

M3 RESEARCH

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TO: Mr. Mike Gabaldon, Secretary Designee, GCD AMP
Adaptive Management Work Group
FROM: L.D. Garrett, SA Executive Director
DATE: July 25, 2005
SYBJECT: Proposed Fy 2006/2007 GCD AMP Science Advisor Review and Advisory Service Program

An Fy 2004 amendment to SA protocol requires an annual report to AMWG at the summer meeting that:

1. Reviews accomplishments of SA review and advisory services programs.
2. Proposes review and advisory services programs for the SAs for the next two years.

Fy 2005 is the second year in which the GCD AMP SAs have had their two year program of reviews and advisory services approved by AMWG. Annual reviews are proposed for the 2005-2010 period due to the expected dynamics in the program and extensive science planning and review required in the GCD AMP program.

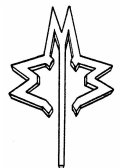
The GCD AMP Science Advisor Program has changed significantly from Fy 2004 to Fy 2006. Even though the SA program was established to provide both review and advisory services, it focused only on reviews from Fy 2002-Fy 2005. The SAs and Executive Director presented only at AMWG meetings and did not provide advisor services.

During the period Fy 2005-2007, the SA program is requested by AMWG, GCMRC, and TWG to provide increased formal reviews and broad advisory service support as follows:

- The Executive Director is to engage the SAs more with GCMRC, TWG and GCD AMP Ad Hoc through his office by meetings, conference calls and e-mail advisory service to these groups.
- The SAs and Executive Director have agreed to facilitate and coordinate development of all GCD AMP science planning documents through the period 5/05 to 7/06 and beyond as revision is needed. The assignment includes significant facilitation, coordination and development work by the Executive Director with GCMRC and development of ecosystem science approaches by the SAs.
- The SAs and Executive Director are to complete a comprehensive assessment of GCD AMP over the period FY 2005/Fy 2006.
- The SA program has also agreed to complete its reviews of GCD AMP science planning documents, which average 5-8 per year.

FY 2006 SA REVIEW AND ADVISORY SERVICES PROGRAM

Formal Reviews



- HBC Comprehensive Plan
- HBC Refugia Assessment
- HBC Genetics Plan
- Knowledge Assessment as Relates to AMWG Specific Information Needs
- GCMRC/GCD AMP Strategic Science Plan
- GCMRC/GCD AMP Core Monitoring Plan
- GCMRC/GCD AMP Research Plan
- Fy 2007/2008 GCD AMP Annual Work Plan and Budgets

Advisory Services

- SA Assessments of Overall GCD AMP including effectiveness of GCMRC, TWG, AD Hoc, AMWG, etc.
- SA Executive Director and SAs facilitation, coordination, development and advisory service on all GCMRC/GCD AMP science planning documents; i.e., SSP, CMP, RP, AWP
- SA Executive Director and SAs advisory services to GCMRC, TWG, GCD AMP AD Hoc groups on science program implementation and planning

FY 2007 SA REVIEW AND ADVISORY SERVICES PROGRAM

Formal Reviews

- GCMRC/GCD AMP Revised Core Monitoring Plan; Fy 2007
- GCMRC/GCD AMP Revised Research Plan
- GCMRC/GCD AMP RBT Removal Project Tests
- GCMRC/GCD AMP Annual Work Plan and Budgets; Fy 2008, 2009
- SA GCD AMP Overall Review and Assessment

Advisory Services

- SA Advisory Service on Completion of GCD AMP Overall Review
- Executive Director and SA Advisory Service to GCMRC, TWG, GCD AMP AD Hoc and AMWG on Science Planning and Implementation

SCIENCE ADVISORS REPORT ON
ACCOMPLISHMENTS FY 2004/2005

L. DAVID GARRETT
EXECUTIVE DIRECTOR, SCIENCE
ADVISORS

PHOENIX, AZ
AMWG SUMMER MEETING
AUGUST, 2005



GENERAL NEEDS FOR SA SERVICE TO GCD AMP

- PAST CONCERN THAT COMPREHENSIVE INDEPENDENT REVIEWS, ALTHOUGH GOOD, DID NOT PROVIDE WORKABLE RECOMMENDATIONS TO INVOKE CHANGE
- GCD AMP WANTED RIGEROUS INDEPENDENT REVIEW, WORKABLE RECOMMENDATIONS, AND ADVISORY SERVICE IN REAL TIME

