2022 Riverwalk Datasheets

Each year 13 groups collect habitat data at over 100 field points in the Santa Ana River.

This year, volunteers were given the option to collect habitat data using the ArcGIS Field Maps Application.

This PDF is a collection of the physical datasheets and does not include the habitat data collected through the ArcGIS Field Maps application.



https://sawpa.gov/task-force/santa-ana-sucker-conservation-team/

Santa Ana Watershed Project Authority

11615 Sterling Avenue Riverside, CA 92503



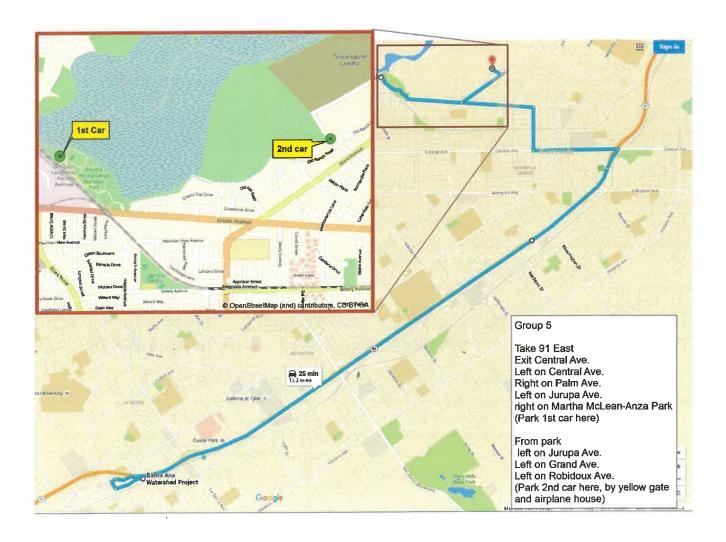




First Car Google Map Point:

https://goo.gl/maps/WVdQYnjwFZUzxPEg6

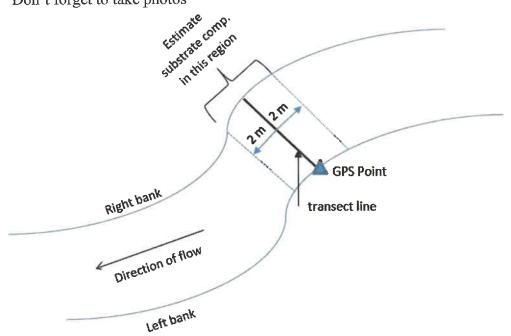
Driving Directions (From SAWPA): Take 91 East. Exit Central Avenue and turn left. Turn right onto Palm Avenue. Turn left onto Jurupa Avenue. Martha McLean-Anza Narrows Park will be on the right side just before the railroad overpass. **Car #1** should park at the Martha McLean-Anza Narrows Park off of Jurupa Avenue. After parking first car turn left onto Jurupa Avenue. Turn left onto Grand Avenue. Turn left onto Rubidoux Avenue. **Car #2** should park upstream at the end of Rubidoux Avenue by the yellow gate and airplane house. Parking the cars as directed, will ensure you are walking downstream.



Technical Questions: Call Cameron Macbeth at (949) 533-5749 Coordination/Logistical Issues: Call Zyanya Ramirez at (951) 354-4244 **Data Collection Instructions:** Locate GPS points shown on the attached Riverwalk Points Map. If the GPS Point is not in the wetted river, walk to the closest location that is in the wetted river and record on your data sheet the actual GPS location on the left bank (note: the left bank is on your left when you face downstream). If there is more than one wetted river channel, record each channel's left bank GPS location.

Here are some helpful tips:

- Please record all measurements using the metric system;
- Set up your transect lines perpendicular to the river;
- Estimate substrate components within a 2-m band on either side of the transect; make sure all substrate components add up to 100%;
- Don't forget to take photos



When You Are Done: Within a week of the survey, please return equipment and any paper datasheets to SAWPA at 11615 Sterling Ave Riverside, CA 92503. Photos will be submitted via a dropbox link that you will receive from Zyanya Ramirez (SAWPA staff).

If You Want to Drive Back to SAWPA Immediately After Your Surveying (Optional): From the Second Car Location, start out taking Rubidoux Ave. in the direction away from the Santa Ana River. Turn right onto Grand Ave. Grand Ave becomes Streeter Ave and continue straight. Turn left onto Arlington Ave and then right onto Madison St. Keep heading down Madison St. and then turn right to merge onto the 91 W. Get off at Magnolia, and head down towards Pierce. Make a left on Pierce Ave and a left on Sterling.

Transect Name: SAS 44
Target UTM: 461555 3759337
Observers (writer/other)

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in	+ Used Epp		
	UTM (@ Left Bank*)			
	Channel position (L/C/R*)	C 7,1		
	Width of Channel (m)	7,1		
	Max Depth (cm) &			
	Location in Channel	Duem 1		
	(L/C/R*)	24cm (L) 8cm		
	Depth @ Left Edge (cm)	Scal		
	(~4." from bank edge)	8 CM		
	Depth @ Right Edge (cm)	2 cm		
	(~4" from bank edge)			
	% Veg- Left Bank*	70 40		
	% Veg- Right Bank*	40 No		
	% Canopy Over	20/		
	Transect Band	200		
tal	Substrate % mud/silt	6.2		
uld to	Substrate % sand	62		
ool	Substrate % gravel	35		
Should total 100%	Substrate % cobble	1		
01	Substrate % boulder	0		
	Photo Upstream	1 3		
	(time & #)	- 13		
	Photo Downstream	2 %		
	(time & #) Photo Left Bank*	-		
	(time & #)	5 5		
	Photo Right Bank*	4 3		
	(time & #)	3 - 1		
	Photo other (describe)	177		
	Notes (e.g. Islands,	No red		
	Obstructions)			
		algae natice	91	
		natice channe	/	

*L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Avendo present both banks Water torbid Pig tracks Leavy himan encampments

Loc	cation between GPS Points	SAS and SAS	<u>.</u>
	Tally	Gravel Patch Size Min 3m 3m-5m 5m-10m 10m-15m 15m+	
Red algae present?	If so, please record coordi		
			,

Transect Name: SAS 45
Target UTM: 461287 3759267.
Observers (writer/other) by cff, Kas Mys, Johnna

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in			
	UTM (@ Left Bank*)			
	Channel position (L/C/R*)	R		
	Width of Channel (m)	9.0 m		
	Max Depth (cm) &	£5cm (C)		
	Location in Channel	\$5 cm (C)		
	(L/C/R*)	Noon (C)		
	Depth @ Left Edge (cm)	2 0		
	(~4" from bank edge)	2.0 cm		
	Depth @ Right Edge (cm)	2.4		
	(~4" from bank edge)	20 cm		
	% Veg- Left Bank*	040		
	% Veg- Right Bank*	9000		
	% Canopy Over	2		
	Transect Band	2540		
al	Substrate % mud/silt			
tot %	Substrate % sand	68		
Should total 100%	Substrate % gravel	20		
hou 1	Substrate % cobble			
S	Substrate % boulder	0		
	Photo Upstream	5 3		
	(time & #)			
	Photo Downstream	6		
	(time & #)	0 +2		
	Photo Left Bank*	8 3		
	(time & #)	0 4		
	Photo Right Bank*	1		
	(time & #)	1		
	Photo other (describe)	7 7 -		
	Notes (e.g. Islands,	Laundryline Hewyhomani		
	Obstructions)	Heavy humano	stutblence	

Avendo present

Water is tirbic/
*L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

(2) Mis location was one of survey pts for native fish

Sorvey

Location	between GPS Points SAS	S and SAS	
	Tally // // // /// /// /// /// //	Gravel Patch Size Min 3m 3m-5m 5m-10m 10m-15m 15m+	
Red algae present? If so, p	please record coordinate	es below:	

Transect Name: SAS 46
Target UTM: 461003 3759182
Observers (writer/other) Chill Kai Breth Journal

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in			
	UTM (@ Left Bank*)			
	Channel position (L/C/R*)	C.		
	Width of Channel (m)	6.2m		
	Max Depth (cm) & Location in Channel (L/C/R*)	29.0 cm 4.0 cm		
	Depth @ Left Edge (cm) (~4" from bank edge)	4.0cm		
	Depth @ Right Edge (cm) (~4" from bank edge)	13.0 am		
	% Veg- Left Bank*	40 10		
	% Veg- Right Bank*	10000		
	% Canopy Over Transect Band	5040		
a	Substrate % mud/silt			
tot	Substrate % sand	94		
Should total 100%	Substrate % gravel	5		
hot.	Substrate % cobble	0		
∞	Substrate % boulder	0		
	Photo Upstream (time & #)	17		
	Photo Downstream (time & #)	2 500		
	Photo Left Bank* (time & #)	4 36		
	Photo Right Bank* (time & #)	3		
	Photo other (describe)			
	Notes (e.g. Islands, Obstructions)			

Arundo Enampment ysheam

Turbid jigs

*L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

no algue Pilot project donnstrum.

Locat	ion between GPS Points SAS	and SAS	- ₹'
	Tally // // // // // // // // //	Gravel Patch Size Min 3m 3m-5m 5m-10m 10m-15m 15m+	
Red algae present? If	so, please record coordinate	s below:	

Transect Name: SAS 47
Target UTM: 460830 3758944
Observers (writer/other) KALLHKIS, BKLTT, JORNNA

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in			
	UTM (@ Left Bank*)			
	Channel position (L/C/R*)	<u></u>	R	
	Width of Channel (m)	54 5.2m	1.4m	
	Max Depth (cm) &			
	Location in Channel	50 am (L)	17cm (c)	
	(L/C/R*)		11011 (0)	
	Depth @ Left Edge (cm)	8.0 cm	4.0cm	
	(~4" from bank edge)	0.0001	4000	
	Depth @ Right Edge (cm)	5.0 cm	3.0cm	
	(~4" from bank edge)	3,0077		
	% Veg- Left Bank*	75	60	
	% Veg- Right Bank*	75	95	
	% Canopy Over	45	FO	
	Transect Band	40	50	
al	Substrate % mud/silt		20	
tot %	Substrate % sand	94	45	
uld to 00%	Substrate % gravel	5	35	
Should total 100%	Substrate % cobble	Ø	D'	
S	Substrate % boulder	× ×	Ø	
	Photo Upstream	\sim \sim		
	(time & #)	3	1	
	Photo Downstream	2 0		
	(time & #)	1 3	2 1	
	Photo Left Bank*	4 0	1 0	
	(time & #)	4 8	4 %	
	Photo Right Bank*	3	1	
	(time & #)		3	
	Photo other (describe)			
	Notes (e.g. Islands,	1. 1		
	Obstructions)	Island bur		

No longer turbid

*L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Location between GPS Points SAS	s and SAS
Tally // // // // // // // // //	Gravel Patch Size Min 3m 3m-5m 5m-10m 10m-15m 15m+
Red algae present? If so, please record coordinate	es below:

Transect Name: SAS 48
Target UTM: 460606 3758749
Observers (writer/other) Charles, Kan Brett, Journal

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in			
	UTM (@ Left Bank*)			
	Channel position (L/C/R*)	C		
	Width of Channel (m)	7.4m		
	Max Depth (cm) &			
	Location in Channel (L/C/R*)	33 cm (R)		
	Depth @ Left Edge (cm) (~4" from bank edge)	12cm		
	Depth @ Right Edge (cm) (~4" from bank edge)	Icm		
	% Veg- Left Bank*	100		
	% Veg- Right Bank*	90		
	% Canopy Over			
	Transect Band	60		
ਾਫ਼	Substrate % mud/silt	5		
tot of	Substrate % sand	45		
ould to	Substrate % gravel	50		
Should total	Substrate % cobble	Ø.		
∞	Substrate % boulder	Ø		
	Photo Upstream (time & #)			
	Photo Downstream			
	(time & #)			
	Photo Left Bank*	3		
	(time & #)	2		
	Photo Right Bank*			
	(time & #)			
	Photo other (describe)			
	Notes (e.g. Islands, Obstructions)			

