California Fish and Wildlife Strategic Vision Project BRCC/SAG Common Themes Discussion Notes and Worksheet January 19, 2012

KEY: DFG Recommendation (Jan. 5, 2012)

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

BRCC = California Fish and Wildlife Strategic Vision Blue Ribbon Citizen Commission

SAG = California Fish and Wildlife Strategic Vision Stakeholder Advisory Group

DFG = California Department of Fish and Game

F&GC = California Fish and Game Commission

On January 19, 2012 the California Fish and Wildlife Strategic Vision (CFWSV) Blue Ribbon Citizen Commission (BRCC) and Stakeholder Advisory Group (SAG) met for a common themes discussion topic meeting. Participants developed text for potential recommendations to be considered by the BRCC and SAG. This document captures the discussion that took place on January 19, 2012 regarding the potential recommendations.

Discussion: During the conversations today, would like to talk about a potential recommendation about partnerships and how they are defined.

Recommendation from the Science Discussions

Request to make the transparency topic part of the common themes discussion on January 19, 2012. Transparency in decision-making – does it mean identifying all those factors used in reaching a decision, including science? Also, do DFG and F&GC clearly identify the scientific factors/information used in making decisions? Does the public have access to the science used in decision-making?

Discussion: Institutional issue of not having sufficient transparency in DFG decision-making. Reluctance to share information is what needs to be addressed. Would like a general "show your work" recommendation. Transparency? Public paid for the data and should have access. DFG staff concern previously raised is that data will be misinterpreted by the public.

The initial language on transparency/communication from the homework volunteers that was discussed: Previously a Potential Science Recommendation: Transparency (in science used in decision-making) and communication (combined)

Previous implementation recommendations included:

Graber/McAfee Suggestions

- DFG provides reports, publications, and databases developed from its scientific work on a publicly-accessible web site (excluding sensitive information)
- Science developed and used by DFG is interpreted to students and the general public by education specialists
- Other factors incorporated in a decision (social, political, economic) are clearly distinguished from the [natural] science and referenced.
- Where the body of legitimate science informing the topic is in disagreement, those uncertainties or differences of opinion are identified. Likewise, where the body of science is incomplete to support a necessary decision, standard and transparent means, such as 'expert judgment' are used to advance management. (add to transparency as well)

BRCC/SAG Potential Actions

- 8D: 18. Establish a standard procedure for data sharing (3-1)
- 8D: 23. Require that all data collected in sponsored scientific investigations be entered into BIOS or another appropriate accessible database (1-3)
- 8A: 4. Make information available in a regionally and culturally appropriate method, including written materials in geographic areas with limited Internet access (0-2)
- 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)

DFG Suggestions

• (Number 11, bullet 1) Develop a robust and interactive web presence that describes the extensive partnerships already underway and identifies areas where more effective partnership opportunities may exist.

Implementation Assessment

- Method: ?
- Timeline: ?

• Level of likely BRCC/SAG agreement: ?

Ties to Strategic Vision

- Goal 1: Strong Relationships with Other Agencies, Organizations and the Public: Objective 6: Share data, processes, tools, knowledge, expertise and information
- Goal 2: Highly Valued Programs and Quality Services Objective 7: Engage in broadly-informed and transparent decision-making (multiple sciences, public attitudes, traditional knowledge, etc.)

Transparency Recommendation #1: DFG and F&GC will be transparent about their functions, programs, and activities

Implementation recommendations include:

- Science and information used throughout the decision-making process (and communicate that information used to inform those decisions)
- Provide access to data

Implementation Assessment

- Method: ?
- Timeline: ?
- Level of likely BRCC/SAG agreement: ?

Discussion: In the FERC process they spend a lot of time discussing and making joint decisions with stakeholders about what kind of studies to conduct. Don't want to broaden statement so much that it loses meaning.

Engaging stakeholders in the decision-making process – need to review the IRM recommendations to be sure this concept is captured

Recommendation from the Compliance Discussions (to Collaboration and Partnerships)

[Original Text] Previously a Potential IRM Recommendation: Create an organizational culture of coordination and collaboration for the DFG and F&GC. Move this recommendation to potential common themes #2, and expand the theme to include internal culture.