GCD AMP SCIENCE ADVISORS

GENERAL CHARGE: REVIEW

- MONITORING AND RESEARCH ASSESSMENTS; SYNTHESIS; PLANS
- RFP PROCESS
- PROTOCOLS
- ANNUAL PLANS
- PROPOSED NEW SCIENCE PROGRAMS
- BUDGET PROPOSALS
- AND SCIENTIFIC AND TECHNICAL REVIEWS OR ADVISORY SERVICE REQUESTED BY GCD AMP

- **WILL NOT EVALUATE PUBLIC POLICY DECISIONS OR LEGAL COMPLIANCE OF GCD AMP**



FY 2003/2004 GENERAL ANNUAL OPERATION REQUIREMENTS

SCIENCE ADVISORS

- ❑ 10-20 DAYS OF EACH SAs TIME
- ❑ 2-3 REVIEW MEETINGS
- ❑ 4-6 PLANS REVIEWED

EXECUTIVE DIRECTOR

- ❑ 40-60 DAYS OF EXECUTIVE DIRECTOR'S TIME
 - ❑ 2-3 REVIEW MEETINGS
 - ❑ 4-8 GCMRC/AMWG/TWG MEETINGS
-

SCIENCE ADVISOR GROUP

2002-2005

- FISH ECOLOGIST
- AQUATIC ECOLOGIST
- LIMNOLOGIST
- ANTHROPOLOGIST
- ARCHEOLOGIST
- ADAPTIVE MANAGEMENT SPECIALIST
- ECONOMIST
- BIOMETRICIAN
- SYSTEM SPECIALIST
- TERRESTRIAL ECOLOGIST
- SEDIMENT/HYDROLOGIST
- GEOMORPHOLOGIST

SCIENCE ADVISORS OPERATING PROTOCOL

- ANNUALLY REPORT
ACCOMPLISHMENTS TO AMWG ON
PAST REVIEWS
- PRESENT TO AMWG FOR
APPROVAL FUTURE REVIEW
SCHEDULE

FY 2004/2005 REVIEWS

- STATUS AND MANAGEMENT STRATEGY FOR HUMPBACK CHUB IN GRAND CANYON
- CORE MONITORING PLAN REVIEW
- 2004 WORK PLAN AND BUDGET
- LONG-TERM EXPERIMENTAL PLAN REVIEW
- REVIEW OF HBC POPULATION ESTIMATION PROCEDURES
- GCMRC STRATEGIC SCIENCE PLAN REVIEW
- GENERAL REVIEW OF GCD AMP SCIENCE AND MANAGEMENT PLANNING
- AQUATIC FOOD BASE SCIENCE PROGRAM
- HBCC REVISED PLAN
- AQUATIC FOOD BASE RFP
- DRAFT PROVISIONAL CORE MONITORING PLAN

SELECTED SCIENCE ADVISOR RECOMMENDATIONS

- FOCUS ON MOST CRITICAL MANAGEMENT RESOURCE CONCERNS
- IMPLEMENT AGGRESSIVE HBC PROGRAM OF RESEARCH, MONITORING AND MANAGEMENT ACTIONS
- REDIRECT AQUATIC FOOD BASE PROGRAM
- FOCUS NEW FOOD BASE PROGRAM TOWARD KEY HIGHER TROPHIC RESOURCES

SELECTED SCIENCE ADVISOR RECOMMENDATIONS

- INCORPORATE ECOSYSTEM PARADIGM INTO MORE ELEMENTS OF RESEARCH AND MONITORING PROGRAM
- DETERMINE HOW TO INTEGRATE MANAGEMENT ACTIONS INTO ONGOING SCIENCE/MONITORING PROGRAMS
- CONSIDER OPPORTUNISTIC OPTIONS IN EXPERIMENTAL DESIGN

