

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 9

Date 11/07/19

Target UTM: 467461

3767169

Observers (writer/other) Brett Mills, Kai P, Chris M

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 467384 3767115 | | |
| Channel position (L/C/R*) | | R | | |
| Width of Channel (m) | | 4 meters | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 64 cm R | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 31 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 60 cm | | |
| % Veg- Left Bank* | | 75% | | |
| % Veg- Right Bank* | | 100% | | |
| % Canopy Over Transect Band | | 75% | | |
| Should total 100% | Substrate % mud/silt | 5% | | |
| | Substrate % sand | 85% | | |
| | Substrate % gravel | 5% | | |
| | Substrate % cobble | 25% | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | TALK TO CHRIS I | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | Left bank under cut * Rio Hondo Channel Main stem Continued | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 10

Date 11/07/19

Target UTM: 467340

3766938

Observers (writer/other) Ruff m / Kai P / Chris m

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 467334 3766938 | | |
| Channel position (L/C/R*) | | R | | |
| Width of Channel (m) | | 6.7m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 42 cm L | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 9cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 7cm | | |
| % Veg- Left Bank* | | 100% | | |
| % Veg- Right Bank* | | 100% | | |
| % Canopy Over Transect Band | | 95% | | |
| Should total 100% | Substrate % mud/silt | 1% | | |
| | Substrate % sand | 5% | | |
| | Substrate % gravel | 79% | | |
| | Substrate % cobble | 15% | | |
| | Substrate % boulder | 0% | | |
| Photo Upstream (time & #) | | See Chris m. J | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | TRASH Dams Debris Riffle/Pool couple | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 11

Date 10/07/19

Target UTM: 467256

3766659

Observers (writer/other) Beth M / Kai P / Chris M

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 467257 3766658 | | |
| Channel position (L/C/R*) | | R | | |
| Width of Channel (m) | | 4.6 m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 81 C | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 34 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 76 cm | | |
| % Veg- Left Bank* | | 100% | | |
| % Veg- Right Bank* | | 100% | | |
| % Canopy Over Transect Band | | 60% | | |
| Should total 100% | Substrate % mud/silt | 10% | | |
| | Substrate % sand | 30% | | |
| | Substrate % gravel | 55% | | |
| | Substrate % cobble | 5% | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | See Chris | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | insignificant channel large bars Pope. | | |

*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 coordinates below:

| | |
|-----------|-------|
| Yes, But | _____ |
| less than | _____ |
| 10.1 | _____ |
| cover | _____ |
| _____ | _____ |

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 12

Date 10/02/19

Target UTM: 467150

3766398

Observers (writer/other) Bobt my kai P, Chris M.

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | <u>467140</u> <u>3766394</u> | | |
| Channel position (L/C/R*) | | <u>R</u> | | |
| Width of Channel (m) | | <u>6.8m</u> | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | <u>44cm</u> <u>C</u> | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | <u>14cm</u> | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | <u>12cm</u> | | |
| % Veg- Left Bank* | | <u>100%</u> | | |
| % Veg- Right Bank* | | <u>100%</u> | | |
| % Canopy Over Transect Band | | <u>65%</u> | | |
| Should total 100% | Substrate % mud/silt | <u>3%</u> | | |
| | Substrate % sand | <u>25%</u> | | |
| | Substrate % gravel | <u>67%</u> | | |
| | Substrate % cobble | <u>5%</u> | | |
| | Substrate % boulder | <u>0%</u> | | |
| Photo Upstream (time & #) | | <u>Chris M T</u> | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | <u>* massive arundo patch</u> <u>* shot hole bore evidence</u> | | |

*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.

N/A

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 coordinates below:

| | |
|-------------------|-------|
| Yes, less than 5% | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 13

Date 10/07/19

Target UTM: 467044

3766133

Observers (writer/other) Balf m/ Koip/ chris m.

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | <u>467061</u> <u>3766133</u> | | |
| Channel position (L/C/R*) | | <u>R</u> | | |
| Width of Channel (m) | | <u>13.8 m</u> | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | <u>30 cm</u> <u>L</u> | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | <u>3 cm</u> | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | <u>10 cm</u> | | |
| % Veg- Left Bank* | | <u>100%</u> | | |
| % Veg- Right Bank* | | <u>100%</u> | | |
| % Canopy Over Transect Band | | <u>55%</u> | | |
| Should total 100% | Substrate % mud/silt | <u>5%</u> | | |
| | Substrate % sand | <u>5%</u> | | |
| | Substrate % gravel | <u>85%</u> | | |
| | Substrate % cobble | <u>5%</u> | | |
| | Substrate % boulder | <u>0%</u> | | |
| Photo Upstream (time & #) | | <u>Chris</u> | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | <u>Embedment High</u> <u>* Algae link</u> | | |

*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.

N/A

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 coordinates below:

| | |
|------------------|-------|
| yes, 60% covered | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 14

Date 10/7/19

Target UTM: 466961

3765847

Observers (writer/other) Balt m / Kai P / CW m

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--|---------------------------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | <u>466943</u> <u>3765875</u> L | <u>466933</u> <u>3765804</u> | |
| Channel position (L/C/R*) | | L | R | |
| Width of Channel (m) | | <u>11.4</u> | <u>3.2</u> | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | <u>29cm/R</u> | <u>18cm/C</u> | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | <u>3cm</u> | <u>12cm</u> | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | <u>7cm</u> | <u>3cm</u> | |
| % Veg- Left Bank* | | <u>0%</u> | <u>100%</u> | |
| % Veg- Right Bank* | | <u>100%</u> | <u>100%</u> | |
| % Canopy Over Transect Band | | <u>5%</u> | <u>80%</u> | |
| Should total 100% | Substrate % mud/silt | <u>1%</u> | <u>50%</u> | |
| | Substrate % sand | <u>10%</u> | <u>0%</u> | |
| | Substrate % gravel | <u>33%</u> | <u>40%</u> | |
| | Substrate % cobble | <u>5%</u> | <u>10%</u> | |
| | Substrate % boulder | <u>1%</u> | <u>0%</u> | |
| Photo Upstream (time & #) | | <u>Chris T</u> | <u>Chris T</u> | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | <u>island approx 60ft</u> <u>input from</u> <u>7 oaks stream</u> <u>discharge</u> | | |

*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 ____.

N/A

| Tally | Gravel Patch Size |
|-------|-------------------|
| _____ | Min 3m |
| _____ | 3m-5m |
| _____ | 5m-10m |
| _____ | 10m-15m |
| _____ | 15m+ |

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

| | |
|------------------------------|-------|
| <u>Present, less than 1%</u> | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 15

Date 10/7/19

Target UTM: 466938

3765563

Observers (writer/other) Rollin / Rol P / Chris m.

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---------------------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | <u>466938</u> <u>3765563</u> | | |
| Channel position (L/C/R*) | | <u>R</u> | | |
| Width of Channel (m) | | <u>6m</u> | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | <u>44 cm/L</u> | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | <u>11 cm</u> | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | <u>2 cm</u> | | |
| % Veg- Left Bank* | | <u>100%</u> | | |
| % Veg- Right Bank* | | <u>100%</u> | | |
| % Canopy Over Transect Band | | <u>95%</u> | | |
| Should total 100% | Substrate % mud/silt | <u>10%</u> | | |
| | Substrate % sand | <u>5%</u> | | |
| | Substrate % gravel | <u>83%</u> | | |
| | Substrate % cobble | <u>2%</u> | | |
| | Substrate % boulder | <u>0</u> | | |
| Photo Upstream (time & #) | | <u>Chris</u> | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | <u>heavy shot hole bare</u> | | |

*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.

N/A

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 coordinates below:

| | |
|-----------------------|-------|
| present, less than 1m | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 16

Date 10/7/19

Target UTM: 466759

3765354

Observers (writer/other) Breth M / Kai P / Chris M.

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | <u>466611</u> <u>3765117</u> | | |
| Channel position (L/C/R*) | | | | |
| Width of Channel (m) | | <u>5.6m</u> | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | <u>40cm/L</u> <u>34cm/C</u> | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | <u>14cm</u> | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | <u>8cm</u> | | |
| % Veg- Left Bank* | | <u>100%</u> | | |
| % Veg- Right Bank* | | <u>100%</u> | | |
| % Canopy Over Transect Band | | <u>50%</u> | | |
| Should total 100% | Substrate % mud/silt | <u>2%</u> | | |
| | Substrate % sand | <u>15%</u> | | |
| | Substrate % gravel | <u>82%</u> | | |
| | Substrate % cobble | <u>1%</u> | | |
| | Substrate % boulder | <u>0%</u> | | |
| Photo Upstream (time & #) | | Chris | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | <u>→ clean gravel & low embedded</u> | | |

*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 ____.

N/A

| Tally | Gravel Patch Size |
|-------|-------------------|
| _____ | Min 3m |
| _____ | 3m-5m |
| _____ | 5m-10m |
| _____ | 10m-15m |
| _____ | 15m+ |

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

| | |
|----------------------|-------|
| Present | _____ |
| Likely Present > 1/5 | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

Homeless
Camp
466561
3765304

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 17 Date 10/07/19
 Target UTM: 466587 3765111
 Observers (writer/other) Brett M. / Kal P. / Chism

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 466470 3765115 | | |
| Channel position (L/C/R*) | | R C | | |
| Width of Channel (m) | | 13.6 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 30cm/c | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 2cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 1cm | | |
| % Veg- Left Bank* | | 50% | | |
| % Veg- Right Bank* | | 0% | | |
| % Canopy Over Transect Band | | 2% | | |
| Should total 100% | Substrate % mud/silt | 70% | | |
| | Substrate % sand | 20% 20% | | |
| | Substrate % gravel | 35 35% | | |
| | Substrate % cobble | 20% | | |
| | Substrate % boulder | 0% | | |
| Photo Upstream (time & #) | | Chris | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | * large amount of SAS/YOY * OAD crossing * SAS in Cobble Riffle section | | |

*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 3m x 3m you find OUTSIDE of your point locations.