Previous implementation recommendations included:

- A. This can include pursuing formal agreements with state and federal natural resource management, permitting, and action agencies and/or multi-agency/user natural resource stakeholder groups to establish multi-agency collaboratives that will effectively promote IRM (see selected characteristics below).
- B. Reach out to other boards and commissions
- C. Create a culture of coordination and collaboration

Description: The intent of this action is to create a culture of coordination and collaboration using methods such as clear commitment by leadership, employee encouragement and incentives, and providing sufficient resources and time within DFG and F&GC to coordinate and partner with other agencies.

Implementation Assessment

- Method: DFG, F&GC, and Natural Resources Agency administrative
- Timeline: Short-term
- Level of likely BRCC/SAG agreement: High / top 1-3

Ties to Strategic Plan: Goal 1, Objective 2; Goal 2, Objective 2; Goal 3, Objective 1

New Proposed Text (from April Wakeman per request during compliance discussion topic meeting)

Potential Partnership Recommendation: Actively participate in and create partnerships/collaborations among other agencies, stakeholders and within the organizations [both DFG and F&GC].

Implementation recommendations could include:

- A. Create a culture of coordination and collaboration
- B. Reach out to other groups within the department or commission. [an example would include enforcement/biologist interaction]
- C. Those departments with more staff and/or more specific expertise in public works contracts, or that have higher or less stringent delegated authority should coordinate with those who do not.

- D. Partner with and/or enter into agreements with other agencies/organizations, such as for focused species and habitat assessments or work (e.g. vegetation mapping recently or currently done by DFG's Biogeographic Data Branch for California State Parks, San Diego Association of Governments, etc.). This can include pursuing formal agreements with state and federal natural resource management, local agencies, permitting, and action agencies and/or multi-agency/user natural resource stakeholder groups to establish multi-agency collaboratives that will effectively promote natural resource conservation (see selected characteristics below).
- E. Reach out to other boards and commissions.
- F. Establish a standing stakeholder advisory committee.

Description: The intent of this action is to create a culture of coordination and collaboration using methods such as clear and consistent commitment by leadership, employee encouragement and incentives, and providing sufficient resources and time within DFG and F&GC to coordinate within and partner with other agencies. State agencies and employees have specific expertise in some areas but not others, and should utilize each other as resources as needed. In addition, often an agency's or a DFG program authority extends over only part of the natural resource issue, solution, or problem. By working together, global solutions can be found and implemented. Examples include:

- A. Departments under the Natural Resources Agency (and those state agencies with a resources and/or regulatory nature) should meet to determine how they can effectively partner to achieve common goals specific to education, restoration, land acquisition, land management, and species and habitat monitoring. Additionally, those agencies with expertise not found in or very limited within DFG but needed for the implementation of DFG projects (e.g. archaeology, engineering, hydrology, landscape architecture and facility planning) should be able to be conducted by other agencies/organizations in partnership with DFG to conduct necessary tasks.
- B. Use more collaborative processes that combine regulatory agencies with landowners and other stakeholders, conservation organizations and local agencies and organizations on restoration/enhancement and other natural resource programs.
- C. Work with organizations that outreach to landowners to help create stronger relationships with private landowners

Implementation Assessment

- Method: DFG, F&GC, and Natural Resources Agency administrative
- Timeline: Short-term, continuing
- Level of likely BRCC/SAG agreement: High / top 1-3

Ties to Strategic Plan: Common Theme #2, Goal 1, Objective 2; Goal 2, Objective 2; Goal 3, Objective 1

Discussion: DFG does not seem to understand that there are organizations with resources they are willing to share, but DFG "attitude" is that partnerships require too much time and staff resources to "manage." Missed opportunities. What kinds of strings are attached when there are "partnerships." How does DFG take advantage of the resources being offered from outside sources? Need to go back and review the compliance partnerships section to determine if there are elements...

Corporate culture of starting with "no" rather than "How can we make this work?" Quote from Governor Brown, 1/18/12, State of the State Address: "It is one thing to pass a law and quite another to implement it and make it work."