SELECTED SCIENCE ADVISOR RECOMMENDATIONS

- DEVELOP RESEARCH/EXPERIMENTAL OPTIONS FOR ANTICIPATED DROUGHT
- ENHANCE PAST CONCEPTUAL MODELING EFFORT WITH NEW DATA TO IMPROVE RESEARCH PLANNING
- UTILIZE INDEPTH KNOWLEDGE ASSESSMENTS AND MODELING TO EVALUATE ALTERNATIVES TO SOME MONITORING
- AGGRESSIVELY PURSUE RESEARCH AND EXPERIMENTATION ON EFFECTS OF ELEVATED TEMPERATURES (TCD)

IMPACTS OF SA RECOMMENDATIONS

SA RECOMMENDATION

- IMPLEMENT AGGRESSIVE TROUT CONTROL RESEARCH
- EVALUATE HBC REFUGIA
- COMPLETELY REVISE SSP
- RESTRUCTURE SCIENCE PLANNING ON ECOSYSTEM PARADIGM
- RESTRUCTURE FOOD BASE RESEARCH
- IMPROVE SCIENCE PLANNING PROCESS

OUTCOME

- PROGRAM INITIATED
- EVALUATION UNDERWAY
- SSP ELEMENTS COMPLETELY REVAMPED
- NEW SCIENCE PLANS ADOPT ECOSYSTEM APPROACHES
- NEW APPROACH INCLUDED IN RFP
- SAs CONTRIBUTING IN ADVISORY CAPACITY

SCIENCE ADVISOR GROUP

2002-2005

- FISH ECOLOGIST
- AQUATIC ECOLOGIST (R)
- LIMNOLOGIST
- ANTHROPOLOGIST (R)
- ARCHEOLOGIST (TERMINATE 05)
- ADAPTIVE MANAGEMENT SPECIALIST
- ECONOMIST (TERMINATE 03)
- BIOMETRICIAN (TERMINATE 03)
- SYSTEM SPECIALIST
- TERRESTRIAL ECOLOGIST
- SEDIMENT/HYDROLOGIST (TERMINATE 05)
- GEOMORPHOLOGIST (R)

FY 2006 SA REVIEW AND ADVISORY SERVICES PROGRAM

FORMAL REVIEWS

- HBC COMPREHENSIVE PLAN
- HBC REFUGIA ASSESSMENT
- HBC GENETICS PLAN
- KNOWLEDGE ASSESSMENT AS RELATES TO AMWG SPECIFIED INFORMATION NEEDS
- GCMRC/GCD AMP STRATEGIC SCIENCE PLAN
- GCMRC/GCD AMP CORE MONITORING PLAN
- GCMRC/GCD AMP RESEARCH PLAN
- FY 2007/2008 GCD AMP ANNUAL WORK PLANS AND BUDGETS

FY 2006 SA REVIEW AND ADVISORY SSSERVICES PROGRAM

ADVISORY SERVICES

- SA ASSESSMENTS OF OVERALL GCD AMP. EVALUATION OF EFFECTIVENESS OF GCMRC, TWG, AD HOC, AMWG, ETC.
- SA EXECUTIVE DIRECTOR AND SAs FACILITATION, COORDINATION, DEVELOPMENT ADVISORY SERVICE ON ALL GCMRC/GCD AMP SCIENCE PLANNING DOCUMENTS; I.E., SSP, CMMP, RP, AWP
- SA EXECUTIVE DIRECTOR AND SAs ADVISORY SERVICES TO GCMRC, TWG, GCD AMP AD HOC ON SCIENCE PROGRAM IMPLEMENTATION AND PLANNING

FY 2007 SA REVIEW AND ADVISORY SERVICES PROGRAM

FORMAL REVIEWS

- GC AMP TBT REMOVAL PROJECT TESTS
- GCMRC/GCD AMP REVISED CORE MONITORING PLAN; FY 2007
- GCD AMP REVISED RESEARCH PLAN
- GCMRC/GCD AMP ANNUAL WORK PLAN AND BUDGET; FY 2008-2009
- SA GCD AMP OVERALL REVIEW AND ASSESSMENT (contract review)

ADVISORY SERVICES

- SA ADVISORY SERVICE ON COMPLETION OF GCD AMP OVERALL REVIEW
- EXECUTIVE DIRECTOR AND SA ADVISORY SERVICE TO GCMRC, TWG, GCD AMP AD HOC AND AMWWG ON SCIENCE PLANNING AND INFORMATION