N/A

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 coordinates below:

| | |
|-----------------------|-------|
| N/A | _____ |
| N/A | _____ |
| N/A | _____ |
| Present, less than 1% | _____ |
| _____ | _____ |
| _____ | _____ |

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 18

Date

11/17/19

Target UTM: 466399

3764883

Observers (writer/other)

Jason Bin Nathan, Dave W

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---|---------------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0466371 3764902 | | |
| Channel position (L/C/R*) | | B | | |
| Width of Channel (m) | | 5.6 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 33cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 3cm 3cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 4 cm | | |
| % Veg- Left Bank* | | 100% | | |
| % Veg- Right Bank* | | 100% | | |
| % Canopy Over Transect Band | | 70% | | |
| Should total 100% | Substrate % mud/silt | 40% 0 | | |
| | Substrate % sand | 20 20% 20 | | |
| | Substrate % gravel | 30 30% 30 | | |
| | Substrate % cobble | 50 50% 50 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 10:40 AM | | |
| Photo Downstream (time & #) | | 10:00 AM | | |
| Photo Left Bank* (time & #) | | 10:00 AM | | |
| Photo Right Bank* (time & #) | | 10:00 AM | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | Homeless encampment @ bridge Riverside Ave Bridge | Homeless Encampment | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 19

Date Nov 7, 2019

Target UTM: 466227

3764671

Observers (writer/other)

Jason B, Dave W, Nathan P

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0466211 3764675 | | |
| Channel position (L/C/R*) | | R | | |
| Width of Channel (m) | | 9.5m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 39cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 5cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 3cm | | |
| % Veg- Left Bank* | | 100% | | |
| % Veg- Right Bank* | | 100% | | |
| % Canopy Over Transect Band | | 15% | | |
| Should total 100% | Substrate % mud/silt | — | | |
| | Substrate % sand | 40% | | |
| | Substrate % gravel | 55% | | |
| | Substrate % cobble | 5% | | |
| | Substrate % boulder | — | | |
| Photo Upstream (time & #) | | 10:20 am | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | <p>- encamp 40 down of last point ← Homeless</p> <p>- large encampment at point</p> | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 20

Date Nov 7, 2019

Target UTM: 466104

3764403

Observers (writer/other) Jason B Dave W Nathan P

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-----------------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0466092 3764414 | | |
| Channel position (L/C/R*) | | L | | |
| Width of Channel (m) | | 6.4 m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 59 cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 3 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 100 19 cm | | |
| % Veg- Left Bank* | | 100% | | |
| % Veg- Right Bank* | | 100% | | |
| % Canopy Over Transect Band | | 85% | | |
| Should total 100% | Substrate % mud/silt | — | | |
| | Substrate % sand | 100 65% | | |
| | Substrate % gravel | 30% | | |
| | Substrate % cobble | 5% | | |
| | Substrate % boulder | — | | |
| Photo Upstream (time & #) | | 10 34 | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | Tree house 70m in on R bank | Homeless | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 21 Date _____
 Target UTM: 465953 3764146
 Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0465943 3764143 | | |
| Channel position (L/C/R*) | | L | | |
| Width of Channel (m) | | 6.6 m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 41 cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 4 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 3 cm | | |
| % Veg- Left Bank* | | 100% | | |
| % Veg- Right Bank* | | 40% | | |
| % Canopy Over Transect Band | | 15% | | |
| Should total 100% | Substrate % mud/silt | 5% | | |
| | Substrate % sand | 40% | | |
| | Substrate % gravel | 40% | | |
| | Substrate % cobble | 15% | | |
| | Substrate % boulder | — | | |
| Photo Upstream (time & #) | | 10:56 | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 3m x 3m 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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 22

Date Nov 11, 2019

Target UTM: 465757

3763921

Observers (writer/other) JB, DW, NP

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0465757 3763921 | | |
| Channel position (L/C/R*) | | M | | |
| Width of Channel (m) | | 14.90 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 36cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 2cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 1cm | | |
| % Veg- Left Bank* | | 100% | | |
| % Veg- Right Bank* | | 100% | | |
| % Canopy Over Transect Band | | 2% | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | | 70% | |
| | Substrate % gravel | | 25% | |
| | Substrate % cobble | | 5% | |
| | Substrate % boulder | | — | |
| Photo Upstream (time & #) | | 11:33 | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | 160 m into transect hands encamp 250 m in another encamp camp fire | Homeless ← | |

*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 3m x 3m 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+ |

80m in flow left
point gravel HS
Starting @ levee
groin

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 23

Date 11/7/19

Target UTM: 465548

3763710

Observers (writer/other) David, Jason and Nathan

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-------------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0465533 3763716 | | |
| Channel position (L/C/R*) | | M | | |
| Width of Channel (m) | | 7.7 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 39 cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 5 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 8 cm | | |
| % Veg- Left Bank* | | 100% | | |
| % Veg- Right Bank* | | 95% | | |
| % Canopy Over Transect Band | | 30 | | |
| Should total 100% | Substrate % mud/silt | — | | |
| | Substrate % sand | 45% | | |
| | Substrate % gravel | 50% | | |
| | Substrate % cobble | 5% | | |
| | Substrate % boulder | — | | |
| Photo Upstream (time & #) | | 11:48 am | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | channel cut off channel | | |

*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 3m x 3m 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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 24 Date _____
 Target UTM: 465400 3763456
 Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---|---------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0465396 3763447 | | |
| Channel position (L/C/R*) | | n | | |
| Width of Channel (m) | | 7.4 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 26cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 4cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 3cm | | |
| % Veg- Left Bank* | | 85% | | |
| % Veg- Right Bank* | | 100% | | |
| % Canopy Over Transect Band | | 30% | | |
| Should total 100% | Substrate % mud/silt | — | | |
| | Substrate % sand | 45% | | |
| | Substrate % gravel | 55% | | |
| | Substrate % cobble | — | | |
| | Substrate % boulder | — | | |
| Photo Upstream (time & #) | | 12:01 pm | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | ~ 100 m in encamp with dams in river multiple | Homeless ← | |

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

150m in second
encamp
w/ dams
20m thick

stairs cut into
Bank just up of point

Additional Information

Please use this form to tally any gravel patches measuring a minimum of roughly 3m x 3m 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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 25

Date Nov 7, 2019

Target UTM: 465129

3763345

Observers (writer/other) JB, DW, NP

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---|------------------------------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0465125 3763352 | | |
| Channel position (L/C/R*) | | m | | |
| Width of Channel (m) | | 9.4 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 21 cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 2 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 2 cm | | |
| % Veg- Left Bank* | | 100% | | |
| % Veg- Right Bank* | | 0% | | |
| % Canopy Over Transect Band | | 5% | | |
| Should total 100% | Substrate % mud/silt | — | | |
| | Substrate % sand | 30% | | |
| | Substrate % gravel | 70% | | |
| | Substrate % cobble | — | | |
| | Substrate % boulder | — | | |
| Photo Upstream (time & #) | | 12:13 pm | | |
| Photo Downstream (time & #) | | " | | |
| Photo Left Bank* (time & #) | | " | | |
| Photo Right Bank* (time & #) | | " | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | 30m Encamp 50m Encamp 70m Encamp 90m encamp 10-150 encamp 240 encamp | Homeless Encampments | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 26

Date Nov 7, 2019

Target UTM: 464939

3763126

Observers (writer/other)

JB, DW, NP

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---|---------------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 046499 3763146 | | |
| Channel position (L/C/R*) | | m | | |
| Width of Channel (m) | | 7.9m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 23 cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 1 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 2 cm | | |
| % Veg- Left Bank* | | 0% | | |
| % Veg- Right Bank* | | 0% | | |
| % Canopy Over Transect Band | | 0% | | |
| Should total 100% | Substrate % mud/silt | — | | |
| | Substrate % sand | 30% | | |
| | Substrate % gravel | 40% | | |
| | Substrate % cobble | 30% | | |
| | Substrate % boulder | — | | |
| Photo Upstream (time & #) | | | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | 100 m encamp 130 m encamp 185 m encamp Red algae @ 170m | Homeless encampment | |

*L/C/R = Left/Center/Right. Face downstream to determine left and right banks. Saw 2 sucker fish Dart by at meeting of two streams

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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 27

Date 11/7/19

Target UTM: 464730

3762923

Observers (writer/other) David Edgar, Alonso

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3762978 | | |
| Channel position (L/C/R*) | | Right | | |
| Width of Channel (m) | | 10.85m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 23cm left bank | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 4cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | .5cm | | |
| % Veg- Left Bank* | | 5% | | |
| % Veg- Right Bank* | | 0% | | |
| % Canopy Over Transect Band | | 0% | | |
| Should total 100% | Substrate % mud/silt | 0 | | |
| | Substrate % sand | 0 | | |
| | Substrate % gravel | 50 | | |
| | Substrate % cobble | 50 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 0957 | | |
| Photo Downstream (time & #) | | 0957 | | |
| Photo Left Bank* (time & #) | | 0958 | | |
| Photo Right Bank* (time & #) | | 0958 | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | 1 homeless encampment Downstream of SAS 27 | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 28

Date 11/7/19

Target UTM: 464595

3762657

Observers (writer/other) David Edgar, Alonso

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3762657 | | |
| Channel position (L/C/R*) | | Right | | |
| Width of Channel (m) | | 8.90 m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 22 cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 10 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 10 cm | | |
| % Veg- Left Bank* | | 0 | | |
| % Veg- Right Bank* | | 0 | | |
| % Canopy Over Transect Band | | 0% Highway flow | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | 60 | | |
| | Substrate % gravel | 30 | | |
| | Substrate % cobble | 10 | | |
| | Substrate % boulder | | | |
| Photo Upstream (time & #) | | 1016 | | |
| Photo Downstream (time & #) | | 1016 | | |
| Photo Left Bank* (time & #) | | 1017 | | |
| Photo Right Bank* (time & #) | | 1017 | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 3m x 3m 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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 29

Date 11/7/19

Target UTM: 464539

3762368

Observers (writer/other) David Alvarez, Edger

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|----------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3762375 | | |
| Channel position (L/C/R*) | | Right | | |
| Width of Channel (m) | | 9.6 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 24cm center | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 1.2 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 1.0 cm | | |
| % Veg- Left Bank* | | 0 | | |
| % Veg- Right Bank* | | 0 | | |
| % Canopy Over Transect Band | | 0 | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | | | |
| | Substrate % gravel | | | |
| | 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, evidence of homeless encampment near transect) | | | | |

*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 3m x 3m 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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 30 Date 11/7/19
 Target UTM: 464467 3762083
 Observers (writer/other) David A. Moore

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3762083 | 3762083 | |
| Channel position (L/C/R*) | | Right | Right | |
| Width of Channel (m) | | 2.10m | 5.65m | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 31 center | 18cm | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 5cm | 3 cm | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | .5cm | 3 cm | |
| % Veg- Left Bank* | | 100 | 0 | |
| % Veg- Right Bank* | | 0 | 0 | |
| % Canopy Over Transect Band | | 100% | 0% | |
| Should total 100% | Substrate % mud/silt | | 0 | |
| | Substrate % sand | 80% | 10 | |
| | Substrate % gravel | | 0 | |
| | Substrate % cobble | 20% | 90 | |
| | Substrate % boulder | | 0 | |
| Photo Upstream (time & #) | | 1046 | 1044 | |
| Photo Downstream (time & #) | | 1046 | 1044 | |
| Photo Left Bank* (time & #) | | 1046 | 1044 | |
| Photo Right Bank* (time & #) | | 1046 | 1044 | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 31 **Date** 11/7/19
Target UTM: 464296 3761837
Observers (writer/other) David Alonso Echeverri

