

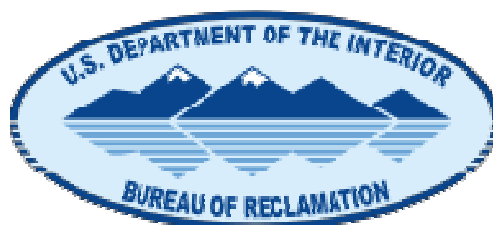


Lower Colorado River Multi Species Conservation Program

Balancing Resource, Use and Conservation

Beal Lake Conservation Area

2014 Summary





Lower Colorado River Multi Species Conservation Program

Balancing Resource, Use and Conservation



215 acres



Dredge Channels \approx 1.5 – 2m



Passive Filtration



Lower Colorado River Multi Species Conservation Program

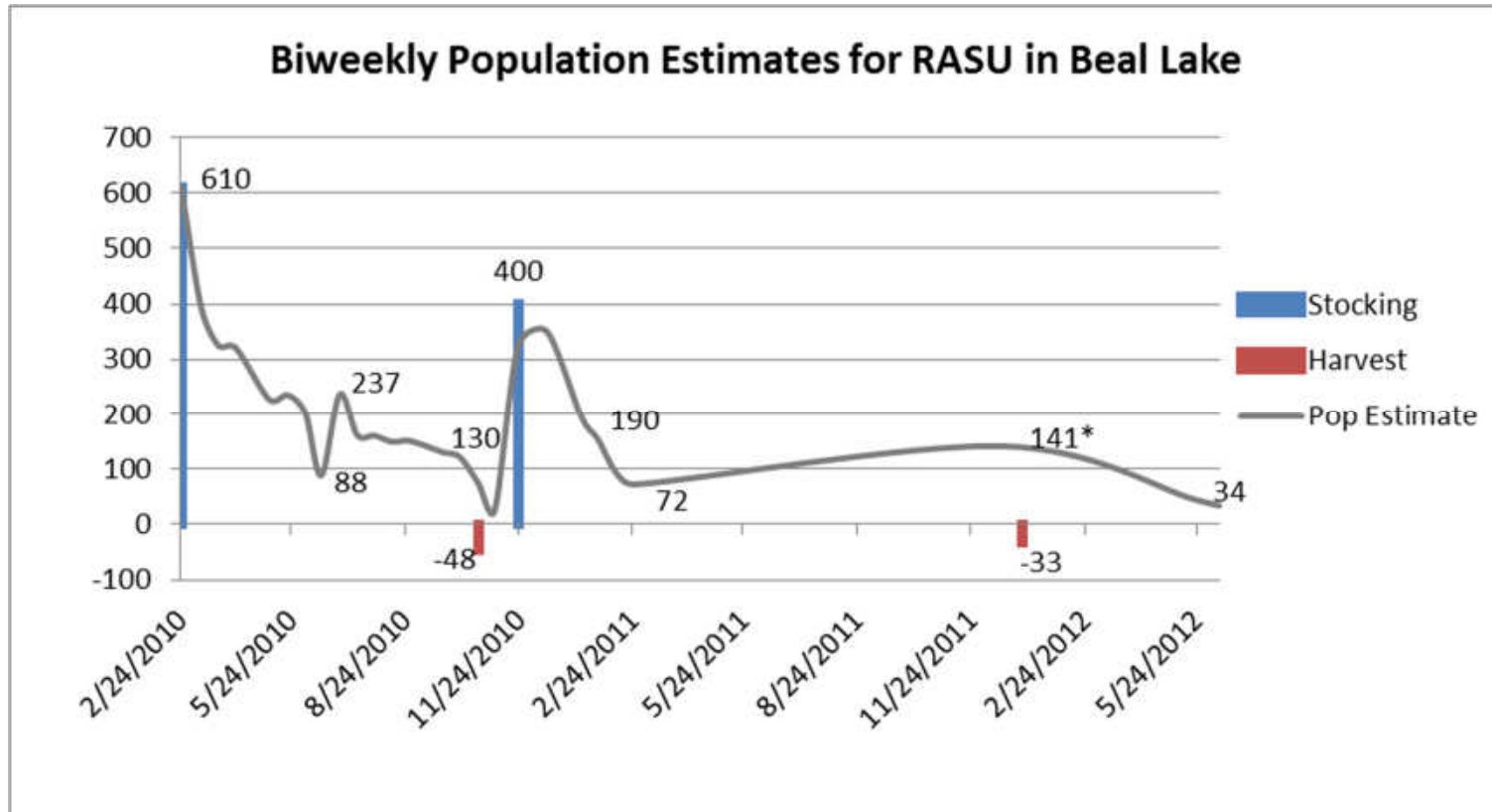
Balancing Resource, Use and Conservation

