3. RESULTS

3.1 Summarize CRAM Scores.

CRAM results can be used to identify areas with low or high condition within and between watersheds.

Box plots show summary statistics about the range of scores within each watershed, including the inter-quartile range, median, and mean (white diamond).

3.2 Cumulative Distribution Function Plots (CDFs) of CRAM Index Scores for Streams.

CDFs, based on the probability sample, draw the characteristic of all streams within the whole watershed.

As management actions within the watersheds improve and revitalize stream ecosystems over time, one would expect conditions to improve, shifting the CDF curve to the right.

Comparing CDFs from Coyote Creek and Guadalupe River watersheds indicates that Guadalupe River watershed has lower CRAM scores as evidenced by the whole curve being shifted left by about 5 CRAM points.

3.3 Ecological Service Indices (ESIs).

The ESIs are calculated as the mean of individual CRAM scores times the proportion of the streams length represented by each score.

The Es can be used as a single score for describing the overall ecological condition of a stream within a watershed that has been assessed using a CRAM probability-based sample design.

The Coyote Creek watershed ESIs are in the range of 27 to 37, indicating 95% confidence intervals between 28 to 36.

The Guadalupe watershed ESIs are in the range of 23 to 31, indicating 95% confidence intervals between 24 to 30.

The Coyote Creek watershed esis are low, indicating that the Coyote Creek watershed is about twice as large as the Guadalupe River watershed.

The Coyote Creek has more stream miles, >60% more stream miles.

The Coyote Creek watershed is about twice as large as the Guadalupe River watershed.

CASE STUDY: SCVWD’s Coyote Creek and Guadalupe River Assessments

The Coyote Creek and Guadalupe River watersheds both have significant urban and agricultural land uses, and both have multiple water quality issues, including nutrient enrichment, sedimentation, andphytoplankton blooms.

The Coyote Creek watershed has a higher CRAM Score, indicating a higher overall condition of aquatic resources.

The Guadalupe River watershed has a lower CRAM Score, indicating a lower overall condition of aquatic resources.

The Coyote Creek watershed has a higher overall condition of aquatic resources, indicating that the Coyote Creek watershed is about twice as large as the Guadalupe River watershed.

As management actions within the watersheds improve and revitalize stream ecosystems over time, one would expect conditions to improve, shifting the CDF curve to the right.

Comparing the Coyote Creek and Guadalupe River watersheds indicates that Guadalupe River watershed has lower CRAM scores as evidenced by the whole curve being shifted left by about 5 CRAM points.

The ESI is calculated as the mean of individual CRAM scores times the proportion of the streams length represented by each score.

The ESI is a landscape-level statistic that can be used to describe the overall ecological condition (or health) of streams within a watershed that has been assessed using a probability-based sample design.

The ESI is calculated as the mean of individual CRAM scores times the proportion of the streams length represented by each score.

The ESI is a landscape-level statistic that can be used to describe the overall ecological condition (or health) of streams within a watershed that has been assessed using a probability-based sample design.

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