Discussion: Communication, education and outreach – Question regarding how it was a working group, and now it "went away." Staff had anticipated that this would be brought up and captured during Jan. 5 meeting since that working group had made so much progress and solidified potential recommendations that would not require much more discussion. Members of working group brought up that there were four broad issues, now there seem to be three - internal, external, and education. Common theme #1 states it clearly. 8A:21 – need to incorporate enhanced education; educate the public about California's resources.

Discussion: Ecosystem-based management (EBM). Does this belong in governance? Clear definition of "ecosystem-based" should be given and included in discussion. EBM continues to pop up in discussions. Ecosystems might not be at a level of a common theme; concern that it takes away from the general theme. Ecosystem services needs to be discussed and needs specific recommendations. Have not yet identified a topic to put it under – could tit also be in other places? Belong under partnerships?

Homework – Make sure the common themes recommendations are incorporated elsewhere as appropriate. Evaluate against the implementation criteria - method, timeline, level of agreement.

Volunteer(s) for Jan 20 mtg to present ideas – Karen Buhr

Common Theme #1: Engage in clear and compelling communication, education and outreach, both internally and externally

Implementation recommendations include:

- A. Develop a communications plan
 - i. Internal

- ii. External
- iii. Identify high-level branding and recognition strategies to enhance recognition of DFG by the general public
- B. Place a communications person in each region. Not only would this person be responsible for generating media stories and answering media calls, but they will also be an "expert" of sorts in the region and know all about projects, programs, etc. This person will communicate regularly with headquarters
- C. Enhance Education and Outreach
 - i. Develop an outreach and education plan that includes using partnerships
- D. Improve community relations with the help of organizations such as the Natural Resource Volunteer Program to educate the public on issues such as Keep Me Wild, Conservation Education, marine protected area boundaries, enforcement information, regulation clarification, etc.

Common Theme #3: Use "ecosystem-based" management as an approach that recognizes the full array of interactions in a system, including humans, rather than single issues, species or services in isolation.

Definition of ecosystem based management – use the West Coast Governor's Agreement definition:

"Ecosystem-based management (EBM) is a process that integrates ecological, social, and economic goals, recognizes humans as key components of the ecosystem, and considers ecological boundaries while acknowledging political borders. Further, an EBM approach assesses cumulative impacts from various sources and strives to balance conflicting users. It accounts for complexity and uncertainty of natural processes and social systems, incorporating adaptive policies in the face of uncertainties. Using this approach to manage resources requires the consideration of multiple factors such as pollution, coastal development, harvest pressure, ecological interactions, and watershed management. EBM therefore requires engaging multiple stakeholders to help define problems, incorporate scientific, social, and economic understanding, set goals, and find solutions."

Implementation recommendations include:

- A. DFG and F&GC use EBM to inform resource management decisions. Examples:
 - i. Manage ecosystems as a whole rather than an individual species
 - ii. When dealing with endangered species take into account the effect on other species.

ΤΟΡΙϹ	POTENTIAL RECOMMENDATION(S) TO ACHIEVE GOAL(S)	GOAL AND OBJECTIVE
Common Themes #1: Engage in Clear and Compelling Communication, Education and	(No. 7 - bullet 1) Place a communications person in each region. Not only would this person be responsible for generating media stories and answering media calls, but they will also be an "expert" of sorts in the region and know all about projects, programs, etc.	Goal X: Objective X:
	(No. 7 - bullet 2) As part of an overall communications plan, identify high-level branding and recognition strategies to enhance recognition of DFG by the general public.	Objective A.
Outreach, both	(No. 7 - bullet 3) Enhance DFG's social media presence on Facebook, Twitter and YouTube.	
Internally and Externally	(No. 7 - bullet 4) Improve community relations with the help of the Natural Resource Volunteer Program to educate the public on issues such as Keep Me Wild, Conservation Education, marine protected area boundaries, enforcement information, regulation clarification, etc.	
	BRCC / SAG Potential Actions	
	8A:7. Simplify regulations (makes it easier to communicate them more effectively) $(10 - 0)$	
	8A:8 Implement an online permit tracking system so that an applicant can follow an application from beginning to end (10 – 0)	
	8A:1 Identify a single point of contact in each regional office who can respond to inquiries about DFG and F&GC efforts (4 – 0)	
	8A:11 Develop an external communication plan (for communicating external to DFG and F&GC) (3 – 0)	
	8A:21 Partner with educational institutions (from elementary thru university levels) and existing environmental education programs (like the California Envirothon) (3 – 0)	
	8A:3 Provide information on regulations and events online and by phone with limited written materials (3 – 1)	
	8A12. Develop an outreach and education plan $(2-0)$	
	8A:17 Expand community outreach and training to reduce human conflicts with wildlife (2–1)	
	8A:9: Partner with California State Parks to integrate public education efforts related to California wildlife and habitats (2 – 1)	
	8A:10 Develop an internal communication plan (for communicating within DFG and F&GC) $(1 - 1)$	

