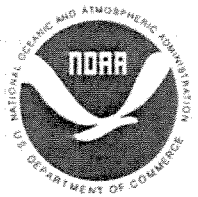


United States Department of Interior

FISH AND WILDLIFE SERVICE
BUREAU OF LAND MANAGEMENT

United States Department of Agriculture
FOREST SERVICE



United States Department of Commerce
NATIONAL MARINE FISHERIES SERVICE

Memorandum

JAN 18 2008

To: Regional Directors, Fish and Wildlife Service
State Directors, Bureau of Land Management
Regional Foresters, Forest Service
Regional Administrators, National Marine Fisheries Service

From: Bryan Arroyo, Assistant Director, Fish and Wildlife Service
Edwin Roberson, Assistant Director, Bureau of Land Management
Joel Holtrop, Deputy Chief, Forest Service
John Oliver, Acting Assistant Administrator, National Marine Fisheries Service

The Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS; collectively "the Services"), with the assistance of the Bureau of Land Management (BLM) and Forest Service (FS), have completed the review of FS and BLM's use of the Endangered Species Act counterpart regulations (50 CFR 402.30 to 402.34) for National Fire Plan activities during the first year of implementation. The attached report summarizes the requirements of the counterpart regulations and their alternative consultation agreements, describes in detail the approaches used by the Services to evaluate individual FS and BLM decision documents (biological evaluations/biological assessments), and documents the combined results of the evaluations. The attached document contains recommendations to the FS and BLM for improving the documentation of decisions they make pursuant to the counterpart regulations.

While the Services conducted the evaluations and the FS and BLM retain discretion over implementation of recommendations, the four agencies cooperatively prepared the attached report. By way of signing this document, the agencies acknowledge completion of this review, and acceptance of the recommendations in the report.

Finally, in accordance with the Alternative Consultation Agreements, the next review of the FS and BLM's use of the counterpart regulations will occur in 2008, and a report will follow.

Use of the ESA Section 7 Counterpart Regulations for Projects that Support the National Fire Plan

Program Review: Year One

National Marine Fisheries Service, U.S. Fish and Wildlife Service

Forest Service and Bureau of Land Management

1. Introduction

1.1. The Counterpart Regulations for National Fire Plan Projects

Section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.; hereafter ESA) requires federal agencies, in consultation with and with the assistance of the Secretaries of Commerce and Interior, to insure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of endangered or threatened species or destroy or adversely modify designated critical habitat. The principles, practices, and protocols for section 7 consultations are identified in the ESA, and regulations promulgated in 1986 for implementing section 7 (50 CFR, Part 402), further expound the procedural and substantive requirements for consultation.

On December 8, 2003, the Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS; jointly, the Services) in cooperation with the Forest Service (FS), Bureau of Indian Affairs (BIA), Bureau of Land Management (BLM), and National Park Service (NPS), issued joint counterpart regulations for section 7 consultation (Federal Register, pages 68254-68265). Codified in 50 CFR part 402 subpart C, the counterpart regulations provide an optional alternative to the standard section 7 consultation process described in subparts A and B, and were developed specifically for agency projects that authorize, fund, or carry out actions that support the National Fire Plan. The National Fire Plan, part of the President's 2002 Healthy Forests Initiative, is an interagency strategy for reducing the risk of catastrophic wildland fires and restoring fire-adapted ecosystems. The intent of the counterpart regulations is to eliminate the need to conduct informal consultation and obtain written concurrence from the Services for those National Fire Plan actions that the Action Agency determines are "not likely to adversely affect (NLAA)" any listed species or designated critical habitat.

According to the counterpart regulations for National Fire Plan activities, any of the participating Action Agencies may make NLAA determinations for fire plan projects after entering into an Alternative Consultation Agreement (ACA) with the Services, and upon implementing the provisions of the ACA. Additional details on the procedures and roles of the agencies are outlined in the ACA, including specific requirements for reporting, training and execution of self-certification, incorporating new information in Agency decisions, and conducting periodic program monitoring of the use of the counterpart regulations. Presently, four of the five Action Agencies that participated in the development of counterpart regulations for National Fire Plan projects have signed ACAs. The Services signed joint ACAs with the FS and BLM in March 2004, and BIA in July 2004, and the NPS in July 2005. The FWS has not notified NMFS of its intent to enter into an ACA for actions in the support of the National Fire Plan on National

Wildlife Refuges or National Fish Hatcheries. This review was limited to the FS and BLM. The BIA and NPS have not reported having trained any staff or conducting projects under the counterpart regulations.

1.2. Principles, Practices and Protocols of Section 7 Determinations

The ESA and its implementing regulations form the foundation for evaluating whether agency actions are not likely to jeopardize the continued existence of endangered or threatened species or destroy or adversely modify designated critical habitat. Additional guidance and interagency policy for meeting the procedural and substantive requirements of section 7 are established within a variety of documents, including the ACAs established under the counterpart regulations, the Consultation Handbook (FWS and NMFS 1998), the National Fire Plan web-based counterpart regulations training, Interagency Policy on Information Standards of the ESA (59 FR 166, 34271-34274; July 1, 1994), Information Quality Act (Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 [Public Law 106-554; H.R. 5658]), numerous judicial decisions resulting from litigation, and the Administrative Procedure Act (5 U.S.C. 706; hereafter APA).

Section 7(a)(2) of the ESA requires federal agencies, in consultation with and with the assistance of the Services, to insure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of endangered or threatened species or destroy or adversely modify designated critical habitat. As part of the consultation process, Federal agencies determine if their actions are likely to adversely affect listed species or critical habitat. The regulations at 50 CFR 402 provide an opportunity to complete the section 7(a)(2) consultation obligations if the action is determined “not likely to adversely affect” through a process defined as “informal consultation”. For example, the consultation regulations at 50 CFR 402.13 describe how Federal action agencies request concurrence from the Services on their determinations of “not likely to adversely affect”. The Counterpart Regulations for Implementing the National Fire Plan at 50 CFR part 402 subpart C contain their own unique procedural requirements, which include the requirements for entering into an ACA to make determinations on fire plan projects without the Services’ concurrence.