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--------------------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3761844 | | |
| Channel position (L/C/R*) | | Left | | |
| Width of Channel (m) | | 10m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 23cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 23 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 7cm | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 2% | | |
| Should total 100% | Substrate % mud/silt | 0 | | |
| | Substrate % sand | 10 | | |
| | Substrate % gravel | 80 | | |
| | Substrate % cobble | 10 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 1059 | | |
| Photo Downstream (time & #) | | 1059 | | |
| Photo Left Bank* (time & #) | | 1100 | | |
| Photo Right Bank* (time & #) | | 1100 | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | 1 encampment upstream 6 meters | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 32 Date 11/7/19
 Target UTM: 464096 3761623
 Observers (writer/other) Daniel J. Jones, J. Edgar

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-------------------------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3761623 | | |
| Channel position (L/C/R*) | | Right | | |
| Width of Channel (m) | | 8.75 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 22 cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 1 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 5 cm | | |
| % Veg- Left Bank* | | 0 | | |
| % Veg- Right Bank* | | 0 | | |
| % Canopy Over Transect Band | | 0 | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | 50 | | |
| | Substrate % gravel | 40 | | |
| | Substrate % cobble | 10 | | |
| | Substrate % boulder | | | |
| Photo Upstream (time & #) | | 1111 | | |
| Photo Downstream (time & #) | | 1111 | | |
| Photo Left Bank* (time & #) | | 1112 | | |
| Photo Right Bank* (time & #) | | 1112 | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | 1 Encampment Sandbar upstream | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 33 **Date** 11/7/19
Target UTM: 463908 3761402
Observers (writer/other) DJ, AS, ETE

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3761403 | 3761403 | |
| Channel position (L/C/R*) | | Left | Left | |
| Width of Channel (m) | | 5.90 m | 1.95 | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 26 cm | 9 cm | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 7 cm | 3 cm | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 3 cm | 2 cm | |
| % Veg- Left Bank* | | 0% | 0 | |
| % Veg- Right Bank* | | 10% | 0 | |
| % Canopy Over Transect Band | | 9% | 0 | |
| Should total 100% | Substrate % mud/silt | 0 | 0 | |
| | Substrate % sand | 50 | 50 | |
| | Substrate % gravel | 50 | 50 | |
| | Substrate % cobble | 0 | 0 | |
| | Substrate % boulder | 0 | 0 | |
| Photo Upstream (time & #) | | 1123 | 1121 | |
| Photo Downstream (time & #) | | 1123 | 1121 | |
| Photo Left Bank* (time & #) | | 1124 | 1122 | |
| Photo Right Bank* (time & #) | | 1124 | 1122 | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 34

Date 11/7/19

Target UTM: 463646

3761265

Observers (writer/other)

DA, AS, ETC

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---------------------------------|-----------------------------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3761298 | | |
| Channel position (L/C/R*) | | Right | Right | |
| Width of Channel (m) | | 6m | 3.5m | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 33cm | 12cm | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 4 cm | 3cm | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 8cm | 4cm | |
| % Veg- Left Bank* | | 0 | 100 | |
| % Veg- Right Bank* | | 100 | 0 | |
| % Canopy Over Transect Band | | 50 | 90 | |
| Should total 100% | Substrate % mud/silt | 0 | 0 | |
| | Substrate % sand | 40 | 50 | |
| | Substrate % gravel | 50 | 50 | |
| | Substrate % cobble | 10 | 0 | |
| | Substrate % boulder | 0 | 0 | |
| Photo Upstream (time & #) | | 1141 | 1143 | |
| Photo Downstream (time & #) | | 1141 | 1143 | |
| Photo Left Bank* (time & #) | | 1142 | 1144 | |
| Photo Right Bank* (time & #) | | 1142 | 1144 | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | Obstruction between SAS 33 + 34 | 1 encampment 10 miles Down Stream | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 35

Date 11/7/19

Target UTM: 463439

3761054

Observers (writer/other) Nicole LaFace

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-----------------------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3761044 | | |
| Channel position (L/C/R*) | | Right | | |
| Width of Channel (m) | | 15.7 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 1126 cm Left | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 5 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 11 cm | | |
| % Veg- Left Bank* | | 100% | | |
| % Veg- Right Bank* | | 100% | | |
| % Canopy Over Transect Band | | 5% | | |
| Should total 100% | Substrate % mud/silt | 5% | | |
| | Substrate % sand | 95% | | |
| | Substrate % gravel | | | |
| | 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, evidence of homeless encampment near transect) | | Homeless encampment on Right Side | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 36 **Date** _____
Target UTM: 463262 3760812
Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-------------------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3760821 | | |
| Channel position (L/C/R*) | | Left Right | | |
| Width of Channel (m) | | 17.10 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 18 cm Left | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 8 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 7 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 5% | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | | 100% | |
| | Substrate % gravel | | | |
| | 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, evidence of homeless encampment near transect) | | Homeless encampment left side | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 37 **Date** _____
Target UTM: 463084 **3760573**
Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-----------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3760590 | | |
| Channel position (L/C/R*) | | Right | | |
| Width of Channel (m) | | 13.5 Right | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 20.0 Right | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 20.0 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 8.0 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 50% | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | | | |
| | 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, evidence of homeless encampment near transect) | | | | |

*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 36 and SAS 37.

| Tally | Gravel Patch Size |
|----------|-----------------------|
| _____ | Min 3m |
| _____ | 3m-5m |
| _____ | 5m-10m |
| <u>1</u> | 10m-15m <i>center</i> |
| _____ | 15m+ |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 38 **Date** _____
Target UTM: 462880 **3760354**
Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3760367 | | |
| Channel position (L/C/R*) | | right | | |
| Width of Channel (m) | | 14.2 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 22 right | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 6 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 11 cm | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 40% | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | | | |
| | 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, evidence of homeless encampment near transect) | | | | |

*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 38 and SAS 39.

| Tally | Gravel Patch Size |
|----------|----------------------------------|
| _____ | Min 3m |
| _____ | 3m-5m |
| _____ | 5m-10m |
| <u>1</u> | 10m-15m <i>center of channel</i> |
| _____ | 15m+ |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 39 Date _____
 Target UTM: 462706 3760111
 Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3760157 | | |
| Channel position (L/C/R*) | | Right | | |
| Width of Channel (m) | | 14.3 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 21cm left | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 3cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 5cm | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 0 | | |
| Should total 100% | Substrate % mud/silt | | 10 | |
| | Substrate % sand | | 90 | |
| | Substrate % gravel | | | |
| | 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, evidence of homeless encampment near transect) | | | | |

*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 3m x 3m you find OUTSIDE of your point locations.

Location between GPS Points SAS 39 and SAS 40.

| Tally | Gravel Patch Size |
|-----------|-----------------------|
| _____ | Min 3m |
| _____ | 3m-5m |
| _____ | 5m-10m |
| <u>1</u> | 10m-15m <i>center</i> |
| <u>11</u> | 15m+ <i>center</i> |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 40 **Date** _____
Target UTM: 462526 **3759882**
Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3759893 | | |
| Channel position (L/C/R*) | | Right | | |
| Width of Channel (m) | | 13.7 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 30 left | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 24 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 9.25 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 25% | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | | | |
| | 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, evidence of homeless encampment near transect) | | | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 41 **Date** _____
Target UTM: 462388 **3759638**
Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3759640 | | |
| Channel position (L/C/R*) | | Right | | |
| Width of Channel (m) | | 23.95 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 26 right | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 4. | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 4 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 0% | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | 90 | | |
| | Substrate % gravel | 5 | | |
| | Substrate % cobble | 5 | | |
| | Substrate % boulder | | | |
| Photo Upstream (time & #) | | | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 41 and SAS 42.

| Tally | Gravel Patch Size |
|---------------|---------------------------|
| _____ | Min 3m |
| _____ | 3m-5m |
| _____ / _____ | 5m-10m <i>right side</i> |
| _____ / _____ | 10m-15m |
| _____ | 15m+ |
| | <i>Handless left side</i> |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 42 **Date** _____
Target UTM: 462124 3759501
Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|------------------------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3759515 | | |
| Channel position (L/C/R*) | | Right | | |
| Width of Channel (m) | | 28.7 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 22 left | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 4 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 18 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 15 | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | 95 | | |
| | Substrate % gravel | 5 | | |
| | 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, evidence of homeless encampment near transect) | | Homeless - Left side - Landfill | | |

*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 3m x 3m you find OUTSIDE of your point locations.

Location between GPS Points SAS 42 and SAS 43.

| Tally | Gravel Patch Size |
|---------------|--------------------|
| _____ | Min 3m |
| _____ | 3m-5m |
| _____ | 5m-10m |
| _____ | 10m-15m |
| _____ / _____ | 15m+ <i>center</i> |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 43 Date _____
 Target UTM: 461833 3759443
 Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3759466 | | |
| Channel position (L/C/R*) | | Center | | |
| Width of Channel (m) | | 17.9 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 18 cm center | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 2 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 5 cm | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 0 | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | 90.8 | | |
| | Substrate % gravel | | | |
| | Substrate % cobble | 9.2 | | |
| | Substrate % boulder | | | |
| Photo Upstream (time & #) | | | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 42 and SAS 43.

| Tally | Gravel Patch Size |
|-----------------|---------------------------|
| _____ | Min 3m |
| _____ | 3m-5m |
| _____ | 5m-10m |
| _____/_____ | 10m-15m <i>center</i> |
| _____/_____ | 15m+ <i>center Island</i> |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 44

Date 11/7/19

Target UTM: 461555

3759337

Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 461556 3759338 | | |
| Channel position (L/C/R*) | | R | | |
| Width of Channel (m) | | 1.88 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 12 cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 3 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 11 cm | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | | | |
| Should total 100% | Substrate % mud/silt | 0 | | |
| | Substrate % sand | 95 | | |
| | Substrate % gravel | 5 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 3m x 3m 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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 45

Date 11-7-19

Target UTM: 461287

3759267

Observers (writer/other) Emily Horkman

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|----------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 461291 3759304 | | |
| Channel position (L/C/R*) | | R | | |
| Width of Channel (m) | | 1870 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 11 | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 2cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 2cm | | |
| % Veg- Left Bank* | | 20 | | |
| % Veg- Right Bank* | | 75 | | |
| % Canopy Over Transect Band | | | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | 95 | | |
| | Substrate % gravel | 5 | | |
| | Substrate % cobble | | | |
| | Substrate % boulder | | | |
| Photo Upstream (time & #) | | | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | 10:24 AM | | |
| Photo Right Bank* (time & #) | | .1 | | |
| Photo other (describe) | | .1 | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 3m x 3m 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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 46