ΤΟΡΙϹ	POTENTIAL RECOMMENDATION(S) TO ACHIEVE GOAL(S)	GOAL AND OBJECTIVE
	8A:5 Allow more regional control in providing information to and interacting with the local public (fewer approvals needed form Sacramento) (2 – 3)	
	8A:18 Use public education specialists to help educate and inform the public about how DFG and F&GC use science (incorporate information about ongoing research as well as research findings) (1 − 2)	
	8A:20 Bring innovation to classrooms to attract students to the study of science (0 - 1)	
	8A:2 Increase DFG presence in the local community at public outreach events $(1 - 3)$	
	8A:4: Make information available in a regionally and culturally appropriate method, including written materials in geographic areas with limited Internet access $(0-2)$	
	8A:15 Enlist recognizable spokespersons to promote DFG and F&GC (to advertise the Outdoor California, conduct PSA's, produce documentaries, and briefly explain that every person in the state must be involved in natural resources) (0 − 3)	
	8A:13 Provide more interpreters to educate the public about California's resources $(0 - 4)$	
	8A:16 Highlight and expand distribution of DFG's Outdoor California magazine to educate public about DFG and wildlife resources (0 – 4)	
	8A:23 Rename DFG the Department of Wildlife Conservation and Management, which more broadly and succinctly describes its mission (2 – 7)	
	8A:6 Hire regional staff that more closely reflect the regional make up $(0-5)$	
	8A:22 Change the names of DFG and F&GC to reflect their mandates $(3 - 9)$	
Common Theme #2: Commitment to Formal and Informal	(No. 11 - bullet 2) 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.	Goal X: Objective X:
Partnerships and Collaboration	BRCC / SAG Potential Actions	
	8B: 15 Pursue formal and informal partnership/collaboration opportunities with all levels of government agencies	

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	(federal, tribal, state, local), stakeholder groups, private landowners, etc. (10 – 0)	
	8B:24 Simplify the permitting system for habitat restoration projects to expand partnership with private landowners (9 – 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:25 Use more collaborative processes that combine regulatory agencies with landowners and conservation organizations (e.g., Lower Butte Creek Project, Partners in Restoration Program, U.S. Fish and Wildlife Service's Partners for Fish and Wildlife Program) on restoration/ enhancement projects (6 – 2)	
	8B:1 Provide top-down encouragement to coordinate and partner with other agencies $(4-0)$	
	8B:16 Increase coordination with all levels of government agencies (federal, tribal, state, local), stakeholder groups, private landowners, etc. (4 – 0)	
	8B:6 Leverage existing networks, relationships, and multi-agency venues (4 – 1)	
	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:17 Partner/collaborate with resources users in conducting field research and managing resources (3 – 1)	
	8B:23 Adjust the 1600 program fee schedule to make 1600 agreements affordable for restoration and enhancement projects (3 – 1)	
	8B:3 Develop and improve formal and informal relationships with partners $(2-0)$	
	8B:5 Develop and improve formal and informal information sharing $(2-0)$	
	8B:9 Encourage and facilitate partnerships with stakeholders (e.g., consumptive and non-consumptive resource users) to participate in data collection (2 – 0)	
	8B:13 More responses to stakeholder requests should be YES; when projects or requests are denied, indicate how to solve the issues or concerns, rather than just indicating NO (3 − 2)	
	8B:27 Work with land owners, both private and those who may operate on leased state-owned ground, to build	