Under the counterpart regulations the Action Agency has the final responsibility for determining whether its actions are not likely to adversely affect threatened and endangered species or their designated critical habitat, and ensuring that the conclusions reached in reviewing the potential effects of fire plan projects represent reasoned reflections of the evidence available. In order to demonstrate that an action is not likely to adversely affect listed species the reasons and evidence provided must include the best scientific and commercial data available, a clear description of the federal action, a description of the action’s direct and indirect environmental effects (including effects of interrelated and interdependent actions), a description of the specific area that may be affected by the action (the Action Area), a description of the listed species and designated critical habitat. With that information, an assessment of the overlap between potential effects and the listed species and designated critical habitat (listed resources) is made such that exposure is unlikely or that responses to exposure are likely to be insignificant, discountable, or wholly beneficial. Management strategies may be incorporated into the federal action to minimize or eliminate the adverse effects to listed species and their designated critical habitat by either reducing or eliminating exposure.

During informal consultation, the conclusion that a project is not likely to adversely affect a listed species is appropriate when effects on listed species are expected to be discountable, or insignificant, or completely beneficial. Completely beneficial effects are contemporaneous positive effects without any adverse effects to the species. Insignificant effects relate to the scope of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur. Based on best judgment, a person would not 1) be able to meaningfully measure, detect, or evaluate insignificant effects; or 2) expect discountable effects to occur. Where uncertainty relative to the nature or likelihood of the effects exist, the benefit of the doubt should be given to the species in order to minimize the risk of significant consequences due to erroneous conclusions.

Another important statute that governs consultation decisions is the APA. In general, documents supporting section 7 consultations are generally evaluated against the arbitrary and capricious standard of the APA. Specifically, the conclusion of a consultation would be arbitrary and capricious if it:

- Relied on factors that Congress did not intend to be considered;
- Failed to consider an important aspect of a problem;
- Offered an explanation for the conclusion that runs counter to the evidence; or
- Failed to articulate a rational connection between the facts that were found and the conclusions reached.

Under the authority of the APA, courts can hold unlawful and set aside any findings or conclusions that are found to be arbitrary and capricious. Therefore, the conclusions reached in reviewing the potential effects of fire plan projects must represent reasoned reflections of the evidence available.

1.3. Purpose of This Report

This report reviews the BLM and FS use of the ESA counterpart regulations for National Fire Plan activities during the first year of implementation. The key to this review is the NMFS' and FWS' evaluation of the decision documents (biological assessments or evaluations; BAs/BEs) produced by the BLM and FS to support their determinations made under the counterpart regulations. This determines whether the documentation of the decisions the BLM and FS made under the counterpart regulations in the first year are consistent with the best scientific and commercial data, and are in compliance with the ESA and its implementing regulations.

This report presents the results of the NMFS' and FWS' evaluation and presents recommendations for improvement from the four agencies. The document is structured as follows. Section 2 provides a brief summary of the reporting requirements established in the counterpart regulations and ACAs, and the first year of data on Action Agency use of the regulations. Section 3 follows with a detailed description of the approach used for evaluating individual project decision documents (BAs/BEs) prepared by the BLM and FS, and summarizes results of the evaluation. Section 4 provides a discussion of the results of this review and recommendations for future use of the regulations.

2. Approach to the Program Review

2.1. Use of the Counterpart Regulations

Information for this review of the alternative consultation program was obtained through correspondence with the BLM and FS and their field units. Each ACA established reporting and monitoring requirements for notifying NMFS' Director of Protected Resources and the appropriate FWS Field Office, in writing, when a subunit of the BLM or FS has fulfilled the training requirements and intends to implement the counterpart regulations. Information was also provided by the BLM and FS in support of the annual reporting requirements established within their ACAs.

2.1.1. Bureau of Land Management

The BLM, FWS, and NMFS entered into an ACA in March 2004. Training and subsequent use of the alternative consultation process began in summer of that year. Between March 24, 2004, and February 28, 2005, 417 BLM personnel both completed the web-based training, and passed the associated examination to become certified to use the alternative consultation process (Table 1).

Table 1. BLM personnel certified from March 24, 2004 – February 28, 2005

Month	Line Officers	Staff (Biologists, Ecologists, Botanists)	Total Certified
May	10	28	38
June	100	183	283
July	23	45	68
August	2	6	8
September	1	6	7
October	1	4	5
November	0	3	3
December	1	1	1
January 2005	0	0	0
February	3	0	3
Totals	141	276	417

Consistent with section E.8. of the signed ACA each subunit that has fulfilled the training requirements notifies NMFS' Director of Protected Resources and/or the appropriate FWS field office in writing before implementing the counterpart regulations. In addition, the BLM annually provides NMFS and FWS with a list of the personnel who have completed the training and passed the certification exam. Each subunit that has fulfilled the training requirements must notify the appropriate FWS Field Office and NMFS' Director of Protected Resources in Silver Spring, Maryland, in writing, prior to implementing the counterpart regulation.

2.1.2. Forest Service

The FS completed an ACA with the NMFS and FWS in March 2004, and began training and using the alternative consultation process in summer 2004. Between March 24, 2004, and February 28, 2005, 716 FS personnel both completed the web-based training and passed the associated examination to become certified to use the alternative consultation process. About two-thirds of the certified staff are biologists and ecologists, while the remaining one-third are

line officers (Table 2). Certified personnel represent staff from all regions except Region 10, Alaska Region.

Table 2. Forest Service Personnel Certified March 24, 2004 - February 28, 2005

Month	Line Officers	Staff (Biologists, Ecologists, Botanists)	Total Certified
March 2004	2	15	17
May	16	50	66
June	26	78	104
July	52	80	132
August	29	58	87
September	39	62	101
October	15	30	45
November	16	25	41
December	17	30	47
January 2005	17	24	41
February	11	24	35
Totals	240	476	716

Consistent with section E.8. of the signed ACA each subunit that has fulfilled the training requirements notifies NMFS' Director of Protected Resources and/or the appropriate FWS field office in writing before implementing the counterpart regulations. In addition, the Forest Service annually provides NMFS and FWS with a list of the personnel who have completed the training and passed the certification exam. Each subunit that has fulfilled the training requirements must notify the appropriate FWS Field Office and NMFS' Director of Protected Resources in Silver Spring, Maryland, in writing, prior to implementing the counterpart regulation.