Date 11-7-19

Target UTM: 461003

3759182

Observers (writer/other)

Emily Hochman

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-----------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 461010 3759200 | | |
| Channel position (L/C/R*) | | R | | |
| Width of Channel (m) | | 1030 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 23 | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 4cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 2 | | |
| % Veg- Left Bank* | | | | |
| % Veg- Right Bank* | | 85 | | |
| % Canopy Over Transect Band | | 0 | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | 88 | | |
| | Substrate % gravel | 12 | | |
| | Substrate % cobble | | | |
| | Substrate % boulder | | | |
| Photo Upstream (time & #) | | 10:37 | | |
| Photo Downstream (time & #) | | ↓ | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | lots of veg. in water | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 47

Date 11-7-19

Target UTM: 460830

3758944

Observers (writer/other) Emily Hackman

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 460830 3758944 | | |
| Channel position (L/C/R*) | | L | | |
| Width of Channel (m) | | 1330 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 17 | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 1 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 3 | | |
| % Veg- Left Bank* | | 85 | | |
| % Veg- Right Bank* | | 95 | | |
| % Canopy Over Transect Band | | 5 | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | 90 | | |
| | Substrate % gravel | 7 | | |
| | Substrate % cobble | 3 | | |
| | Substrate % boulder | | | |
| Photo Upstream (time & #) | | | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 48 **Date** 11-7-19
Target UTM: 460606 3758749
Observers (writer/other) Emily Heckman

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 460596 3758761 | | |
| Channel position (L/C/R*) | | C | | |
| Width of Channel (m) | | 1090 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 23 | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 16 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 8 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 20 | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | | | |
| | Substrate % cobble | | | |
| | Substrate % boulder | | | |
| Photo Upstream (time & #) | | 11:04 | | |
| Photo Downstream (time & #) | | ↓ | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 3m x 3m 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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 49

Date 11-7-19

Target UTM: 460324

3758705

Observers (writer/other) Emily Hackman

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 460318 3758711 | | |
| Channel position (L/C/R*) | | C | | |
| Width of Channel (m) | | 1070 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 24 | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 24 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 8 | | |
| % Veg- Left Bank* | | 90 | | |
| % Veg- Right Bank* | | 95 | | |
| % Canopy Over Transect Band | | 5 | | |
| Should total 100% | Substrate % mud/silt | 0 | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

50

Transect Name: SAS ~~X1~~
 Target UTM: 459807
 Observers (writer/other) Emily Hackman

Date 11-7-19
 3758720

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 460041 3758759 | | |
| Channel position (L/C/R*) | | C | | |
| Width of Channel (m) | | 1460 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 18 | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 27 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 15 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 18 | | |
| Should total 100% | Substrate % mud/silt | 0 | | |
| | Substrate % sand | 98 | | |
| | Substrate % gravel | 2 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 11:24 | | |
| Photo Downstream (time & #) | | ↓ | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 3m x 3m 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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Ugggh - we missed Chris

Transect Name: SAS ~~50~~ ⁵¹ Date _____
 Target UTM: 460046 3758748
 Observers (writer/other) _____

*one. I'm
so sorry!!
I need to go back
to
make class*

| 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 | | | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | | | |
| | Substrate % gravel | | | |
| | 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, evidence of homeless encampment near transect) | | | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 52

Date 11/7/19

Target UTM: 459545

3758820

Observers (writer/other) _____

21cm
47cm

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3758823 | | |
| Channel position (L/C/R*) | | L | | |
| Width of Channel (m) | | 11m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 47cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 3cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 8cm | | |
| % Veg- Left Bank* | | 100% | | |
| % Veg- Right Bank* | | 100% | | |
| % Canopy Over Transect Band | | 5% | | |
| Should total 100% | Substrate % mud/silt | 5% | | |
| | Substrate % sand | 95% | | |
| | Substrate % gravel | - | | |
| | Substrate % cobble | - | | |
| | Substrate % boulder | - | | |
| Photo Upstream (time & #) | | 10:04 | | |
| Photo Downstream (time & #) | | 10:04 | | |
| Photo Left Bank* (time & #) | | 10:05 | | |
| Photo Right Bank* (time & #) | | 10:05 | | |
| Photo other (describe) | | 10:50 | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | wild horse | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 53
Target UTM: 459260
Observers (writer/other) _____

Date 11/7/19
3758737

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3758750 | 3758760 | |
| Channel position (L/C/R*) | | L | R | |
| Width of Channel (m) | | 8m | 6m | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 30cm | 49cm | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 1cm | 1cm | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 4cm | 8cm | |
| % Veg- Left Bank* | | 100% | 50% | |
| % Veg- Right Bank* | | 90% | 100% | |
| % Canopy Over Transect Band | | 5% | 0% | |
| Should total 100% | Substrate % mud/silt | 10% | 70% | |
| | Substrate % sand | 60% | 30% | |
| | Substrate % gravel | 25% | | |
| | Substrate % cobble | — | | |
| | Substrate % boulder | 5% | | |
| Photo Upstream (time & #) | | 10:24 | 10:33 | |
| Photo Downstream (time & #) | | 10:24 | 10:35 | |
| Photo Left Bank* (time & #) | | 10:24 | 10:33 | |
| Photo Right Bank* (time & #) | | | 10:33 | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 54

Date 11/7/19

Target UTM: 458984

3758633

Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3758634 | | |
| Channel position (L/C/R*) | | C | | |
| Width of Channel (m) | | 17m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 25cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 8m | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 15m | | |
| % Veg- Left Bank* | | 10% | | |
| % Veg- Right Bank* | | 30% | | |
| % Canopy Over Transect Band | | 20% | | |
| Should total 100% | Substrate % mud/silt | 57% | | |
| | Substrate % sand | 43% | | |
| | Substrate % gravel | - | | |
| | 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, evidence of homeless encampment near transect) | | Homeless encampment | | |

*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 3m x 3m 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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 55
Target UTM: 458706
Observers (writer/other) _____

Date 11/7/19
3758704

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3758739 | 3758760 | |
| Channel position (L/C/R*) | | L | R | |
| Width of Channel (m) | | 19 m | 10.4 m | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 19 cm | 31 m | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 8 cm | 5 m | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 2 cm | 10 m | |
| % Veg- Left Bank* | | 100% | 100% | |
| % Veg- Right Bank* | | 100% | 5% | |
| % Canopy Over Transect Band | | 0% | 60% | |
| Should total 100% | Substrate % mud/silt | 15% | 10% | |
| | Substrate % sand | 60% | 80% | |
| | Substrate % gravel | 25% | 10% | |
| | 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, evidence of homeless encampment near transect) | | | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 56

Date 11-7-19

Target UTM: 458409

3758736

Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---------------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3758744 | | |
| Channel position (L/C/R*) | | C | | |
| Width of Channel (m) | | 27m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 22 cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 15 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 8 cm | | |
| % Veg- Left Bank* | | 95% | | |
| % Veg- Right Bank* | | 90% | | |
| % Canopy Over Transect Band | | 10% | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | 100% | | |
| | Substrate % gravel | | | |
| | Substrate % cobble | | | |
| | Substrate % boulder | | | |
| Photo Upstream (time & #) | | 11:34 AM | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | homeless encampment South | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 57
Target UTM: 458138
Observers (writer/other) _____

Date 11-7-19
3758633

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3758626 | | |
| Channel position (L/C/R*) | | 3758633 | | |
| Width of Channel (m) | | 16.5m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 28 | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 12cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 9cm | | |
| % Veg- Left Bank* | | 100% | | |
| % Veg- Right Bank* | | 100% | | |
| % Canopy Over Transect Band | | 15% | | |
| Should total 100% | Substrate % mud/silt | 15% | | |
| | Substrate % sand | 85% | | |
| | Substrate % gravel | | | |
| | 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, evidence of homeless encampment near transect) | | No homeless | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 58

Date 11-7-19

Target UTM: 457904

3758451

Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3758444 | | |
| Channel position (L/C/R*) | | 3758451 | | |
| Width of Channel (m) | | 21.9 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 28cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 4cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 16cm | | |
| % Veg- Left Bank* | | 0% | | |
| % Veg- Right Bank* | | 80% | | |
| % Canopy Over Transect Band | | 15% | | |
| Should total 100% | Substrate % mud/silt | 0% | | |
| | Substrate % sand | 100% | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 12:11 | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 59

Date 11-7-19

Target UTM: 457622

3758348

Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|------------------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3758344 | | |
| Channel position (L/C/R*) | | 375 8348 | | |
| Width of Channel (m) | | 19.5 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 29cm Right 31cm left side | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 13cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 7cm | | |
| % Veg- Left Bank* | | 100% | | |
| % Veg- Right Bank* | | 100% | | |
| % Canopy Over Transect Band | | 40% | | |
| Should total 100% | Substrate % mud/silt | 0 | | |
| | Substrate % sand | 100% | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | man made Diversion | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

345 }
23.7 } 3

17.3 } 2
14.2 }

11 > 1
0 > 1

Transect Name: SAS 60

Date 11-7-19

Target UTM: 457350

3758251

Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--------------|--------------|--------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3758249 | | |
| Channel position (L/C/R*) | | L | R | C |
| Width of Channel (m) | | 11 | 3.1 | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | Center 33 | Center 15 | Center 31 |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 10 | 12 | 5 |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 5 | 2 | 10 |
| % Veg- Left Bank* | | 20% | 20% | 90% |
| % Veg- Right Bank* | | 100% | 100% | 100% |
| % Canopy Over Transect Band | | 30% | 0% | 0% |
| Should total 100% | Substrate % mud/silt | 5% | 0 | 0 |
| | Substrate % sand | 15% | 75% | 70 |
| | Substrate % gravel | 80% | 25% | 15 |
| | Substrate % cobble | 0 | 0 | 15 |
| | Substrate % boulder | 0 | 0 | |
| Photo Upstream (time & #) | | | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 61

Date 11-7-19

Target UTM: 457069

3758165

Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 3758175 | | |
| Channel position (L/C/R*) | | Center | | |
| Width of Channel (m) | | 19m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 27cmR | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 11cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 13cm | | |
| % Veg- Left Bank* | | 80% | | |
| % Veg- Right Bank* | | 100% | | |
| % Canopy Over Transect Band | | 5% | | |
| Should total 100% | Substrate % mud/silt | 15 | | |
| | Substrate % sand | 85 | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 62
Target UTM: 456796
Observers (writer/other) _____