| Date | Species | Total Stocked | Mean TL(mm) |
|-------------|----------------|----------------------|--------------------|
| 2002 | RASU | 10000 | 120 |
| 6/14/06 | BONY | 1844 | 183 |
| 6/15/06 | RASU | 69 | 292 |
| 8/28/06 | RASU | 302 | 346 |
| 1/31/08 | RASU | 2970 | 358 |
| 5/8/08 | BONY | 333 | 391 |
| 11/20/08 | RZB | 3445 | 323 |
| 12/28/09 | BONY | 27859 | 123 |
| 2/24/10 | RASU | 610 | 332 |
| 11/30/10 | RASU | 400 | 381 |



Lower Colorado River Multi Species Conservation Program

Balancing Resource, Use and Conservation



*Estimate derived from netting and includes non-PIT tagged RASU



Lower Colorado River Multi Species Conservation Program

Balancing Resource, Use and Conservation

2013

February – Observed large carp die off

- No live fish observed

March – AZGFD confirmed Golden Algae

- No fish via E-fishing or scanning

April – Initiated monthly monitoring

May – Last month algae was detected

June – Observed YOY largemouth





Lower Colorado River Multi Species Conservation Program

Balancing Resource, Use and Conservation

Fish Monitoring 2014

Methods

- Targeted young and small fish
 - Hoop nets
 - Minnow traps
 - Electro-fishing

Results (all gear types)

- Largemouth Bass: 9 (210-235mm)
- Blue Gill: 12 (30-105)
- Yellow Bullhead: 2 (180-260)
- Carp: 1 (720)
- Lots of small fish observed throughout the year





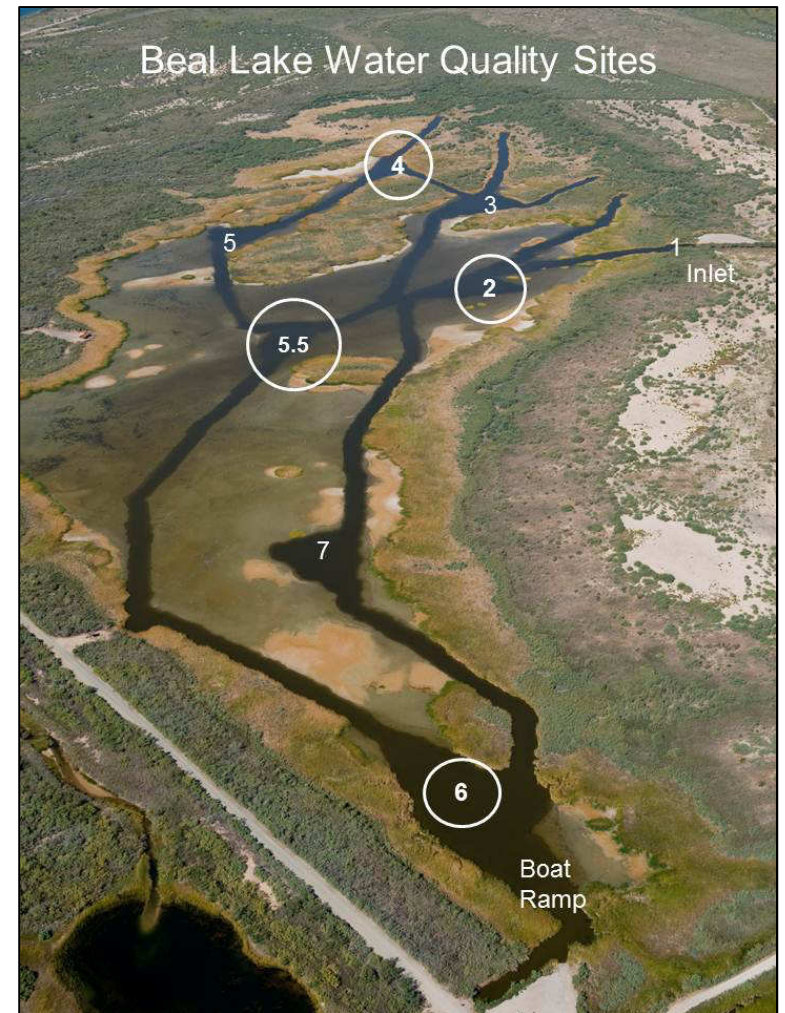
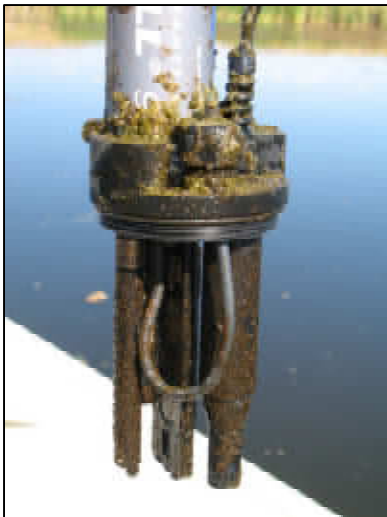
Lower Colorado River Multi Species Conservation Program

