Stream Tiered Assessment Framework (STAF)

SCREENING TIER

Goal: Provides a broad, watershed or landscape-scale snapshot. Identifies constraints, opportunities, and where additional effort may be needed.

Data sources: Desktop GIS, existing data review, limited site photos, and brief recon where available

Effort: Minutes to hours

Uses: Scoping and site screening

RAPID TIER

Goal: Refines understanding of site conditions. Field evidence supports planning decisions and alternatives comparison.

Data sources: Focused field observations, many site photos, limited modeling or lab data, desktop GIS, existing data

Effort: Hours to days

Uses: Design, comparing alternatives

DETAILED TIER

Goal: Provides high confidence, site-specific data to support final design decisions and performance evaluation.

Data sources: Intensive field data collection, extensive modeling or laboratory analysis, site photos, desktop GIS, existing data

Effort: Days to weeks

Uses: Final design, post-construction monitoring, regional studies

lower ←——— Effort, data needs, confidence ———→ higher

Common foundation: Stream functions are consistent across all tiers

Comparable Results: Scoring and Ecosystem Condition Index
Function results align to physical, chemical, and biological condition. Subindices are rolled into an overall ecosystem condition index. Higher tiers use more direct evidence and provide greater confidence in results.

Stream Tiered Assessment Framework (STAF)
A Guide for Assessing Stream Condition

A structured, repeatable set of guidelines to assess stream condition and communicate results. Three tiers match the level of effort to project timeline, budget, and decision needs. Scoring method and common stream functions promote consistent evaluation across sites.

SCREENING TIER

Provides a broad overview using existing information, available datasets, mapping, and professional judgment.

Use for: Early-stage planning, scoping, and prioritizing across multiple sites.

RAPID TIER

Adds targeted field observations to verify conditions and refine findings at the reach scale. Allows efficiency while producing defensible site-relevant results that are easy to communicate.

Use for: Planning decisions, conceptual design, and alternatives development.

DETAILED TIER

Provides the highest resolution and confidence. Intensive field data collection, lab analysis, modeling, and other specialized methods are tailored to project goals.

Use for: Final design support, impact evaluation, and monitoring where high certainty is required.

Effort, data needs, scoring detail, and confidence increase with tier →

Common Stream Functions:
- All tiers assess the same set of stream functions.
- The tiers differ in how each function is evaluated and documented.
- This improves consistency across projects and makes it easier to compare results across sites, watersheds, and study phases.

Scoring Approach:
- STAF uses a scoring approach that summarizes function-based results into condition outcomes.
- Each stream function is evaluated using tier-appropriate evidence.
- Function results are summarized to show overall performance and key limitations.
- Results are aligned to **physical**, **chemical**, and **biological** condition to support interpretation and decision-making.

Typical Uses:
- **Ecosystem restoration planning and feasibility studies:** Identify limiting functions, compare reaches, and support development of alternatives.
- **Project prioritization.** Screening and Rapid tiers support ranking and selection across multiple candidate sites.
- **Regulatory and planning documentation.** Consistent structure for reporting and communicating findings.
- **Design support and monitoring.** Detailed tier supports design decisions and performance evaluation when higher certainty is required.

STAF provides a clear tiered pathway, a consistent set of stream functions, and a scoring concept that links functions to physical, chemical, and biological condition. It helps teams scale effort to need, keep evaluations comparable, and communicate results clearly.