Date 11/
3758041

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 456795/375802 | | |
| Channel position (L/C/R*) | | LEFT | | |
| Width of Channel (m) | | 17.8 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 26" LEFT | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 26" | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 4" | | |
| % Veg- Left Bank* | | 2% | | |
| % Veg- Right Bank* | | 80% | | |
| % Canopy Over Transect Band | | 5% | | |
| Should total 100% | Substrate % mud/silt | 0 | | |
| | Substrate % sand | 80% | | |
| | Substrate % gravel | 20% | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 10:30 2 | | |
| Photo Downstream (time & #) | | ↓ 1 | | |
| Photo Left Bank* (time & #) | | ↓ 4 ^{TOOK} (2) | | |
| Photo Right Bank* (time & #) | | ↓ 3 | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | SLIGHT ISL. NEAR RT SIDE. LT BANK ~50' WIF | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 63 Date _____
 Target UTM: 456516 3758092
 Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---|----------------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0456516 3758093 | // // | |
| Channel position (L/C/R*) | | LEFT | RIGHT | |
| Width of Channel (m) | | 7.6 M | 13.6 M | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 11" LEFT SIDE | 14" RT SIDE | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 3" | 1" | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 2" | 8" | |
| % Veg- Left Bank* | | 10% | 10% | |
| % Veg- Right Bank* | | 100% | 100% | |
| % Canopy Over Transect Band | | 5% | Ø | |
| Should total 100% | Substrate % mud/silt | 5% | 5% | |
| | Substrate % sand | 80% | 90% | |
| | Substrate % gravel | 15% | 5% | |
| | Substrate % cobble | ✓ | Ø | |
| | Substrate % boulder | ✓ | Ø | |
| Photo Upstream (time & #) | | 10:51 1 | 10:56 1 | |
| Photo Downstream (time & #) | | ↓ 2 | 2 | |
| Photo Left Bank* (time & #) | | 3 | 3 | |
| Photo Right Bank* (time & #) | | ↓ 4 | 4 | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | ISLAND, HOMELESS w/ID 50 YRS UPSTREAM | // // GREEN ALGAE | |

2 HL CAMPS FROM
62 → 63

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 64

Date _____

Target UTM: 456219

3758120

Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|----------------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 456218 3758121 | 1111 | |
| Channel position (L/C/R*) | | C | R | |
| Width of Channel (m) | | 26.6m | 4.2m | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 8" LEFT CENTER | 8" CENTER | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 4" | 2" | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 7" | 5" | |
| % Veg- Left Bank* | | 100% | 50% | |
| % Veg- Right Bank* | | 90% | 100% | |
| % Canopy Over Transect Band | | 20% | ∅ | |
| Should total 100% | Substrate % mud/silt | ∅ | ∅ | |
| | Substrate % sand | 100% | 50% | |
| | Substrate % gravel | ∅ | 25% | |
| | Substrate % cobble | ∅ | 25% | |
| | Substrate % boulder | ∅ | ∅ | |
| Photo Upstream (time & #) | | 11:20 1 | 11:27 1 | |
| Photo Downstream (time & #) | | 2 | 2 | |
| Photo Left Bank* (time & #) | | 3 | 3 | |
| Photo Right Bank* (time & #) | | 4 | 4 | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | GRAVEL PATCH ~ 5' x 20' | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 65 Date _____
 Target UTM: 455953 3758238
 Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 455953 3758238 | | |
| Channel position (L/C/R*) | | CENTRAL | | |
| Width of Channel (m) | | 26.4 m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 10" LEFT | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 5" | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 8" | | |
| % Veg- Left Bank* | | 100% | | |
| % Veg- Right Bank* | | 100% | | |
| % Canopy Over Transect Band | | 10% | | |
| Should total 100% | Substrate % mud/silt | 0 | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 1 11:42 | | |
| Photo Downstream (time & #) | | 2 | | |
| Photo Left Bank* (time & #) | | 3 | | |
| Photo Right Bank* (time & #) | | 4 | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 66 **Date** _____
Target UTM: 455786 3758478
Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 455786 3758478 | | |
| Channel position (L/C/R*) | | C | | |
| Width of Channel (m) | | 39.1m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 12" CENTER | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 7" | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 8" | | |
| % Veg- Left Bank* | | 85% | | |
| % Veg- Right Bank* | | 90% | | |
| % Canopy Over Transect Band | | 10% | | |
| Should total 100% | Substrate % mud/silt | 0 | | |
| | Substrate % sand | 95% | | |
| | Substrate % gravel | 5% | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 17:05 1 | | |
| Photo Downstream (time & #) | | ↓ 2 | | |
| Photo Left Bank* (time & #) | | ↓ 3 | | |
| Photo Right Bank* (time & #) | | ↓ 4 | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 67 **Date** _____
Target UTM: 455537 3758623
Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---------------------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 455537 3758623 | | |
| Channel position (L/C/R*) | | LEFT | | |
| Width of Channel (m) | | 24.5m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 22" LEFT RIGHT | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 7" | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 18" | | |
| % Veg- Left Bank* | | 100% | | |
| % Veg- Right Bank* | | 100% | | |
| % Canopy Over Transect Band | | 10% | | |
| Should total 100% | Substrate % mud/silt | 0 | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 12:21 1 | | |
| Photo Downstream (time & #) | | | 2 | |
| Photo Left Bank* (time & #) | | | 3 | |
| Photo Right Bank* (time & #) | | | 4 | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | NONE | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 68 **Date** _____
Target UTM: 455246 3758601
Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0455231 3758603 | | |
| Channel position (L/C/R*) | | RIGHT | | |
| Width of Channel (m) | | 35.3m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 12" CENT | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 6" | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 9" | | |
| % Veg- Left Bank* | | 26% | | |
| % Veg- Right Bank* | | 75% | | |
| % Canopy Over Transect Band | | Ø | | |
| Should total 100% | Substrate % mud/silt | Ø | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 12-33 1 | | |
| Photo Downstream (time & #) | | 2 | | |
| Photo Left Bank* (time & #) | | 3 | | |
| Photo Right Bank* (time & #) | | 7 | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | 1 MC CAMP | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 69 Date _____
 Target UTM: 455019 3758411
 Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 454976 3758467 | | |
| Channel position (L/C/R*) | | LEFT | | |
| Width of Channel (m) | | 28.8m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 18" R | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 10" | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 7" | | |
| % Veg- Left Bank* | | 25% | | |
| % Veg- Right Bank* | | 90% | | |
| % Canopy Over Transect Band | | 10% | | |
| Should total 100% | Substrate % mud/silt | 5% | | |
| | Substrate % sand | 85 | | |
| | Substrate % gravel | 10% | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 12:55 1 | | |
| Photo Downstream (time & #) | | ↓ 2 | | |
| Photo Left Bank* (time & #) | | ↓ 3 | | |
| Photo Right Bank* (time & #) | | ↓ 4 | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 70

Date _____

Target UTM: 454789

375849

Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 454789 375849 | | |
| Channel position (L/C/R*) | | CENTRAL | | |
| Width of Channel (m) | | 27.8m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 19" CENTRAL | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 8" | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 5" | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 40 | | |
| % Canopy Over Transect Band | | 15% | | |
| Should total 100% | Substrate % mud/silt | 0 | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 1:07 1 | | |
| Photo Downstream (time & #) | | ↓ 2 | | |
| Photo Left Bank* (time & #) | | ↓ 3 | | |
| Photo Right Bank* (time & #) | | ↓ 4 | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | NO | | |

*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 3m x 3m 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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 71 **Date** _____
Target UTM: 454863 3758759
Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 454863 3758760 | | |
| Channel position (L/C/R*) | | RIGHT | | |
| Width of Channel (m) | | 32.1m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 14" CENTER | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 12" | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 3" | | |
| % Veg- Left Bank* | | 5% | | |
| % Veg- Right Bank* | | 5% | | |
| % Canopy Over Transect Band | | ∅ | | |
| Should total 100% | Substrate % mud/silt | 0 | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 1:17 1 | | |
| Photo Downstream (time & #) | | ↓ 2 | | |
| Photo Left Bank* (time & #) | | ↓ 3 | | |
| Photo Right Bank* (time & #) | | ↓ 4 | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | ADJUT 1 H.E. CAMP DOWNSTREAM | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 72

Date 11/7/19

Target UTM: 454748

3758936

Observers (writer/other) J. Sherrack, A. Sawyer

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0454757 3758955 | | |
| Channel position (L/C/R*) | | R | | |
| Width of Channel (m) | | 22.5 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 40 R | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 1.8 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 27 | | |
| % Veg- Left Bank* | | 20 | | |
| % Veg- Right Bank* | | 0 | | |
| % Canopy Over Transect Band | | 20 | | |
| Should total 100% | Substrate % mud/silt | 0 | | |
| | Substrate % sand | 95 | | |
| | Substrate % gravel | 5 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 1 | | |
| Photo Downstream (time & #) | | 2 | | |
| Photo Left Bank* (time & #) | | 3 | | |
| Photo Right Bank* (time & #) | | 4 | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | Pig Tracks ~100m upstream of point - Right Bank | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 73

Date 11/7/19

Target UTM: 454455

3758993

Observers (writer/other) J. Sharrock, A. Sawyer

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0454471 3759012 | | |
| Channel position (L/C/R*) | | R | | |
| Width of Channel (m) | | 23.3 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 31 L | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 5 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 31 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 20 | | |
| Should total 100% | Substrate % mud/silt | 0 | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 5 | | |
| Photo Downstream (time & #) | | 6 | | |
| Photo Left Bank* (time & #) | | 7 | | |
| Photo Right Bank* (time & #) | | 8 | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 3m x 3m 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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 74 Date 11/7/19
 Target UTM: 454159 3759037
 Observers (writer/other) J. Sherman, A. Sawyer

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | No Change | | |
| Channel position (L/C/R*) | | R | | |
| Width of Channel (m) | | 34.4 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 30 | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 22 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 13 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 15 | | |
| Should total 100% | Substrate % mud/silt | 5 | | |
| | Substrate % sand | 90 | | |
| | Substrate % gravel | 5 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 9 | | |
| Photo Downstream (time & #) | | 10 | | |
| Photo Left Bank* (time & #) | | 11 | | |
| Photo Right Bank* (time & #) | | 12 | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 75

Date 11/7/19

Target UTM: 453874

3759120

Observers (writer/other) J. Sherrock, A Sawyer

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0453877 3759125 | | |
| Channel position (L/C/R*) | | | | |
| Width of Channel (m) | | 23.6 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 31' L | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 11 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 18 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 20 | | |
| Should total 100% | Substrate % mud/silt | 0 | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 13 | | |
| Photo Downstream (time & #) | | 14 | | |
| Photo Left Bank* (time & #) | | 15 | | |
| Photo Right Bank* (time & #) | | 16 | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 76

