



ATTORNEYS AT LAW

18101 Von Karman Avenue
Suite 1800
Irvine, CA 92612
T 949.833.7800
F 949.833.7878

Paul S. Weiland
D 949.477.7644
pweiland@nessaman.com

VIA E-MAIL & U.S. MAIL

Refer To File #: 300062-0001

December 10, 2008

Mr. Casey Snyder
U.S. Bureau of Reclamation
Quality of Information, 84-21300
P.O. Box 25007
Denver, Colorado 80225-000
IBR8DRODINFOQUALITY@usbr.gov

BUREAU OF RECLAMATION OFFICIAL FILE COPY RECEIVED		
DEC 15 2008		
OFFICE	ACTION	RESPONSE & DATE

Re: Information Quality Act Appeal

Dear Mr. Snyder:

On behalf of the Coalition for a Sustainable Delta (Coalition) we are writing to appeal the Bureau of Reclamation's (Bureau or BOR) November 4, 2008 response (Response) to our Request for Information Correction dated September 5, 2008 (Complaint).¹ In light of the significant implications of the Bureau's decision to disseminate the information described in the Complaint, we respectfully request expedited consideration of this appeal and a decision respecting the appeal within 45 days of the date of receipt of the appeal.

In its Response, the Bureau makes a mockery of the administrative process established to implement the Information Quality Act (IQA).² It does so by concluding that the reliance of the Bureau on an untested hypothesis advanced by Dr. William Bennett is consistent with the IQA, the Office of Management and Budget's (OMB) Guidelines, the Department of the Interior's (DOI) Guidelines, and the Bureau's own Guidelines, in spite of the fact that the Bureau does not have a single record in its possession regarding the hypothesis.³ In the Response, the Bureau does not challenge the Coalition's contention that the *Central Valley Project and State Water Project Operations Criteria and Plan Biological Assessment* (BA) is influential scientific

¹ A copy of our original Complaint is attached.

² 44 U.S.C. § 4516 note.

³ In its Response, the Bureau also claims that it prepared the BA pursuant to the requirements of section 7(c) of the Endangered Species Act (ESA), 16 U.S.C. § 1536(c) and its implementing regulations by using the best scientific and commercial data available. This argument is specious in light of the fact there is no scientific or commercial data available in relation to the Bennett Hypothesis (defined *infra*), or at least none that is in the possession of the Bureau. And, in any event, the ESA and IQA have distinct standards, and the Coalition submitted the Complaint pursuant to the IQA and its implementing guidelines.

NOTICE: IF YOU DETACH
ENCLOSURE PLEASE INSERT
CODE NO. _____
INITIAL _____
DATE _____

Classification
Project
Control No.
Folder I.D.



information. And the Bureau makes no effort to address the claim that is at the heart of the matter, that is, the claim the Bureau has violated the IQA and its implementing guidelines by relying upon and disseminating an untested scientific hypothesis about which the Bureau has no information. The Bureau relied upon this untested hypothesis in making a resource management decision that has major implications for the 25 million Americans that depend on that resource. Therefore, we urge you to overturn the Bureau's Response.

I. Background

The Coalition is a group of agricultural water users and individuals in California's San Joaquin Valley. The Coalition and its members depend on water from the Sacramento-San Joaquin Delta (Delta); the water is essential to their livelihood and economic well-being. In addition to their economic interest in the Delta, the Coalition and its members are dedicated to protecting the Delta and committed to promoting a strategy to ensure its sustainability.

The Central Valley Project (CVP) and the State Water Project (SWP) are two major inter-basin water storage and delivery systems within California. The CVP and SWP divert water from the southern portion of the Delta and transport water via natural watercourses and canal systems to areas south and west of the Delta. The Bureau operates the CVP, and the California Department of Water Resources (DWR) operates the SWP. Coalition members receive all or a majority of their water via the SWP. In order to continue CVP and SWP operations and comply with a court order,⁴ the Bureau prepared the BA pursuant to the requirements of the ESA and its implementing regulations.⁵ The BA is intended to inform the biological opinion currently being prepared by the Fish and Wildlife Service (Service).

