

Development of Statewide Risk Assessment for California Wastewater Systems
ADVISORY GROUP SUMMARY – JULY 2026 ADVISORY GROUP MEETING

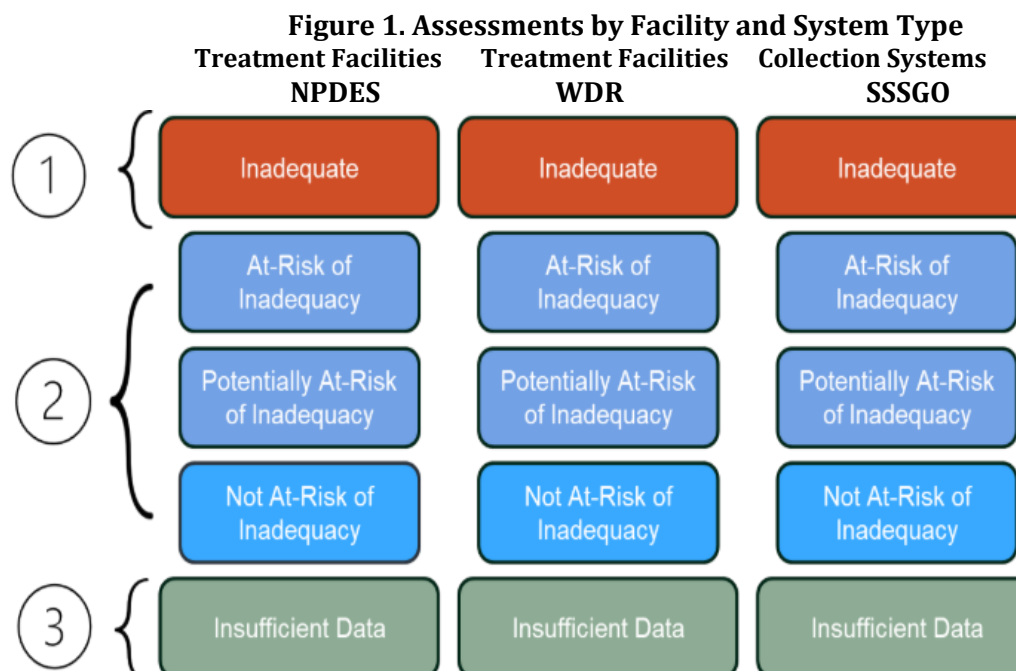
ADVISORY GROUP SUMMARY

Quantitative Risk Assessment

At-Risk wastewater systems are defined in the WWNA as those facing circumstances that threaten their ability to continue to adequately treat and dispose of wastewater. Three separate Risk Assessment methodologies will address the three different facility and system types that meet the inclusion criteria for the WWNA. The criteria will assist in predicting systems at risk of becoming inadequately treated and disposed of in the future. These inclusion criteria are fully detailed in the Phase 1 WWNA report and include the same systems analyzed in the Inadequacy assessment. The risk assessments cover:

1. National Pollutant Discharge Elimination System (NPDES) facilities,
2. Waste Discharge Requirements (WDRs) facilities, and
3. Sanitary Sewer System General Order (SSSGO) systems.

This Advisory Group Summary details the framework for the criteria used to define a facility or system as At-Risk in the WWNA.



Purpose

The Risk Assessment is being developed as a screening/planning tool to identify wastewater systems and facilities that may be experiencing challenges beyond current compliance and that are not captured by the Inadequacy Assessment. This information can help policymakers and regulators develop more proactive support mechanisms and targeted solutions for the specific

challenges that systems and facilities across the state are facing, help systems maintain compliance and thus avoid inadequacy, and develop additional resilience.

Risk Categories

The Risk Assessment is built across three Sub-Indexes:

1. **Socioeconomic:** Community-level vulnerability, independent of system or facility operations. The variables currently included in this sub-index and shared across all three program types are Household Socioeconomic Burden, Disadvantaged/Severely Disadvantaged Community Status, and Race & Ethnicity.
2. **Operational:** Proxy factors for system-level operational risk. SSSGO, WDR, and NPDES systems are regulated differently and report different data; this sub-index uses a tailored set of variables from administrative data for each program type rather than a single universal list.
3. **Environmental:** Physical and climate-related exposure, including flood depth and duration, extreme precipitation, drought, extreme heat, wildfire, and seismic hazard. These variables are primarily sourced from external governmental databases such as Cal-Adapt and the United States Geological Survey (USGS). These variables are used similarly across all program types since environmental exposure is geographic rather than program-specific.

Constructing the Risk Assessment

SSSGO, WDR, and NPDES systems and facilities will be evaluated using operational variables applicable to, and available only for, their program type. Therefore, these three Risk Assessments cannot be directly compared. Some variables are shared across the three assessments, such as demographic or environmental risk variables, but the operational sub-index has notable differences. Individual weights may also be applied differently for demographic and environmental risk variables.

Before variables are combined into the Risk Assessment, each variable will be normalized to a 0-1 scale so different types of data can be used in the same assessment.

Although we have initially suggested weights and scores we have shared and discussed in prior Advisory Group Summaries and presentations, the specific weights of each variable and sub-categories or indices of risk for each facility or system type, will be determined following additional statistical analyses and after review by the State Water Resources Control Board (State Water Board) staff and other stakeholders.

Statistical Validation of Variable Selection

In parallel with the variable selection and weighting approach to build the Risk Assessment, the WWNA project team is conducting an independent statistical analysis to test whether the variables currently included in the Risk Assessment are predictive of compliance outcomes featured in the Inadequacy Assessment.

These analyses are complementary, data-driven checks on the variable selection process. When statistically identified variables overlap with those selected for inclusion in the Risk Assessment via State Water Board and contractor judgment, it provides additional evidence that the Risk Assessment is built on variables with predictive relevance rather than relying solely on qualitative judgment. Where there is divergence, it is important to note that the regression analyses measure statistical association with Inadequacy, while the Risk Assessment is intended to measure broader, future-focused risk exposure.