Ar undo bambusia

*L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Locat	ion between GPS Points SAS	and SAS	an and an and an and an
	Tally 11 11 11 11 11 11 11 11 11 11 11 11 1	Gravel Patch Size Min 3m 3m-5m 5m-10m 10m-15m 15m+	
	so, please record coordinate	s below:	

Transect Name: SAS 49 460324 Target UTM: Observers (writer/other)_

		OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
		Actual GPS coordinates in			
		UTM (@ Left Bank*)			
		Channel position (L/C/R*)	C		
		Width of Channel (m)	9.4		
		Max Depth (cm) &	1 1		
		Location in Channel	2/5 /2/		
		(L/C/R*)	20cm (C)		
		Depth @ Left Edge (cm)	26cm (C)		
		(~4" from bank edge)	dem		
		Depth @ Right Edge (cm)	5cm		
		(~4" from bank edge)			
		% Veg- Left Bank*	540		
		% Veg- Right Bank*	50		
		% Canopy Over	20		
		Transect Band	33		
	al	Substrate % mud/silt	<i>3</i> 3		
	tot %	Substrate % sand	66		
	Should total 100%	Substrate % gravel	15 20		
		Substrate % cobble	01		
		Substrate % boulder	6		
		Photo Upstream	1 -7		
		(time & #)			
		Photo Downstream	2		
		(time & #)			
		Photo Left Bank*	Th-		
		(time & #)	0		
		Photo Right Bank*	1.1		
		(time & #)	3		
		Photo other (describe)			
		Notes (e.g. Islands,			
1	()	Obstructions)			
On	1				
Hr. M. W.		W. M	1	· .	
130	*L/C/R = Left/Center/Right. Fa		1111113, 4 (11116	11156	
108	*1	/C/R = Left/Center/Right Fa	ace downstream to de	termine left and right	t banks.
1 9 100	MX.	Zorosinia	The state of the s		
V (D	141	Ž			
Mes		Z 28			
		23			
		7 2 7			
		·T 2 Z			

Location between GPS Points SAS	S and SAS
Tally I IIII	Gravel Patch Size Min 3m 3m-5m 5m-10m 10m-15m 15m+
Red algae present? If so, please record coordinate	es below:

Transect Name: SAS 50
Target UTM: 460046
Observers (writer/other)

Observers (writer/other)

Date

3758748

Observers (writer/other)

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in			
	UTM (@ Left Bank*)			
	Channel position (L/C/R*)	R		
	Width of Channel (m)	81		
	Max Depth (cm) &			
	Location in Channel	36 (L)		
	(L/C/R*)	30 0		
	Depth @ Left Edge (cm)	2000		
	(~4" from bank edge)	Q CPV1		
	Depth @ Right Edge (cm)	2cm 9cm		
	(~4" from bank edge)	ion		
	% Veg- Left Bank*	5		
	% Veg- Right Bank*	5		
	% Canopy Over	15		
	Transect Band	3		
Should total 100%	Substrate % mud/silt Substrate % sand	67		
ould to		20		
100 July 1	Substrate % gravel Substrate % cobble	QU.		
Sho	Substrate % boulder	N N		
	Photo Upstream			
	(time & #)			
	Photo Downstream	2 1		
	(time & #)	2		
	Photo Left Bank*	811		
	(time & #)	4		
	Photo Right Bank*	1		
	(time & #)	3		
	Photo other (describe)			
	Notes (e.g. Islands,			
	Obstructions)			
	.4 .			

Arundo. Water fairly clear Pig tracks

^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Location between GPS Points SAS	S and SAS
Tally	Gravel Patch Size Min 3m 3m-5m 5m-10m 10m-15m 15m+
Red algae present? If so, please record coordinate	es below:

Transect Name: SAS 51

Target UTM: 459807

Observers (writer/other)

Observers (writer/other)

Date

11 3

3758720

Observers (writer/other)

W/S Kas, Brett Journal

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3	
	Actual GPS coordinates in				
	UTM (@ Left Bank*)				
	Channel position (L/C/R*)				
	Width of Channel (m)	9,3			
	Max Depth (cm) &				
	Location in Channel	43cm -11	1001 005 00	in From debriso	1
	(L/C/R*)	100,1,	7007 - 701762	CAN THE PROPERTY OF THE	
	Depth @ Left Edge (cm)	4cm			
	(~4" from bank edge)	4411			
	Depth @ Right Edge (cm)	30M			
	(~4" from bank edge)	5 %			
	% Veg- Left Bank*	5 40			
	% Veg- Right Bank*				
	% Canopy Over Transect Band	120			
	Substrate % mud/silt	7			
Should total 100%	Substrate % sand	\$ D	.1		
ould to 100%	Substrate % gravel	82 15	0		
10 OI	Substrate % cobble	1			
Sho	Substrate % boulder	d			
	Photo Upstream	7 -			
	(time & #))			
	Photo Downstream				
	(time & #)	2 N			
	Photo Left Bank*	17			
	(time & #)	4 /2			
	Photo Right Bank*	3			
	(time & #)	0			
	Photo other (describe)				
	Notes (e.g. Islands,				
	Obstructions)				

SAS In transect Arundo, palm. Pumpkins

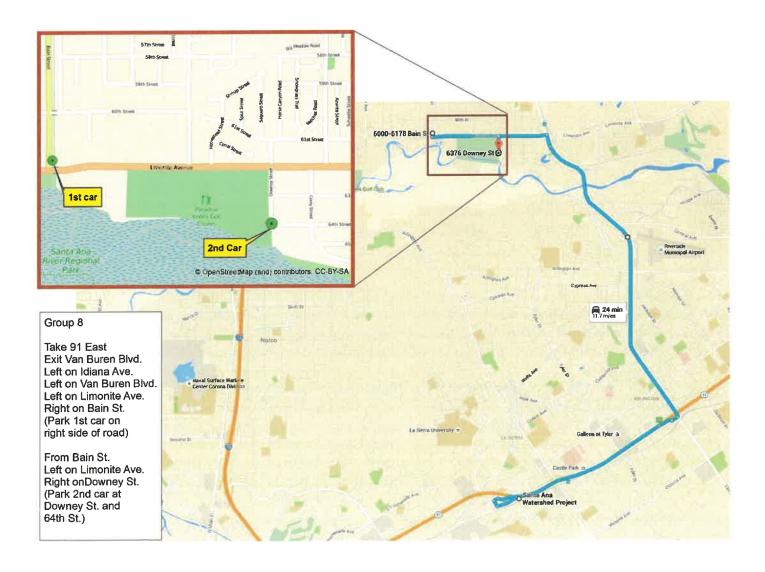
^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

	Location between GPS Points SA	S and SAS	_·
Red algae preser	Tally Tally Tally Tally Tally Tally	Gravel Patch Size Min 3m 3m-5m 5m-10m 10m-15m 15m+	
20.11			

First Car Google Map Point:

https://goo.gl/maps/fygeMNqAKKwMGbmr6

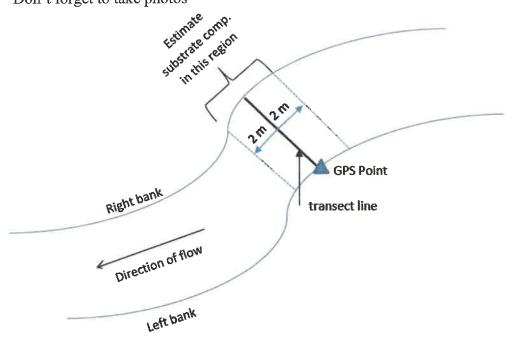
<u>Driving Directions (From SAWPA)</u>: Take 91 East and exit Van Buren Boulevard. Turn left onto Indiana Avenue then a quick left onto Van Buren Boulevard. Take Van Buren Boulevard over the river to Limonite Avenue. Turn left onto Limonite Avenue. Turn right onto Bain Street. **Car** #1 should park off on Bain Street and Limonite Avenue. After parking first car, turn left onto Limonite Avenue. Turn right onto Downey Street. **Car** #2 should park upstream at the corner of Downey Street and 64th Street. Parking the cars as directed, will ensure you are walking downstream.



Technical Questions: Call Cameron Macbeth at (949) 533-5749 Coordination/Logistical Issues: Call Zyanya Ramirez at (951) 354-4244 **Data Collection Instructions:** Locate GPS points shown on the attached Riverwalk Points Map. If the GPS Point is not in the wetted river, walk to the closest location that is in the wetted river and record on your data sheet the actual GPS location on the left bank (note: the left bank is on your left when you face downstream). If there is more than one wetted river channel, record each channel's left bank GPS location.

Here are some helpful tips:

- Please record all measurements using the metric system;
- Set up your transect lines perpendicular to the river;
- Estimate substrate components within a 2-m band on either side of the transect; make sure all substrate components add up to 100%;
- Don't forget to take photos



When You Are Done: Within a week of the survey, please return equipment and any paper datasheets to SAWPA at 11615 Sterling Ave Riverside, CA 92503. Photos will be submitted via a dropbox link that you will receive from Zyanya Ramirez (SAWPA staff).

If You Want to Drive Back to SAWPA Immediately After Your Surveying

(Optional): From the Car #2 locations, drive on Downey Street away from the Santa Ana River, and turn right onto Limonite Ave. After turning right on Limonite, turn right to merge onto Van Buren Blvd. Continue driving at Van Buren Blvd and turn right to merge onto 91 West. Take the 91 West to Magnolia Ave exit. After exiting on Magnolia Ave., head west to Pierce Street and make a left onto Pierce Street. After taking a left, take another left onto Sterling Ave. Stay on Sterling Ave. all the way to the end of the street and arrive at SAWPA.

Transect Name: SAS 72 Date 1//3/22
Target UTM: 454748 3758936

Target UTM: 454748 3758936
Observers (writer/other)

			CHANNEL #3
	Actual GPS coordinates in	33.969994 N	
	UTM (@ Left Bank*)	117.4 W	
	Channel position (L/C/R*)	t≥ C	
	Width of Channel (m)	22.8	
	Max Depth (cm) & Location in Channel (L/C/R*)	73	
	Depth @ Left Edge (cm) (~4" from bank edge)	56cm	
	Depth @ Right Edge (cm) (~4" from bank edge)	73cm	
	% Veg- Left Bank*	100	
	% Veg- Right Bank*	100	
	% Canopy Over Transect Band	5	
T _e	Substrate % mud/silt	0	
tota %	Substrate % sand	60	
Should total 100%	Substrate % gravel	30	
hou 1	Substrate % cobble	10	
\sim	Substrate % boulder	0	
	Photo Upstream (time & #)	8:50 am	
	Photo Downstream (time & #)	8' 50 am	
	Photo Left Bank* (time & #)	8:50 am	
	Photo Right Bank* (time & #)	8:50 am	
	Photo other (describe)		
	Notes (e.g. Islands, Obstructions)		

^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Location	between GPS Points S	SAS and SAS	·
1	Tally	5m-10m 10m-15m	
Red algae present? If so, p		nates below:	
		_	

Transect Name: SAS 73
Target UTM: 454455

Date 11/3/22
3758993

Observers (writer/other) Neftal:

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in UTM (@ Left Bank*)	In AfP		
	Channel position (L/C/R*)	C		
	Width of Channel (m)	23.9		
	Max Depth (cm) & Location in Channel (L/C/R*)	87		
	Depth @ Left Edge (cm) (~4" from bank edge)	74		
	Depth @ Right Edge (cm) (~4" from bank edge)	8 X 84		
	% Veg- Left Bank*	100		
	% Veg- Right Bank*	100		
	% Canopy Over Transect Band	25		
al	Substrate % mud/silt	0		
Should total 100%	Substrate % sand	96 100		
uld to	Substrate % gravel	0		
hor 1	Substrate % cobble	Û		
ω <u></u>	Substrate % boulder	Ó		
	Photo Upstream (time & #)	9:04 am		
	Photo Downstream (time & #)	9:04 am		
	Photo Left Bank* (time & #)	9:04 am		
	Photo Right Bank* (time & #)	9:04am		
	Photo other (describe)			
	Notes (e.g. Islands, Obstructions)			

^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Location between GPS Points SA	S and SAS
Red algae present? If so, please record coordinat	10m-15m 15m+

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in UTM (@ Left Bank*)			
	Channel position (L/C/R*)	(24 NA/ 221)		
	Width of Channel (m)	250 250		
	Max Depth (cm) & Location in Channel (L/C/R*)	48 cm		
	Depth @ Left Edge (cm) (~4" from bank edge)	24 cm		
	Depth @ Right Edge (cm) (~4" from bank edge)	18 cm		
	% Veg- Left Bank*	100%		
	% Veg- Right Bank*	90%		
	% Canopy Over Transect Band	40%		
al	Substrate % mud/silt	10%		
Should total 100%	Substrate % sand	60%		
ould to	Substrate % gravel			
hou 1	Substrate % cooble	301		
S	Substrate % boulder			
	Photo Upstream (time & #)			
	Photo Downstream (time & #)			
	Photo Left Bank*			
	(time & #)			
	Photo Right Bank*			
	(time & #)			
	Photo other (describe)			
	Notes (e.g. Islands,	Meunmode		
	Obstructions)	Mon mode		

^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Location between GPS Points SAS	$5 \underline{73}$ and SAS $\underline{74}$.
Tally	Gravel Patch Size Min 3m 3m-5m 5m-10m 10m-15m 15m+
Red algae present? If so, please record coordinate	es below:

Transect Name: 3	SAS 75	Date	_
Target UTM:	453874	3759120	
Observers (write	r/other)		

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in			
	UTM (@ Left Bank*)			
	Channel position (L/C/R*)			
	Width of Channel (m)	14.8		
	Max Depth (cm) &	55		
	Location in Channel	HA COM		
	(L/C/R*)	114-011		
	Depth @ Left Edge (cm)	H2 cm		
	(~4" from bank edge)	n L cm		
	Depth @ Right Edge (cm)	21-6 6000		
	(~4" from bank edge)	24 an		
	% Veg- Left Bank*	1001		
	% Veg- Right Bank*	100,		
	% Canopy Over	60%		
	Transect Band	007,		
tal	Substrate % mud/silt	100-1		
5 %	Substrate % sand	10.00		
ould to 100%	Substrate % gravel			
Should total 100%	Substrate % cobble			
O 2	Substrate % boulder			
	Photo Upstream			
	(time & #)			
	Photo Downstream			
	(time & #)			
	Photo Left Bank*			
	(time & #)			
	Photo Right Bank*			
	(time & #)			
	Photo other (describe)			
	Notes (e.g. Islands,			
	Obstructions)			

^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Location between GPS Points SA	AS and SAS
Tally	Gravel Patch Size Min 3m 3m-5m 5m-10m 10m-15m 15m+
Red algae present? If so, please record coordina	tes below:

Transect Name: SAS 76		Date	
Target UTM:	453587	3759156	
Observers (write	r/other)		

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in			
	UTM (@ Left Bank*)			
	Channel position (L/C/R*)			
	Width of Channel (m)	IPM		
	Max Depth (cm) &			
	Location in Channel (L/C/R*)	21 cm		
	Depth @ Left Edge (cm) (~4" from bank edge)	21 cm		
	Depth @ Right Edge (cm) (~4" from bank edge)	12 cm		
	% Veg- Left Bank*	1001		
	% Veg- Right Bank*	801		
	% Canopy Over Transect Band	701		
	Substrate % mud/silt	1077		
Should total 100%	Substrate % sand	100%		
ould to 100%	Substrate % gravel	190/,		
orl 10	Substrate % cobble			
Sh	Substrate % boulder			
	Photo Upstream			
	(time & #)			
	Photo Downstream			
	(time & #)			
	Photo Left Bank*			
	(time & #)			
	Photo Right Bank*			
	(time & #)			
	Photo other (describe)			
	Notes (e.g. Islands,			
	Obstructions)			

^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Location between GPS Points SAS	S and SAS
Tally	Gravel Patch Size Min 3m 3m-5m 5m-10m 10m-15m 15m+
Red algae present? If so, please record coordinate	es below:
	5
	\

Transect Name: SAS 77		Date	
Target UTM:	453294	3759167	
Observers (write	r/other)		

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in			
	UTM (@ Left Bank*)			
	Channel position (L/C/R*)			
	Width of Channel (m)			
	Max Depth (cm) &			
	Location in Channel			
	(L/C/R*)			
	Depth @ Left Edge (cm)			
	(~4" from bank edge)			
	Depth @ Right Edge (cm)			
	(~4" from bank edge)			
	% Veg- Left Bank*			
	% Veg- Right Bank*			
	% Canopy Over			
	Transect Band			
급	Substrate % mud/silt			
Should total 100%	Substrate % sand			
ould to 100%	Substrate % gravel			
30c	Substrate % cobble			
$\overline{\mathbf{S}}$	Substrate % boulder			
	Photo Upstream			
	(time & #)			
	Photo Downstream			
	(time & #)			
	Photo Left Bank*			
	(time & #)			
	Photo Right Bank*			
	(time & #)			
	Photo other (describe)			
	Notes (e.g. Islands,			
	Obstructions)			

^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Location between GPS Points SAS	S and SAS
Tally	Gravel Patch Size Min 3m 3m-5m 5m-10m 10m-15m 15m+
Red algae present? If so, please record coordinat	es below:

Transect Name: SAS 78

Target UTM:

Date 15 November 222 0 3759212 Duston McLain, pri Lamo, Volu Observers (writer/other)

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in	453009,	\	
	UTM (@ Left Bank*)	3759222		
	Channel position (L/C/R*)	4870000		
	Width of Channel (m)	45 15		
	Max Depth (cm) & Location in Channel (L/C/R*)	39 , L		
	Depth @ Left Edge (cm) (~4" from bank edge)	9		
	Depth @ Right Edge (cm) (~4" from bank edge)	15		\
	% Veg- Left Bank*	90	L 50 , Annd,	
	% Veg- Right Bank*	100	Go May,	
	% Canopy Over Transect Band	15		
al	Substrate % mud/silt			
Should total 100%	Substrate % sand	190		
ald to	Substrate % gravel		×	
hou 1	Substrate % cobble			
S	Substrate % boulder			
	Photo Upstream (time & #)	√ 8535 AM	20221115_ACR_7	8_U
	Photo Downstream (time & #)	1 8:25 AM	20771115 - ACR-7	8-D
	Photo Left Bank* (time & #)	J 8:25 AM	20221115_ACR_	78_L
	Photo Right Bank* (time & #)	√ 8:35 AM	2-0771115-ACR_	78-R
	Photo other (describe)	_		
	Notes (e.g. Islands, Obstructions)			

^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Location	n between GPS Points SA	as $\frac{79}{}$ and SAS $\frac{19}{}$.	
	Tally	Gravel Patch Size Min 3m 3m-5m 5m-10m 10m-15m 15m+	
Red algae present? If so,	please record coordinat	es below:	

Transect Name: SAS 79

Date 5 Nov. 2022

Target UTM: 452731 3759199
Observers (writer/other) D. McLam, A. Rons, Whatley S. Mally

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in	04527181		
	UTM (@ Left Bank*)	3759247		
	Channel position (L/C/R*)			
	Width of Channel (m)	19140		
	Max Depth (cm) &	al l		\
	Location in Channel	3616		
	(L/C/R*)		\	
	Depth @ Left Edge (cm)	-(0		
	(~4" from bank edge)		`	
	Depth @ Right Edge (cm)			
	(~4" from bank edge) % Veg- Left Bank*	O (humas scarci		
	% Veg- Right Bank*	O (human listura	- All -	
	% Canopy Over			
	Transect Band	5		
	Substrate % mud/silt	~		
Should total	Substrate % sand	70		
uld to	Substrate % gravel	20		
hou 1	Substrate % cobble	jb		
\sim	Substrate % boulder			
	Photo Upstream	1 8:56 AM	20771115 - ACR -	79 1)
	(time & #)	V	40881112 - WOF-	-11-0
	Photo Downstream	18:56 AM	20721115 - ACR	79 10
	(time & #)	V		<u> </u>
	Photo Left Bank*	y 8:56 AM	20221115-ACR.	-79-1
-	(time & #)	/ 0.53 1.0		
	Photo Right Bank*	/ 8157AM	20121115_ACR	-79 - R
	(time & #) Photo other (describe)			- 1-1
-	Notes (e.g. Islands,			
	Obstructions)			
L				

^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Additional Information

Please use this form to tally any gravel patches measuring a minimum of roughly 3mx3m you find OUTSIDE of your point/locations.

Location between GPS Point	s SAS 79 and SAS 90 .
Tally	Gravel Patch Size Min 3m 3m-5m 5m-10m 10m-15m 15m+
Red algae present? If so, please record coord	linates below:

Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 80
Target UTM: 452566 3758961
Observers (writer/other) Mclaim Long to Use Shelling

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in	452525,	\	
	UTM (@ Left Bank*)	3758900		
	Channel position (L/C/R*)			
	Width of Channel (m)	12.1		
	Max Depth (cm) &	36.7		
	Location in Channel			,
	(L/C/R*)			
	Depth @ Left Edge (cm)			
	(~4" from bank edge)	,		
	Depth @ Right Edge (cm)	1\		
	(~4" from bank edge)			
	% Veg- Left Bank*	100		
	% Veg- Right Bank*	-10		
	% Canopy Over	5		
	Transect Band			
otal	Substrate % mud/silt	60		
uld to	Substrate % sand	40		
Should total		70		
Sho	Substrate % cobble Substrate % boulder			
		G:20 A 40		
	Photo Upstream (time & #)	√ 9:20 AM	20221115- ACR-	-80 - V
	Photo Downstream	1 9120 AM	2-20-1115 460	an D
	(time & #)	V	20271115 - ACR-	-80-1
	Photo Left Bank*	(/ 9:20 AM	2-0221115 - ACR-	90-1
	(time & #)	V ((0)	20081113-1102	00-2
	Photo Right Bank*	19:20 AM	20221115_ ACR.	an R
	(time & #)	U	المال	-00 - N
	Photo other (describe)			
	Notes (e.g. Islands,			
	Obstructions)			

^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Additional Information

Please use this form to tally any gravel patches measuring a minimum of roughly 3mx3m you find OUTSIDE of your point/locations.

Location between GPS Points SAS	and SAS
Tally	Gravel Patch Size Min 3m 3m-5m 5m-10m 10m-15m 15m+
Red algae present? If so, please record coordinate	es below:

Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 81
Target UTM: 452441
Observers (writer/other)

McCM, Vono, Volleg-Scholmy

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in	452448,		
	UTM (@ Left Bank*)	3758721		
	Channel position (L/C/R*)			
	Width of Channel (m)	16.4		
	Max Depth (cm) &			
	Location in Channel	36 6		
	(L/C/R*)			
	Depth @ Left Edge (cm)	31		ά
	(~4" from bank edge)	,		
	Depth @ Right Edge (cm)	9		
	(~4" from bank edge)	90		
	% Veg- Left Bank* % Veg- Right Bank*	2		
	% Canopy Over			
	Transect Band	30		
	Substrate % mud/silt			
Should total 100%	Substrate % sand	100		
uld to	Substrate % gravel			
1000	Substrate % cobble			
S	Substrate % boulder			
	Photo Upstream (time & #)	√ 9:38 AM	20221115 - ACR -	.81 _U
	Photo Downstream	1/ 9:38 AM		
	(time & #)	V 11.7871	20271115- ACR.	-81-0
	Photo Left Bank*	1 9:38 AM	2021115 100	1 P
	(time & #)	V 41.58 AM	O OGOTTO _ ACK	-81-4
	Photo Right Bank*	9:39 AM	20271115-ACR	d1 0
	(time & #)	V	00001117	- 0 I - N
	Photo other (describe)			
	Notes (e.g. Islands,			
	Obstructions)			

^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Additional Information

Please use this form to tally any gravel patches measuring a minimum of roughly 3mx3m you find OUTSIDE of your point/locations.