The requirement to prepare the BA is triggered by the provisions of the ESA respecting interagency cooperation, which require a federal agency taking action that may affect listed species or critical habitat to consult with the Service regarding the effects of the action.⁶ Here, the action that is subject to consultation is the continued operation of the CVP and SWP by the Bureau and DWR, respectively. And the consultation requirement is triggered by the effect of CVP and SWP operations on the threatened delta smelt; a small translucent fish with a narrow geographic range limited to low salinity and freshwater habitats of the Delta.⁷ The Service listed the delta smelt as a threatened species on March 5, 1993.⁸ The Service designated critical habitat for the delta smelt on December 19, 1994.⁹

⁴ *Natural Resources Defense Council v. Kempthorne*, E.D. Cal. Case No. 05-1207 (Sept. 22, 2008) (order establishing a deadline of Dec. 15, 2008 for the Service to issue its Biological Opinion).

⁵ 16 U.S.C. § 1536(c); 50 C.F.R. § 402.12.

⁶ 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(a).

⁷ 58 Fed. Reg. 12,854 (March 5, 1993) (final rule listing the delta smelt as threatened).

⁸ *Id.*

⁹ 59 Fed. Reg. 65,256 (Dec. 19, 1994).



Since the delta smelt was listed in 1993, extensive research regarding the sources of delta smelt mortality has been completed. Much of that research has been supported by the federal government through CALFED and other mechanisms.¹⁰ Dr. William Bennett published a peer reviewed survey of much of the research available as of 2005.¹¹ Subsequent to the time of publication of that survey, additional research has been undertaken and completed,¹² including research regarding the effects of CVP and SWP operations on delta smelt.¹³

In the BA's discussion regarding the delta smelt and the effects of the CVP and SWP on this species, the Bureau included and relied on an untested hypothesis advanced by Dr. William Bennett.¹⁴ This hypothesis (the Bennett Hypothesis) posits that delta smelt that hatch early during the spawning season grow larger than those that hatch later in the season, and that those larger females are more likely to produce greater numbers of offspring. The Bennett Hypothesis proposes that a disproportionate number of the larger, more-fecund female delta smelt are entrained and killed during the early spawning months because the CVP and SWP pump water out of the Delta during this time. According to Bennett, this creates an artificial selection regime that favors the survival of smaller, less-fecund females, which results in a reduction in the mean annual output of smelt offspring, contributing to the decline of the species.

In an effort to ascertain the basis for the Bureau's reliance on the Bennett Hypothesis, we submitted a request under the Freedom of Information Act, 5 U.S.C. § 552, to the Bureau for all records related to the Bennett Hypothesis. As detailed in our Request, the Bureau specifically stated that it does not have any records regarding the citations to the Bennett Hypothesis in the BA.

¹⁰ CALFED is a collaboration among 25 federal and state agencies to improve California's water supply and the ecological health of the Delta.

¹¹ William Bennett, *Critical Assessment of the Delta Smelt Population in the San Francisco Estuary, California*, 3(2) SAN FRANCISCO ESTUARY AND WATERSHED SCIENCE 1 (2005).

¹² E.g., Frederick Feyrer et al., *Multidecadal Trends for Three Declining Fish Species: Habitat Patterns and Mechanisms in the San Francisco Estuary, California, USA*, 64 CANADIAN JOURNAL OF FISHERIES AND AQUATIC SCIENCE 723 (2007).

¹³ E.g., Wim J. Kimmerer, *Losses of Sacramento River Chinook Salmon and Delta Smelt to Entrainment in Water Diversions in the Sacramento-San Joaquin Delta*, 6(2) SAN FRANCISCO ESTUARY & WATERSHED SCIENCE at 1 (2008) (published subsequent to the release of the BA but cited in the BA as "in press"); Brian F. J. Manly & Michael A. Chotkowski, *Two New Methods for Regime Change Analysis*, 167 ARCHIV FÜR HYDROBIOLOGIE 593 (2006).

¹⁴ A hypothesis can be viewed as a proposed relationship between two or more variables. Cf. NICHOLAS J. GOTELLI & AARON M. ELLISON, A PRIMER OF ECOLOGICAL STATISTICS 79 (2004); see also KARL POPPER, THE LOGIC OF SCIENTIFIC DISCOVERY 8-10 (2002). It must include variables that are clearly specified and measurable, precisely describe the proposed relationship between the variables, and be testable so that it can be demonstrated or falsified. See KARL POPPER, THE LOGIC OF SCIENTIFIC DISCOVERY at 10 (regarding falsification). A hypothesis provides the starting point for scientific inquiry.