2.2. Number and Description of Projects Conducted

2.2.1. Bureau of Land Management

The BLM conducted eight projects using the counterpart regulations in the first year of operation, seven of which addressed listed species under the jurisdiction of the FWS, and one that addressed listed species under the jurisdiction of NMFS. The BLM used the Section 7 Counterpart Regulations in five states in Year 1 (Table 3) and these projects made NLAA determinations for an average of two species each (Table 4), with 13 total separate species involved (Table 5). Four of the counterpart regulation projects involved only one species (Tables 4). Seven of the projects used mechanical fuels treatment, one of the projects used prescribed fire treatments, and two of the projects had an ecosystem restoration component (Table 6).

Table 3: Number of BLM Counterpart Regulations Projects by State in Year 1

State:	California	Colorado	Nevada	Oregon	Wyoming
Number of projects	2	2	1	2	1

Table 4: Statistics on Year 1 Data—BLM Section 7 Counterpart Regulations Projects

Mean number of T&E species per project	2
Total number of different T&E species involved	13
Number of projects with only one T&E species	4
Total number of BLM States using the section 7 Counterpart Regulations in Year 1	5

Table 5: T&E Species for which a NLAA Determination was made for BLM Counterpart Regulations Projects, Year 1.

Number of Projects	TEP Species for Which a NLAA Determination Was Made
2	Canada lynx
1	Bald eagle
1	California tiger salamander
1	Chinook salmon (California Coast)
1	Coho salmon (Central California Coast)
1	Steelhead (Central California)
1	Contra Costa goldfields
1	Lahontan cutthroat trout
1	Monterey spineflower
1	Mexican spotted owl
1	Northern spotted owl
1	Pygmy rabbit (Columbia basin population)
1	Sand gilia

Table 6: Number of the eight BLM Counterpart Regulation projects involving the following treatment activities (values are not additive as some projects may have included more than one of the treatment activities).

Treatment Activity	Number of projects that used this activity
Mechanical fuels treatment, thinning or fuel removal	7 (88%)
Prescribed fire activities	1 (12%)
Ecosystem restoration	2 (25%)

2.2.2. Forest Service

The FS conducted 52 projects using the counterpart regulations in the first year of operation, nine of which addressed listed species and designated critical habitat under the jurisdiction of NMFS. Twenty-two National Forests used the Section 7 Counterpart Regulations in the first year and these projects made NLAA determinations for an average of two species each, with 44 total

separate species involved (Table 8). Twenty-four of the counterpart regulation projects involved only one species (Tables 8, 9). The three species most commonly involved in Counterpart Regulations projects were the Canada lynx, the bald eagle, and the Mexican spotted owl (Table 9). Of the 53 projects, 58% used mechanical fuels treatment, 40% used prescribed fire treatments, and 23% had an ecosystem restoration component (Table 10).

Table 7: Number of Forest Service Counterpart Regulations Projects by Region April, 2004- February, 2007.

Region	# of Projects Year 1	Region	# of Projects Year 1
1 - Northern	4	6 Pacific Northwest	2
2 - Rocky Mountain	5	8 Southern	6
3 - Southwest	10	9 Eastern	1
4 - Intermountain	11	10 Alaska	0
5 - Pacific Southwest	13	All Forest Service	52

Table 8: Statistics on Year 1 Data—Forest Service Section 7 Counterpart Regulations Projects

Mean number of T&E species per project	2
Total number of different T&E species involved	44
Number of projects with only one T&E species	24
Total number of National Forests using the Section 7 Counterpart Regulations in Year 1	22

Table 9: T&E Species for which a NLAA Determination was made for Forest Service Counterpart Regulations Projects, Year 1.

Number of Projects	TEP Species for Which a NLAA Determination Was Made
15	Canada lynx
12	Bald eagle
11	Mexican spotted owl
8	Coho salmon (Southern Oregon/Northern California Coast) and designated critical habitat
6	Chinook salmon (California Coastal)
1	Chinook salmon (Snake River)
7	Steelhead (Northern California)
1	Steelhead (Snake River)
5	Gray wolf
3	Bull trout
3	Grizzly bear
3	Northern spotted owl
3	Red-cockaded woodpecker
2	Alabama moccasinshell
2	California red-legged Frog
2	Chirichahua leopard frog
2	Coosa moccasinshell
2	Fine-lined pocketbook
2	Gray bat
2	Indiana bat
2	Loach minnow
2	Triangular kidneyshell
1	Blackside dace
1	Blue shiner
1	Cahaba shiner
1	Cumberlandian elktoe
1	Cylindrical lioplax
1	Dark pigtoe
1	Desert dace
1	Flat pebblesnail
1	Heavy pigtoe
1	Inflated heelsplitter
1	Lahontan cutthroat trout
1	Orange-nacre mucket
1	Ovate clubshell
1	Painted rocksnail
1	Quino checkerspot butterfly
1	Round rocksnail
1	Southern acornshell
1	Southern clubshell
1	Southern pigtoe
1	Southwestern willow flycatcher
1	Spikedace
1	Upland combshell

Table 10: Percent of the 52 Counterpart Regulation Projects involving the following treatment activities (percentages are not additive, as some projects may have included more than one treatment activity).

Treatment Activity	Number of Projects that used this activity
Mechanical fuels treatment, thinning or fuel removal	30 (58%)
Prescribed fire activities	21 (40%)
Ecosystem restoration	12 (23%)

3. Evaluation Results

3.1. Reviews of BA/BEs

The FWS and NMFS conducted separate but concurrent evaluations for species under their respective jurisdictions of the BAs/BEs written by the BLM and FS for projects that “may affect, but are not likely to adversely affect” listed species. The ACAs describe the broad evaluation framework, but do not describe an approach for evaluation of individual BAs/BEs in detail. As a result, the FWS and NMFS utilized different approaches in these evaluations. Although two approaches were taken, the FWS and NMFS looked for the same basic information that would indicate that FS and BLM met the criteria. Similar issues were found within the BAs/BEs, however, there was some confusion regarding expectations. In order to minimize confusion, the four agencies may develop a single consistent approach to be used in future evaluations.