Locat	ion between GPS Points SAS	and SAS	·	
	Tally	Gravel Patch Size Min 3m 3m-5m 5m-10m 10m-15m 15m+		
Red algae present? If s	so, please record coordinate	s below:		

Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 82

Target UTM: 452149

Observers (writer/other)

Date SNN 2012

3758681

Observers (writer/other)

Valley-Shallow

CHANNEL #2 CHANNEL #3 OBSERVATIONS CHANNEL #1 Actual GPS coordinates in 492191, UTM (@ Left Bank*) 3758691 Channel position (L/C/R*) 22.8 Width of Channel (m) Max Depth (cm) & 422 Location in Channel (L/C/R*)Depth @ Left Edge (cm) (~4" from bank edge) Depth @ Right Edge (cm) (~4" from bank edge) 100 % Veg- Left Bank* % Veg-Right Bank* 5 % Canopy Over 20 Transect Band Substrate % mud/silt Should total 100% CUI Substrate % sand Substrate % gravel Substrate % cobble Substrate % boulder 9:59 AM Photo Upstream 20771115-ACR-87-U (time & #) 9:59 AM 20221115_ACR-82-D Photo Downstream (time & #) 10:00 AM 2020 1115 - ACR - 82 L Photo Left Bank* (time & #) 10:00 AM Photo Right Bank* 20221115_ACR- 82-R (time & #) Photo other (describe) Notes (e.g. Islands, Obstructions)

^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Additional Information

Please use this form to tally any gravel patches measuring a minimum of roughly 3mx3m you find OUTSIDE of your point/locations.

Locat	Location between GPS Points SAS and SAS								
	Tally	Gravel Patch Size Min 3m 3m-5m 5m-10m 10m-15m 15m+							
Red algae present? If s	so, please record coordinate	es below:							

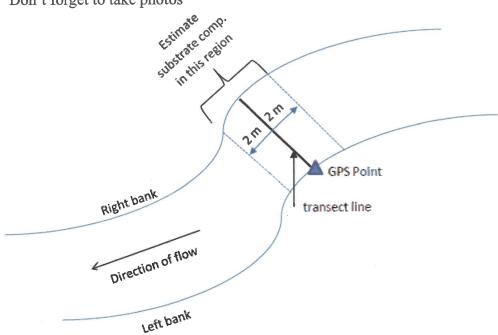


2022 1115_ACK_78_U

Data Collection Instructions: Locate GPS points shown on the attached Riverwalk Points Map. If the GPS Point is not in the wetted river, walk to the closest location that is in the wetted river and record on your data sheet the actual GPS location on the left bank (note: the left bank is on your left when you face downstream). If there is more than one wetted river channel, record each channel's left bank GPS location.

Here are some helpful tips:

- Please record all measurements using the metric system;
- Set up your transect lines perpendicular to the river;
- Estimate substrate components within a 2-m band on either side of the transect; make sure all substrate components add up to 100%;
- Don't forget to take photos



When You Are Done: Within a week of the survey, please return equipment and any paper datasheets to SAWPA at 11615 Sterling Ave Riverside, CA 92503. Photos will be submitted via a dropbox link that you will receive from Zyanya Ramirez (SAWPA staff).

If You Want to Drive Back to SAWPA Immediately After Your Surveying (Optional): From the Car #2 location, drive down Bain St. toward Limonite Ave and turn left onto Limonite Ave. After turning left on Limonite, turn right to merge onto Van Buren Blvd. Continue driving at Van Buren Blvd and turn right to merge onto 91 West. Take the 91 West to Magnolia Ave exit. After exiting on Magnolia Ave., head west to Pierce Street and make a left onto Pierce Street. After taking a left, take another left onto Sterling Ave. Stay on Sterling Ave. all the way to the end of the street and arrive at SAWPA.

Technical Questions: Call Cameron Macbeth at (949) 533-5749 Coordination/Logistical Issues: Call Zyanya Ramirez at (951) 354-4244

First Car Google Map Point:

https://goo.gl/maps/JcMxjQDeFozCUmdu5

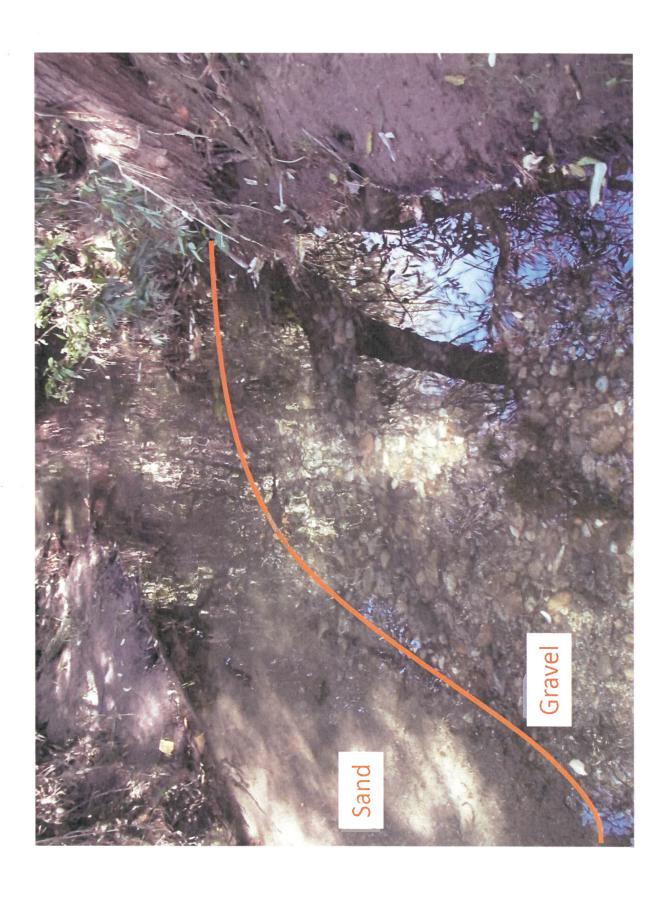
Driving Directions (from SAWPA): Take 91 East and exit Van Buren Boulevard. Turn left onto Indiana Avenue then a quick left onto Van Buren Boulevard. Take Van Buren Boulevard over the river to Limonite Avenue. Turn left onto Limonite Avenue. Turn left onto Ridgeview Avenue and turn left into the Horse Park on left side of road. Car #1 should park at the Horse Park off of Ridgeview Avenue. After parking first car, turn around and turn right onto Limonite Avenue. Turn left onto Bain Street. Car #2 should park upstream on Bain Street and Limonite Avenue. Parking the cars as directed, will ensure you are walking downstream.



Technical Questions: Call Cameron Macbeth at (949) 533-5749 Coordination/Logistical Issues: Call Zyanya Ramirez at (951) 354-4244 22.11.22

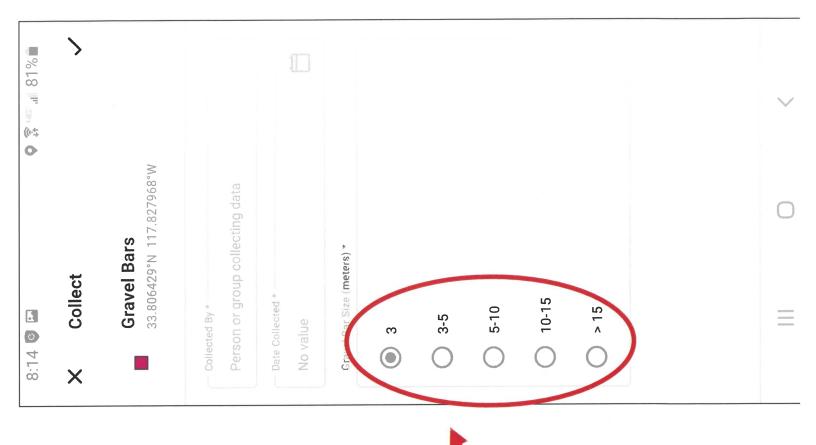


Gravel Bar



Gravel Bar Form

Once you hit the "+" sign, a new form will appear in the app.



the square footage of

the gravel bar. Just

estimate square

footage visually.

option, depending on

Choose a size range

Option in App **Gravel Bar**

surveyed, add gravel bars by pressing "+" downstream of the As you are walking point you just sign.















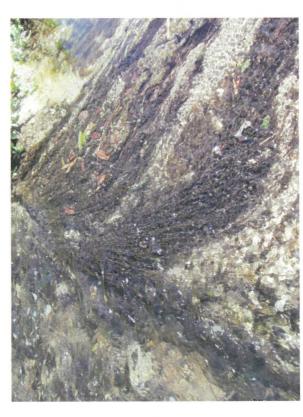


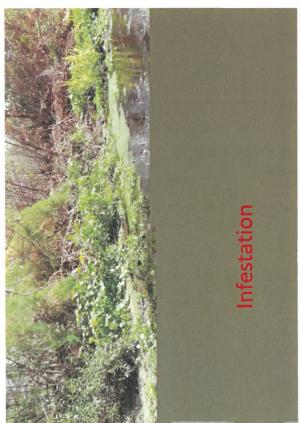




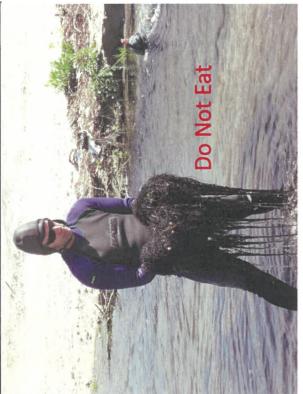


Photo Credit: Kai Palenscar, US Fish and Wildlife Service







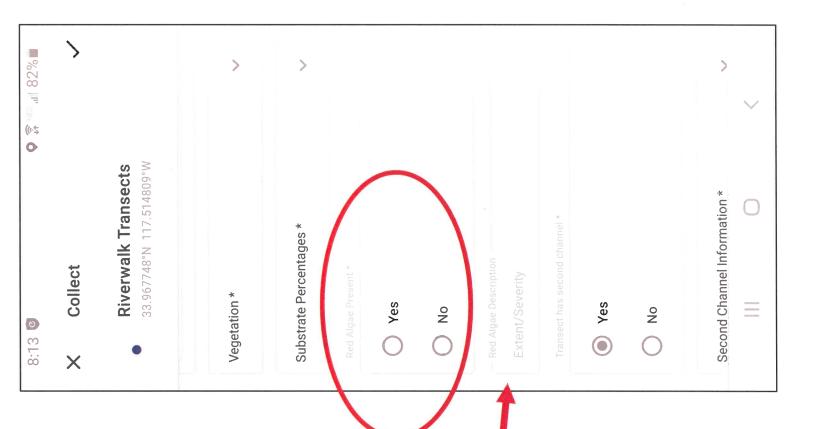




Red Algae Option in Form

If you notice red algae in your survey transect, select "Yes"

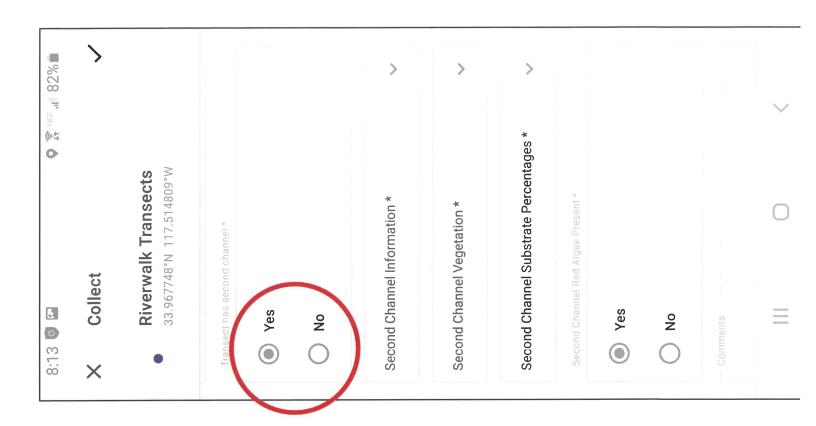
Text box is here to describe extent and/or severity.