II. Argument

A. It is Inappropriate for the Bureau to Disseminate Information Respecting the Bennett Hypothesis

The fundamental question before the Bureau on appeal is where the agency must draw the line between scientific information that is appropriate to disseminate and mere speculation or surmise that is inappropriate to disseminate. Based on the record before the Bureau, the answer to this question is clear with respect to the Bennett Hypothesis. When an agency articulates an untested hypothesis advanced by a scholar and has:

- no record in its possession regarding that hypothesis,
- no record regarding the data selected to represent the dependent and independent variables,
- no record regarding the reasons for rejecting alternative sources or types of data,
- no record regarding the methods used to analyze the data, and
- no record regarding the results of that analysis,

that agency is disseminating information on the basis of speculation or surmise that is not properly considered scientific information.

The phrase “scientific information” in the preceding paragraph refers to information gleaned as a result of the application of the scientific method. The scientific method provides a more reliable explanation of the relationship between variables than alternative approaches, such as reliance on intuition or folklore.¹⁵ The scientific method involves (a) identification of variables to be studied, (b) development of a hypothesis that proposes a relationship between those variables and is falsifiable, (c) selection of data to represent those variables, (d) analysis of the data, (e) evaluation of the results of the analysis, and (f) suggestions regarding the significance of the results, including whether the results falsify the hypothesis.

Hypothesis testing in the ecological sciences is *de rigueur*, recognized as the only method of identifying environmental cause and effect relationships and accurately characterizing relationships between individual species and the attributes of the ecosystems that support them.¹⁶ Likewise it has been recognized that the scientific method must guide data collection in support of conservation planning efforts and in the implementation of adaptive management.¹⁷ It is widely appreciated that an untested ecological hypothesis does not itself constitute “science,”

¹⁵ John R. Platt, *Strong Inference*, 146 SCIENCE 347 (1964).

¹⁶ E.g., A.J. Underwood, *Observations in Ecology: You Can't Make Progress on Processes without Understanding the Patterns*, 250 JOURNAL OF EXPERIMENTAL MARINE BIOLOGY AND ECOLOGY 97 (2000).

¹⁷ Dennis Murphy, *Conservation biology and scientific method*, 4 CONSERVATION BIOLOGY 203 (1990).



and is no more useful and reliable than intuition and folklore in explaining ecological phenomena. For this reason, the Bureau erred by disseminating information respecting the Bennett Hypothesis in the BA.

B. The Challenged Information Does Not Meet IQA Standards

As we explain in greater detail in the Complaint, the IQA requires all federal agencies to develop and implement “guidelines ensuring and maximizing the quality, objectivity, utility, and integrity of information (including statistical information) disseminated...”¹⁸ The plain language of OMB’s Guidelines discredits the Bureau’s claim that the challenged information meets the applicable standards:

[T]he agency needs to identify the sources of the disseminated information (to the extent possible, consistent with confidentiality protections) and, in a scientific, financial, or statistical context, the supporting data and models, so that the public can assess for itself whether there may be some reason to question the objectivity of the sources. Where appropriate, data should have full, accurate, transparent documentation, and error sources affecting data quality should be identified and disclosed to users.¹⁹

In the BA, the Bureau implies through its use of citations that it has in its possession information respecting the Bennett Hypothesis. But the Bureau has subsequently acknowledged that it has no records respecting the Bennett Hypothesis.²⁰

The DOI Guidelines state that “objectivity involves a focus on ensuring accurate, reliable, and unbiased information. In a scientific, financial, or statistical context, the original and supporting data shall be generated, and the analytic results shall be developed, using sound statistical and research methods.”²¹ Pursuant to the IQA, DOI “will ensure that information disseminated will be developed from reliable methods and data sources and will otherwise ensure information quality at each stage of information development.”²² Further, information released by DOI “will be developed only from reliable data sources based on accepted practices and policies, utilizing accepted methods for information collection and verification.”²³

The Bureau’s Response and the BA fail to meet the IQA Guidelines and the DOI Guidelines since BOR does not have any data related to the Bennett Hypothesis. Moreover, the

¹⁸ 44 U.S.C. § 4516 note.