3.1.1. NMFS Review

3.1.1.1. Approach

To evaluate the BLM’s and FS’ decisions under the counterpart regulations, NMFS looked for the stated explanation of the action’s potential direct and indirect effects on the environment, and the listed species and their designated critical habitat. First, NMFS began by reading through the BA/BE’s analyses to identify the structure of the explanation, the conclusion(s), and the reasons and evidence offered to support the conclusion.

Each analysis was then reconstructed with the conclusion laid out below the supporting premises (see below). That is, NMFS restated the BLM’s and FS’ key ideas that created and supported their central decision that the project is “not likely to adversely affect” listed species and critical habitat. This method provided a highly condensed version of the analysis in “standard form” and eliminated background or other material that was not necessary to support the conclusion, and it allowed the reviewer to focus on the primary components of the explanation (the collection of claims/premises) in evaluating the BLM’s and FS’ analyses. The analysis drawn out in standard form also facilitated overlapping reviews about the BLM’s and FS’ decisions under the counterpart regulations.

Standard Form of an Argument

Premise 1

Premise 2

Premise 3

Premise 4 (rebuttal premise)

Therefore, the project is not likely to adversely affect listed species and designated critical habitat.

NMFS drew upon the reasons and evidence presented in the BA/BE that was used to support its conclusion. NMFS' evaluation separately listed and numbered each premise, and separated these from the conclusion by a line. The BA/BE varied by the number premises they contained. In some cases, premises built upon previous premises to explain how and why the reasons and evidence provided rational support for the conclusion. Explicit premises were either restated verbatim or summarized as succinctly as possible without loss of meaning. NMFS noted implicit premises (those unstated assumptions that the author relied upon to reach a conclusion) in brackets. In reconstructing the analysis and its implicit premises, NMFS gave the author the benefit of the doubt when the structure of the analysis was unclear, by reconstructing the analysis as strongly as possible while maintaining consistency with the author's perceived intent.

Once the BLM's and FS' analysis was reconstructed in standard form, NMFS evaluated whether the reasons and evidence that remained met the following four basic criteria of a strong argument:

1. an argument should only offer reasons and evidence (premises) that are relevant to the truth of the conclusion and should not omit relevant reasons or evidence;
2. the premises are acceptable, believable, warranted;
3. the premises together constitute sufficient grounds for the truth of the conclusion; and
4. the argument provides an effective rebuttal to all reasonable challenges that would lead to alternative conclusions (Bowell and Kemp 2002, Damer 2001, Feldman 1993).

NMFS' evaluations applied the fourth criterion—the rebuttal criterion—primarily by considering the degree to which a biological assessment responded to best available information to the Action Agency that might argue against the BAs'/BEs' conclusions. 2NMFS' evaluations were based solely on the information contained in the BAs/BEs provided by the BLM and FS. NMFS assumed the BAs/BEs provided a summary of the information sufficient to support its conclusions. If the reasons, evidence, and background information contained in the BA/BE were relevant, constituted sufficient reason to support the conclusions, and responded to evidence that might lead to alternative conclusions, NMFS assumed that the BA/BE complied with criterion 6, in Appendix 3 of the ACA (determination is based on best available scientific and commercial information). NMFS' evaluation assumes that a BA/BE that successfully meets criterion 6 also complies with the standards of the APA. If, however, the reasons and evidence contained in the BA/BE did not support the conclusion, NMFS' evaluation concluded that the BA/BE did not satisfy criterion 6. The results of NMFS' evaluation are summarized below.

3.1.1.2. Results

NMFS evaluated 10 BAs/BEs for fire season 2004. The FS' Mendocino National Forest submitted the vast majority of the BEs for NMFS' review (7), while the Klamath National Forest and the Boise National Forest each submitted one BE. The BLM's Ukiah Field Office submitted one biological assessment for NMFS' review. The BA/BEs addressed the potential effects of fire plan projects on various species of Pacific salmon.

Table 11 summarizes the results of NMFS' evaluation of the 10 BAs submitted pursuant to the counterpart regulations for fire season 2004. The bulk of NMFS' evaluation focused on the six criteria outlined in Appendix 3 of each ACA and is described in detail in the following sections. It was noted that one of the ten BAs/BEs did not contain the Procedural checklist as required under Appendix 2 of the ACAs. That particular BA was misrouted-- it first went to FWS and was later rerouted to NMFS. As a result, it is possible that the checklist may have been misplaced in transit. The purpose of the procedural checklist is to document that line offices evaluating projects pursuant to the counterpart regulations have access to the "best scientific and commercial data" available upon which to base their evaluations, that access to appropriate resources and training are available, and that staff are encouraged to use this information to evaluate the effects of proposed fire plan projects on listed species and their critical habitat. In addition to the missing checklist, this particular BA also lacked citations (supporting evidence) on species distribution, effectiveness of Best Management Practices (BMPS), and evidence citing the probable biological response of salmon when exposed to the anticipated effects of project activities; therefore it is unclear if the particular field office has access to sources of "best available scientific and commercial data". Regardless of whether the office has access to current scientific literature and other sources of best scientific and commercial data, it appeared to NMFS from the lack of relevant citations that these resources were not in that BA.

The findings for all BA/BEs NMFS evaluated, including those that did not meet the intent of criterion 6 (determination is based on best available scientific and commercial information), are summarized for each of the six criteria below.

Table 11. Summary of NMFS' Review of BAs Submitted by FS and BLM Pursuant to the Counterpart Regulations – Year One (Fire Season 2004).

