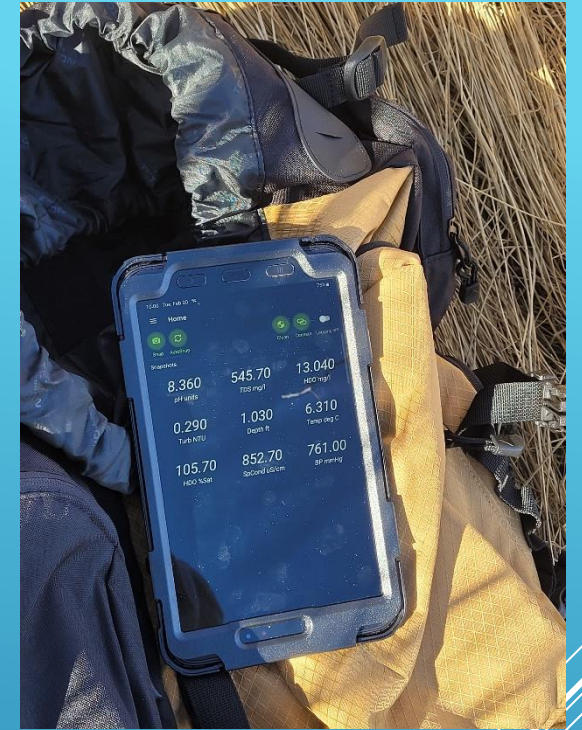


- ONE of the duties of managing the Surface Water is monitoring the quality of the water.
- ▶ The monitoring of the Surface Water for EPA and DOE is done by using Eureka Manta 2 Multiprobes

Barometric Pressure (BP), PH, Total Dissolved Solids (TDS), Dissolved Oxygen (DO), Turbidity, Temperature, Specific Conductivity (SPC), DO% Sat, Depth. Parameters are collected once a month at each set site



Mobile Manta connects with Bluetooth to Android Tablet



NEW EUREKA MOBILE MANTA 30 +

Surface Water Quality Sampling – Field Data Sheet

I. General Information	Sample Location#:
DATE:	
TIME:	
Waterbody name:	
Weather Conditions:	
Samplers initials:	
Sampling depth: <1.5ft, sample at 1/3 total depth >1.5ft, sample at 1 ft below surface	

IV. Field Parameters	Measurement	Units
Barometric Pressure (BP)		mm/Hg
pH		Units
Total dissolved solids (TDS)		mg/L
Dissolved oxygen (DO)		mg/L
Turbidity (Turb)		NTU
Depth		Feet
Temperature (Temp)		°C
Dissolved oxygen (DO) % SAT		
Specific conductance (SpC) (conductivity @ 25°C)		umhos/cm

II. Visual/Field Observations	
a. Water appearance (color, unusual suspended matter, debris, foam):	
b. Time since last precipitation event:	
c. Biological Activity (excessive algae, fish, birds, amphibians, fish spawn):	
d. Stream Uses (fishing, boating, irrigation pumping, swimming):	
e. Unusual odors (sulfur, septic tank):	
f. Upstream activities impacting water quality (construction, livestock, mudslide):	

V. Lab Samples	√	Results	√	Analytical Method
Total ammonia				
Total residual chlorine				
Sulfate				
Chloride				
Nitrate/Nitrite				
Total phosphorus				
Total hardness				
E. Coli				
FIELD QC SAMPLES COLLECTED AT THIS LOCATION				
QC replicate				
Field blank				
Equipment blank				

III. Flow	
Global Flow Probe Reading:	
OR	
Flow estimate (flow = W x D x V x A):	

W = width in feet D = depth in feet V = velocity in feet/second
 A = correction constant (0.8 for rough bottom, 0.9 for smooth bottom)