¹⁹ 67 Fed. Reg. at 8452, 8459 (Feb. 22, 2002) (emphasis added).

²⁰ See Complaint at 4.

²¹ DOI Guidelines at 8.

²² *Id.* at 1.

²³ *Id.*



BA is an influential scientific document that informs the Service's biological opinion.²⁴ Because influential scientific information impacts important public policies, it is held to a higher quality standard than other scientific information. Influential scientific information must include a high degree of transparency about data to facilitate the reproducibility of the information by qualified third parties.²⁵ The Bureau has violated the IQA by including information in the BA that it does not have the data to support.

In its Response, the Bureau justifies its inclusion of the Bennett Hypothesis in the BA by pointing to the use of qualifying language. First, the Bureau cites to a paragraph in the BA that states:

It is also important to recognize that the present understanding of the factors affecting smelt has many limitations. As described in Baxter et al. (2008), many studies used for the recent POD synthesis are works-in-progress that have not reported final results. Preliminary results from these studies have been provided whenever possible, but peer-reviewed products from these studies may not be available for some time to come. As a consequence, while this review uses such results because they represent the best available science, Baxter et al. (2008) encouraged users of their POD synthesis report to be cautious when evaluating the relative importance of the different factors. Specifically, statements not based on well-developed and peer-reviewed literature should be viewed with more skepticism.²⁶

Second, the Bureau points to language that it claims specifically addresses the Bennett Hypothesis: "Bennett has not published some of his results, and it remains unclear whether his central hypothesis is true. We have therefore not attempted to directly evaluate whether water project operations modeled under the various scenarios differentially affect early spawning delta smelt."²⁷ The Response essentially concludes that, since the BA includes these caveats, it satisfies the IQA.

The implication of these statements is that the Bureau could disseminate any information irrespective of its quality, objectivity, utility, and integrity without running afoul of the IQA and

²⁴ The influence of the Bureau and the BA's reliance on the Bennett Hypothesis is demonstrated by the Service's reference to the Bennett Hypothesis in the draft Effects Analysis chapter of the biological opinion (made publicly available on October 29, 2008).

²⁵ 67 Fed. Reg. at 8460.

²⁶ Response at 2.

²⁷ BA at 13-6, *quoted in* Response at 2. This language does not appear on page 13-6 of the BA that is available on the Bureau's website. We completed a word search of the entire BA, and we were unable to find that quoted material. For this reason, we would appreciate further explanation of the source of the quoted material. We also note that the observation that "it remains unclear whether [the Bennett Hypothesis] is true" demonstrates either a misunderstanding of the scientific enterprise or poor draftsmanship by its authors given that a hypothesis can never be shown to be "true."



its implementing guidelines provided that the information is accompanied by a caveat. This position – particularly as it applies to influential scientific information – renders the IQA and its implementing guidelines meaningless. For this reason, the Bureau should reconsider its position.²⁸

C. The Information Quality Act and Endangered Species Act are Independent of Each Other

The Bureau seemingly based its denial of the Complaint on an assertion that the Bureau prepared the BA pursuant to the requirements of section 7(c) of the ESA. Specifically, the Bureau states that it used the best scientific and commercial data available to develop the BA, and that the BA “makes clear that there are limitations in the current state of the science regarding the delta smelt,” thereby complying with the ESA and the IQA. The Bureau is conflating compliance with the ESA with compliance with the IQA. These are two distinct statutory schemes that exist independently of each other; therefore, even assuming the BA complies with the ESA,²⁹ it cannot be presumed to comply with the IQA.

