



The TRRP Science Program

- Adaptive environmental assessment and management (AEAM) is one of six elements in the ROD, and as envisioned in the Flow Study truly provides the foundation for the other five.
 - Sediment Management
 - Watershed Restoration
 - Variable Annual Flow Regime
 - Infrastructure Improvement
 - Mechanical Channel Rehabilitation
 - Adaptive Environmental Assessment and Management
- AEAM requires that reliable scientific information is collected, synthesized and provided to decision makers. A solid scientific framework is essential for defensible science in support of the ROD and goals of the TRRP.

Components of AEAM

An AEAM organization:

- 1) Defines goals and objectives in measurable terms,
- 2) Develops hypotheses, builds models, compares alternatives,
- 3) Proposes modifications,
- 4) Implements monitoring and research programs to evaluate management actions, and
- 5) Uses steps 1-4 to revise/refine to meet stated objectives.

Background

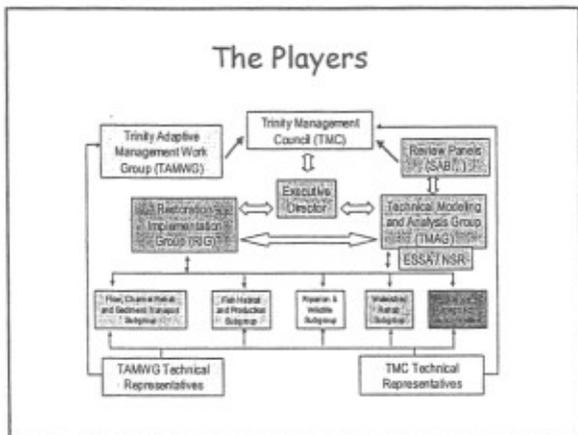
- The Trinity River Flow Evaluation Study (TRFES) provides the historical perspective, initial scientific foundation, and recommendations that form the basis of the Program (as defined by the ROD).
- The TRRP Technical Modeling and Analysis Group (TMAG) is responsible for implementing the science component of the ROD.
- TMAG vacancies have hindered the TRRP from implementing the AEAM program as envisioned by the ROD.

TRRP Science Program Update

- Action plan to implement key improvements in the science program is being developed.
- A consultant, ESSA, is assisting TRRP staff and partners in the Science Framework process.
- Rod Wittler, TRFES co-author, has been detailed for 6-8 months as TMAG Branch Chief.
- Clair Stalnaker, TRFES co-author and SAB member, will be assisting TMAG staff.
- Fish biologist interviews are in progress.
- Other personnel actions, including 2 additional TMAG staff, are continuing.
- Request for additional office space has been submitted to GSA.

Scientific Framework Basics

- The Scientific Framework is a tool that we are using to assist in application of AEAM.
- Development of the Framework requires specialized knowledge and skills that are not fully represented on the TMAG at this time, and are being supplemented by ESSA.
- With the ROD and TRFES as sideboards for the scientific questions, the Framework process will lead scientists and technical specialists in the development of an integrated conceptual model of the Trinity River system.

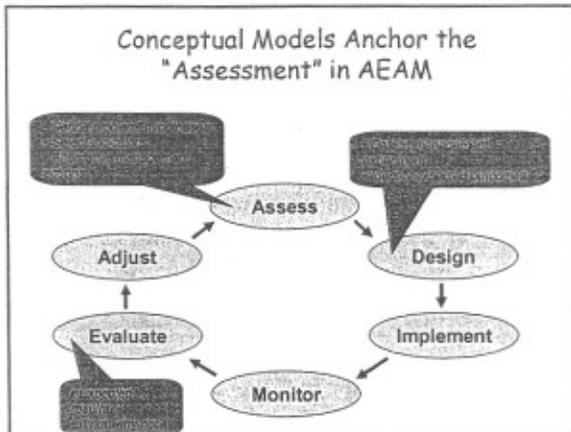


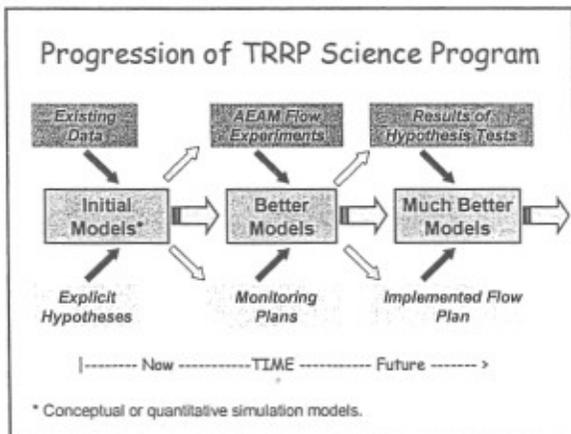
Conceptual Model

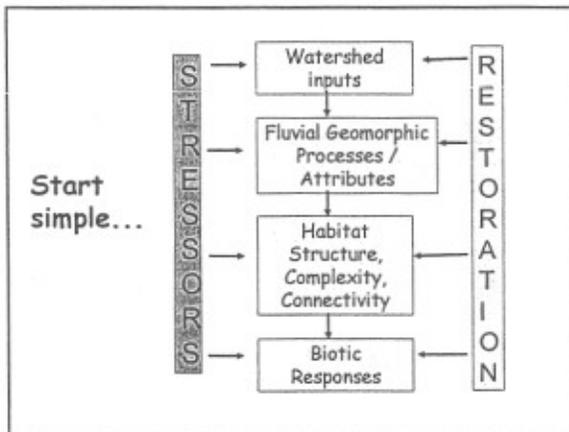
- The conceptual model represents an agreed upon understanding of the Trinity River system that will be used to evaluate monitoring needs and design a monitoring strategy and adaptive management plan for the Trinity River.