Balancing Resource, Use and Conservation

Water Quality Monitoring

Continuous deployment of Troll 9500 in 2010

- Four locations \approx 1 meter deep
- Two records/day (sunrise and sunset)
- Replaced probes 1-2 months



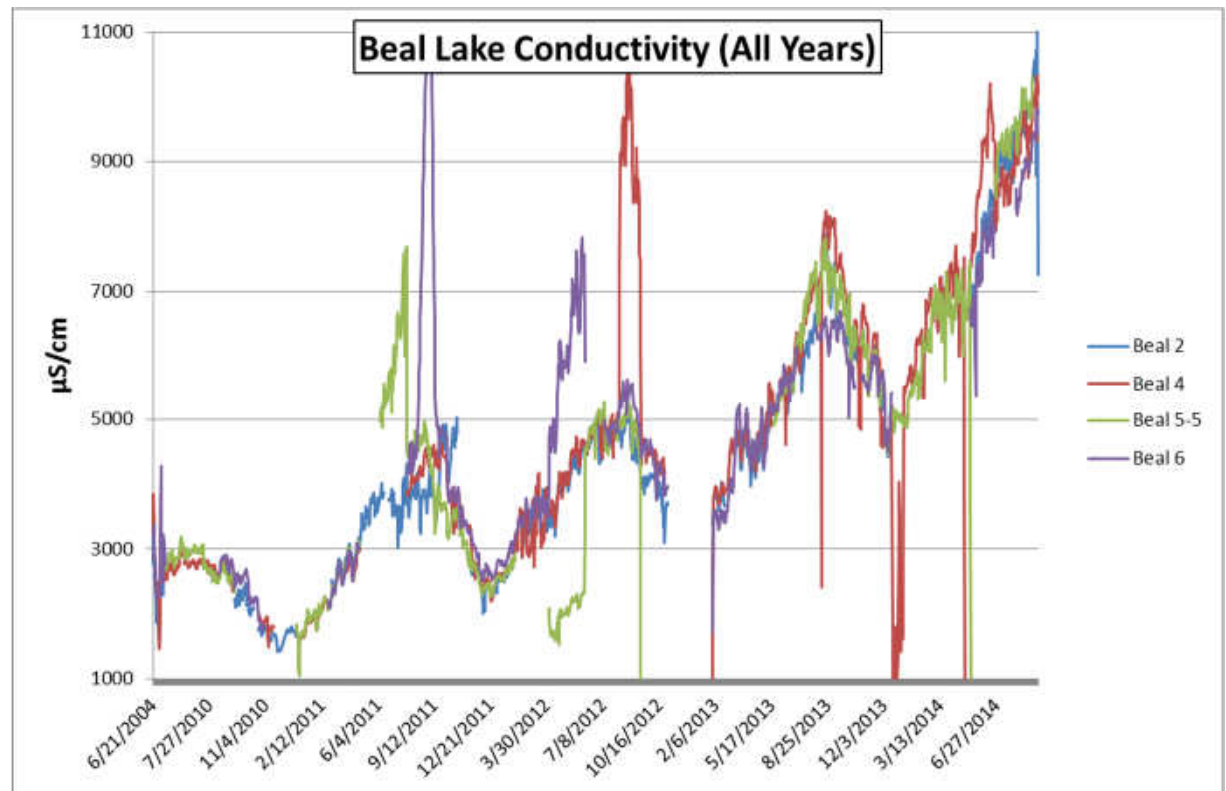


Lower Colorado River Multi Species Conservation Program

Balancing Resource, Use and Conservation

Results

- Temperature (6 - 33°C)
- Dissolved Oxygen (2 – 13 mg/L)
- pH (8 – 8.7)
- Conductivity (1500 – 11,000 $\mu\text{S}/\text{cm}$)
 - Increasing since 2010 and currently 11000