Date 11/7/19

Target UTM: 453587

3759156

Observers (writer/other) J. Sherrcock A Sawyer

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0453606 3759193 | | |
| Channel position (L/C/R*) | | R | | |
| Width of Channel (m) | | 16.1 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 40C | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 7 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 37 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 50 | | |
| Should total 100% | Substrate % mud/silt | 5 | | |
| | Substrate % sand | 93 | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 2 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 17 | | |
| Photo Downstream (time & #) | | 18 | | |
| Photo Left Bank* (time & #) | | 19 | | |
| Photo Right Bank* (time & #) | | 20 | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 77

Date 11/7/19

Target UTM: 453294

3759167

Observers (writer/other) J. Sherrack, A. Sawyer

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0453325 3759219 | | |
| Channel position (L/C/R*) | | R | | |
| Width of Channel (m) | | 17.9 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 45 | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 3 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 14 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 30 | | |
| Should total 100% | Substrate % mud/silt | 0 | | |
| | Substrate % sand | 97 | | |
| | Substrate % gravel | 3 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 21 | | |
| Photo Downstream (time & #) | | 22 | | |
| Photo Left Bank* (time & #) | | 23 | | |
| Photo Right Bank* (time & #) | | 24 | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 78

Date 11/7/2019

Target UTM: 453010

3759212

Observers (writer/other) L. Levy / E. Jennings, M. Blua

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|------------------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 115 045 3021 3759220 | | |
| Channel position (L/C/R*) | | R | | |
| Width of Channel (m) | | 21.0 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 20.0 C | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 10.0 25.0 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 10.0 25.0 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 5 - high veg 25 - low veg | | |
| Should total 100% | Substrate % mud/silt | ∅ | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | ∅ | | |
| | Substrate % cobble | ∅ | | |
| | Substrate % boulder | ∅ | | |
| Photo Upstream (time & #) | | 0945 | | |
| Photo Downstream (time & #) | | 0945 | | |
| Photo Left Bank* (time & #) | | 0945 | | |
| Photo Right Bank* (time & #) | | 0945 | | |
| Photo other (describe) | | D, U, L, R | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | None | | |

*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 3m x 3m 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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 79

Date 11/7/2019

Target UTM: 452731

3759199

Observers (writer/other) L. Levy / E. Jennings, M. Blua

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 15 045 2732 375 9247 | | |
| Channel position (L/C/R*) | | R | | |
| Width of Channel (m) | | 20.4 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 20.0 L | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 10.0 25.0 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 5.5 14.0 | | |
| % Veg- Left Bank* | | 95 | | |
| % Veg- Right Bank* | | 90 | | |
| % Canopy Over Transect Band | | 5 | | |
| Should total 100% | Substrate % mud/silt | 0 | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 1015 | | |
| Photo Downstream (time & #) | | 1015 | | |
| Photo Left Bank* (time & #) | | 1015 | | |
| Photo Right Bank* (time & #) | | 1015 | | |
| Photo other (describe) | | D, U, L, R | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | encampment = 1 "trail" @ transect center right bank | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 80 Date 11/7/2019
 Target UTM: 452566 3758961
 Observers (writer/other) L. Levy / E. Jennings, M. Blua

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--------------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 115 0452 520 375 8985 | | |
| Channel position (L/C/R*) | | C | | |
| Width of Channel (m) | | 22.0 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 16.0 R | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 7.0 18.0 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 6.0 15.0 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 12 | | |
| Should total 100% | Substrate % mud/silt | 0 | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 1037 | | |
| Photo Downstream (time & #) | | 1037 | | |
| Photo Left Bank* (time & #) | | 1037 | | |
| Photo Right Bank* (time & #) | | 1037 | | |
| Photo other (describe) | | D, U, L, R | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | None | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 81 Date 11/7/2019
 Target UTM: 452441 3758698
 Observers (writer/other) L. Levy / E. Jennings, M. Blva

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--------------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 115 045 2434 375 8703 | | |
| Channel position (L/C/R*) | | L | | |
| Width of Channel (m) | | 18.0 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 26.0 L | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 26.0 66.0 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 4.0 10.0 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 5 | | |
| Should total 100% | Substrate % mud/silt | 0 | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 1056 | | |
| Photo Downstream (time & #) | | 1056 | | |
| Photo Left Bank* (time & #) | | 1056 | | |
| Photo Right Bank* (time & #) | | 1056 | | |
| Photo other (describe) | | D, U, L, R | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | None | | |

*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 3m x 3m 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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 82 Date 11/7/2019
Target UTM: 452149 3758681
Observers (writer/other) L. Levy / E. Jennings, M. Blwa

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 11S 045.2141 375 8693 | | |
| Channel position (L/C/R*) | | L | | |
| Width of Channel (m) | | 36.6 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 48.0 | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 22.0 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 5.0 | | |
| % Veg- Left Bank* | | 80 | | |
| % Veg- Right Bank* | | 95 | | |
| % Canopy Over Transect Band | | 2 | | |
| Should total 100% | Substrate % mud/silt | 0 | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 1116 | | |
| Photo Downstream (time & #) | | 1116 | | |
| Photo Left Bank* (time & #) | | 1116 | | |
| Photo Right Bank* (time & #) | | 1116 | | |
| Photo other (describe) | | D.U., L.R | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | veg island near right bank w/ transect band | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 83 Date _____
 Target UTM: 451873 3758631
 Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 451845, 3758651 | | |
| Channel position (L/C/R*) | | | | |
| 37M → | Width of Channel (m) | 30.5m 91m 30m 4m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | R 3" 10cm L 4.5" 11cm C 25.5cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 10 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 7.5 cm | | |
| % Veg- Left Bank* | | 100% | | |
| % Veg- Right Bank* | | 60% | | |
| % Canopy Over Transect Band | | 0 | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | 100% | | |
| | Substrate % gravel | | | |
| | Substrate % cobble | | | |
| | Substrate % boulder | | | |
| Photo Upstream (time & #) | | } 10:00 AM | 01 | |
| Photo Downstream (time & #) | | | 02 | |
| Photo Left Bank* (time & #) | | | 03 | |
| Photo Right Bank* (time & #) | | | 04 | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | HORSE CARCASS | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 84 Date _____
 Target UTM: 451638 3758497
 Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|----------------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 451577, 375.8528 | | |
| Channel position (L/C/R*) | | | | |
| Width of Channel (m) | | 44M 35M | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | R → 20cm C → 13cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 13 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 20 cm | | |
| % Veg- Left Bank* | | 100% | | |
| % Veg- Right Bank* | | 100% | | |
| % Canopy Over Transect Band | | 10% | | |
| Should total 100% | Substrate % mud/silt | — | | |
| | Substrate % sand | 100% | | |
| | Substrate % gravel | — | | |
| | Substrate % cobble | — | | |
| | Substrate % boulder | — | | |
| Photo Upstream (time & #) | | 10:19 AM | 01 | |
| Photo Downstream (time & #) | | | 02 | |
| Photo Left Bank* (time & #) | | | 03 | |
| Photo Right Bank* (time & #) | | | 04 | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | MAN ON RIVER ENCAMP: 11 | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 85

Date _____

Target UTM: 451443

3758279

Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---------------------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 451431, 3758285 | | |
| Channel position (L/C/R*) | | | | |
| Width of Channel (m) | | 38M | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | ~ C 27 CM ~ 27 | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 38 CM | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 19 CM | | |
| % Veg- Left Bank* | | 100 % | | |
| % Veg- Right Bank* | | | | |
| % Canopy Over Transect Band | | 15 | | |
| Should total 100% | Substrate % mud/silt | 100 | | |
| | Substrate % sand | 100 % | | |
| | Substrate % gravel | — | | |
| | Substrate % cobble | — | | |
| | Substrate % boulder | — | | |
| Photo Upstream (time & #) | | 10:37 AM | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | SM CHANNEL ON RIGHT 10M X 5M | | |

*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 3m x 3m 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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 86 **Date** _____
Target UTM: 451303 **3758016**
Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 451270, 3758026 | | |
| Channel position (L/C/R*) | | | | |
| Width of Channel (m) | | 51m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | C 31cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 15cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 10cm | | |
| % Veg- Left Bank* | | 25% 100% | | |
| % Veg- Right Bank* | | 100% | | |
| % Canopy Over Transect Band | | 25% | | |
| Should total 100% | Substrate % mud/silt | 15% | | |
| | Substrate % sand | 85% | | |
| | Substrate % gravel | — | | |
| | Substrate % cobble | — | | |
| | Substrate % boulder | — | | |
| Photo Upstream (time & #) | | 10:51 AM 01 | | |
| Photo Downstream (time & #) | | | 02 | |
| Photo Left Bank* (time & #) | | | 03 | |
| Photo Right Bank* (time & #) | | | 04 | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 87 Date _____
 Target UTM: 451176 3757746
 Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-------------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 451147, 3757746 | | |
| Channel position (L/C/R*) | | | | |
| Width of Channel (m) | | 39M | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | R 15cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 15cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 18cm | | |
| % Veg- Left Bank* | | 100%. | | |
| % Veg- Right Bank* | | 100%. | | |
| % Canopy Over Transect Band | | 10%. | | |
| Should total 100% | Substrate % mud/silt | 50% mud/silt | | |
| | Substrate % sand | 50% sand | | |
| | Substrate % gravel | — | | |
| | Substrate % cobble | — | | |
| | Substrate % boulder | — | | |
| Photo Upstream (time & #) | | { 11:04 AM | 01 | |
| Photo Downstream (time & #) | | | 02 | |
| Photo Left Bank* (time & #) | | | 03 | |
| Photo Right Bank* (time & #) | | | 04 | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 88 Date _____
 Target UTM: 451034 3757486
 Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---------------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 451034 NIT 3757486 NIT | | |
| Channel position (L/C/R*) | | | | |
| Width of Channel (m) | | 33 M | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | L 52 CM | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 26 CM | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 39 CM | | |
| % Veg- Left Bank* | | 10% | | |
| % Veg- Right Bank* | | 100% | | |
| % Canopy Over Transect Band | | 40% | | |
| Should total 100% | Substrate % mud/silt | 50% | | |
| | Substrate % sand | 50% | | |
| | Substrate % gravel | — | | |
| | Substrate % cobble | — | | |
| | Substrate % boulder | — | | |
| Photo Upstream (time & #) | { 11:17 AM | 1 | | |
| Photo Downstream (time & #) | | 2 | | |
| Photo Left Bank* (time & #) | | 3 | | |
| Photo Right Bank* (time & #) | | 4 | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 3m x 3m 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 coordinates below:

| | |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

SEVERAL
1M X 1M
PATCHES
ON
ONE WAY!