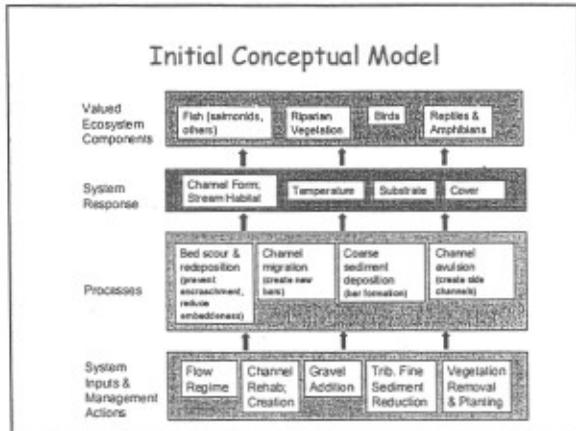
Conceptual Model Components

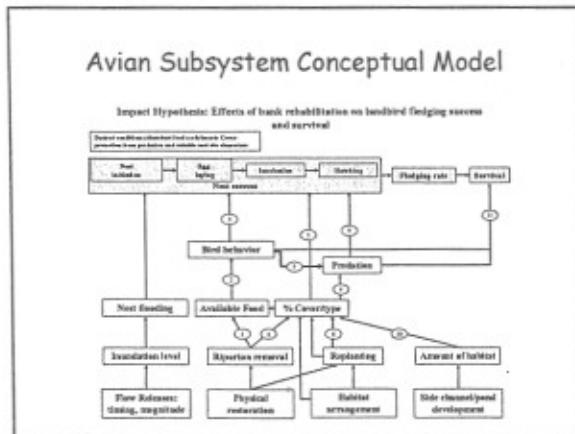
- 1) River system sub-models,
- 2) Measurable indicators of progress for subsystem goals and objectives,
- 3) Integrated spatial structure for all submodels,
- 4) Functional physical-biological linkages among these submodels,
- 5) Chains of hypotheses linking actions to indicators;
- 6) Critical uncertainties and knowledge gaps.



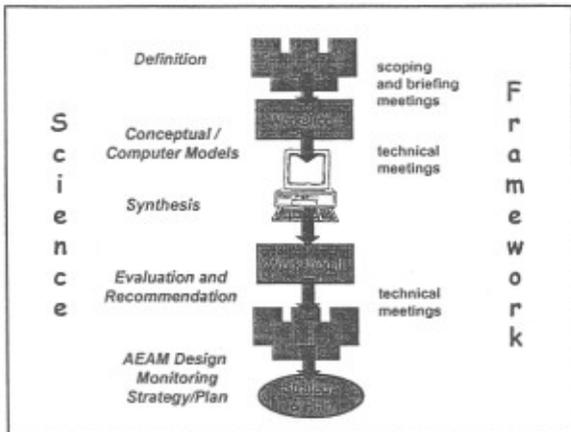








- ### ESSA Contract Scope
- Two year effort involving 15-20 local scientists and national experts.
 - Culminate in a peer-reviewed AEAM protocol and integrated monitoring / modeling plan to guide implementation of the TRPP over the next several years.
 - ESSA will lead the scientists through this process, help document results, design a prototype relational database, and assist scientific teams with specific analyses.



NSR/ESSA Contract SOW

Task 1 - Coordinate initial planning activities, review past conceptual models and hypotheses developed in the TRFES;

Task 2 - Prepare for Workshop 1: review and revise draft conceptual models developed by TRRP leads; prepare agenda and other pre-work materials;

Task 3 - Facilitate Workshop 1, including all break-out groups, and document results.

Task 4 - Work with subsystem teams to develop draft adaptive management protocol, associated monitoring plan.

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Task 5 - Facilitate Workshop 2, including all break-out groups, and document results.

Task 6 - Prepare, coordinate review, and finalize AEAM protocol and monitoring/modeling plans, including responses to outside peer review.

Task 7 - Design and develop a prototype Relational Database to support science framework conceptual models and monitoring plans.

NSR/ESSA Contract SOW

Task 8 (FY06 option task) - Implement Relational Database, load remaining high priority data; complete system documentation; test and refine as needed; finalize templates; deploy final prototype in TRRP environment;

Task 9 - Provide facilities for workshops 1 & 2, ensure participation of TRRP approved independent subject-matter specialists for peer review; prepare and distribute agendas, meeting summaries, draft and final documents.