ΤΟΡΙϹ	POTENTIAL RECOMMENDATION(S) TO ACHIEVE GOAL(S)	GOAL AND OBJECTIVE
	positive, trusting relationships which are mutually beneficial $(1-0)$	
	 8B:31 Encourage a broad-based coalition effort of environmental and conservation organizations to tap into their memberships to work with each other to focus on five significant topics: combat poaching combat pollution combat the illegal sales of wildlife parts promote habitat restoration promote increased enforcement presence (via game wardens) to protect fish and wildlife resources (4 – 4) 	
	8B:12 Consider public perception before utilizing potential partners to promote DFG and F&GC missions (1-1)	
	8B:26 Work with organizations that outreach to landowners to help create stronger relationships with private landowners (i.e., California Farm Bureau, California Cattlemen's Association, resource conservation districts) (1 − 1)	
	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:21 Ensure internal capacity to manage cooperative agreements and contracts (positive example is the Condor Program) (0 – 0)	
	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:20 For peripheral areas not core to DFG/F&GC missions, use cooperative agreements or contracts with the University of California, California State University, and other government agencies (including tribes) $(0-1)$	
	8B:28 Streamline the process to establish memoranda of agreement/understanding $(0-1)$	
	8B:4 Identify needed capacity of partners (e.g., waterfowl endowment at UCD) $(1 - 3)$	
	8B:11. Utilize efforts by partners to promote the DFG/F&GC mission (i.e. The Humane Society enforcement efforts, resource conservation district land owner outreach) with firewalls and consideration of public perception of partners (1 – 3)	
	8B:2 Develop a potential partners list $(0-2)$	
	8B:14 Partner with the U.S. Fish and Wildlife Service on school habitat projects $(0-2)$	
	8B:30 Reach out to the scientific community for assistance in designing management plans and conducting environmental reviews (0 – 2)	

ΤΟΡΙϹ	POTENTIAL RECOMMENDATION(S) TO ACHIEVE GOAL(S)	GOAL AND OBJECTIVE
	8B:22 Fund restoration and/or enhancement coordinators at resource conservation districts (similar to watershed coordinators) to help identify potential restoration/ enhancement projects and help applicants obtain permits (3 – 7)	
	8B:18 Have DFG regional offices set regional resource management priorities and implement actions in cooperation with local/regional resource professionals and landowners $(1 - 6)$	
Common Theme #3: Use "Ecosystem-	(No. 3 - bullet 2) Develop and implement strategies for effective water conservation, water quality and drainage management on DFG lands.	Goal X:
Based" Management (Multi-Media, Multi-	(No. 3 - bullet 4) Develop a water acquisition policy to serve as the basis for DFG to coordinate internally and externally with other agencies and interest groups to acquire water rights for instream flow purposes.	Objective X:
Species, Multi- Habitat) Informed by Best Available Science	(No. 12 - bullet 2) More fully integrate marine regulatory programs in common with terrestrial regions by staff participation in policy development and consistency forums.	
Science	BRCC / SAG Potential Actions	
	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:4 To the extent possible, coordinate/integrate methods, guidelines, and policies with other scientific data collection and archiving efforts $(7 - 0)$	
	8C:13 Improve implementation timelines and local participation in Natural Communities Conservation Planning Program (6 – 0)	
	8C:1 Create an ecosystem services policy for California to create incentives for landowners to generate environmental services (7 – 2)	
	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:14 Prioritize research needs $(3-0)$	
	8C:7 Establish a Research Branch (to promote scientifically rigorous studies and other data collection efforts) (6 –	

