

# General Core Monitoring Plan TWG Comments and Suggestions

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## LIST OF TWG COMMENTATORS

- Arizona Game and Fish Department
- Pueblo of Zuni
- Western Area Power Administration
- Colorado Water Conservation Board
- National Park Service
- Bureau of Reclamation
- Arizona Department of Water Resources
- Grand Canyon Wildlands Council
- \*Science Advisors



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## GOALS OF THE PRESENTATION/SESSION

- Review major TWG comments, solicit any others, create a list (handouts: LIST OF MAJOR TWG ISSUES TO BEGIN CONSIDERATION, SPECIFIC ISSUES)
- Determine the most important of the comments, rank these to determine support
- Develop plan to address the comments, timeline for completion of GCMP
- Criteria for being "in" the list, comments that require substantial changes to the document, approach, or strategy
- Thus, specific technical changes, edits, general discussion or comments are generally not included here, will be responded to by GCMRC as usual, no time for discussion today



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## GENERAL ISSUES & OUT OF SCOPE

- **General Issues:** line numbers, authors, 2 week review
- **Outside the scope of this review:**
  - NPS many issues, GCPA
  - NPS as only a reviewer and not a scientific peer
  - The scope of the GCDAMP constrains our ability to reach scientific adaptive management goals
  - Management agencies need a role outside of TWG/AMWG process
  - Administrative history for program
  - General criticism of GCMRC
  - There are management information needs assumed to be met by TWG, but that are not built into the program (NPS 24)
  - Need periodic reviews of GCMRC as a program, by SA or others, cost vs. benefit, focus, etc.
  - Relationship with tribes, and integration into the program, too much burden falls on GCRMRC yet the tribes are left out of much of this plan
  - Reporting issues was a common theme

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## CORE MONITORING DEVELOPMENT APPROACH

- Support for general core monitoring plan first and then individual plans
- Need to identify key goals of our long term monitoring program
- Develop individual plans slowly based on scientific merits
- Sediment was provisionally approved by TWG in 2008

## STRENGTHS OF THE PLAN

- Strong monitoring protocols (SA7)
- Strength is in the research protocols and being responsive to general AMP needs
- AMP hasn't been as clear as GCMRC might like, makes their job more difficult
- Staff on site, long term perspective, good coordination within GCMRC
- Chapter 1 background
- We appreciate all the hard work that has been put into the long history here to develop core monitoring

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## ROLES AND RESPONSIBILITIES



- Roles and responsibilities of GCMRC, TWG, AMWG, and DOI should be directly discussed, who is responsible for what in this process?
- What sideboards should there be for TWG participation?
- What are we expecting GCMRC to bring forward in the individual CMPs, are there specific expectations (e.g., tribal involvement in goal 11, risk assessments)
- What is needed and by whom in the process to achieve approval of an effective plan?

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## TWO STRATEGIES



Two strategies are weaved together without explicitly discussing them, which makes it difficult to discuss the issues

### Science Strategy

- Systems level discussion vs. individual resources
- Monitoring protocols, SA support of this strategy

### Adaptive Management Strategy

- Choices in the CMP are not just science, they are management based on risk, reward, and cost
- Should include discussion of trade-offs between precision, increased monitoring, cost, and effectiveness and how the program should look at the scientific implications
- Unclear how step 4 results in CMPs (Section 1.2 p1)
- ? During step 4 the AMP would like to be integrated through adaptive management in choosing what should be CM and what should not
- This can't be done successfully without support from GCMRC in a strategy which provides the necessary and important information for managers to consider when making choices

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## ADAPTIVE MANAGEMENT (PROCESS)

- 4 Steps to develop plans: 4 steps on page 1 in section 1.2 and 3 steps (steps 2-4) on page 24 section 2.7
- P. 12: general approach described by GCMRC is a "Christmas tree" plan, with the ornaments
- SA 11: In adaptive management programs it cannot be expressed too strongly the importance of continued guidance from stakeholders and managers.
- Managers must have a substantial role or there will be no buy-in, were stakeholder considerations/priorities considered?
- Adaptive management is critical in this step, select the choices together based on the foundation built by GCMRC and early TWG/AMP involvement (CMINs)
- Development of CM may need to be an iterative process with criteria about what is considered
- Large gulf between science and management in the program, exemplified by KA, what are the implications of uncertainty in science and management?
- Step 4: should section 2 be rewritten to describe in more detail the process for the development of the individual plans in greater detail (i.e., expanded discussion of Step 4)? This could include an adaptive management component with sideboards on the process to allow forward movement of the plan