Second Channel Option in Form

Toward the bottom of the form, you will see a question regarding a second channel.

If you select "Yes", you have the ability to enter the same information you did for the first channel you collected data for.



Second Channel Option

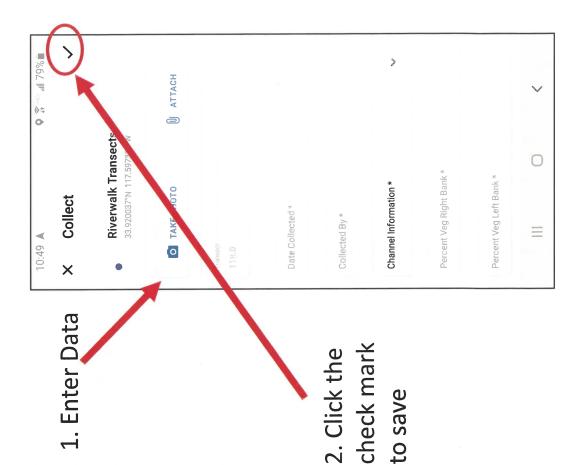




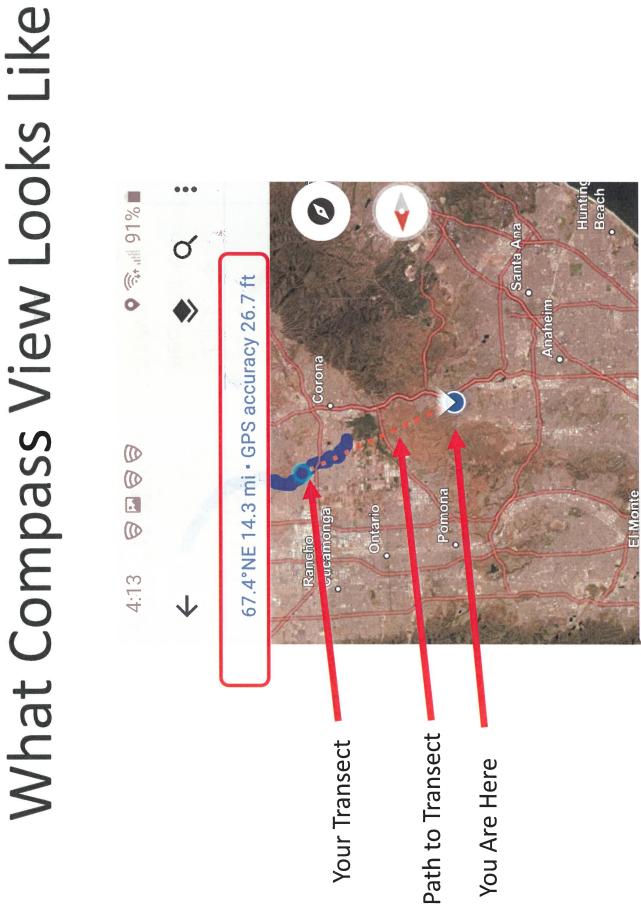


How To Enter Data Into App

- When in a specific transect view, click "Edit",
- Then this form-like screen will appear
- Note: You can still use the hard copy datasheet if you prefer.
- If you loose internet connection, datasheets are your backup.

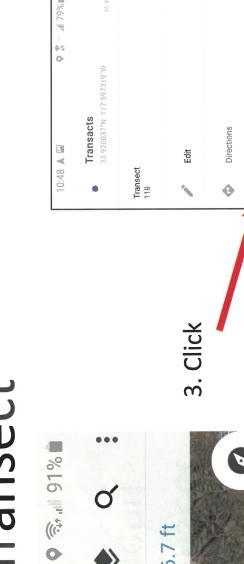


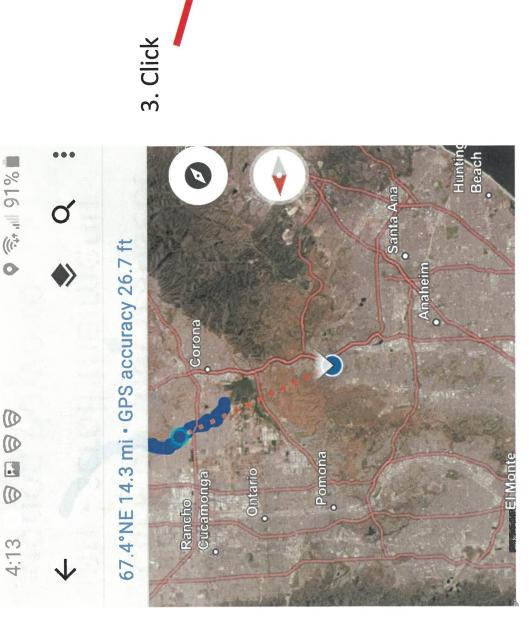




Note that Compass (and the app won't work without Cellular Data)

Use Compass As You Walk to **Transect**

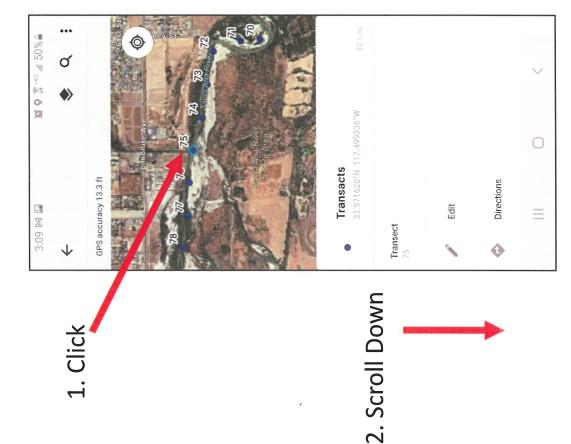






Find Your Transect Points

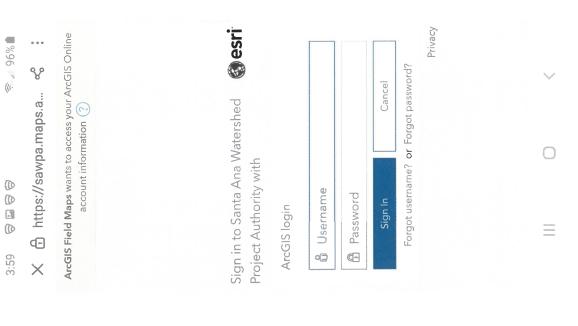
- Move the map toward your section of the River and find your first transect.
- Click on that transect and scroll the menu option down to "Compass"





Log In (Continued)

- ArcGIS Online Account
- But must be an "organizational" account (i.e. from your employer)
- Check to see if your employer
 has one, if they do...they need
 to share with you the login
 details.
- If your employer doesn't have one, contact SAWPA.



Log In

- with 'Field Maps' previously When prompted open map downloaded and installed
- Log In with ArcGIS Online Account





App Information

- ArcGIS Field Maps App
- Download from Apple or Play Store (its free)
- https://www.sawpa.net/sas.h On your mobile device go to

Click link 'Santa Ana Sucker Riverwalk Data Collection'



Page 1

Riverwalk Santa Ana River Sucker Habitat Evaluation

Date	3767169	Abbert of the second se
SAS 9	167.161	r/other)
Transect Name:	Target UTM:	Observers (write

			-					-		-	-			_																		
CHANNEL #3																																
CHANNEL #2	1																															
CHANNEL #1																																
OBSERVATIONS	Actual GPS coordinates in	UTM (@ Left Bank*)	Channel position (L/C/R*)	Width of Channel (m)	Max Depth (cm) &	Location in Channel	(L/C/R*)	Depth @ Left Edge (cm)	(4" from bank edge)	Depth @ Right Edge (cm)	(-4" from bank edge)	% Veg- Left Bank*	% Veg- Right Bank*	% Canopy Over	Transect Band	Substrate % mud/silt	Substrate % sand		Substrate % cobble	Substrate % boulder	Photo Upstream	(time & #)	Photo Downstream	(time & #)	Photo Left Bank*	(time & #)	Photo Right Bank*	(time & #)	Photo other (describe)	Notes (e.g. Islands,	Obstructions)	
																16	9/101	600 pp) [not	S												

*L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Page 2

Additional Information

Please use this form to tally any gravel patches measuring a minimum of roughly 3mx3m you find OUTSIDE of your point/locations.

and SAS	Gravel Patch Size	3m-5m	10m-15m
	Min 3m	5m-10m	15m+
Location between GPS Points SAS	Andrew Comments of the Comment		

Red algae present? If so, please record coordinates below:

Datasheets

You May Use **Either** Datasheets or the Phone-Based Application

Hard copies of the datasheets will be available at SAWPA when you pick up the equipment

Data Sheets and Phone-Based For Riverwalk 2022 Application



November 2, 2022

Additional Information

Please use this form to tally any gravel patches measuring a minimum of roughly 3mx3m you find OUTSIDE of your point/locations.

Location between GPS Points SA	AS and SAS
Tally	Gravel Patch Size Min 3m 3m-5m 5m-10m 10m-15m 15m+
Red algae present? If so, please record coordina	ites below:

Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: S	SAS 78	Date		
Target UTM:	453010	3759212	-	
Observers (write	r/other)			

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in		e e	
	UTM (@ Left Bank*)	re s		
	Channel position (L/C/R*)	Al .		
	Width of Channel (m)	1 9		
	Max Depth (cm) &			
	Location in Channel			
	(L/C/R*)			1
	Depth @ Left Edge (cm)			
	(~4" from bank edge)			
	Depth @ Right Edge (cm)			
	(~4" from bank edge)			
	% Veg- Left Bank*			
	% Veg- Right Bank*			
	% Canopy Over			
	Transect Band			
al	Substrate % mud/silt			
Should total 100%	Substrate % sand			All
ould to	Substrate % gravel			
hor 1	Substrate % cobble			
S	Substrate % boulder			
	Photo Upstream			
	(time & #)			
	Photo Downstream			
	(time & #)		0	54
	Photo Left Bank*		*	
	(time & #)		4	
	Photo Right Bank*			
	(time & #)			
	Photo other (describe)			
	Notes (e.g. Islands,		N N	
	Obstructions)			

^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Take with you



Application for No-Fee Access Permit

Applicant Name: lan Achimore	Date: 9/14/2022
Company/Agency Name: Santa Ana Watershed Proje	ct Authority
Address: 11615 Sterling Avenue City	y: Riverside Zip Code: 92503
Telephone No. 951 354-4233	Mobile No. 951 202-5277
☐ Access to District right of way is to perform an en☐ Access to District right of way is to collect water ☐ Access will not involve an environmental survey ☐ Activity for which access is being requested (attach 2022 Santa Ana River Habitat Survey (Riverwalk)	or soil samples with results sent to the District. or sampling.
District facility(ies) if known, and proposed activ approximate location/boundary of the above describe San Bernardino County (in Colton) downstream to River sampling.	
Duration and timing for each individual facility for warequested (attach additional sheets as needed):	hich activity under this No-Fee Access Permit is being
District facility(ies) being requested access to from	10/11/2022 to 11/18/2022 Completion Date
If checking out a lock key, please complete the follo	
Vehicle Make & Model: NA	License Plate No. NA
access onto District right of way is being requested,	e Form (Page 6) prior to beginning activity for which if access is not going to be taken immediately.
Access Permit	t Authorization
Access Permit No. 1670 Key No	Authorization Date: 10/11/2022
Facility Name: SANTA ANA RIVER	Project No. 1-0-00010
Recommended for Approval: JESUS MIRANDA	Expiration Date: 11/18/2022
Approval from ERS or WPD (If Required):	
Approval: RUDDY ARGUETA Senior Civil Engineer	SSI SHANNON CONTRACTOR

Please keep a copy of this signed document while on District right of way.