VI. Other Comments

Santa Clara Pueblo – Surface Water Monitoring QAPP

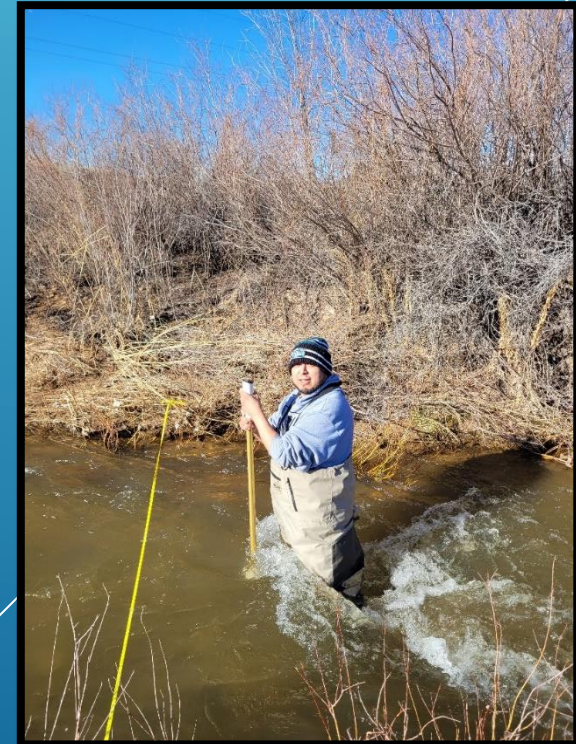
FIELD DATA SHEET

Flow readings are taken at our Santa Cruz River sites and the Santa Clara Creek sites.



Global Water Flow Meter

THE RIO GRANDE RIVER SITES WE GET THE FLOW READINGS FROM THE USGS WEB SITE, OTOWI BRIDGE GAUGING STATION, WHICH IS LOCATED ABOUT 3 TO 4 MILES FROM OUR SOUTHERN RESERVATION BOUNDARY.



DISCHARGE MEASUREMENT NOTES

Sample Location No. _____ Measured By: _____

Date: _____ Computed by: _____

Checkers: _____ Checked By: _____

Width: _____ Area: _____ Vel: _____ Discharge: _____ Method: _____

No. of Sections: _____ Type of Meter: _____

Time Started: _____ Time Ended: _____

Remarks:

Discharge Measurements:

Distance	Width	Depth	Revs.	Seconds	Velocity at point	Area	Discharge

FLOW DATA SHEET



Flow measured at (5) points across body of water
(from left to right)



40 second intervals



Flow measurements are calculated back at office to determine CFS results



This is our quarterly EPA surface water samples we collect at our SCC, SCRZ, RG, WTLDS sites.

Ammonia, Sulfates, Chlorine, Nitrate/Nitrite, Total Hardness, E. Coli, Total Chlorine Residual and Phosphorus are added to the RG and WTLDS sample collections



This is one of our WTLDS site that is dried up due to lack of rain.

The Rio Grande river will go low and so do our WTLDS sites to where they go dry.

Here is one of our SCRZ sites that is dry
due to the lack of rain.

All the water that is supposed to be coming down is
being put into irrigation ditches in the small
communities surrounding this river
to irrigate their crops.





THIS IS SITE #3 OF THE SANTA CLARA CREEK,
DURING THE SUMMER & WINTER MONTHS

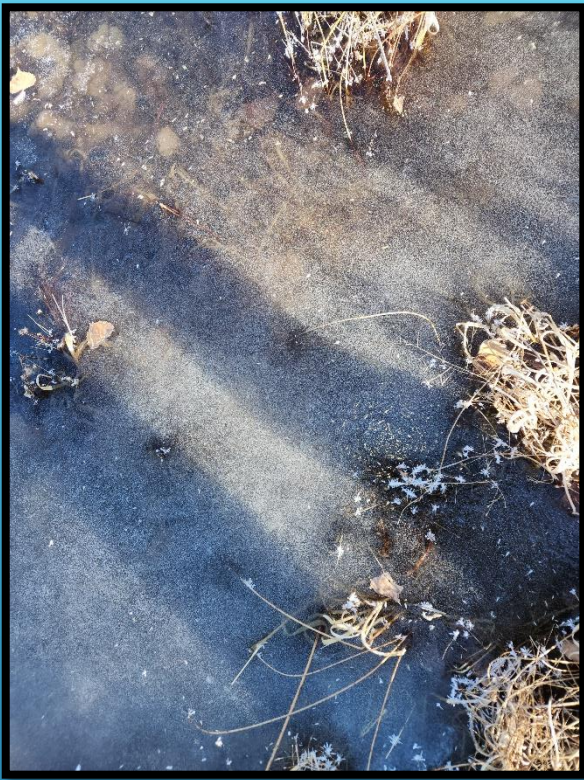


During the Winter months when the Santa Clara Pueblo Creek freezes over

We do not get Parameter or Flow readings due to safety reasons

When the Yellow gate is closed during normal working hours, that means the road conditions are bad in the Canyon





PICTURES OF OUR WETLANDS SITES.

DURING THE WINTER MONTHS WHEN THEY FREEZE UP,
WE CAN NOT GET OUR PARAMETER READINGS

**WETLANDS water
uprising
from Rio Grande River
high run off**





*Santa Cruz River
merging into
the
Rio Grande*



*Rio Grande River
diversion into
Santa Clara Pueblo
Ditch*



Syringes found under bridge near our Rio Grande Sampling sites







The End

QUESTIONS...