

CHAPTER 10. INDEPENDENT SCIENCE ADVISORY PROCESS

10.1 BACKGROUND AND REGULATORY REQUIREMENTS

The habitat conservation planning process, as described by U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), provides flexibility in resolving conflicts between species conservation and economic development. USFWS and NMFS published a *Handbook for Habitat Conservation Planning and Incidental Take Permitting Process* in 1996 (HCP Handbook) as a guide for their staff in processing incidental take permit applications and participating in associated habitat conservation planning efforts. In 2000, USFWS and NMFS published an addendum to the HCP Handbook to provide additional guidance on HCPs; it is known as the Five-Point Policy.¹ In the Five-Point Policy, USFWS and NMFS encourage the use of independent science input to help inform the development of HCPs.

In addition, the California Natural Community Conservation Planning Act (NCCPA) calls for incorporation of independent scientific input in the development of natural community conservations plans (NCCPs), requiring such input to provide technical scientific recommendations on specific topics such as conservation strategies, reserve design principles, management principles, monitoring, adaptive management, and data gaps to support NCCP development.

Engagement of independent scientists in development of the BRCP was managed through a neutral facilitation team established specifically for this purpose, as described in more detail below. Advice and recommendations from independent scientists were captured in Independent Science Advisor reports prepared by the BRCP Independent Science Advisors and provided to the BRCP Steering and Stakeholder Committees. All advice provided by the Independent Science Advisors was given serious consideration by the Steering and Stakeholder Committees in the development of the BRCP. The following sections provide more details on the independent science advisory process, the recommendations that were provided, and how these recommendations were incorporated into the BRCP. Examples of recommendations that were not incorporated into the BRCP and rationale for those decisions are, also, provided in this chapter.

10.2 INDEPENDENT SCIENCE ADVISORY PROCESS

An Independent Science Advisors panel was assembled to support the BRCP. The panel was composed of recognized experts in technical fields relevant to the biological resources addressed by the Plan. Their charge was to clarify the current state of technical knowledge available for the conservation planning process. The panel operated independently of the Steering Committee,

¹ 65 Federal Register 35242 (June 1, 2000).

1 Stakeholder Committee, Permittees, and consultants. The facilitator of the Independent Science
2 Advisors was selected by the BRCP Steering Committee and was approved by DFG, USFWS,
3 and NMFS. The Science Facilitator worked with BCAG, Steering Committee representatives,
4 DFG, and USFWS to develop a “long list” of potential candidates for the Independent Science
5 Advisors panel.

6 The Facilitator developed a prioritized list of candidates based on their expertise, experience,
7 proven ability to work well with groups, and their ability to contribute useful information on
8 schedule. This prioritization process resulted in a “short list” of science advisor candidates that
9 were agreed upon by the Facilitator and BCAG, Steering Committee representatives, DFG, and
10 USFWS. The short list identified preferred and alternate candidates for each pertinent area of
11 expertise (e.g., experts on plant ecology, vernal pool ecology, aquatic ecology, the natural
12 communities present, and species experts) with enough redundancy to allow that some
13 candidates might not be available or interested in serving on the panel. Final selection of the
14 Independent Science Advisors panel members and potential alternates from the short list was
15 made by the Science Facilitator, without the influence of BCAG, Steering Committee,
16 Stakeholder Committee or consultants.

17 Once the selection of panel members was made, the Science Facilitator ensured that all science
18 advisors understood their roles pursuant to the NCCPA. The Science Facilitator served as a
19 point of contact between the Independent Science Advisors and entities working on the Plan. To
20 ensure the independence of the science advisors, all questions to or from the Independent
21 Science Advisors were communicated through the Facilitator. The Science Facilitator
22 coordinated the panel’s review of and recommendations for the conservation strategy and was
23 ultimately responsible for the scheduled delivery of these reviews and recommendations,
24 however, the Science Facilitator was generally not involved in the writing or producing of
25 Independent Science Advisors reports.

26 The Independent Science Advisors were charged with the following tasks as per the NCCPA:

- 27 A. Recommend scientifically sound conservation strategies for species and natural
28 communities proposed to be covered by the Plan.
- 29 B. Recommend a set of reserve design principles that addresses the needs of species,
30 landscapes, ecosystems, and ecological processes in the planning area proposed to be
31 addressed by the Plan.
- 32 C. Recommend management principles and conservation goals that can be used in
33 developing a framework for the monitoring and adaptive management component of the
34 Plan.
- 35 D. Identify data gaps and uncertainties so that risk factors can be evaluated.²

² Fish and Game Code § 2810(b)(5).