Lower Colorado River Multi Species Conservation Program

Balancing Resource, Use and Conservation

Summary

- Poor survival for unknown reasons
- MSCP and USFWS are evaluating the potential possibilities for the future

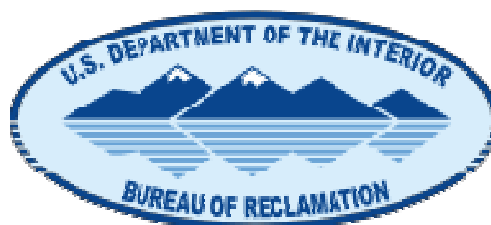


Lower Colorado River Multi Species Conservation Program

Balancing Resource, Use and Conservation

Big Bend Conservation Area

2014 Summary





Lower Colorado River Multi Species Conservation Program

Balancing Resource, Use and Conservation

15 Acre Backwater





Lower Colorado River Multi Species Conservation Program

Balancing Resource, Use and Conservation

- Fish Monitoring
- Water Quality Monitoring





Lower Colorado River Multi Species Conservation Program

Balancing Resource, Use and Conservation

Monitoring

Methods

- Presence/absence surveys
 - Two nights/month (November, Jan –May)
 - Netting (3 – 5 nets/night)
 - Larval Collections (3 sites/night)
 - Remote Sensing
- RASU (299) were released directly into the backwater on Feb 27, 2014



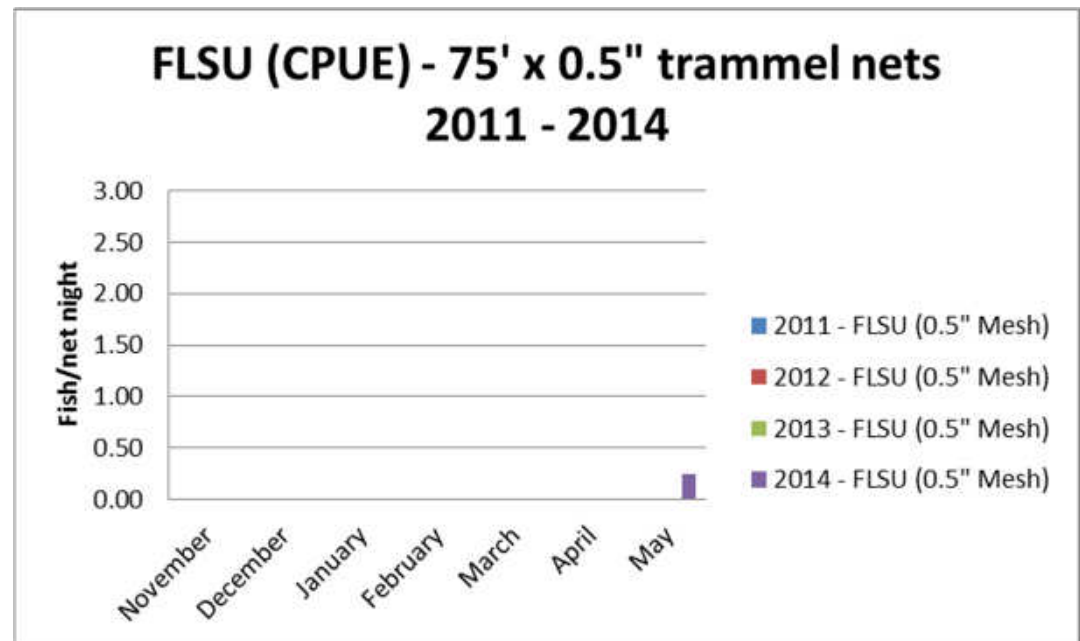
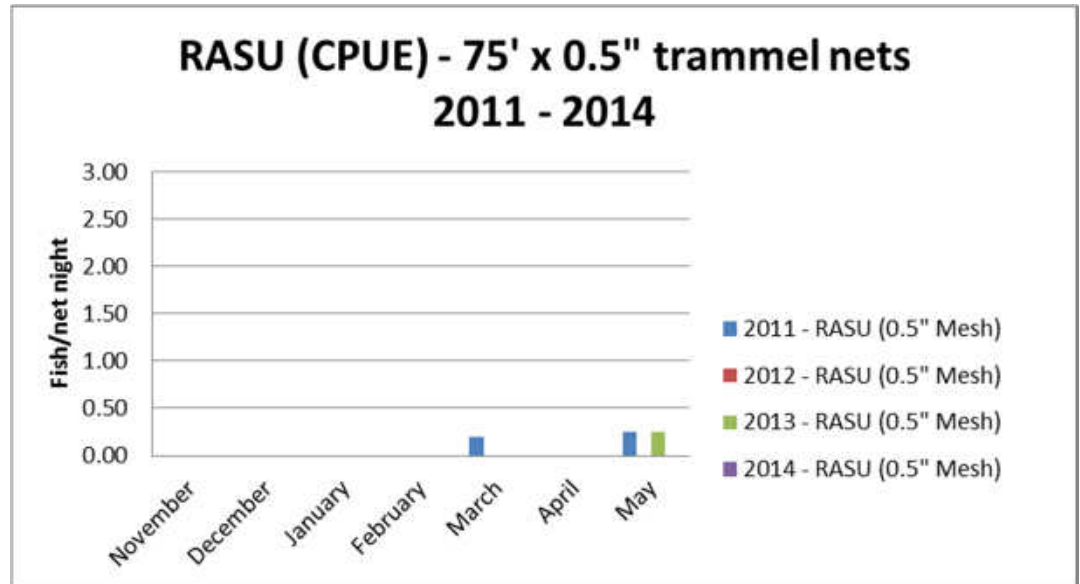