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 89 Date _____
 Target UTM: 450811 3757315
 Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | ✓ HIT IT! | | |
| Channel position (L/C/R*) | | | | |
| Width of Channel (m) | | 25.5 M | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | R 20.5 cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | ≈ 46 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 14 cm | | |
| % Veg- Left Bank* | | 100% | | |
| % Veg- Right Bank* | | 100% 85% | | |
| % Canopy Over Transect Band | | 25% | | |
| Should total 100% | Substrate % mud/silt | 50% | | |
| | Substrate % sand | 50% | | |
| | Substrate % gravel | — | | |
| | Substrate % cobble | — | | |
| | Substrate % boulder | — | | |
| Photo Upstream (time & #) | | | | |
| Photo Downstream (time & #) | | | 11:24 am 1 | |
| Photo Left Bank* (time & #) | | | 2 | |
| Photo Right Bank* (time & #) | | | 3 | |
| Photo other (describe) | | | 4 | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 coordinates below:

| | |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

YES, LEFT SIDE

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 90

Date 11/7/19

Target UTM: 450524

3757255

Observers (writer/other) Natalia Doshi

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|----------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | S 0450523 3757279 | | |
| Channel position (L/C/R*) | | L | | |
| Width of Channel (m) | | 35.45 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 31.5 L | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 10 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 8.7 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 5 | | |
| Should total 100% | Substrate % mud/silt | 15 | | |
| | Substrate % sand | 80 | | |
| | Substrate % gravel | 5 | | |
| | Substrate % cobble | — | | |
| | Substrate % boulder | — | | |
| Photo Upstream (time & #) | | 10:02 | | |
| Photo Downstream (time & #) | | " | | |
| Photo Left Bank* (time & #) | | " | | |
| Photo Right Bank* (time & #) | | " | | |
| Photo other (describe) | | — | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | — | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 91

Date 11/7/19

Target UTM: 450228

3757211

Observers (writer/other)

Natalia Doshi

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|----------------------|--------------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | S 0450230 3757220 | 0450225 3757240 | |
| Channel position (L/C/R*) | | L | L | |
| Width of Channel (m) | | 14.44 | 25.3 | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 21 C | 30 R | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 6.8 | 3.0 | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 4.8 | 3.6 | |
| % Veg- Left Bank* | | 100 | 75 | |
| % Veg- Right Bank* | | 100 | 100 | |
| % Canopy Over Transect Band | | 26 | 20 | |
| Should total 100% | Substrate % mud/silt | — | — | |
| | Substrate % sand | 100 | 100 | |
| | Substrate % gravel | — | — | |
| | 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, evidence of homeless encampment near transect) | | Island | — | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 92 **Date** 11/7/19
Target UTM: 449957 3757085
Observers (writer/other) Natalia Doshi

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0449949 3757108 | | |
| Channel position (L/C/R*) | | C | | |
| Width of Channel (m) | | 38.9 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 30 C | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 5.4 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 8 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 18 | | |
| Should total 100% | Substrate % mud/silt | 10 | | |
| | Substrate % sand | 90 | | |
| | Substrate % gravel | - | | |
| | 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, evidence of homeless encampment near transect) | | - | | |

*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 3m x 3m you find OUTSIDE of your point locations.

Location between GPS Points SAS 92 and SAS 93.

| Tally | Gravel Patch Size |
|---|-------------------|
| <div style="display: flex; align-items: center;"> 15x1 → </div> | < 3m |
| | Min 3m |
| | 3m-5m |
| | 5m-10m |
| | 10m-15m |
| | 15m+ |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 93 Date 11/7/19
 Target UTM: 449781 3756859
 Observers (writer/other) Natalia Doshi

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0449710 3756824 | | |
| Channel position (L/C/R*) | | L | | |
| Width of Channel (m) | | 30.3 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 30 R | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 5.3 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 4.8 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 11% | | |
| Should total 100% | Substrate % mud/silt | 5 | | |
| | Substrate % sand | 90 | | |
| | Substrate % gravel | 5 | | |
| | 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, evidence of homeless encampment near transect) | | ~ Pt. ~ 60m from GPS pt. which was further on left side of floodplain. | | |

* Long gravel patch upstreams 1x25m

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 94 **Date** 11/7/19
Target UTM: 449669 3756630
Observers (writer/other) Natalia Doshi

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0449668 3756632 | | |
| Channel position (L/C/R*) | | L | | |
| Width of Channel (m) | | 29.2 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 32.5 C | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 7.5 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 6.9 | | |
| % Veg- Left Bank* | | 5 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 17 | | |
| Should total 100% | Substrate % mud/silt | — | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | — | | |
| | 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, evidence of homeless encampment near transect) | | — | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 95

Date 11/7/19

Target UTM: 449377

3756566

Observers (writer/other)

Natalia Doshi

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|------------------------------|--------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0449375 3756578 | | |
| Channel position (L/C/R*) | | L | | |
| Width of Channel (m) | | 30.2 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 25.5 L | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 27.7 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 11.8 | | |
| % Veg- Left Bank* | | 80 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 25 | | |
| Should total 100% | Substrate % mud/silt | 1 | | |
| | Substrate % sand | 99 | | |
| | Substrate % gravel | — | | |
| | 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, evidence of homeless encampment near transect) | | — | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 96 Date 11/7/19
 Target UTM: 449118 3756431
 Observers (writer/other) Natalia Doshi

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0449119 3756429 | | |
| Channel position (L/C/R*) | | L | | |
| Width of Channel (m) | | 18.4 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 53 L | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 23 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 29.4 | | |
| % Veg- Left Bank* | | 0.01 | | |
| % Veg- Right Bank* | | 10 | | |
| % Canopy Over Transect Band | | 39 | | |
| Should total 100% | Substrate % mud/silt | — | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | — | | |
| | 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, evidence of homeless encampment near transect) | | — | | |

*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 3m x 3m you find OUTSIDE of your point locations.

Location between GPS Points SAS 96 and SAS 97.

| Tally | Gravel Patch Size |
|-------|-------------------|
| _____ | Min 3m |
| _____ | 3m-5m |
| _____ | 5m-10m |
| _____ | 10m-15m |
| _____ | 15m+ |

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

| | |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

Encampments 1

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 97 Date 11/7/19
 Target UTM: 448822 3756408
 Observers (writer/other) Natalia Doshi

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|------------------------------|--------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0448823 3756412 | | |
| Channel position (L/C/R*) | | L | | |
| Width of Channel (m) | | 25.8 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 39 L | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 14.8 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 7 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 80 | | |
| % Canopy Over Transect Band | | 26.7 | | |
| Should total 100% | Substrate % mud/silt | — | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | — | | |
| | 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, evidence of homeless encampment near transect) | | — | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 98 Date 11/7/19
 Target UTM: 448534 3756384
 Observers (writer/other) Natalia Doshi

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|--------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 0448533 3756386 | | |
| Channel position (L/C/R*) | | R | | |
| Width of Channel (m) | | 32.7 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 25 R | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 10 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 15 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 12 | | |
| Should total 100% | Substrate % mud/silt | — | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | — | | |
| | 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, evidence of homeless encampment near transect) | | — | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 99

Date

11/19

Target UTM: 448253

3756327

Observers (writer/other)

Miranda Peters, Cameron MacBeth, Jessica McCrane

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 448244 3756313 | | |
| Channel position (L/C/R*) | | L+L | | |
| Width of Channel (m) | | 31.7 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 43 L | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 5cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 10 cm | | |
| % Veg- Left Bank* | | 90 | | |
| % Veg- Right Bank* | | 30 | | |
| % Canopy Over Transect Band | | 5% | | |
| Should total 100% | Substrate % mud/silt | 4% | | |
| | Substrate % sand | 96% | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 9:15 | | |
| Photo Downstream (time & #) | | ↓ | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 3m x 3m 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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 100

Date 11/19

Target UTM: 447963

3756361

Observers (writer/other) MP CM JM

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 447959 3756360 | | |
| Channel position (L/C/R*) | | L | | |
| Width of Channel (m) | | 41.4 m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 34 R | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 11 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 34 cm | | |
| % Veg- Left Bank* | | 40% | | |
| % Veg- Right Bank* | | | | |
| % Canopy Over Transect Band | | 5% | | |
| Should total 100% | Substrate % mud/silt | 2% | | |
| | Substrate % sand | 98% | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 9:27 | | |
| Photo Downstream (time & #) | | ↓ | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 101

Date 11/19

Target UTM: 447680

3756377

Observers (writer/other) MP CM JM

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 447680 3756377 | | |
| Channel position (L/C/R*) | | L | | |
| Width of Channel (m) | | 32.7 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 47 | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 7 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 24 | | |
| % Veg- Left Bank* | | 80% | | |
| % Veg- Right Bank* | | 20% | | |
| % Canopy Over Transect Band | | 15% | | |
| Should total 100% | Substrate % mud/silt | 3% | | |
| | Substrate % sand | 47% | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 9:44 | | |
| Photo Downstream (time & #) | | ↓ | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | ▲ | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | ✓ photo | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 102

Date 11/19

Target UTM: 447620

3756088

Observers (writer/other) mp JM CM

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 447609 3756094 | | |
| Channel position (L/C/R*) | | C | | |
| Width of Channel (m) | | 3.31 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 36 L | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 9 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 31 | | |
| % Veg- Left Bank* | | 2% | | |
| % Veg- Right Bank* | | 70% | | |
| % Canopy Over Transect Band | | 15% | | |
| Should total 100% | Substrate % mud/silt | 13% | | |
| | Substrate % sand | 85% | | |
| | Substrate % gravel | 0% | | |
| | Substrate % cobble | 0% | | |
| | Substrate % boulder | 0% | | |
| Photo Upstream (time & #) | | 10:02 | | |
| Photo Downstream (time & #) | | ↓ | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 102 and SAS 103.

| Tally | Gravel Patch Size |
|----------------|-------------------|
| _____ | Min 3m |
| _____ | 3m-5m |
| _____ | 5m-10m |
| _____ | 10m-15m |
| _____ 1 (axis) | 15m+ |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation


Transect Name: SAS 103

Date 11/19

Target UTM: 447481

3755829

Observers (writer/other) MA (m) SM

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 447481 3755831 | | |
| Channel position (L/C/R*) | | L | | |
| Width of Channel (m) | | 30 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | L 38 | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 11 CM | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 9 | | |
| % Veg- Left Bank* | | 10% | | |
| % Veg- Right Bank* | | 20% | | |
| % Canopy Over Transect Band | | 2% | | |
| Should total 100% | Substrate % mud/silt | 5% | | |
| | Substrate % sand | 95% | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 10:18 | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | |  | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 103 and SAS 104.

| Tally | Gravel Patch Size |
|----------------|-------------------|
| _____ | Min 3m |
| _____ | 3m-5m |
| _____ (12-1) | 5m-10m |
| _____ | 10m-15m |
| _____ | 15m+ |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 104 **Date** 11/19
Target UTM: 447240 3755663
Observers (writer/other) mp cm jm

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 447241 3755663 | | |
| Channel position (L/C/R*) | | L | | |
| Width of Channel (m) | | 32.7 m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 32 C | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 19 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 18 cm | | |
| % Veg- Left Bank* | | 90% | | |
| % Veg- Right Bank* | | 100% | | |
| % Canopy Over Transect Band | | 3% | | |
| Should total 100% | Substrate % mud/silt | 2% | | |
| | Substrate % sand | 90% | | |
| | Substrate % gravel | 8 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 16:34 | | |
| Photo Downstream (time & #) | | ↓ | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | ↓ | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 3m x 3m you find OUTSIDE of your point locations.