Product/Criterion		Yes	No
	Procedural Checklist (Appendix 2 of ACA) was submitted with BA	9	1
1	Identifies proposed action clearly (includes a description of the various components of the action)	10	
2	Identifies spatial and temporal patterns of the action's direct and indirect environmental effects, including direct and indirect effects of interrelated and interdependent actions		10
3	Identifies Action Area clearly (based on information in 2.)		10
4	Identifies all threatened and endangered species and any designated critical habitat that may be exposed to the proposed action (includes a description of spatial, temporal, biological characteristics and constituent habitat elements appropriate to the project assessment)		10
5	Compares the distribution of potential effects (identified in 2) with the threatened and endangered species and designated critical habitat (identified in 4) and establishes, using the best scientific and commercial data available, that (a) exposure is improbable or (b) if exposure is likely, responses are insignificant, discountable, or wholly beneficial		10
6	Determination is based on best available scientific and commercial information		10

1. Identifies proposed action clearly (includes a description of the various components of the action)

NMFS' evaluation generally accepted that the project descriptions (criterion 1) were complete. While some individual projects and activities warranted more expansive discussion to strengthen the assessment and subsequent analysis of effects, the BAs/BEs were given the benefit of the doubt on this particular criterion, as there were not any NEPA or other documents to compare against the project descriptions provided in the BE.

2. Identifies spatial and temporal patterns of the action's direct and indirect environmental effects, including direct and indirect effects of interrelated and interdependent actions

An important aspect of Criterion 2 that was consistently not addressed was whether there were actions that might be interrelated or interdependent to the proposed project. Even if the appropriate conclusion is that there are no interrelated or interdependent actions, each BA/BE should contain an explicit statement to this effect. At least two BAs mentioned that the project was part of a larger plan, suggesting that interrelated or interdependent actions should have been explored.

None of the ten BAs contained an explicit description of the action's direct and indirect effects sufficient to delineate spatial and temporal patterns of effects on the environment. That is, the specific stressors and the anticipated spatial and temporal patterns of the stressor must be clearly

described in order to meet this criterion. A critical component to this description is a schedule of the activities that composed the action, and any anticipated latent effects. This information informs the delineation of the Action Area and provides the basis for the remainder of the assessment.

3. Identifies Action Area clearly (based on information in 2.)

Eight BAs mentioned the concept of an action area or defined a particular geographic area as the action area (two made no mention of the action area), but none mentioned how this area was delineated (see previous section 3.2). The assessments should have described how the action's physical, chemical, and biotic effects (stressors) across the landscape as they move, through direct and indirect pathways, over time to identify the spatial and temporal scale of the action area. Consequently, based on information given in responses to meeting both criteria 2 and 3, no BAs met criterion 3 (Table 2). The two are inherently intertwined, and form the foundation for subsequent analyses of the environmental baseline, listed species and designated critical habitat, and effects of the action on listed species are based upon the Action Area.

4. Identifies all threatened and endangered species and any designated critical habitat that may be exposed to the proposed action (includes a description of spatial, temporal, biological characteristics and constituent habitat elements appropriate to the project assessment)

None of the BAs met this criterion in full. All BAs identified the appropriate listed species under NMFS' jurisdiction at the basin scale, although the specific use and life stages that would occur in the action area were often not clear. Critical habitat, on the other hand, was routinely neglected in the assessments. Although critical habitat was initially mentioned as relevant to the assessment in all ten BAs, none of the BAs described the primary constituent elements appropriate to the assessment.

5. Compares the distribution of potential effects (identified in 2) with the threatened and endangered species and designated critical habitat (identified in 4) and establishes, using the best scientific and commercial data available, that (a) exposure is improbable or (b) if exposure is likely, responses are insignificant, discountable, or wholly beneficial

Most assessments relied on arguments that exposure to potential effects of the action is improbable. Frequently, the arguments were not well articulated. Largely, an assessment did not meet this criterion if the action area (and the spatial and temporal description of anticipated effects of the action; criteria 3. and 2.) was not clearly described. Absent this information it was impossible for NMFS to determine the overlap of probable effects (their duration, intensity, frequency, etc.) with the species and their critical habitat. In many cases, latent or delayed effects from the project were not addressed.

6. Determination is based on best available scientific and commercial information

In NMFS' evaluation of all ten BAs, the premises of the assessments appeared generally supportable. However, most of the assessments contained very limited citations or supporting evidence on species distribution, effectiveness of BMPs, and the conclusions reached in the effects analysis. In a few instances, the BAs cited only the agency's hydrological report written for the project, EPA's TMDLs for the watershed, and personal communications. As presented, many of the BAs did not present information to explain why specific riparian reserves, buffer

strips and best management practices were proposed and anticipated to be effective in the circumstances associated with the particular project. Without evidence to support the various premises offered in the BAs, the argument does not appear sufficient to support the conclusions to NMFS satisfaction. The analysis would be stronger by establishing that the premises (relative to the mitigative measures) are as likely to be true at the end of the project as they are at the beginning of the project.

A large body of evidence is available to establish sufficient reasoning to support assessments on the effects of such activities as controlled fire and timber harvest, including published studies, an agency's own gray literature and experiences from similar actions. In addition, although NMFS did not score the assessments based on this criterion, evaluations are stronger when they compare and contrast the available evidence, including evidence that supports contradictory claims, and demonstrate why alternative conclusions are not as strong as the conclusion that is advanced by the assessment (e.g., the NLAA conclusion). The evaluation of available counter-evidence and its subsequent rational dismissal provides an effective rebuttal to reasonable challenges that could lead to alternative conclusions, and further establishes that the conclusion reached had the greatest support in the best scientific and commercial data available. Absent supporting evidence, NMFS considered many of the premises of the argument were considered insufficient to support the conclusion as presented. Consequently, NMFS concluded that the BAs did not meet criterion 6, that the determination was based upon the best scientific and commercial information.

3.1.2. FWS Review

3.1.2.1. Approach

The evaluation methodology used by the FWS was developed jointly by the FWS, FS and BLM and was designed to take advantage of the knowledge and expertise of local FWS biologists who are familiar with the area and species and who specialize in conducting section 7 consultations. The methodology, described below, involved a three-tiered process that was designed to provide a full and concise evaluation and to assure accuracy, consistency and fairness. The BA/BEs used by the BLM and FS to make the NLAA determinations were collected from the BLM and FS and provided to the FWS Regional Offices (ROs), who then distributed them to the various FWS Field Offices (FOs). Detailed instructions were provided to reviewers to insure that each evaluation was focused and consistent.