The purpose of the IQA, as explained by OMB, is to ensure that information disseminated by the government meets certain quality standards, and to ensure that the information is objective and supported by scientifically sound data.³⁰ Congress’ intent in enacting the IQA was also to ensure public access to the data and methodological information needed to test and reproduce the government’s results.³¹ The purpose of the ESA’s best available scientific and commercial data available standard “is to ensure that the ESA not be implemented haphazardly, on the basis of speculation or surmise.”³² While both standards are designed to increase the likelihood that management decisions made by federal agencies are based on sound science, the scope of the standards (that is, the circumstances in which they apply) differs and the stated purposes for which they were enacted differ. Moreover, the standards were enacted almost 30 years apart from one another without any indicia that the ESA subsumes the IQA. The IQA’s guidelines include exacting standards with regard to quality,

²⁸ Assuming *arguendo* that the Bureau could disseminate any information irrespective of its quality, objectivity, utility, and integrity provided the information is accompanied by an adequate caveat, here the caveats that the Bureau included are wholly insufficient. The Bureau references the Bennett Hypothesis not just once, but a number of times in the BA. By doing so, the Bureau is at least tacitly suggesting to the reader that Dr. Bennett’s supposition merits consideration by decision-makers. And the Bureau implies that Dr. Bennett has generated initial studies in support of the Bennett Hypothesis as well as unpublished analyses. BA at 13-6. But the Bureau has no record of such studies or analysis.

²⁹ As explained below in section II.D., *infra*, inclusion of the Bennett Hypothesis in the BA violates the ESA’s best scientific and commercial data available requirement.

³⁰ 67 Fed. Reg. at 8452.

³¹ *Id.* at 8455-8457.

³² *Bennett v. Spear*, 520 U.S. 154, 176 (1997).



utility, objectivity, and integrity that federal agencies must satisfy when disseminating information.³³

The IQA Guidelines go beyond the ESA's requirement of using the best scientific and commercial data available. Under the IQA Guidelines, influential information, like the BA, is subject to a reproducibility standard "to ensure that information disseminated by agencies is sufficiently transparent in terms of data and methods of analysis that it would be feasible for a replication to be conducted."³⁴ In addition, "data should have full, accurate, transparent documentation, and error sources affecting data quality should be identified and disclosed to users."³⁵ The Department of the Interior's own IQA guidelines state that analytical results "shall generally require sufficient transparency about data and methods that an independent reanalysis could be undertaken by a qualified member of the public."³⁶

The IQA's requirements of reproducibility, transparency, and objectivity differ from the best scientific and commercial data available standard contained in section 7(c) of the ESA. Therefore, the Bureau's claim that the information in the BA constitutes the best scientific and commercial data available is inapposite as a response to the Complaint.³⁷

D. The Challenged Information Does Not Meet the ESA Best Available Data Standard

As the Bureau has acknowledged, the regulations pertaining to section 7 consultations require BOR to "provide the Service with the best scientific and commercial data available or which can be obtained during the consultation for an adequate review of the effect that an action may have upon listed species or critical habitat."³⁸ The purpose of this requirement, as explained above, "is to ensure that the ESA not be implemented haphazardly, on the basis of speculation or surmise."³⁹ Thus, while the Service "can draw conclusions based on less than conclusive scientific evidence, [] it cannot base its conclusions on no evidence."⁴⁰ Therefore, reliance on suppositions or untested hypotheses constitutes a violation of the ESA.

First, the BA cannot possibly satisfy the best scientific and commercial data available standard because the data in question is not "available." In construing the meaning of a statute, it

³³ See 67 Fed. Reg. at 8459.

³⁴ *Id.* at 8455.

³⁵ *Id.* at 8459.

³⁶ DOI Guidelines at 9.

³⁷ As we explain more fully above, the Bureau's contention that the BA meets the best scientific and commercial data available standard is baseless.

³⁸ 50 C.F.R. § 402.14(d).

³⁹ *Bennett v. Spear*, 520 U.S. at 176.

⁴⁰ *National Ass'n of Home Builders v. Norton*, 340 F.3d 835, 847 (9th Cir. 2003) (citation omitted).



is customary to first look at the plain meaning of the words.⁴¹ The word “available” is defined as “able to be used or obtained.”⁴² Here, the Bennett Hypothesis as presented in the BA clearly does not fall within the definition of “available” since the Bureau presently has no data regarding the hypothesis. There is no data available and therefore the BA does not even meet this preliminary threshold to satisfy the best scientific and commercial data available standard.

Second, the BA fails to meet ESA’s best scientific and commercial data available requirement because the Bureau included information based on “speculation or surmise.”⁴³ By drawing conclusions based on Bennett’s hypothesis, which lacks any supporting data, the Bureau has directly contradicted the purpose of the ESA’s requirement as articulated by the Supreme Court in *Bennett v. Spear*. No amount of qualifying language can hide that fact.