Car #2



Application for No-Fee Access Permit

Applicant Name: Ian Achimore	Date: 9/14/2022	***************************************
Company/Agency Name: Santa Ana Watershed Project	ct Authority	
Address: 11615 Sterling Avenue City	Riverside Zip	Code: 92503
Telephone No. 951 354-4233	Mobile No. <u>951 202-5277</u>	
☐ Access to District right of way is to perform an en☐ Access to District right of way is to collect water of Access will not involve an environmental survey of Activity for which access is being requested (attach a 2022 Santa Ana River Habitat Survey (Riverwalk)	or soil samples with results sent to the or sampling.	
District facility(ies) if known, and proposed active approximate location/boundary of the above described San Bernardino County (in Colton) downstream to River sampling.	ed activity):	
Duration and timing for each individual facility for w requested (attach additional sheets as needed):	hich activity under this No-Fee Acce	ss Permit is being
District facility(ies) being requested access to from	10/11/2022 to 11	/18/2022
If checking out a lock key, please complete the follow	Start Date wing:	Completion Date
Vehicle Make & Model: NA	License Plate No. NA	
Please submit to the District the Access Start Notice access onto District right of way is being requested,		
Access Permit	Authorization	
Access Permit No. 1670 Key No	Authorization Date: 10/1	1/2022
Facility Name: SANTA ANA RIVER	Project No. 1-0-00010	
Recommended for Approval: JESUS MIRANDA	Expiration Date: 11/18	/2022
Approval from ERS or WPD (If Required):		
Approval: RUDDY ARGUETA Senior Civil Engineer	AND THE PROPERTY OF THE PROPER	

Please keep a copy of this signed document while on District right of way.

Car #1



Application for No-Fee Access Permit

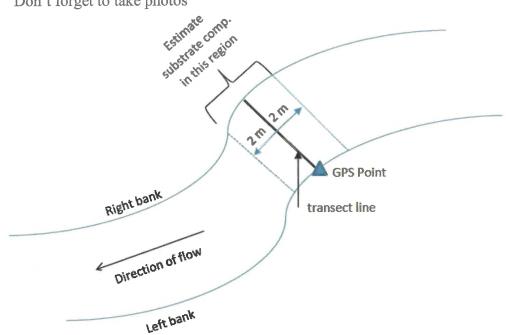
Applicant Name: Ian Achimore	26025003254-p-mp-ranno-prono-p	Date: 9/14/204	<u> </u>
Company/Agency Name: Santa Ana Watershed Project	ct Authority		
Address: 11615 Sterling Avenue City	y: Riverside	***************************************	Zip Code: 92503
Telephone No. 951 354-4233	Mobile No. 9	951 202-5277	
☐ Access to District right of way is to perform an en☐ Access to District right of way is to collect water of Access will not involve an environmental survey of Activity for which access is being requested (attach 2022 Santa Ana River Habitat Survey (Riverwalk)	or soil samples or sampling.	with results sen	
District facility(ies) if known, and proposed activ approximate location/boundary of the above describe San Bernardino County (in Colton) downstream to River sampling.	ed activity):		
Duration and timing for each individual facility for w requested (attach additional sheets as needed):			
District facility(ies) being requested access to from	Start Date		to 11/18/2022 Completion Date
If checking out a lock key, please complete the follow	wing:		
Vehicle Make & Model: NA	License Plate 1	No. NA	
Please submit to the District the Access Start Notice access onto District right of way is being requested, Please do not wr			
Access Permit	Authorizati	ion	
Access Permit No. 1670 Key No	Auth	orization Date:	10/11/2022
Facility Name: SANTA ANA RIVER	Proje	ct No. 1-0-0	0010
Recommended for Approval: JESUS MIRANDA	Expir	ration Date:	11/18/2022
Approval: RUDDY ARGUETA Senior Civil Engineer			

Please keep a copy of this signed document while on District right of way.

Data Collection Instructions: Locate GPS points shown on the attached Riverwalk Points Map. If the GPS Point is not in the wetted river, walk to the closest location that is in the wetted river and record on your data sheet the actual GPS location on the left bank (note: the left bank is on your left when you face downstream). If there is more than one wetted river channel, record each channel's left bank GPS location.

Here are some helpful tips:

- Please record all measurements using the metric system;
- Set up your transect lines perpendicular to the river;
- Estimate substrate components within a 2-m band on either side of the transect; make sure all substrate components add up to 100%;
- Don't forget to take photos



When You Are Done: Within a week of the survey, please return equipment and any paper datasheets to SAWPA at 11615 Sterling Ave Riverside, CA 92503. Photos will be submitted via a dropbox link that you will receive from Zyanya Ramirez (SAWPA staff).

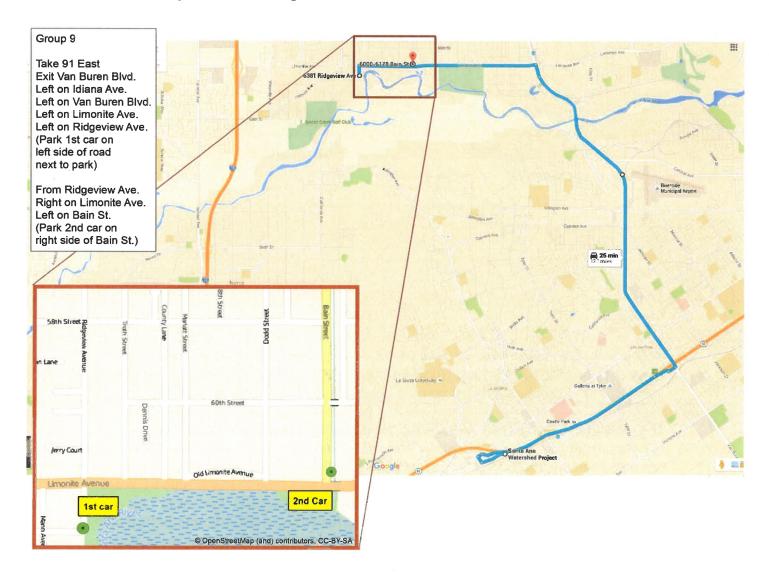
If You Want to Drive Back to SAWPA Immediately After Your Surveying (Optional): From the Car #2 location, drive down Bain St. toward Limonite Ave and turn left onto Limonite Ave. After turning left on Limonite, turn right to merge onto Van Buren Blvd. Continue driving at Van Buren Blvd and turn right to merge onto 91 West. Take the 91 West to Magnolia Ave exit. After exiting on Magnolia Ave., head west to Pierce Street and make a left onto Pierce Street. After taking a left, take another left onto Sterling Ave. Stay on Sterling Ave. all the way to the end of the street and arrive at SAWPA.

Technical Questions: Call Cameron Macbeth at (949) 533-5749 Coordination/Logistical Issues: Call Zyanya Ramirez at (951) 354-4244

First Car Google Map Point:

https://goo.gl/maps/JcMxjQDeFozCUmdu5

Driving Directions (from SAWPA): Take 91 East and exit Van Buren Boulevard. Turn left onto Indiana Avenue then a quick left onto Van Buren Boulevard. Take Van Buren Boulevard over the river to Limonite Avenue. Turn left onto Limonite Avenue. Turn left onto Ridgeview Avenue and turn left into the Horse Park on left side of road. Car #1 should park at the Horse Park off of Ridgeview Avenue. After parking first car, turn around and turn right onto Limonite Avenue. Turn left onto Bain Street. Car #2 should park upstream on Bain Street and Limonite Avenue. Parking the cars as directed, will ensure you are walking downstream.



Technical Questions: Call Cameron Macbeth at (949) 533-5749 Coordination/Logistical Issues: Call Zyanya Ramirez at (951) 354-4244

Important Information



Soft Segments:

Watch out for soft spots in the river. It is not uncommon for there to be areas of "quicksand" type material that can suck you in up to your waist. It is recommended that you not walk immediately next to your group partners. That way if one of your group members starts to sink, you don't sink too, and there is still someone there to help them if necessary.

• Sun Safety:

o Be sure to wear a hat, sunglasses (polarized if possible) and sunscreen. Water intensifies the sun's glare and can cause you to burn much quicker than on land.

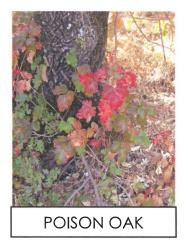
Wearing Waders:

o It is **not** recommended that you wear waders for the Riverwalk. They hold the heat in and if you fall you risk the chance of them filling up with water and pulling you under. If you do chose to wear them, be sure to also wear a wader belt. This will help keep the water out or at least slow it down if you do fall. The footwear of choice seems to be water shoes or an old pair of tennis shoes.

Safe Surroundings:

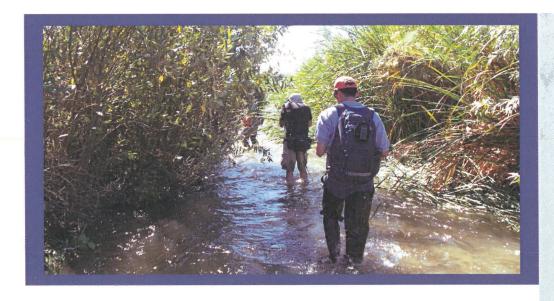
- Be aware that there are swift and sometimes deep moving portions of the river. If a section is moving too fast, it is best to exit the wetted portion of the river and re-enter it downstream.
- Be aware of your surroundings. There are many homeless people that reside in the riverbed. They
 usually keep to themselves, but may have a dog or two guarding their camp. Also, you may encounter
 feral pigs in or near the river. They are usually very skittish and will run off but be aware of your
 surroundings.
- Be careful of debris in the river. There may be dangerous objects buried in the sand such as needles, cans, broken glass or other sharp objects.
- When getting into and out of the river, be aware of stinging or biting insects such as bees and wasps that may be living or feeding in the surrounding vegetation. They may become agitated if disturbed.
 Also, make sure you can identify and avoid stinging nettle.





Riverwalk Safety Sheet





Santa Ana River – Know your limits

If you've done the Riverwalk before you know how much fun it is going to be this year. However, it is important to understand and respect its hazardous nature. Remember that safety should be your first concern. Here are a few simple rules to follow while volunteering for the Riverwalk:

- Never stray from your group alone
- Be cautious and avoid approaching people living on or near the River
- Walk through water cautiously as there maybe sudden dropoffs or slippery segments
- Obey all warning signs
- Avoid any large debris in the river
- Stay away from stray animals
- Watch out for tree branches
- Do not underestimate the River

For your safety

- Make sure you get cell phone numbers from each of your group members
- Make sure your group knows who to call in case of an emergency



Exposure to excessive heat can lead to many illnesses. All heat illnesses should be taken seriously.

The most common illnesses include heat cramps, heat exhaustion, and heat stroke.

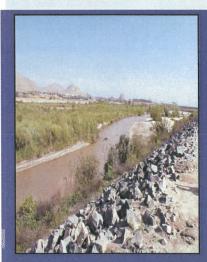
The Riverwalk is outside and during mosquito season (May to October).

