INITIAL ECOSYSTEM HEALTH ASSESSMENT OF SAN DIEGO REGION PRIORITY STREAMS

ARE ECOSYSTEMS HEALTHY

Is it safe to swim

Are fish and shellfish safe to eat

Is water safe to drink

Streams are a key area for habitat and ecosystem health in the San Diego region. The San Diego Water Board recently reviewed data on a subset of the region's streams to start answering the question, "Are ecosystems healthy?" The initial assessment included priority streams, or those with the BIOL designated beneficial use in the San Diego Water Board Basin Plan, that support designated areas or habitats, such as established refuges, parks, sanctuaries, ecological reserves, or Areas of Special Biological Significance (ASBS), where the preservation or enhancement of natural resources requires special protection. Of those with data, approximately half of the streams have good or better ecosystem health indicators (Figure 1).
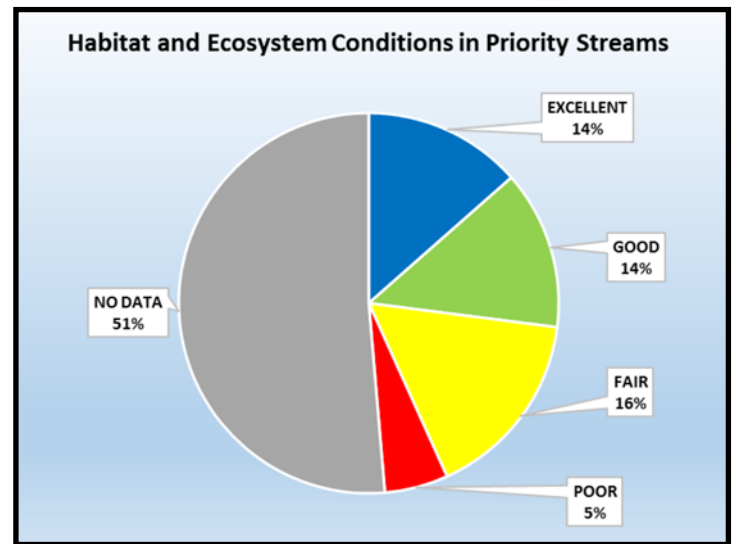

Habitat and Ecosystem Conditions in Priority Streams

EXCELLENT 14%
GOOD 14%
FAIR 16%
POOR 5%
NO DATA 51%

Figure 1. Ecosystem health data available for priority streams

ASSESSING KEY BENEFICIAL USES IN KEY AREAS

The San Diego Water Board strives to focus efforts on what is most important for protecting and restoring the health of regional waters. To support its Practical Vision (2013), the Board identified key beneficial uses of the region's waters and the key areas for those uses (Resolution R9-2017-0030).

This status sheet represents an initial assessment of conditions for one of the key uses.

Focused assessments on key uses of waters will help the Board set regionwide priorities and measurable goals for protecting and restoring the integrity of waters through regulatory and collaborative efforts.

THREE ECOSYSTEM HEALTH INDICATORS

Commonly used and chosen for their ability to integrate multiple aspects of ecosystem health, the three health indicators considered in the initial assessment include:

1. **BUGS**—Community composition of benthic (i.e., bottom-dwelling) macroinvertebrates (BMIs, or informally, "bugs", which include insects, snails, crustaceans),

2. **ALGAE**—Community composition of benthic algae

3. **HABITAT**—An index of wetland habitat condition called the California Rapid Assessment Method (CRAM)

Each of the three indicators provides a scoring system to describe the stream health as one of four categories, excellent, good, fair, poor.