Lower Colorado River Multi Species Conservation Program

Balancing Resource, Use and Conservation

Results

- Small Mesh Trammels
 - 0 RASU
 - 1 FLSU (Telemetry fish)



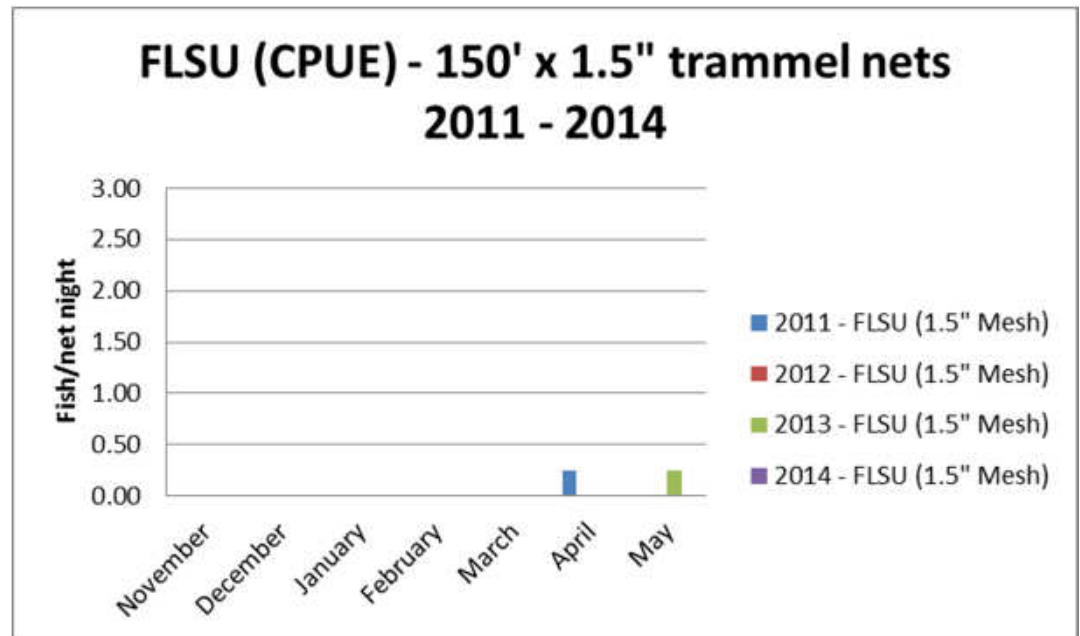
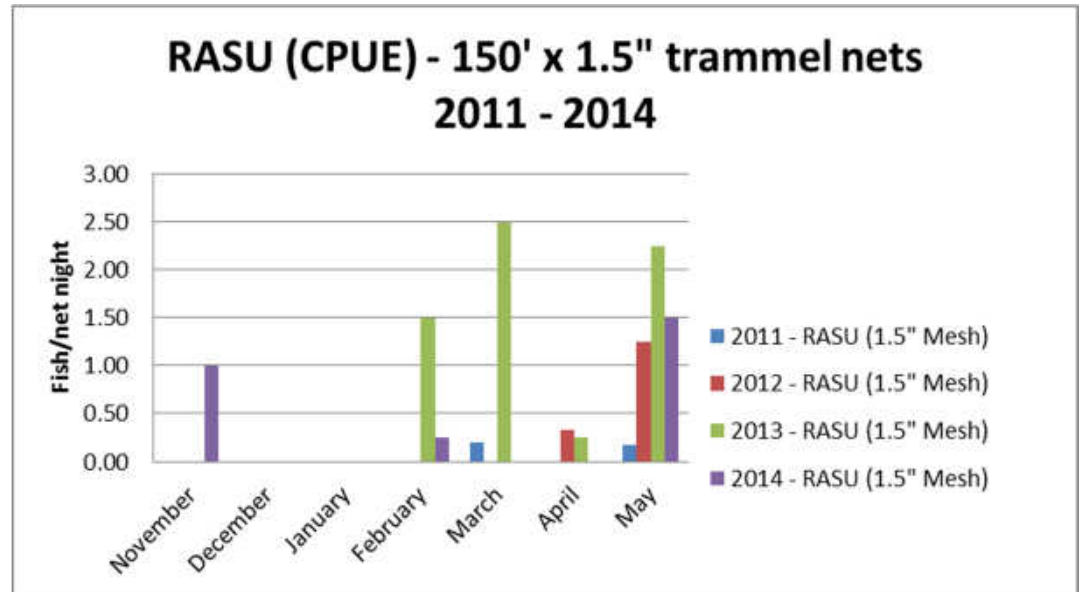


