



Memorandum

To: U.S. Fish and Wildlife Service
From: Jeffrey Beehler, On Behalf of the Santa Ana Sucker Conservation Team
Date: June 5, 2013
Re: Research Priorities for Santa Ana Sucker Recovery within the Santa Ana River Watershed

The Santa Ana Sucker Conservation Team (Conservation Team) is a voluntary association of regulated agency, NGO's, and resource agency staff, as well as, other interested parties that conduct activities beneficial to the conservation and recovery of the Santa Ana sucker. The group has conducted some of the only research on the sucker biology and ecology within the Santa Ana River Watershed, facilitated habitat restoration activities and has regularly overseen habitat and population surveys. Through this history of activity on the River, the group has developed a collective expertise on the sucker specific to the unique character of the Santa Ana River Watershed.

The following agencies financially support the Conservation Team:

- 1) Orange County Water District
- 2) City of Riverside
- 3) San Bernardino Valley Municipal Water District
- 4) Santa Ana Watershed Project Authority

The following research areas were identified and discussed as key to the recovery of the species within the Santa Ana Watershed:

1. Regularly survey the current distribution of suckers within the river system;
2. Locate areas where suckers are currently spawning and areas where habitat modification could result in spawning;
3. Document the importance of larval drift from spawning areas in fish distribution;
4. Identify suitable tributaries along the Santa Ana River for spawning and refugia;
5. Further refine knowledge of habitat preference if each of the known populations, *i.e.* preferred depth of water, preferred velocity of water, preferred substrate and preferred cover (shading from canopy), preferred temperature;
6. Determine residence time in different tributaries and the seasonality of adult distribution;
7. Conduct studies relating sucker age to size;
8. Determine when suckers reach sexual maturity in the Santa Ana River system;
9. Conduct genetic studies to distinguish if the sucker found in the Santa Ana River is genetically distinct from suckers in other locations;
10. Determine the effect of predation on the sucker, e.g. brown trout, green sunfish or largemouth bass and determine what other species can occupy habitat with the sucker without detriment, and;

11. Develop pilot projects for in-stream restoration.