Location between GPS Points SAS 104 and SAS 105.

| Tally | Gravel Patch Size |
|-----------|-------------------|
| _____ | Min 3m |
| _____ | 3m-5m |
| 1 (1x6m) | 5m-10m |
| _____ | 10m-15m |
| 1 (5x15m) | 15m+ |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 105

Date 1/11/19

Target UTM: 446971

375544

Observers (writer/other) MR CM JM

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 446972 375545 | | |
| Channel position (L/C/R*) | | L | | |
| Width of Channel (m) | | 1.6 m | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 46 L | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 8 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 9 cm | | |
| % Veg- Left Bank* | | 80% | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 0% | | |
| Should total 100% | Substrate % mud/silt | 5% | | |
| | Substrate % sand | 95% | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 11:16 | | |
| Photo Downstream (time & #) | | ↓ | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 106
Target UTM: 446728
Observers (writer/other)

Date 11/19
3755364
MP CM SM

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 446728 3755364 | | |
| Channel position (L/C/R*) | | L | L | |
| Width of Channel (m) | | 6.1 | 9.3 | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 38 c | 40 cm | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 4 | 7 | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 9 | 35 cm | |
| % Veg- Left Bank* | | 90% | 50% | |
| % Veg- Right Bank* | | 15% | 80% | |
| % Canopy Over Transect Band | | 2% | 15% | |
| Should total 100% | Substrate % mud/silt | 50% | 15% | |
| | Substrate % sand | 50% | 85% | |
| | Substrate % gravel | 0 | 0 | |
| | Substrate % cobble | 0 | 0 | |
| | Substrate % boulder | 0 | 0 | |
| Photo Upstream (time & #) | | 11:40 | 11:33 | |
| Photo Downstream (time & #) | | ↓ | ↓ | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | ↓ | ↓ | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 107

Date

11/19

Target UTM: 446437

3755279

Observers (writer/other)

WMP

CM

JM

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|---------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 446 438 375 5243 | | |
| Channel position (L/C/R*) | | L | | |
| Width of Channel (m) | | 34.6 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 34 cm | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 14 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 8 | | |
| % Veg- Left Bank* | | 75 | | |
| % Veg- Right Bank* | | 40 | | |
| % Canopy Over Transect Band | | 0 | | |
| Should total 100% | Substrate % mud/silt | 2% | | |
| | Substrate % sand | 98% | | |
| | Substrate % gravel | 0 | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | 11:56 | | |
| Photo Downstream (time & #) | | ↓ | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | | | |

*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 coordinates below:

2019 Riverwalk a Ana River Sucker Habitat Evaluation

Title: SAS 108 Date: 11/7/19
 Target: 446141 3755338
 Observer: (writer/other) Bonnie, Miranda, Bailey

*only transect/pt
 where our GPS unit
 worked,
 other pts
 were using
 phone to
 approx.
 UTM*

315

| OBSERVATIONS | | CHANNEL #1 * | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 446141 / 3755338 | | |
| Channel position (L/C/R*) | | C | | |
| Width of Channel (m) | | 27.1 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 23 C | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 0.7 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 0.3 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 18% | | |
| Should total 100% | Substrate % mud/silt | 14% | | |
| | Substrate % sand | 81% | | |
| | Substrate % gravel | 1% | | |
| | Substrate % cobble | 0 | | |
| | Substrate % boulder | 0 | | |
| Photo Upstream (time & #) | | | | |
| Photo Downstream (time & #) | | | | |
| Photo Left Bank* (time & #) | | | | |
| Photo Right Bank* (time & #) | | | | |
| Photo other (describe) | | | | |
| Notes (e.g. Islands, Obstructions, evidence of homeless encampment near transect) | | fire photo, | | |

*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 1m² and 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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 109

Date 11/7/19

Target UTM: 445973

3755172

Observers (writer/other) Bonnie, Miranda, Bailey

| OBSERVATIONS | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | 445957, 3755175 | | |
| Channel position (L/C/R*) | C | | |
| Width of Channel (m) | 26.7 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | 26 C | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | 6 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | 30 | | |
| % Veg- Left Bank* | 100 | | |
| % Veg- Right Bank* | 100 | | |
| % Canopy Over Transect Band | 28% | | |
| Should total 100% | Substrate % mud/silt | | |
| | Substrate % sand | 100 | |
| | Substrate % gravel | | |
| | 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, evidence of homeless encampment near transect) | | | |

3.5 + 3
7.5 / 26.7 →

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 110

Date 11/7/19

Target UTM: 445793

3754934

Observers (writer/other) Bonnie, Miranda, Bailey

4+5 = 9/25.4

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-----------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 445747, 3754925 | | |
| Channel position (L/C/R*) | | C | | |
| Width of Channel (m) | | 25.4 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 56 C | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 6 cm | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 5 cm | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | 35% | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | 100 | | |
| | Substrate % gravel | | | |
| | 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, evidence of homeless encampment near transect) | | | | |

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 111

Date 11/7/19

Target UTM: 445496

3754929

Observers (writer/other) Bonnie, Miranda, Bailey

| OBSERVATIONS | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|---------------------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | 445527, 3794923 | | |
| Channel position (L/C/R*) | R | | |
| Width of Channel (m) | 24 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | 39 | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | not reachable | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | 6 | | |
| % Veg- Left Bank* | | | |
| % Veg- Right Bank* | 70 | | |
| % Canopy Over Transect Band | 46% | | |
| Should total 100% | Substrate % mud/silt | 17% | |
| | Substrate % sand | 83 | |
| | Substrate % gravel | | |
| | 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, evidence of homeless encampment near transect) | right bank arundo removed | | |

*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 3m x 3m 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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 112
Target UTM: 445303
Observers (writer/other) Bonnie, Miranda, Bailey

Date 11/7/19
3754884

| OBSERVATIONS | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|-----------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | 445298, 3754918 | | |
| Channel position (L/C/R*) | R | | |
| Width of Channel (m) | 29.5 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | 60 R | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | 1 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | 8 | | |
| % Veg- Left Bank* | 100 | | |
| % Veg- Right Bank* | 100 | | |
| % Canopy Over Transect Band | 27% | | |
| Substrate % (mud/silt) | 1% | | |
| Substrate % sand | 99% | | |
| Substrate % gravel | | | |
| 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, evidence of homeless encampment near transect) | | | |

375 = 8 / 29.5
3/29.5

Should total 100%

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 113
Target UTM: 445292

Date 11/7/19
3754584

Observers (writer/other) Bonnie, Miranda, Bailey

| OBSERVATIONS | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|-----------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | 445272, 3754694 | | |
| Channel position (L/C/R*) | R | | |
| Width of Channel (m) | 29.2 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | 30 C | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | 6 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | 2 | | |
| % Veg- Left Bank* | 0 | | |
| % Veg- Right Bank* | 100 | | |
| % Canopy Over Transect Band | 17% | | |
| Substrate % mud/silt | 19% | | |
| Substrate % sand | 81% | | |
| Substrate % gravel | | | |
| 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, evidence of homeless encampment near transect) | | | |

4 + 1/29.2
5.5/29.2
Should total 100%

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 114 **Date** _____
Target UTM: 445158 3754307
Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-----------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 445149, 3754431 | | |
| Channel position (L/C/R*) | | | | |
| Width of Channel (m) | | 39.5 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 30 C | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 10 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 7 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 80 | | |
| % Canopy Over Transect Band | | 18 | | |
| Should total 100% | Substrate % mud/silt | 13 | | |
| | Substrate % sand | 87 | | |
| | Substrate % gravel | | | |
| | 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, evidence of homeless encampment near transect) | | Tire in river | | |

3+4 = 7/39.5
 3+2 = 5/39.5

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

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 115 **Date** _____
Target UTM: 444916 3754316
Observers (writer/other) Bonnie, Miranda, Bailey

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-----------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 444916, 3754316 | | |
| Channel position (L/C/R*) | | R | | |
| Width of Channel (m) | | 45.20 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 34 L | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 11 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 4 | | |
| % Veg- Left Bank* | | 100 | | |
| % Veg- Right Bank* | | 100 | | |
| % Canopy Over Transect Band | | | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | | | |
| | Substrate % gravel | | | |
| | 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, evidence of homeless encampment near transect) | | | | |

1 + 3 = 45.2
 1/45.2

*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 coordinates below:

2019 Riverwalk Santa Ana River Sucker Habitat Evaluation

Transect Name: SAS 116 **Date** _____
Target UTM: 444814 **3754027**
Observers (writer/other) _____

| OBSERVATIONS | | CHANNEL #1 | CHANNEL #2 | CHANNEL #3 |
|---|----------------------|-----------------|------------|------------|
| Actual GPS coordinates in UTM (@ Left Bank*) | | 444814, 3754027 | | |
| Channel position (L/C/R*) | | C | | |
| Width of Channel (m) | | 29.1 | | |
| Max Depth (cm) & Location in Channel (L/C/R*) | | 39 C | | |
| Depth @ Left Edge (cm) (~4" from bank edge) | | 9 | | |
| Depth @ Right Edge (cm) (~4" from bank edge) | | 9 | | |
| % Veg- Left Bank* | | 25 | | |
| % Veg- Right Bank* | | 25 | | |
| % Canopy Over Transect Band | | | | |
| Should total 100% | Substrate % mud/silt | | | |
| | Substrate % sand | | | |
| | Substrate % gravel | | | |
| | 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, evidence of homeless encampment near transect) | | | | |

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

