General Core Monitoring
Plan for the GCD-AMP

TWG Core Monitoring Workshop
December 1, 2009

USGS-GCMRC
Flagstaff, AZ
Overview

- Background and Rationale for Plan
- General Framework
- Major Elements
- Staffing and Cost
Past TWG/AMWG actions

- April 2007: TWG reaffirmed its support of the core monitoring approach described in the Draft November 14, 2006 MRP, and recommended that GCMRC proceed with implementation of the approach.

- TWG, AMWG and SOI approved the core monitoring approach described and included in the FY 07-11 MRP.
Step 1: General Core Monitoring Plan

- Specify by resource area the goals, objectives, preliminary information needs, scope, priority, schedule, and funding level
- Review/approval by TWG/AMWG
Core Monitoring Process (from 2007-2011 MRP)

1 – General Core Monitoring Plan

2 – Information Needs Workshops

3 – Protocol Evaluation Panel Reviews

4 – Detailed Core Monitoring Plans for each Resource Area
Step 2: Annual TWG Information Needs Workshop

- **Scope**: monitoring projects that will be evaluated for core monitoring status in a given FY

- **Purpose**: Refine/formulate specific management objectives, core monitoring information needs and project scope
Step 3  PEP Reviews

- Independent science panel that recommends monitoring protocols and technical specifications consistent with Steps 1 and 2 above
Step 4: Detailed Core Monitoring Project Reports

- **Scope:** Includes sufficient info for TWG to evaluate proposed projects for core monitoring status
  - Project title
  - Principal investigator(s)
  - Geographic scope
  - Project goals, tasks, and schedule by task
  - Key science questions and managers’ information needs addressed
  - Linkage to other resources processes and models
  - Monitoring protocols, including sampling designs, level of data resolution, accuracy and precision assessment, etc.
  - Expected outcomes, including outputs by fiscal year, reports, guidelines, models, etc.
  - Projected cost of project or program by fiscal year

- **TWG review and endorsement**
What is Core Monitoring

- Consistent, long-term, repeated measurements using scientifically accepted protocols to measure status and trends of **key resources** to answer specific questions. Core monitoring is implemented on a fixed schedule regardless of budget or other circumstances (for example, water year, experimental flows, temperature control, stocking strategy, nonnative control, etc.) affecting target resources (AMP Strategic Plan).

- Addresses monitoring of resources and CMINs associated with GCDAMP goals
GCD AMP Strategic Goals

- Kanab Ambersnail
- Recreational Experience
- Extirpated Species
- Rainbow Trout
- Archaeological Sites & TCPs
- Hydropower
- Riparian & Spring Communities
- Native Fish
- Aquatic Food Availability
- Glen Canyon Dam Operation & the Downstream Colorado River Ecosystem
- Downstream Quality of Water
- Sediment
- Quality Adaptive Management Program
Why is a Core Monitoring Plan Needed

- Fundamental to Adaptive Management
- Meet the requirement of Grand Canyon Protection Act
- Core Monitoring R&D consumes large portion of budget (∼65%) w/o a plan
- Needed to support budget and staff planning
- Needed to resolve fundamental issues about the scope and direction of core monitoring
Programmatic Plan

- Outlines the general scope and objectives of the core monitoring program
- Identifies where we are headed and how & when to get there via R&D, PEPs, IN Workshops, and Core Monitoring Reports
- Plan will be incrementally implemented and modified based on experience, PEP reviews, and new information
- Estimates yearly $$$ and staffing needs
- Plan will be incorporated into 2012-2017 MRP
Foundational Elements

- Inventories
- AMP Strategic Plan and Core Monitoring Information Needs (Identify What, Where, When, and How)
- Independent reviews and guidance
- Extensive R&D—Protocol development and testing
- Missing element: Desired Future Conditions (work in progress)
Reporting

- Publish and serve core monitoring data/results
- Annual reporting workshop
- Annual Status and Trends Fact Sheet
- SCORE Report (~every 5 years)
Role of GCMRC and Cooperators

- **Overall Lead:** GCMRC (oversight; data analysis; reporting)
- **Cooperator Role:** lead for specific tasks if:
  - Interested and capable
  - Fair price
  - Meet technical requirements
  - Peer review
- **Competitive awards**
Program Cost

- Cost: $6.3M/year
  - Consistent with independent estimates
  - Based on existing or estimated work
  - Refined in detailed core monitoring reports
  - Suitable for general budget planning
Staffing

- 25 full time equivalents by 2015
  - Program management
  - Data collection/analysis
  - Reporting and publication
  - Data Management
  - Contracting/agreements
  - Logistics and survey support
- Shift in staff expertise
- Shift to permanent positions (19 to 26)
Next Steps

- TWG Review—January 2010
- Initial Presentation to AMWG—Winter 2010
- TWG Recommendation—March 2010
- AMWG Recommendation—Spring/Summer 2010
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MRP Core Monitoring Evaluation Process

1. **General Core Monitoring Plan:**
   - Based on existing planning documents
   - Specify by resource area goals, objectives, preliminary information needs, scope, priority, schedule, and funding level
   - Review/approval by TWG/AMWG

2. **Annual TWG Information Needs Workshops:**
   - **Scope:** monitoring projects that will be evaluated for core monitoring status in a given FY
   - Refine/formulate specific management objectives, core monitoring information needs and project scope

3. **PEP Reviews**
   - Independent science panel that recommends monitoring protocols and technical specifications consistent with 1 and 2 above

4. **Detailed Core Monitoring Project Reports**
   - **Scope:** Includes sufficient info for TWG to evaluate proposed projects for core monitoring status
Step 1: General Core Monitoring Plan:

- Based on existing planning documents
- Specify by resource area goals, objectives, preliminary information needs, scope, priority, schedule, and funding level
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## Schedule (cont)

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<th>Completed PEPs</th>
<th>R&amp;D/Pilot Phases</th>
<th>CMIN Workshop/Final PEP</th>
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