Lower Colorado River Multi Species Conservation Program

Balancing Resource, Use and Conservation

Results

- Large Mesh Trammels
 - 8 RASU
 - 0 FLSU



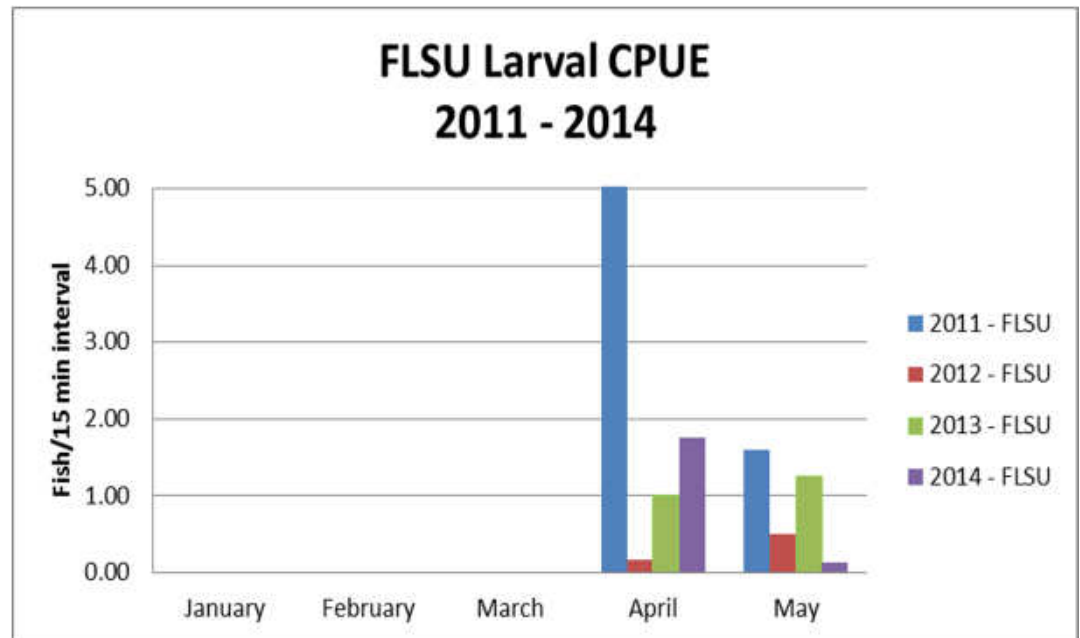
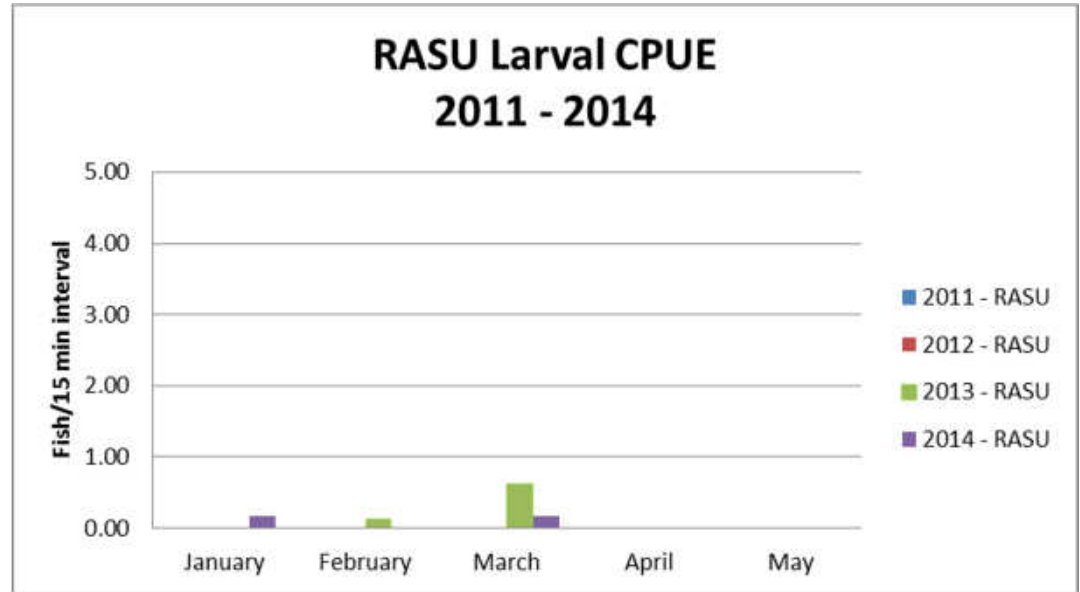