III. RELIEF REQUESTED

For the reasons stated above, the Coalition requests the correction of the following disseminated, influential information for failure to meet the IQA quality requirements.

1. **Statement:** “It has been proposed that losses of larger females and their larvae may have a disproportionate effect on the delta smelt population (B. Bennett, unpublished data). Bennett (unpublished data) proposes that larger females spawn earlier in the season and produce more eggs, which are of better quality, and survivability, as has been noted for Atlantic cod and other commercially harvested species (Martensodottir and Steinarsson 1998; Swain et al. 2007). As a consequence, winter and early spring exports, which have continually increased as described above (Figure 7-14), could have an important effect on reproductive success of early spawning female delta smelt. Bennett hypothesizes that the observed reduction in the mean size of adult delta smelt in the early 1990s (Sweetnam 1999) is a result of selective losses of earlier spawning adults and their larvae, thereby selecting for later spawned offspring (that have less time to reach maturity). Under this hypothesis, the most important result of the loss of early spawning females would manifest itself in the year following the loss, and would therefore not necessarily be detected by analyses relating fall abundance indices to same-year (or same-water year) predictors. This hypothesis is presently being evaluated by Bennett’s laboratory using otolith methods.” BA at 7-26, 17-13.

Requested Correction: Delete

2. **Statement:** “During some of the recent POD years, increased water project exports during winter resulted in higher losses of adult smelt (Chapter 7), particularly early

⁴¹ *American Tobacco Co. v. Patterson*, 456 U.S. 63, 68 (1982) (stating that “in all cases involving statutory construction, our starting point must be the language employed by Congress, and we assume that the legislative purpose is expressed by the ordinary meaning of the words used” (quotation marks and citation omitted)).

⁴² THE NEW OXFORD AMERICAN DICTIONARY 110 (Elizabeth J. Jewell & Frank Abate eds., 2001).

⁴³ *Bennett v. Spear*, 520 U.S. 154, 176 (1997).



spawning fish (and their offspring) that may be proportionally more important to the population.”
BA at 13-2.

Requested Correction: Delete

3. **Statement:** “There is a clear coincidence between higher entrainment and population decline in the short period from 2000 (and especially 2002) onward, a period for which there are even now few data with which to fit elaborate statistical models. Moreover, it has been proposed that entrainment losses may manifest effects in the following water year. For example, Bennett (unpublished) has hypothesized that losses of larger females may have a disproportionate effect on the delta smelt population. Specifically, losses of more fecund, early spawning large females and their offspring could eliminate a portion of the cohort most likely to survive to reproductive age, and possibly more likely to be fecund.” BA at 13-5.

Requested Correction: Delete

4. **Statement:** Bennett (unpublished analysis) proposes that reduced spring exports resulting from VAMP has selectively enhanced the survival of delta smelt larvae that emerge during VAMP by reducing direct entrainment. Initial otolith studies by Bennett’s lab suggest that these spring-spawned fish dominate subsequent recruitment to adult life stages; by contrast, delta smelt spawned prior to the VAMP have been poorly-represented in the adult stock in recent years. He further proposes that the differential fate of winter and spring cohorts may affect sizes of delta smelt in fall because the spring cohorts have a shorter growing season. These results suggest that direct entrainment of larvae and juvenile delta smelt during the spring may be a significant issue in some years.” BA at 13-6.

Requested Correction: Delete

In addition to the statements listed above, any additional conclusions or statements that rely in whole or in part upon the Bennett Hypothesis should be deleted from the BA.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Paul S. Weiland', is written over a horizontal line.

Paul S. Weiland
of Nossaman LLP

cc: Director Jim Nussle, Office of Management and Budget via U.S. mail
Chairman James Connaughton, Council on Environmental Quality via U.S. mail
Secretary Dirk Kempthorne, Department of the Interior via U.S. mail
Commissioner Robert Johnson, U.S. Bureau of Reclamation via U.S. mail
Regional Director Donald Glaser, U.S. Bureau of Reclamation via U.S. mail
Director Dale Hall, U.S. Fish and Wildlife Service via U.S. mail

PSW/amh

Enclosure