For more information on the West Nile Virus that can be carried by mosquitoes see the following <u>link</u>.

Be Prepared!

Make sure you carry these items.

- A bright vest or shirt (SAWPA has extra vests if you need one)
- Laced tennis shoes that can get wet
- Backpack
- Cell phone and a sealable bag to keep it dry just in case
- Water bottle
- Sunscreen
- Hat
- Bug spray
- First aid kit
- Snacks if needed
- Waterproof camera if needed



Keep in mind that the river has different types of terrains. You will have to walk in the wetted channel, down steep levees and through vegetation.

			=
			1 7
	pelow:	please record coordinates	Red algae present? If so,
	m2-m8 m21-m01 +m21		
	eravel Patch Size mE niM	YllsT	_
.——	SAS bns	_ SA2 stnio9 S9D nəəwtəd r	Location

		189827£	ransect Name: SAS 82 arget UTM: 452149 bbservers (writer/other)
CHVNNEF #3	CHVANET #5	CHVNNET #1	OBSEKAVLIONS
			Actual GPS coordinates in
			UTM (@ Left Bank*)
			Channel position (L/C/R*)
		VALUE IN THE CONTRACT OF THE C	Width of Channel (m)
			Max Depth (cm) &
			Location in Channel
			(L/C/R*)
			Depth @ Left Edge (cm)
			(~\frac{1}{2}, from bank edge)
			Depth @ Right Edge (cm)
			(~√, trom bank edge)
			% Veg- Left Bank*

*L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Photo other (describe)

Notes (e.g. Islands,
Obstructions)

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(# 28 əmit)

(# 28 əmit)

Should total 100%

Photo Right Bank*

Photo Left Bank*

Photo Downstream

Substrate % mud/silt
Substrate % gravel
Substrate % gravel

Substrate % boulder
Photo Upstream

% Veg- Right Bank*

	***************************************	anum 1000 m 1000 L Denoid (oc u vanaca id angin navi
	.Moled se), please record coordinate	os il Staesera esple heg
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	m& niM m2-m&		_
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8698SLE

Date

Observers (writer/other)_

Transect Name: SAS 81

I++75+

Target UTM:

			Obstructions)	
			Notes (e.g. Islands,	
			Photo other (describe)	
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			Photo Right Bank*	
			(# & əmit)	
			Photo Left Bank*	
			(# % əmit)	
			Photo Downstream	
			(# \$ əmit)	
			Photo Upstream	
			Substrate % boulder	S
			Substrate % cobble	Should total 100%
			Substrate % gravel	ould to 100%
			Substrate % sand	tot:
			Substrate % mud/silt	al
			Transect Band	
			% Canopy Over	
			% Veg- Right Bank*	
			% Veg- Left Bank*	
			(~4" from bank edge)	
	*		Depth @ Right Edge (cm)	
			(~4", from bank edge)	
			Depth @ Left Edge (cm)	
			$(\Gamma\backslash C\backslash K_*)$	
			Location in Channel	
			Max Depth (cm) &	
			Width of Channel (m)	
			Channel position (L/C/R*)	
			UTM (@ Left Bank*)	
			Actual GPS coordinates in	
CHVNNEF #3	CHVNNEF #5	CHVANET #1	OBSEKAVLIONS	

*L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

s pelow:	Red algae present? If so, please record coordinate
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m01-m2	
m& niM m2-m&	
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	SAS siniod GPS Getween GPS Points

1968518

Date

Observers (writer/other)_

Transect Name: SAS 80

Target UTM:

99**5**75†

			Obstructions)	
			Notes (e.g. Islands,	
			Photo other (describe)	
			(# % əmi)	
			Photo Right Bank*	
			(# & əmit)	
			Photo Left Bank*	
			(# % əmit)	
			Photo Downstream	
			(# % əmit)	
			Photo Upstream	
			Substrate % boulder	S
			Substrate % cobble	hou 1
			Substrate % gravel	ould to 100%
			Substrate % sand	Should total 100%
			Substrate % mud/silt	<u>a</u>
			Transect Band	
			% Canopy Over	
			% Veg- Right Bank*	1
			% Veg- Left Bank*	
			(~4" from bank edge)	
			Depth @ Right Edge (cm)	
			(~4" from bank edge)	
			Depth @ Left Edge (cm)	
			$(\Gamma\backslash C\backslash K_*)$	
			Location in Channel	
			Max Depth (cm) &	
			Width of Channel (m)	
			Channel position (L/C/R*)	
			UTM (@ Left Bank*)	
			Actual GPS coordinates in	
CHVNNEF #3	CHVANET #5	CHVANET #1	OBSEKAVLIONS	

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	elow:	d sətenibro	sse record coo	: 5 If so, ples	Red algae presen
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	#M21 +m21	——————————————————————————————————————	ase record coo	 	Red algae presen
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	m2-m5 m21-m01 +m21	——————————————————————————————————————	ase record coo		Ked algae presen
	աՕՂ-աՏ աՏՂ-աՕՂ +աՏՂ	——————————————————————————————————————	ase record coo		Ked algae presen
	m2-m5 m21-m01 +m21		Tally	 	Ked algae presen
	m£ niM m2-m£ m01-m2 m21-m01 +m21				Ked algae presen
	m£ niM m2-m£ m01-m2 m21-m01 +m21				Ked algae presen
	m£ niM m2-m£ m01-m2 m21-m01 +m21			: 3 If so, ples	Ked algae presen
	m£ niM m2-m£ m01-m2 m21-m01 +m21	9			

Santa Ana River Sucker Habitat Evaluation **Riverwalk**

			Location in Channel
			Max Depth (cm) &
			Width of Channel (m)
			Channel position (L/C/R*)
			UTM (@ Left Bank*)
			Actual GPS coordinates in
CHVINET #3	CHVANET #5	CHVNNET #1	OBSERVATIONS
CHVMME #3		711 ====== .	311012211122323
CHVMMEI #3			bservers (writer/other)
CHVMMEI #3		6616515	

CHVNNET #5	CHVANET #1	OBSEKAVLIONS	
		OTM (@ Left Bank*)	
		Width of Channel (m)	
		Max Depth (cm) &	
		Location in Channel	
		$(\Gamma\backslash C\backslash K_*)$	1
		Depth @ Left Edge (cm)	
		(~4", from bank edge)	1
		Depth @ Right Edge (cm)	
		(~4", from bank edge)	
		% Veg- Left Bank*	
		% Veg-Right Bank*	
		% Canopy Over	
		Transect Band	
		Substrate % mud/silt	tal
		Substrate % sand	Should total 100%
		Substrate % gravel	ould to 100%
1		Substrate % cobble	ho 1
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			1
			+
			-
		760	
			-
			-
		(
	CHVINET #5	CHVINET #I CHVINET #5	Actual GPS coordinates in UTM (@ Left Bank*) Channel position (L/C/R*) Width of Channel (m) Max Depth (cm) & Location in Channel Depth @ Left Edge (cm) (~4" from bank edge) (~4" from bank edge) % Veg- Left Bank* % Veg- Left Bank* Substrate % mud/silt Substrate % sand Substrate % sand Substrate % gand

*L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Take with you



Application for No-Fee Access Permit

Applicant Name: Ian Achimore	Date: 9/14/2022
Company/Agency Name: Santa Ana Watershed Projec	t Authority
	Riverside Zip Code: 92503
Telephone No. 951 354-4233	Mobile No. 951 202-5277
☐ Access to District right of way is to perform an envelopment of District right of way is to collect water of Access will not involve an environmental survey of Activity for which access is being requested (attach a 2022 Santa Ana River Habitat Survey (Riverwalk)	r soil samples with results sent to the District. r sampling.
District facility(ies) if known, and proposed activi approximate location/boundary of the above describe San Bernardino County (in Colton) downstream to River F sampling.	d activity):
requested (attach additional sheets as needed):	nich activity under this No-Fee Access Permit is being
District facility(ies) being requested access to from	10/11/2022 to 11/18/2022 Start Date Completion Date
If checking out a lock key, please complete the follow	•
Vehicle Make & Model: NA	License Plate No. NA
access onto District right of way is being requested, i	Form (Page 6) prior to beginning activity for which f access is not going to be taken immediately.
Access Permit	Authorization
Access Permit No. 1670 Key No. NA	A Authorization Date: 10/11/2022
Facility Name: SANTA ANA RIVER	Project No. 1-0-00010
Recommended for Approval: JESUS MIRANDA	
Approval from ERS or WPD (If Required):	A Comment of the Comm
Approval: RUDDY ARGUETA Senior Civil Engineer	

Please keep a copy of this signed document while on District right of way.

			`			

Car #2



Application for No-Fee Access Permit

Applicant Name: Ian Achimore Date: 9/14/2022				
Company/Agency Name: Santa Ana Watershed	Project Authorit	У		
Address: 11615 Sterling Avenue	City: Riversi		Zip Code: 92503	
Telephone No. 951 354-4233	Mobile	No. <u>951 202-5277</u>		
✓ Access to District right of way is to perform Access to District right of way is to collect w Access will not involve an environmental su: Activity for which access is being requested (at 2022 Santa Ana River Habitat Survey (Riverwalk)	vater or soil sar rvey or sampli	mples with results sen ng.	s sent to the District. t to the District.	
District facility(ies) if known, and proposed approximate location/boundary of the above de San Bernardino County (in Colton) downstream to sampling.	escribed activit	y):		
Duration and timing for each individual facility requested (attach additional sheets as needed):	for which acti	vity under this No-Fee	e Access Permit is being	
District facility(ies) being requested access to f	from 10/11/20	022 tart Date	to 11/18/2022 Completion Date	
If checking out a lock key, please complete the		an Date	Compressor Succ	
Vehicle Make & Model: NA	License	Plate No. NA		
Please submit to the District the Access Start access onto District right of way is being reque	Notice Form (ested, if access to not write below thi	is not going to be tak	nning activity for which en immediately.	
Access Pe	ermit Autho	rization		
Access Permit No. 1670 Key N	o. NA	Authorization Date:	10/11/2022	
Facility Name: SANTA ANA RIVER	1,1100	Project No. 1-0-0	00010	
Recommended for Approval: JESUS MIRA	ANDA	Expiration Date:	11/18/2022	
Approval from ERS or WPD (If Required):	me ore II - man			
Approval: RUDDY ARGUETA Senior Civil Engineer				

Please keep a copy of this signed document while on District right of way.

