California Fish and Wildlife Strategic Vision Project
BRCC-SAG Science Discussion Worksheet
January 9, 2012

KEY: DFG Recommendation (Jan. 5, 2012)

Potential Action from BRCC/SAG Survey (Dec. 2011); high/low priority responses in parentheses

TOPIC	POTENTIAL RECOMMENDATION(S) TO ACHIEVE GOAL(S)	GOAL AND OBJECTIVE
Determining scientific capacity (internal or external or both)	**(Number 11, bullet 1) Develop a more robust and interactive web presence that describes the extensive partnerships already underway and identifies areas where more effective partnership opportunities may exist.** **(Number 11, bullet 2) Continue the conservation assessment partnership between Caltrans and the Department.** 8A: 21. Partner with educational institutions (from elementary thru university levels) and existing environmental education programs (like the California Envirothon) (3 – 0) 8B: 15. Pursue formal and informal partnership/collaboration opportunities with all levels of government agencies (federal, tribal, state, local), stakeholder groups, private landowners, etc. (10-0) 8B: 7. Enhance and re-establish partnerships with organizations that have scientific capacity (such as academic institutions, other credible scientific organizations and stakeholders, in order to expand ability to make decisions based on best readily available science) (6-0) 8B: 8. Develop mechanisms to facilitate collaborative partnerships between DFG personnel and scientists from other state and federal agencies, academic institutions, and other appropriate third-party scientific organizations (3 - 1) 8B: 10. Promote active involvement of DFG employees in the larger scientific community (3-1) 8B: 9. Encourage and facilitate partnerships with stakeholders (e.g., consumptive and non-consumptive resource users) to participate in data collection (2-0) 8B: 29. For data/ information gaps, and filling monitoring needs, establish partnerships and determine who will gather scientific information (avoid duplication of efforts) (1-1) 8B: 19. Collaborate with the University of California and California State University systems to facilitate modification and development of university curricula to help with DFG research, monitoring and evaluation needs (1-2) 8B: 30. Reach out to the scientific community for assistance in designing management plans and conducting environmental reviews (0-2) 8C: 4. To the extent possible, coordinate/integrate methods, guidelines, and policies with other scientific data collection	**Goal 1:** **Strong Relationships with Other Agencies, Organizations and the Public:** **Objective 6:** **Share data, processes, tools, knowledge, expertise and information**

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	and archiving efforts (7-0) 8C: 5. Improve coordination with the University of California for increased science and data assistance (5-0) 8C: 16. Develop Science Quality Assurance Plan to guide scientific efforts to produce timely, credible and objective results (Quality Assurance is rigorous internal and external review of study proposals, while Quality Control is rigorous administrative and peer review of completed studies) (5-2) 8C: 9. Ensure that any science advisory panel adopts multidisciplinary approaches that include contributions from appropriate disciplines of population biology, oceanography, ecology, economics, statistics, modeling, and social sciences (3-1) 8C: 10. Integrate the scientific method into DFG research, monitoring and evaluation of management actions (can include rigorous design and testing of null hypotheses, as well as incorporating other sources of scientific information as appropriate, such as descriptive studies, traditional ecological knowledge, strong inference, social science) (2-1) 8C: 3. Increase the use of "other science" such as traditional ecological knowledge from Native Americans (1-7) 8C: 11. Increase the use of consultants for scientific research and monitoring (0-6) 8E: 21. Coordinate scientific determinations with other state and federal scientific bodies (i.e. PFMC Science and Statistical Committee) (2-0) 8E: 1. Identify the potential to coordinate with other agencies by developing a matrix that describes the interactive hierarchical structure of California agencies and extant offices within DFG that use guidance from science in conserving and managing California's natural resources (3-2)	
Transparency in scientific deliberations and decision-making	**(6, bullet 2) Review existing monitoring and other scientific endeavors within DFG to affirm scientific rigor and applicability to decision recommendations.** **(Number 6, bullet 3) Develop and implement a mechanism to improve the Department's scientific capability, including developing practices that ensure a rigorous science program within the Department that informs management and policy.** 8A: 4. Make information available in a regionally and culturally appropriate method, including written materials in geographic areas with limited Internet access (0-2)	**Goal 2: Highly Valued Programs and Quality Services** **Objective 7: Engage in broadly-informed**