1 Consistent with the requirements of the NCCPA and the policy directives of the Five-Point
2 Policy,³ the BRCP Steering Committee directed the Science Facilitator to convene meetings of
3 the Independent Science Advisors at several key stages of the BRCP planning process. Each of
4 the independent science efforts is summarized in Section 10.3, *Independent Science Reviews*, and
5 includes a brief summary of major findings and information regarding how recommendations
6 were incorporated into the overall planning process. The Independent Science Advisors
7 produced recommendations on a range of relevant topics, including approaches to conservation
8 planning for aquatic and terrestrial species in the Plan Area and development of the adaptive
9 management and monitoring programs.⁴ Reports prepared by the Independent Science Advisors
10 for the BRCP are provided in Appendix G, *Independent Science Advisors Reports*.

11 **10.3 INDEPENDENT SCIENCE REVIEWS**

12 **10.3.1 November 2007 Independent Science Advisors Report on** 13 **Overall Guidance**

14 The Independent Science Advisors held a two-day workshop on June 11–12, 2007 to review
15 information gathered for the BRCP planning process, hear the concerns of Plan participants, tour
16 portions of the Plan Area, and begin formulating recommendations for Plan development and
17 implementation. Specific questions the Independent Science Advisors were asked to address
18 included the following topics:

- 19 • Sufficiency of the proposed covered species list.
- 20 • Effective ways of grouping species to assist in designing, managing, or monitoring a
21 reserve.
- 22 • Conceptual or analytical models that could be used to address information gaps, assess
23 plan effects, or otherwise inform Plan development and implementation.
- 24 • Suggestions on models to use or not use in the formation of the Plan.
- 25 • Identification of ecological processes most critical to maintaining ecosystem and species
26 viability, and incorporation of these processes into ecosystem reserve design.
- 27 • Specific monitoring protocols to detect changes in species populations or processes.
- 28 • Adaptive management and monitoring considerations.

29 The Independent Science Advisors published the *Report of Independent Science Advisors for*
30 *Butte County Habitat Conservation Plan / Natural Community Conservation Plan (HCP/NCCP)*
31 *on November 30, 2007 (Appendix G, Independent Science Advisors Reports)*. This report
32 provided recommendations on various issues regarding plan development. Examples of
33 recommendations that were implemented in BRCP development include the following.

³ 65 Federal Register 35242.

- 1 • Supplement the list of covered species with planning species to help guide Plan
2 development. The BRCP adopted the American badger, black-tailed deer, and white-
3 fronted goose as planning species to guide the development of minimum patch size
4 requirements for the protection of grassland, oak woodland and savanna, and agricultural
5 land cover types, respectively. These species require large patches of habitat to meet
6 their life requirements and providing sufficient patch size for these species encompasses
7 the patch size requirements for all other associated native species that use smaller patches
8 of habitat.
- 9 • Treat vernal pools as a separate natural community/habitat. The BRCP includes separate
10 biological goals and objectives, conservation measures, and analyses for vernal swale
11 complex, vernal pool, and altered vernal pool habitats from the larger grassland natural
12 community. Vernal swale complex and associated vernal pools are addressed as an
13 integrated terrain unit, grassland with vernal swale complex.
- 14 • Reserve design principles. The Independent Science Advisors report provided numerous
15 recommendations regarding reserve design principles (e.g., protect large patches of
16 habitat, protect mosaics of habitat) and these design principles were incorporated into the
17 BRCP conservation land assembly principles described in Section 5.2.3.5 *Conservation*
18 *Land Assembly Principles*.

19 Some Independent Science Advisors recommendations were not implemented because they were
20 not deemed practicable at this time (e.g., were better suited to be addressed during plan
21 implementation), sufficient information or appropriate tools were not available to address the
22 underlying issue intended by the recommendation, or the recommendations did not meet the
23 regulatory purposes of the BRCP. For example, Independent Science Advisors report included
24 recommendations to add covered species to the BRCP that were not likely to become federally or
25 California listed and such species were not incorporated into the BRCP (the BRCP incidental
26 take authorizations only need to provide for species that are currently listed or that become listed
27 over the term of the BRCP). BRCP conservation measures for ecosystem functions and natural
28 communities, however, will benefit the species recommended for addition by the panel.

29 **10.3.2 July 2011 Independent Science Advisors Review of Draft** 30 **Conservation Strategy**

31 [*Note to Reviewers: This section will be added when independent scientific reviews is*
32 *completed.*]

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