Tier 1: FWS FO section 7 biologists reviewed the BA/BEs using the Evaluation Form that had been developed by all the participating agencies during the development of the ACA and assessed whether the BA/BEs met the criteria listed on the form. If a BA/BE did not meet an individual criterion, the reviewer provided a concise and factual narrative rationale as to the reason(s). Requests by the reviewers for additional information were limited to only that which the Action Agency actually used, e.g.; maps that were referenced in the BA/BE but which had not been included or similar information. If the reviewer identified issues that should have been addressed, but were not considered in the BA/BE, the reviewer marked a "no" on the appropriate portion of Appendix 3 and provided the above-mentioned explanation. Any questions from the FO were directed to the ROs, which also coordinated closely with the FWS WO. After completion, the

reviewers then returned the BA/BEs and copies of the completed Evaluation Form, plus the explanation for any criteria not met, if applicable, to the ROs.

Tier 2: Upon receipt of the completed FWS FO evaluation documents, each RO then checked for completeness and consistency throughout its region. If there were any questions regarding the results, the FO reviewers were contacted by the FWS Regional Coordinator to provide clarification. Throughout the process, the ROs coordinated closely with the WO to answer any questions that arose during the review and to determine whether additional materials should be requested from the Action Agencies. For example, some BA/BEs cited maps or other supporting materials upon which they based the NLAA determination, but did not include these materials with the BA/BE. ROs and the WO then determined whether it was appropriate to obtain these additional materials.

Tier 3: The FWS WO worked with the ROs to ensure that all regions were conducting the review consistently and, when necessary, contacted the BLM and FS to obtain information that had been omitted from the BA/BE package. The WO then collected the results for each project, and confirmed that all reviews had been conducted consistently. In some instances, additional information was requested from the ROs and FOs in order to clarify the rationales that had been provided for the results. The results were then tabulated on a project by project basis, and overall for each of the criteria (see Attachment 2 and 3).

3.1.2.2. Results

A. Forest Service

1. Identifies proposed action clearly (includes a description of the various components of the action)

Of the 43 projects completed by the FS using the counterpart regulations, the FWS' evaluation found that eight did not fully identify the proposed action. In some of these cases, the cause of not meeting this criterion was the lack of detailed project description in the BA/BE, though it appeared to have been more fully described elsewhere (e.g., Environmental Assessment or other document). However, several had not discussed key considerations, such as the criteria and methods for tree removal, what the thinning density would be, or the timing and duration of the project. Without sufficient detail to identify all potential sources of impacts to listed species or critical habitat, any corresponding potential implications cannot be fully understood.

2. Identifies spatial and temporal patterns of the action's direct and indirect environmental effects, including direct and indirect effects of interrelated and interdependent actions

FWS reviewers found that twelve BA/BEs did not meet this criterion. None of these twelve were found to have addressed interrelated or interdependent actions, even though some identified the proposed project as part of a larger action, and some did not address potential indirect effects, such as smoke effects from prescribed burns.

3. Identifies Action Area clearly (also based on information in 2)

FWS reviewers found that sixteen of the FS's BA/BEs did not meet this criterion. In some cases, the project location was demonstrated by giving only the Township, Range and Section information, with no maps or discussion of environmental effects. Consequently, the reviewers found it impossible to determine the full area of potential effects of the action. In other cases, the BA/BE identified the project footprint, but did not address the anticipated full reach of indirect effects, such as travel distance of smoke/smoke inversion or the distance of temporarily reduced stream quality.

4. Identifies all threatened and endangered species and any designated critical habitat that may be exposed to the proposed action (includes a description of spatial, temporal, biological characteristics and constituent habitat elements appropriate to the project assessment)

FWS reviewers found that ten projects did not meet this criterion. Some did not identify all the listed species that may be affected by the project. For example, some identified only terrestrial species and omitted reference to potentially affected aquatic species (e.g., bull trout). Additionally, some species were identified within the project area, but were not fully analyzed with respect to potential impacts. For example, one project identified grey wolf in the area and stated that there may be "minor disturbance or displacement of wolves," but determined that there was "No Effect" to wolves. In this case, it appeared to FWS reviewers that the correct determination should have been "May Affect but Not Likely to Adversely Affect." Additionally, the BA/BE did not provide an analysis of related project environmental impacts to this species.

5. Compares the distribution of potential effects (identified in 2) with the threatened and endangered species and designated critical habitat (identified in 4) and establishes, using the best scientific and commercial data available, that (a) exposure is improbable or (b) if exposure is likely, responses are insignificant, discountable, or wholly beneficial

FWS reviewers found that sixteen projects did not meet this criterion. In some cases, temporally sensitive periods (e.g., breeding season, etc) were identified, but not compared to the timing of the project. In one case, it appeared to the reviewers that the BA/BE had been written using data that had not been updated, e.g., the BA/BE referred to "proposed critical habitat" that had, in fact, been finalized previous to the issuance of the BA/BE.

6. Determination is based on best available scientific and commercial information

FWS reviewers found that eleven projects did not meet this criterion. The reviewers found that most of these had not cited recent existing studies to update their information regarding species locations or condition.

B. BLM

Only seven NLAA determinations that addressed FWS' species were completed by BLM under the ACA during the first year of implementation.

1. Identifies proposed action clearly (includes a description of the various components of the action)

FWS reviewers found that five BAs did not meet this criterion. Some BAs had incomplete documentation; e.g., maps referenced in the BA but not provided and information incorporated by reference from an Environmental Assessment, but not included with the BA. Others primarily described objectives, but provided little information on how those objectives would be implemented, such as methods, equipment, timing, etc. In some cases, the text in the BAs did not match the attached map. In some cases, certain terms were undefined, such as, “low thinning,” and “small trees.”

2. Identifies spatial and temporal patterns of the action's direct and indirect environmental effects, including direct and indirect effects of interrelated and interdependent actions

FWS reviewers found that six BAs did not meet this criterion. Most of these BAs were found not to have addressed the indirect effects of the proposed actions. For example, one BA referred to weed abatement along trails, but did not specify how this would be accomplished, including whether herbicides would be used, or how listed plant species, might be avoided. Additionally, some BAs did not state how the proposed activities related to fire management.