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### CRITERIA FOR ELEMENTS OF INDIVIDUAL PLANS (DESCRIPTION OF STEP 4)

- Full integration of CMINS/SSQs into the strategy for each goal
- Risk assessment for critical choices (qualitative or quantitative based on available resources). Examples:
  - Discussion of trade-offs between statistical precision, sampling intensity/extent, cost, and effectiveness and how the program should look at the scientific implications of these trade offs
  - This includes recommendations on design and statistical analysis, including the use of power analysis to develop designs and set sampling levels to achieve desired precision
  - Frequency/extent: a series of options might be given which show how the power is reduced, or other effect including cost, by either reducing or increasing sampling rate or extent
- Describe criteria for activity inclusion in core monitoring proposals. Examples:
  - Core monitoring proposal should be based on priority: high priority items should be included, some elements of core monitoring will be higher priority than others and should be identified
  - Confidence: include only those activities with high confidence of relating to the eventual DFCs
  - CMIN: activity is essential to address the minimalist view point for the CMIN (is everything core?). April 9, 2004 CMT memo: in this document, the CMT suggests that the long term plan "adopt a minimalist framework (e.g., no ornaments on the Christmas tree)"

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### CRITERIA FOR ELEMENTS OF INDIVIDUAL PLANS (DESCRIPTION OF STEP 4)

- To what extent have PEP recommendations been implemented including design and statistical analysis, including the use of power analysis to develop sampling designs and set sampling levels to achieve desired precision
- More integration of tribal monitoring in each CMP/goal, critical lack of tribal integration now with emphasis on other areas which may be a responsibility of the NPS. Better integrate tribal values in ecosystem management (Figure 4), TCPs

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## OVERALL COST

- Missing is concerns of CMT and others to avoid the “Christmas tree” approach and to keep the budget in the 40-60% range of the science budget. Support a process which allows for core monitoring choices which use less of the budget.
- We lack information on trade-offs between statistical precision and sampling intensity that will drive costs, these analyses should drive our decision making
- Budget should be divided into core monitoring, research and development with monitoring, and experimental components (e.g., Knowledge Assessment color approach)
- GCMRC has grown beyond the scope of the 1996 ROD, and could be replaced in part by a consortium of academics for core monitoring. Costs don’t appear to be competitive with what could be achieved through other routes
- The description of the present staffing plan should include how many individuals are employed in what capacity, why some positions are or are not filled, and more detail on how well the program involves outside collaborators, and how many students are supported by the program. A justification should be provided about how the present staffing varies from the original concept for GCMRC in the ROD. How does the plan for 26 FTEs fit with budgetary constraints we know are coming? Higher staff levels inevitably mean increasing costs greater than CPI. Relate staffing needs with org chart

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## DFCs

- How can we accurately determine which of the core monitoring proposals meets our needs, or perhaps is beyond our needs without specified DFCs for the MOs? Can we proceed without DFCs, and if so how and what does it mean to the program? Many of the elements may not need DFCs, others might really need them, how do we move forward and advise AMWG?

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## SCOPE OF MONITORING

- **Geographic scope is defined as CRE, which discusses tribes, tribes should be included**
- **GCMRC seems to have constrained the scope of monitoring beyond the language identified in the plan**
- **CMP should be focused on monitoring for dam operations**
- **Lack of a strong species inventory limits our ability to understand ecosystem processes, greater emphasis on inventory programs is needed**
- **Need to identify how other agency monitoring programs will be integrated (e.g., NPS I&M program)**

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## GOALS

**There were a number of comments specific to each goal, can be found under SPECIFIC ISSUES handout**

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## DISCUSSION

**CM is important to future LTEP and annual budget process**

**Buy in is important**

**GCMP will morph into MRP in next draft 2012, this mostly sets up process to identify individual CMPs and describe overall scientific strategy**

**GCMP seems responsive to myriad CMINs, but the AMP hasn't had a chance to decide if all these activities should be CM or in a different category of activity (adaptive management)**

**Can we integrate adaptive management into this process and complete this work?**

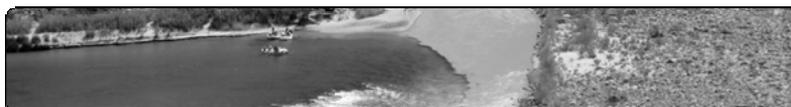


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## PROCESS TO CONCLUSIONS AT WORKSHOP

- **List of issues to consider**
- **What will it take TWG to move forward?**  
**Must have's vs. nice to have's**
- **Gauge support: put stickers on board with all of the options, have a couple of rounds so that all of the top issues can be identified.**
- **Discuss timeline and expectations**



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