

LOWER YUBA RIVER ACCORD

MONITORING AND EVALUATION PLAN

Protocols and Procedures



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Monitoring Activities

- Obtain data necessary to **conduct the analytics associated with each performance indicator** of the M&E Plan.
- Survey and sampling-**specific protocols & procedures** developed for each monitoring & study activity.
- Individual protocols & procedures are **coordinated with non-RMT funded monitoring & study activities** (i.e., CAMP, Angler Survey Program, Scale Age Program, Wild Heritage Trout Program, UC Davis California Fish Tracking Consortium).

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Standardized Protocols & Procedures

- Well-documented & highly specific to ensure **consistent data collection** among technicians, seasons, years, etc.



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- **Background**
 - Rationale for why study is warranted
 - Purpose and goals of study
- **Survey Location**
 - Specific reaches or specific habitat units
 - Methodology for determining sampling sites



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- **Survey Period**
 - Specific month(s), single or multi-year, water year type
 - Rationale for start and end dates
- **Sampling Frequency**
 - How often data is collected during survey period (i.e., daily, weekly, sub-sampling or collecting every fish, etc.)
 - Conditions when sampling will not occur
- **Sample Size**
 - Justification for sample size targets (number of survey sites sampled, tissue samples collected, fish measured, etc.)

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- **Data Collection**
 - Pre-season planning activities (i.e., permits, staff training, logistics, land access permission, data exchange)
 - Detailed step-by-step sampling & data collection methods
 - Description of survey data sheets
 - Data QA/QC protocols (i.e., error checking field data sheets, implementing P&P)



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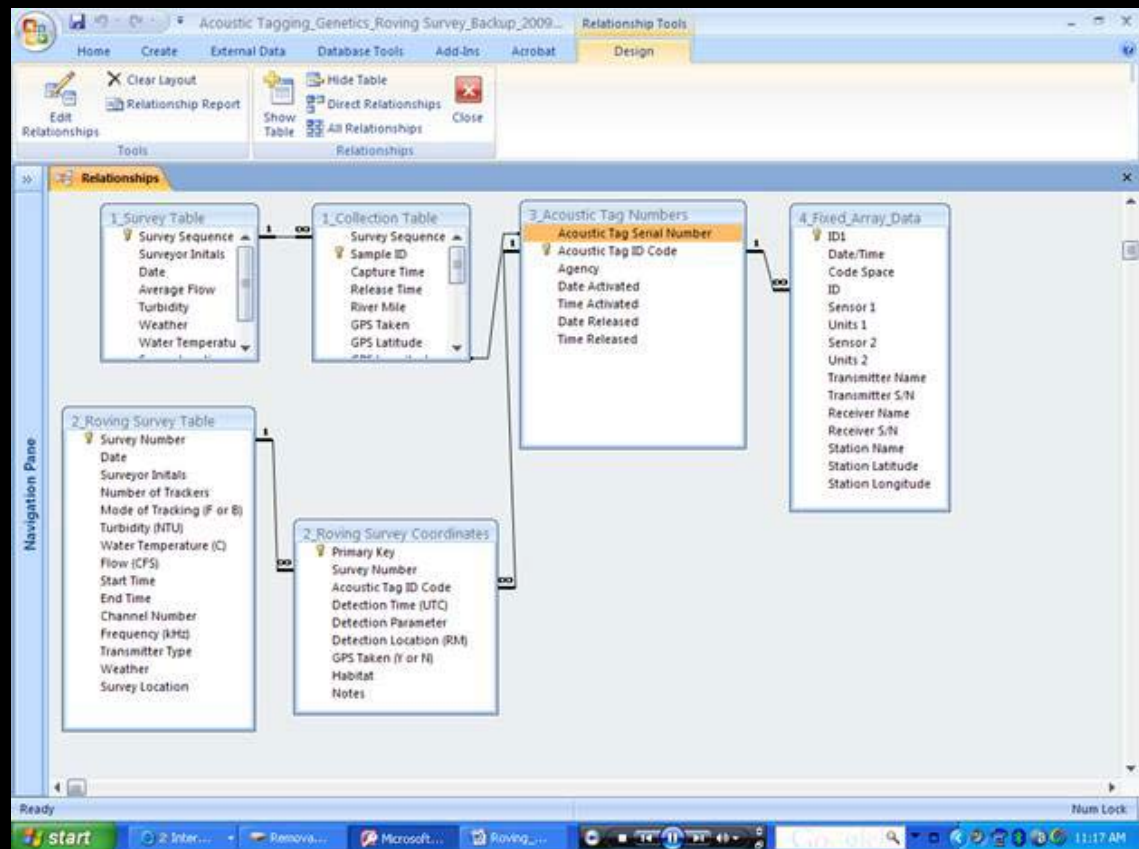
- **Logistics**
 - Personnel (Qualifications & training)
 - Schedule (Pre-season planning, data collection, report writing, etc.)
 - Costs (Annual budget; capitol expenditures & labor)
 - Equipment List

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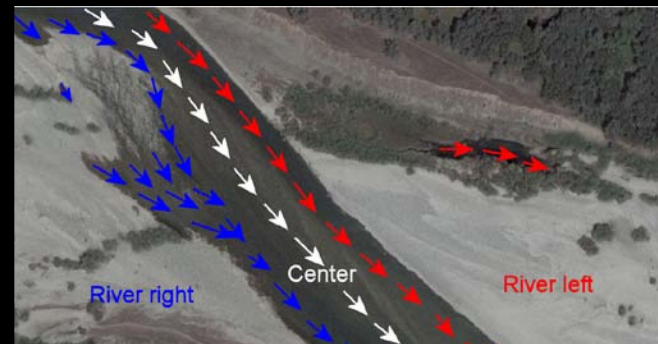
- **Data Management**
 - Data Storage (Database & metadata development)
 - Data entry
 - QA/QC process
 - Archival procedures



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- Flow and Water Temperature Monitoring
- Morphological Unit & Mesohabitat Classification (**Digital Elevation Model**)
- Substrate & Cover Classification & Mapping
- Acoustic Tagging & Tracking Surveys
- Genetic Sampling
- Vaki Riverwatcher System Monitoring
- Chinook Salmon Carcass Surveys (**Otoliths, Scales, Tissue, CWT Sampling**)
- Angler Surveys
- Redd and Superimposition Surveys
- Juvenile Snorkel Surveys
- Rotary Screw Trapping
- Cordua-Hallwood Fish Facility
- Benthic Macroinvertebrate Survey



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