3. Identifies Action Area clearly (also based on information in 2)

FWS reviewers found that four of BLM's BAs did not meet this criterion. In one case, it was unclear to the reviewer exactly where the project was to occur. In other cases, the reviewer found that the BA did not clearly describe the project footprint, nor were additional potential indirect effects identified, so that to the reviewer could not determine whether the proposed buffer area would be adequate, or conversely, whether it was even needed.

4. Identifies all threatened and endangered species and any designated critical habitat that may be exposed to the proposed action (includes a description of spatial, temporal, biological characteristics and constituent habitat elements appropriate to the project assessment)

FWS reviewers found that three BA/BEs did not meet this criterion. These appeared to the reviewers to be caused primarily by omissions of important information, such omission of the species that had the potential to be affected by the proposed action, and potential effects to designated critical habitat.

5. Compares the distribution of potential effects (identified in 2) with the threatened and endangered species and designated critical habitat (identified in 4) and establishes, using the best scientific and commercial data available, that (a) exposure is improbably or (b) if exposure is likely, responses are insignificant, discountable, or wholly beneficial

FWS reviewers found that four BA/BEs did not meet this criterion. In at least one case, the reviewers found that this stemmed from inadequacies in meeting previous criteria, which resulted in a “cascade” effect; e.g.; the proposed action and action areas were not clearly defined, making it impossible to adequately assess likelihood and distribution of potential effects. In two

cases, incorrect use of defined terms made it unclear whether all potential effects had been fully evaluated. In one case, no information or rationale was provided for a “no effect” determination, and in one case, one portion of the proposed action was not mentioned in the section on effects of the action, thus leaving the potential effects of that portion of the action unknown.

6. Determination is based on best available scientific and commercial information

FWS reviewers found that four BA/BEs did not meet this criterion. Primarily, the reviewers found these did not show that relevant published literature and current survey data were consulted even though these were readily available.

Table 12. Summary of FWS Counterpart Regulations (CR) Review Results

	Forest Service	BLM
Total number of projects with FWS species completed under CR during first year of implementation	43*	7**
Total number of projects that met all evaluation criteria	18	1
Total number of projects that did not meet 1 or more evaluation criterion	25	6
Total number of projects that met none of the criteria	6	2
	*plus 9 projects with NMFS species	**plus 1 project with NMFS species

Table 13. Number of Projects Reviewed by FWS That Did Not Meet Specific Criteria

Criterion from Evaluation Form (Appendix 3 of ACA)		
	Forest Service	BLM
1-Identified proposed action	8	5
2-Identified Direct /Indirect/ Interrelated/Interdependent actions	12	6
3-Identified Action Area	16	4
4-Identified all T&E species and/or Critical Habitat	10	3
5-Determined likelihood of exposure to effects	16	4
6-Determination was based on best available data	11	4

3.2 Training Certification

As is given in Tables 1 and 2, over 1,100 line and staff (biologists, botanists and ecologists) both took the counterpart regulations training and passed the certification examination during the first year. The training module was developed in March 2004, and placed online to reduce overall training costs and enable users from hundreds of FS and BLM offices to take the training and the certification exam as needed. The BLM has hosted the modules on BLM and DoI servers, has reported successful certification to individual trainees, and has maintained a record of all those trained and certified.

4.0 Discussion

4.1. BA/BEs Documenting Decisions Made in Year One of Counterpart Regulations Use

The purpose of evaluating the FS and BLM's BA/BEs produced in the first year of counterpart regulations use was to determine if FS and BLM documentation of decisions was consistent with the best scientific and commercial data requirement of the ESA, and in compliance with the ESA and its implementing regulations. As required by the ACA, the BA/BEs and any supporting documents that were supplied by the FS and BLM were examined. Based on the evaluations, only 19 of the 50 BAs/BEs submitted on projects that were determined not likely to adversely affect listed species could be confirmed to have used the best scientific and commercial data available to FS or BLM.

While the number of BA/BEs was significantly smaller than expected (an order of magnitude smaller than originally projected), the evaluations found some consistent patterns among the BA/BEs that did not meet some or all of the criteria. Many did not display the action's physical,

chemical, and biotic effects (the stressors) across the landscape, as they move through direct and indirect pathways over time to delineate the spatial and temporal scale of the action area. For example, two frequently missed criteria were the identification of the action area and the determination of likelihood of exposure to the effects of the proposed action. Several BA/BEs described only the project footprint and did not address potential downstream or other effects. Others provided only a generalized location such as Township, Range and Section information. In many cases, where the action area was fully identified, the likelihood of individuals of listed species being exposed to the effects was not discussed. The full action area needs to include all areas where any effects to the environment may be documented, regardless of the presence or absence of listed species. Then, within that action area, subsequent analysis is to determine whether the species is likely to come into contact with the stressor. Without fully identifying the action area and any likelihood of exposure of listed species, it is unlikely that all potential impacts to listed species and their habitat will be fully identified.

Similarly, several BA/BEs did not fully describe the proposed action. In most of these cases, it appears that the action agency briefly described its intended proposed action, but did not deconstruct the proposed action into its components. This deconstruction identifies which component(s) of the proposed action could be a source of impacts to listed species and/or their habitats and, therefore, allow for the action area to be adequately described.

The process of delineating the action area, and the rationale upon which that delineation is based, are necessary preliminary steps to the subsequent evaluation of potential effects of the action on listed species and/or their designated critical habitat. The delineation of the action area determines what listed species and critical habitat need to be evaluated in the BA/BE, and what actions and conditions need to be evaluated in the environmental baseline. By not properly delineating the action area, some BA/BEs may not have identified all of the species or critical habitat that could be affected by a proposed action.

Several BA/BEs did not identify potential indirect effects, and/or interrelated and interdependent actions. In some cases, the proposed project was identified as part of a larger project, but further discussion or analysis of potential impacts to listed species from the larger action was not included. Indirect effects are those that occur later in time but are still likely to occur. These types of effects need to be included in an effects analysis.