ΤΟΡΙϹ	POTENTIAL RECOMMENDATION(S) TO ACHIEVE GOAL(S)	GOAL AND OBJECTIVE
	 4) 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:2 Balance development/ecosystem services with natural resources goals/stewardship (natural resources when sustained provide ecological values/services) (2 – 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:6 Establish an Office of Resource and Population Assessment (in support of scientifically rigorous modeling efforts) (2 – 4) 8C:8 Establish a Monitoring Branch as either standalone entity with direct integration with the Research Branch or as a sub-group of the Research Branch (1 – 3) 8C:12 Become active participants in future updates of the Environmental Goals and Policy Report (EGPR) (1 – 3) 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 $(0-6)$	
<i>Common Theme #4:</i> Engage in Broadly- Informed and Transparent Decision-	(No. 6 - Bullet 3) Develop and implement a mechanism to improve DFG's scientific capability, including developing practices that ensure a rigorous science program within DFG that informs management and policy.	Goal X: Object X:
Making	 BRCC / SAG Potential Actions 8D: 9. Define a set of qualifications for the governor to consider in making appointments and the legislature to consider when approving appointments (11 – 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) 	

ΤΟΡΙϹ	POTENTIAL RECOMMENDATION(S) TO ACHIEVE GOAL(S)	GOAL AND OBJECTIVE
	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 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: 7. Make fish and game commissioners representative by geography (divide California into equal geographies and then commissioners each represent one of those geographies) (4 – 2)	
	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: 10. Apply species mitigation in a more consistent way between the California Endangered Species Act and federal Endangered Species Act (3 – 1)	
	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: 1. Expand F&GC committee system to include a science committee to advise F&GC (5 – 4)	

POTENTIAL RECOMMENDATION(S) TO ACHIEVE GOAL(S)	GOAL AND OBJECTIVE
8D: 8. Make fish and game commissioners representative of specific categories of interest or expertise (i.e., biology, hunting, fishing, non-consumptive users) (4 – 3)	
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: 21. Improve and increase field research $(1 - 1)$	
 8D: 22. Improve scientific support of harvest programs, ocean conservation, and measuring climate change effects (1 1) 	
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: 12. Clarify what is needed to benefit specific species under the California Endangered Species Act (0 -)1	
8D: 23. Require that all data collected in sponsored scientific investigations be entered into BIOS or another appropriate accessible database (1 − 3)	
 8D: 20. Require a procedural step of effects analysis or risk assessment in all agency determinations that rely on the use of information derived from scientific studies or use other sources of reliable knowledge (i.e., peer review) (0 – 2) 	
8D: 29. Define and communicate the benefits of programs and who receives those benefits (i.e. permit applicant, broader public) (2 – 5)	
8D: 5. Make fish and game commissioners full-time professionals (1 - 4)	
8D: 6. Change the length and number of terms for fish and game commissioners (0 – 3)	
8D: 4. Increase the number of fish and game commissioners (1 - 5)	
8D: 3. Establish a suite of professional wildlife management employees guided by science to report to an elected body [commissioners elected by public?] (0 - 7)	
	 8D: 8. Make fish and game commissioners representative of specific categories of interest or expertise (i.e., biology, hunting, fishing, non-consumptive users) (4 – 3) 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: 21. Improve and increase field research (1 – 1) 8D: 22. Improve scientific support of harvest programs, ocean conservation, and measuring climate change effects (1 – 1) 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: 21. Clarify what is needed to benefit specific species under the California Endangered Species Act (0 -)1 8D: 23. Require that all data collected in sponsored scientific investigations be entered into BIOS or another appropriate accessible database (1 – 3) 8D: 20. Require a procedural step of effects analysis or risk assessment in all agency determinations that rely on the use of information derived from scientific studies or use other sources of reliable knowledge (i.e., peer review) (0 – 2) 8D: 29. Define and communicate the benefits of programs and who receives those benefits (i.e. permit applicant, broader public) (2 – 5) 8D: 5. Make fish and game commissioners full-time professionals (1 - 4) 8D: 6. Change the length and number of terms for fish and game commissioners (0 – 3) 8D: 4. Increase the number of fish and game commissioners (1 - 5) 8D: 3. Establish a suite of professional wildlife management employees guided by science to report to an elected body