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	8C: 15. Prioritize research, monitoring and evaluation needs for species and habitat trends analysis (ensure that the review of efforts are coordinated with other federal and state review capacities) (8-0) 8C: 16. Develop Science Quality Assurance Plan to guide scientific efforts to produce timely, credible and objective results (Quality Assurance is rigorous internal and external review of study proposals, while Quality Control is rigorous administrative and peer review of completed studies) (5-2) 8C: 9. Ensure that any science advisory panel adopts multidisciplinary approaches that include contributions from appropriate disciplines of population biology, oceanography, ecology, economics, statistics, modeling, and social sciences (3-1) 8C: 10. Integrate the scientific method into DFG research, monitoring and evaluation of management actions (can include rigorous design and testing of null hypotheses, as well as incorporating other sources of scientific information as appropriate, such as descriptive studies, traditional ecological knowledge, strong inference, social science) (2-1) 8D: 24. Link to or post online at the DFG website all reports and publications from DFG-sponsored projects (6-0) 8D: 2. Establish science advisory panel from multiple disciplines to advise DFG director on major issues (7-2) 8D: 13. Establish an independent multidisciplinary Science Advisory Panel (i.e., SAP; or a Science and Biostatistics Committee) to provide independent scientific review and guidance on DFG planning products, management plans, monitoring designs, focused studies, and "best available" science (consult extant models used in other states and federal agencies) (5-0) 8D: 15. Establish mechanisms to promote rigorous, thorough, independent scientific review of DFG resource management, scientific studies and reports, and monitoring programs (5-0) 8D: 26. Consult adopted state and federal agency standards and appropriate codes of ethical conduct to develop guidelines and formal rules to develop DFG codes to buffer DFG scientists, partners, and contracted third parties from political influence while promoting dialogue between scientists and policy makers. (4-0) 8D: 27. Modify decision-making processes to facilitate integration across biological and physical scientific disciplines while promoting interactions between scientists and policy makers (i.e., balancing test for sufficient time versus efficiency; e.g. one-year status review under California Endangered Species Act) but ensuring independence of scientific programs from political influence (4-0) 8D: 11. Use consistent applications of science and be transparent in the determination of listing a species and the areas	**and transparent decision-making (multiple sciences, public attitudes, traditional knowledge, etc.)**

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	of potential habitat mitigation needs (3-0) 8D: 17. Establish methods, guidelines, and policies for collecting, analyzing, archiving, and serving data and other information generated by research, monitoring, and modeling efforts of DFG personnel (3-0) 8D: 14. Define Best Available Science, Best Available Scientific Methods, and standards for applying them that conform to appropriate California and federal standards (statutory and common law) (4-2) 8D: 18. Establish a standard procedure for data sharing (3-1) 8D: 16. Establish mechanisms to promote rigorous, thorough, independent scientific review of methods and results of scientific studies conducted by third parties and adopted by DFG (2-0) 8D: 28. Provide scientific advisers to DFG and F&GC who are independent experts in economics and other social sciences, ecology and population biology (3-2) 8D: 19. Publish guidelines for ensuring the quality, objectivity, utility and integrity of information used or disseminated by DFG (2-2) 8D: 25. Develop scientific integrity policy to define ethical rules of conduct to ensure quality and credibility of information and procedures for investigating and disciplining misconduct (0-0) 8D: 23. Require that all data collected in sponsored scientific investigations be entered into BIOS or another appropriate accessible database (1-3)	
Credibility in scientific deliberations and decision-making	**Duplicate actions from Goal 2 (above)** 8C: 16. Develop Science Quality Assurance Plan to guide scientific efforts to produce timely, credible and objective results (Quality Assurance is rigorous internal and external review of study proposals, while Quality Control is rigorous administrative and peer review of completed studies) (5-2) 8C: 9. Ensure that any science advisory panel adopts multidisciplinary approaches that include contributions from appropriate disciplines of population biology, oceanography, ecology, economics, statistics, modeling, and social sciences (3-1) 8C: 10. Integrate the scientific method into DFG research, monitoring and evaluation of management actions (can include rigorous design and testing of null hypotheses, as well as incorporating other sources of scientific information as appropriate, such as descriptive studies, traditional ecological knowledge, strong inference, social	**Goal 3: An Effective Organization** **Objective 7: Improve and maintain credibility (scientific, decision-making, fiscal, etc.)**

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	science) (2-1) 8E: 21. Coordinate scientific determinations with other state and federal scientific bodies (i.e. PFMC Science and Statistical Committee) (2-0) **Duplicate actions from Goal 3 (above)** 8C: 16. Develop Science Quality Assurance Plan to guide scientific efforts to produce timely, credible and objective results (Quality Assurance is rigorous internal and external review of study proposals, while Quality Control is rigorous administrative and peer review of completed studies) (5-2) 8C: 9. Ensure that any science advisory panel adopts multidisciplinary approaches that include contributions from appropriate disciplines of population biology, oceanography, ecology, economics, statistics, modeling, and social sciences (3-1) 8C: 10. Integrate the scientific method into DFG research, monitoring and evaluation of management actions (can include rigorous design and testing of null hypotheses, as well as incorporating other sources of scientific information as appropriate, such as descriptive studies, traditional ecological knowledge, strong inference, social science) (2-1) 8D: 24. Link to or post online at the DFG website all reports and publications from DFG-sponsored projects (6-0) 8D: 2. Establish science advisory panel from multiple disciplines to advise DFG director on major issues (7-2) 8D: 13. Establish an independent multidisciplinary Science Advisory Panel (i.e., SAP; or a Science and Biostatistics Committee) to provide independent scientific review and guidance on DFG planning products, management plans, monitoring designs, focused studies, and "best available" science (consult extant models used in other states and federal agencies) (5-0) 8D: 15. Establish mechanisms to promote rigorous, thorough, independent scientific review of DFG resource management, scientific studies and reports, and monitoring programs (5-0) 8D: 26. Consult adopted state and federal agency standards and appropriate codes of ethical conduct to develop guidelines and formal rules to develop DFG codes to buffer DFG scientists, partners, and contracted third parties from political influence while promoting dialogue between scientists and policy makers. (4-0) 8D: 27. Modify decision-making processes to facilitate integration across biological and physical scientific disciplines while promoting interactions between scientists and policy makers (i.e., balancing test for sufficient time versus	

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