Source: https://www.epa.gov

Source: Betty Fetscher
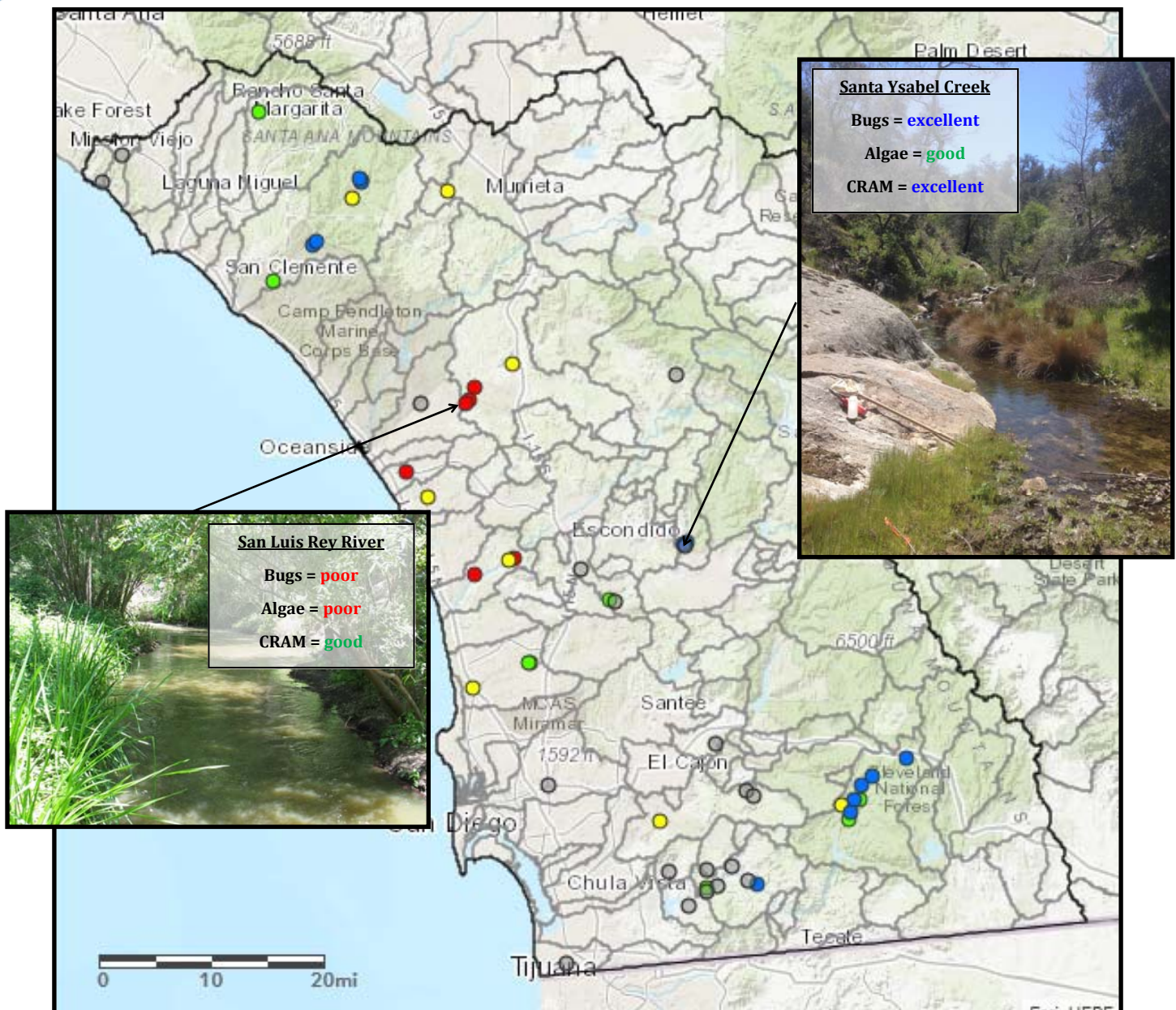

Source: Carey Nagoda

Figure 2. Priority streams with and without ecosystem health indicator data. Stream sites with data are shown as icons corresponding to overall ecosystem health indicator condition: Poor (red), Fair (yellow), Good (green), Excellent (blue). Stream sites without data are shown as a gray dots. Two example sites with data are shown in detail, San Luis Rey River and Santa Ysabel Creek.

TWO EXAMPLE ASSESSMENTS AND HOW THE DATA WILL BE USED

Two example priority streams are highlighted above in Figure 2, San Luis Rey River and Santa Ysabel Creek. The portion of San Luis Rey River designated for the beneficial use BIOL has data available for bugs (poor), algae (poor) and CRAM (good) and is considered to have poor ecosystem health. Conversely, the segment of Santa Ysabel Creek with the BIOL beneficial use has data available for bugs (excellent), algae (good) and CRAM (excellent) and is considered to have a healthy ecosystem.

The San Diego Water Board will use these assessments to make informed decisions in various programs, focusing efforts on restoration actions for streams such as San Luis Rey River, where enhancing the water quality could lead to better, healthier ecosystem conditions. For streams currently in good health, similar to Santa Ysabel Creek, the San Diego Water Board will focus program efforts on protection to prevent ecosystem health degradation in the future.