Lower Colorado River Multi Species Conservation Program

Balancing Resource, Use and Conservation

Results

- Larval Sampling
 - RASU - 4 (early spawn)
 - FLSU - 15 (late spawn)



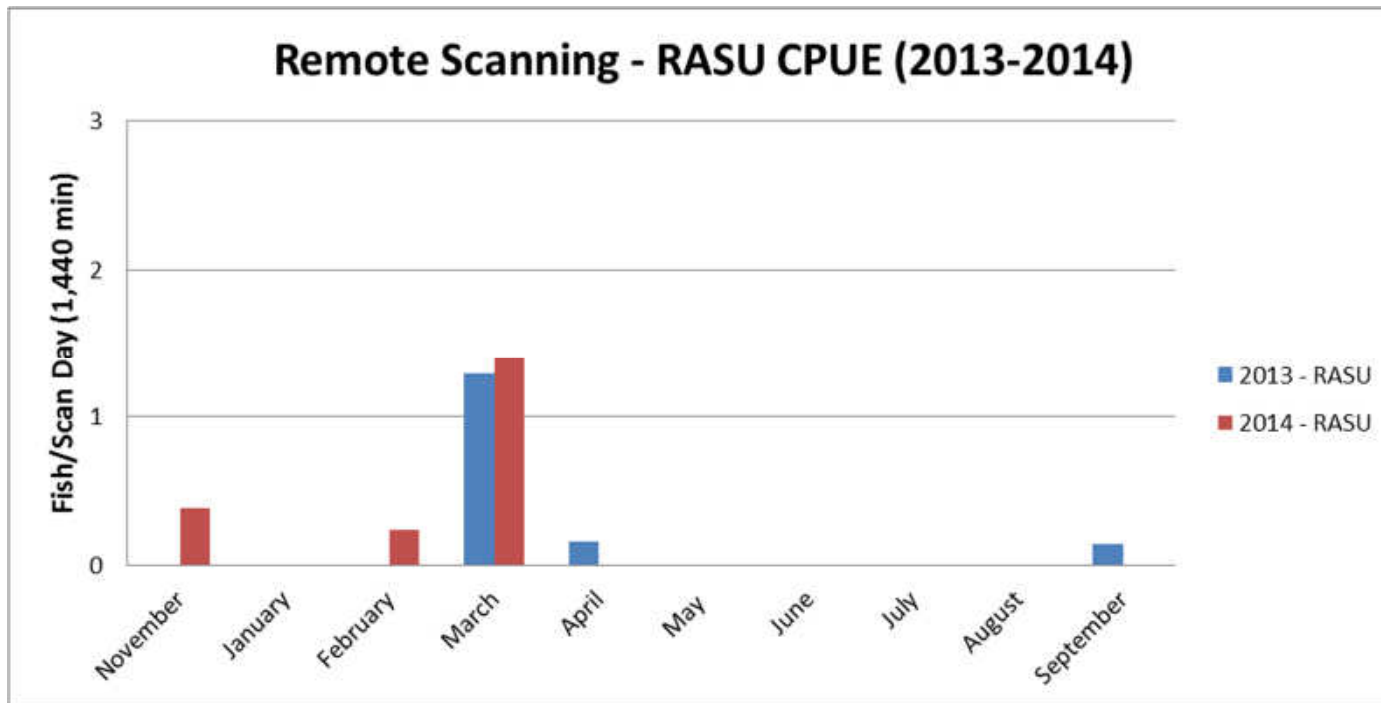


Lower Colorado River Multi Species Conservation Program

Balancing Resource, Use and Conservation

Results

- Remote Sensing
 - RASU (14)
 - FLSU (0)
 - Low effort
- Telemetry (C53) – Juvenile FLSU have show some residence





Lower Colorado River Multi Species Conservation Program

Balancing Resource, Use and Conservation

Methods

- 8 events
 - Single Survey Point
 - All fish monitoring trips and Summer