Transect Name: SAS 83

Target UTM: 451873

Observers (writer/other)

Plan 11/22

Christeria

Christeria

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in	5 451873		
	UTM (@ Left Bank*)	3758647		
	Channel position (L/C/R*)	R		
	Width of Channel (m)	247		
	Max Depth (cm) &			
	Location in Channel (L/C/R*)	R 43 cm		
	Depth @ Left Edge (cm) (~4" from bank edge)	12.0 cm		
	Depth @ Right Edge (cm) (~4" from bank edge)	9cm	,	
	% Veg- Left Bank*	100%		
	% Veg- Right Bank*	160 kg		
	% Canopy Over Transect Band	20%		
ĮĘ.	Substrate % mud/silt	< y.		
Should total 100%	Substrate % sand	99+1,		
uld to	Substrate % gravel			
10t	Substrate % cobble			
$\overline{\mathbf{S}}$	Substrate % boulder			
	Photo Upstream (time & #)	10:23 am		
	Photo Downstream (time & #)			
	Photo Left Bank* (time & #)			
	Photo Right Bank* (time & #)			
	Photo other (describe)			
	Notes (e.g. Islands, Obstructions)	arundo tuly avor		
	Cool dollons)	tuly are		

^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Loc	ation between GPS Points	S SAS and SAS	
	Tally	5m-10m 10m-15m	
Red algae present?	If so, please record coord	inates below:	

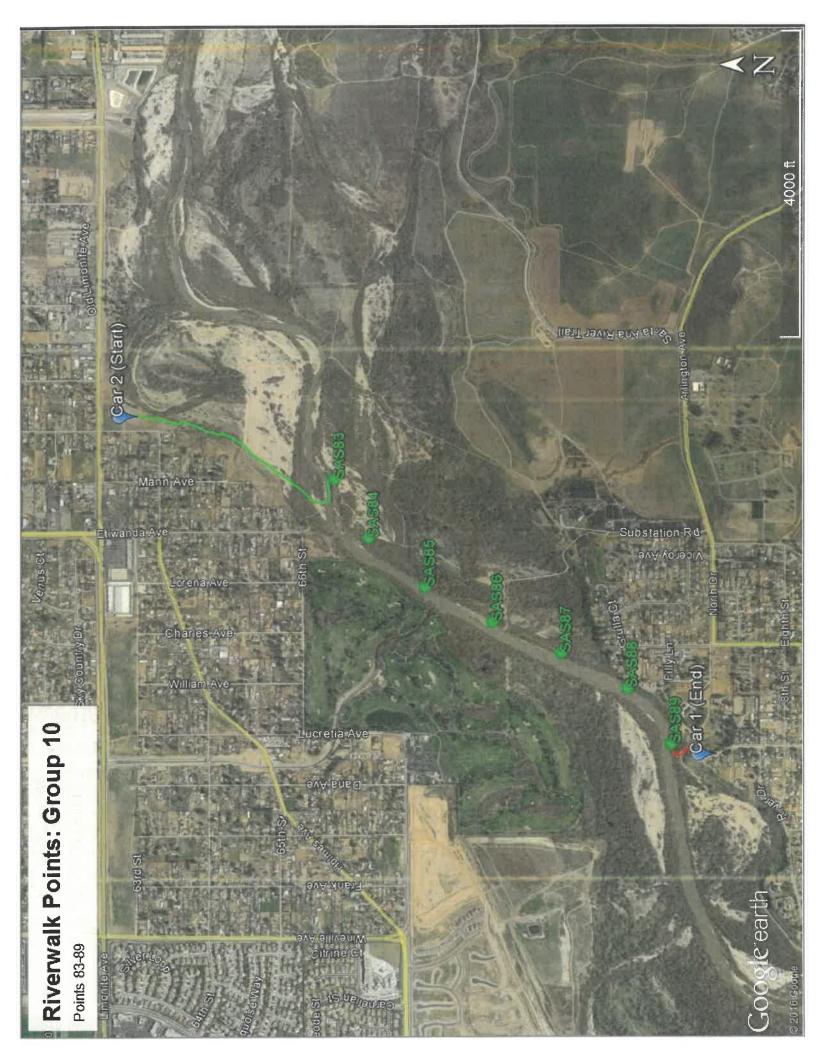
Target IITM: 451638	Date 11 3 20 22 3758497	v class
Observers (writer/other) C	s Medak Rebecca Christersus,	ryan siless
Bo	80 fg Su	-

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in	3158553		
	UTM (@ Left Bank*)	3158553		
	Channel position (L/C/R*)	R	-	
	Width of Channel (m)	32.7M		
	Max Depth (cm) & Location in Channel (L/C/R*)	21.6		
	Depth @ Left Edge (cm) (~4" from bank edge)	9.4		
	Depth @ Right Edge (cm) (~4" from bank edge)	17.9		
	% Veg- Left Bank*	100%		
	% Veg- Right Bank*	100 1/2		
	% Canopy Over Transect Band	25%		
<u> </u>	Substrate % mud/silt	6%		
Should total 100%	Substrate % sand	84%		
uld to	Substrate % gravel	10%		
hor 1	Substrate % cobble			
80	Substrate % boulder			
	Photo Upstream (time & #)			
	Photo Downstream (time & #)			
	Photo Left Bank* (time & #)			
	Photo Right Bank* (time & #)			
	Photo other (describe)			
	Notes (e.g. Islands, Obstructions)	Islad upstre	١	
	O o o o o o o o o o o o o o o o o o o o	a transect		

Ermy gard bor

^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Locat	tion between GPS Points S	AS 83 and SAS 84	_(sustup from 8f
	Tally	Gravel Patch Size Min 3m 3m-5m	
		5m-10m 10m-15m 15m+	x 3.75 m
Red algae present? If	so, please record coordina	Small tes below:	x 3.75 m gavel



Transect Name: SAS 85

Date 11 2 22

Target UTM: 451443 3758279

Observers (writer/other) Chris Medak Redeca Christian, Brooke SJ, Kyan Siless

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in	451445 3758262		
	UTM (@ Left Bank*)	2		
	Channel position (L/C/R*)	27.1		
	Width of Channel (m)	06/11		
	Max Depth (cm) &			
	Location in Channel (L/C/R*)	24.5 C		
	Depth @ Left Edge (cm) (~4" from bank edge)	S.S CM		
	Depth @ Right Edge (cm) (~4" from bank edge)	11.6 cm		
	% Veg- Left Bank*	100%		
	% Veg- Right Bank*	100%		
	% Canopy Over Transect Band	224		
긑	Substrate % mud/silt	32		
Should total 100%	Substrate % sand	97%		
uld to 00%	Substrate % gravel			
hot 1	Substrate % cobble			
S	Substrate % boulder			
	Photo Upstream			
	(time & #) Photo Downstream			
	(time & #)			
	Photo Left Bank*			
	(time & #)			
	Photo Right Bank*			
	(time & #)			
	Photo other (describe)			
	Notes (e.g. Islands,	Solid		
	Obstructions)	Solid		

^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Please use this form to tally any gravel patches measuring a minimum of roughly 3mx3m you find OUTSIDE of your point/locations.

Tally Gravel Patch Size

Min 3m
3m-5m
5m-10m - Isund formed
10m-15m - exposed but out of
Uachs

Red algae present? If so, please record coordinates below:

Transect Name: SAS 86

Target UTM: 451303

Observers (writer/other)

Chas Medale Lesecca Chastres, Brooke So, Ryan Siless

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in	451284		
	UTM (@ Left Bank*)	3758018		
	Channel position (L/C/R*)	R		
	Width of Channel (m)	33.4 m		
	Max Depth (cm) &			
	Location in Channel	, 31.5 cm		
	(L/C/R*)	L		
	Depth @ Left Edge (cm)	CI.		
	(~4" from bank edge)	5.6 cm		
	Depth @ Right Edge (cm)			
	(~4" from bank edge)	21,5 CA		
	% Veg- Left Bank*	100		
	% Veg- Right Bank*	OO		
	% Canopy Over	194		
	Transect Band	197.		
al	Substrate % mud/silt	127,		
tot %	Substrate % sand	88%		
Should total 100%	Substrate % gravel			
hor 1	Substrate % cobble			
S	Substrate % boulder			
	Photo Upstream			
	(time & #)			
	Photo Downstream			
	(time & #)			
	Photo Left Bank*			
	(time & #)			
	Photo Right Bank*			
	(time & #)			
	Photo other (describe)			
	Notes (e.g. Islands,	Solid		
	Obstructions)	Solid		

on banks

^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Location between GPS Points SA	S and SAS
Tally	5m-10m 10m-15m 15m+
Red algae present? If so, please record coordinate	es below:

Transect Name: SAS 87

Target UTM: 451176

Observers (writer/other) Chris Mcdak, Research Christusen, Drookes, Ryn Sy less

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3	
	Actual GPS coordinates in	451147			
	UTM (@ Left Bank*)	3757753			
	Channel position (L/C/R*)	C			
	Width of Channel (m)	28,6			
	Max Depth (cm) &				
	Location in Channel	31.9			
	(L/C/R*)	R			
	Depth @ Left Edge (cm) (~4" from bank edge)	6.7 CM			
	Depth @ Right Edge (cm) (~4" from bank edge)	34 cm			
	% Veg- Left Bank*	100			
	% Veg- Right Bank*	100	-100%.Armo	entiresed	che
	% Canopy Over	1014	10.	loe h	veer
	Transect Band	19%			86-87
al	Substrate % mud/silt	187			
Should total 100%	Substrate % sand	82%			
ould to 100%	Substrate % gravel				
hou	Substrate % cobble				
S	Substrate % boulder				
	Photo Upstream				
	(time & #)				
	Photo Downstream				
	(time & #)				
	Photo Left Bank*				
	(time & #)				
	Photo Right Bank*				
	(time & #)				
	Photo other (describe)				-
	Notes (e.g. Islands,				
	Obstructions)				
Į					J.

^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Please use this form to tally any gravel patches measuring a minimum of roughly 3mx3m you find OUTSIDE of your point/locations.

Tally Gravel Patch Size

Min 3m
3m-5m
5m-10m
10m-15m
patchy, 5m gawel
15m+
Red algae present? If so, please record coordinates below:

Transect Name: SAS 88

Target UTM: 451034

Observers (writer/other) Chas Medak besecca Chashien, Ryan Siless, Brooke Sc

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3	
	Actual GPS coordinates in UTM (@ Left Bank*)	451030			
	Channel position (L/C/R*)				
	Width of Channel (m)	-06.6 M			
	Max Depth (cm) & Location in Channel (L/C/R*)	35 cm			237
	Depth @ Left Edge (cm) (~4" from bank edge)	30.8 cm			a silt
	Depth @ Right Edge (cm) (~4" from bank edge)	9.8 cm			
	% Veg- Left Bank*	1007	- grape vines	- Steep you	K
	% Veg- Right Bank*	100y, -	cutails/ willo	us 1	
	% Canopy Over Transect Band	19 x.	,		
a	Substrate % mud/silt	18 %		S	
Should total	Substrate % sand	82 4			
ould to	Substrate % gravel				
hot	Substrate % cobble				
S	Substrate % boulder				
	Photo Upstream (time & #)				
	Photo Downstream (time & #)	€:			
	Photo Left Bank* (time & #)				
	Photo Right Bank* (time & #)				
	Photo other (describe)				
	Notes (e.g. Islands, Obstructions)				
					1

^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Location between GPS Points SA	s <u>87</u> and SAS <u>88</u>
Tally	Gravel Patch Size Min 3m 3m-5m 5m-10m 10m-15m 15m+ Patchy, 5 not 5 and 5
Red algae present? If so, please record coordinat	_

Transect Name: SAS 89
Target UTM: 450811
Observers (writer/other) Chris Medak Resecta Christensen, Onkess, Lyan
Siless.

	OBSERVATIONS	CHANNEL #1	CHANNEL #2	CHANNEL #3
	Actual GPS coordinates in	450814		
	UTM (@ Left Bank*)	3757313		
	Channel position (L/C/R*)			
	Width of Channel (m)	12,95 m		
	Max Depth (cm) & Location in Channel (L/C/R*)	40.5 R		
	Depth @ Left Edge (cm) (~4" from bank edge)	20.5 cm		
	Depth @ Right Edge (cm) (~4" from bank edge)	30.0 cm		
	% Veg- Left Bank*	100 y.	- Suntumer	cathells/and
	% Veg- Right Bank*	# 951	-1011002	
	% Canopy Over Transect Band	244		
Should total 100%	Substrate % mud/silt			
	Substrate % sand	98%		
	Substrate % gravel			
	Substrate % cobble	24		
	Substrate % boulder			
	Photo Upstream (time & #)	¥		
	Photo Downstream (time & #)			
	Photo Left Bank* (time & #)			
	Photo Right Bank* (time & #)			
	Photo other (describe)			
	Notes (e.g. Islands, Obstructions)			

^{*}L/C/R = Left/Center/Right. Face downstream to determine left and right banks.

Location between GPS Points SAS and SAS							
Red algae present? If so, please reco		10m-15m 15m+	patchy, s	mell - miles	gand,		