 - Vertical Profiles at 0.5m intervals
 - Multi parameter probe



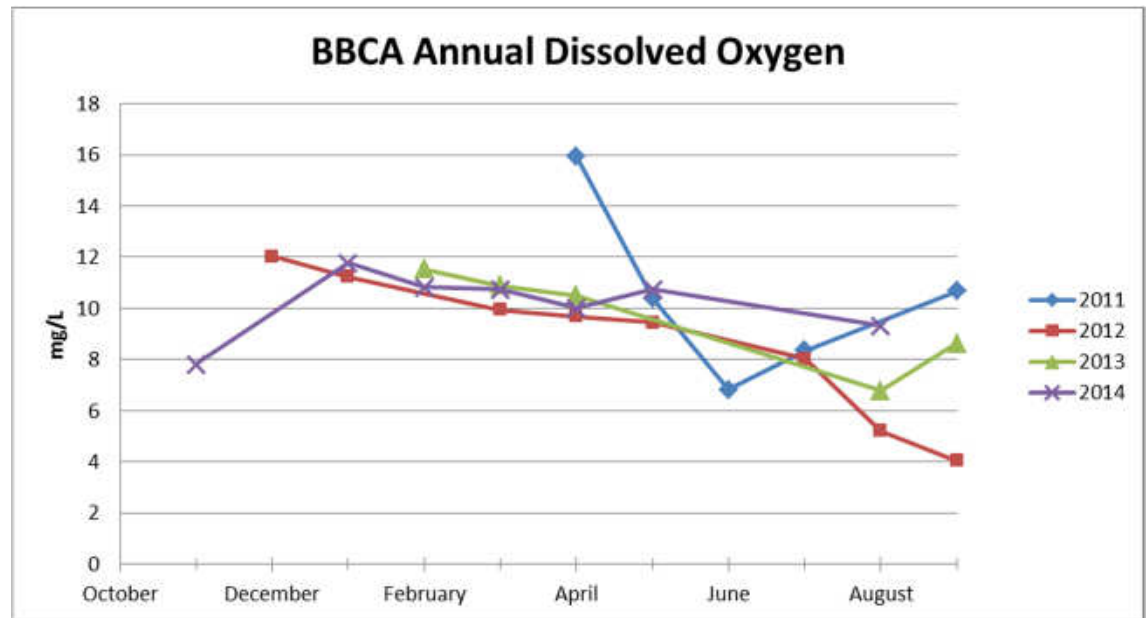


Lower Colorado River Multi Species Conservation Program

Balancing Resource, Use and Conservation

Results

- Temperature (10 - 22°C)
- Dissolved Oxygen (7 – 12 mg/L)
- pH (8 – 8.5)
- Conductivity (900 – 1,000 μ S/cm)





Lower Colorado River Multi Species Conservation Program

Balancing Resource, Use and Conservation

- Fish Monitoring
 - Continue larval, netting, and scanning
 - Continue FLSU monitoring in conjunction with C53
 - Two Juvenile FLSU detected for extended periods
- Water Quality Monitoring