In several cases, FWS reviewers noted that because of their familiarity with the species, habitat and a specific proposed project, they concurred that NLAA was an appropriate determination in those cases, but that because the BA/BEs lacked sufficient clarity or information to be considered a "stand alone" document, they therefore did not meet the criteria as described in ACA. In other cases the reviewers were unable to concur with the NLAA determination because they could not follow the logic presented, due to insufficient information included in the BA/BE.

For a BA/BE to provide a persuasive rationale as to why a particular project warranted an NLAA determination, it needs to meet all the relevant criteria that are identified in the short checklists that were included in the ACAs. Not only does this necessitate clearly identifying the action area and the rationale for that action area, but also that components of a section 7 evaluation, including interrelated and interdependent actions, and indirect effects, be explicitly discussed in the BA/BE. If this is not done, it is not clear to the outside reviewer that the analysis was comprehensive.

A significant shortcoming of the BA/BEs that NMFS evaluated is that in most cases, relevant evidence was not referenced in the analysis. Without evidence (literature citations, agency reports, and other forms of empirical data) to support the various premises offered in the BA/BE, the argument is not persuasive and does not appear sufficient to support the conclusions.

The purpose of the BA/BE is to present relevant data and analysis to reach a determination(s) of effect to listed species and critical habitat, and to logically demonstrate how the determination is made. A large body of evidence is available to establish sufficient reasoning to support assessments on the effects of such activities as controlled fire and timber harvest, including published studies, agency gray literature, and the observations of field biologists from similar actions. Analyses are made stronger when they compare and contrast the available evidence including evidence that supports contradictory claims, and articulate why alternative conclusions are not as strong as the conclusion that is advanced by the assessment (in this case, the NLAA conclusion). Although NMFS did not rate the BA/BEs as to whether they evaluated contradictory data, they did explicitly examine the BA/BEs for their use of supporting evidence, and found many of the premises of the arguments insufficient to support the conclusions as presented because they failed to use and cite authoritative data in the assessment. Several BA/BEs relied primarily on preparers' intimate knowledge of the projects and watersheds being discussed. While such knowledge may have value, expert opinion must be considered in context with other relevant sources of evidence to make a comprehensible and persuasive argument that a particular project may affect, but is not likely to adversely affect listed species or designated critical habitat.

In the standard informal section 7 process, if there are questions about meeting evaluation criteria, there is interaction and discussion between the two involved agencies using normal informal consultation procedures, and shortcomings can be identified and corrected. In many consultations, NMFS and FWS will also provide supplemental information within their concurrence letters that further supports the final determination. The process under the Counterpart Regulations differs in that these types of interactions and support do not necessarily occur, but are optional. The results of this review may indicate that FS and BLM staff are transitioning from the standard consultation process to the new independent process established by the counterpart regulations. Regardless, the challenge now facing the FS and BLM is to improve performance so that all decision documents produced are sufficient to stand alone without interaction and support from NMFS and FWS.

4.2 Training Certification

Although there have been occasional computer-related problems with access to the training and certification modules and in notifying those who passed the certification exam, overall, this has functioned as intended. However, given the first year results, the existing online training module does not appear to be as effective as it needs to be in providing the training actually needed by staff to successfully produce the documentation necessary under the use of the counterpart regulations.

5. Recommendations

The ACAs between the four agencies state that FS and BLM will consider the following standards in assessing the effects of National Fire Plan projects on individuals of a listed species or constituent elements of critical habitat: (1) the direct and indirect effects of the proposed

action, (2) the effects of interrelated and interdependent actions, (3) the environmental baseline, and (4) whether the effects are insignificant, discountable, wholly beneficial, or adverse. In so doing, the FS and BLM must consider the best scientific and commercial data available and must provide a reasoned explanation for its conclusions (Section F, Alternative Consultation Agreements).

Based on the results of the FWS' and NMFS' evaluations, although 18 of the 52 BAs/BEs evaluated met all the evaluation criteria, more than half fell short in one or more areas indicating that the FS and BLM need to improve the quality of documentation supporting decisions made pursuant to the ESA counterpart regulations to ensure they meet the requirements of the ACAs, and are sufficient to fully support the decisions reached, as stand-alone documents. Towards this end, the four agencies recommend a number of specific actions. The recommendations focus on two primary areas that could most effectively enhance implementation of the counterpart regulations—oversight and training.

5.1 Oversight

Increase oversight and quality control/quality assurance of BE/BAs prepared under the counterpart authority before and after implementation of a NFP project.

Specific oversight recommendations:

- a) The FS and BLM should devote resources to develop an internal monitoring and feedback process to evaluate documentation supporting decisions made pursuant to the counterpart regulations, and ensure the documents meet requirements outlined in the ACA, and are sufficient to serve as the sole documentation supporting those decisions.
- b) As BE/BAs prepared under counterpart authority are stand-alone documents, a careful, critical review at the line officer level is a central part of the quality control/quality assurance process. Because FS/BLM line officers may not be specialists in ESA implementation, the FS and BLM should provide them a more detailed, clear, and specific "checklist" of elements necessary for inclusion in a BE/BA, so that they can appropriately evaluate documents prepared to support decisions using the counterpart authority before they are finalized.
- c) The FS and BLM, with assistance from the NMFS and FWS, should identify BAs/BEs from among the 18 that met all the evaluation criteria to be distributed to the field as examples of the desired level of documentation for Counterpart Authority use.

5.2 Training

The FS and BLM should review the rigor of their current training program to strengthen their decision making pursuant to the counterpart regulations to ensure BA/BEs would meet the minimal criteria outlined by the ACA.

Specific training recommendations:

- a) The FS and BLM should develop a teacher-based training program. The FWS and NMFS are available to assist in the development of training modules specifically for the use of the counterpart regulations used for fire planning activities that would include, but not be limited to, instructor presentations using Power Point presentations, training

exercises, group discussions and examples. At the request of the FS and BLM, the Services should conduct at least one national “train the trainer” session to assist those individuals selected by FS and BLM to become familiar with the training program and to enhance expertise in section 7(a)(2). Those FS and BLM trainers would then provide the teacher-based training to their respective agencies, as needed. The benefit to such an approach is that it can be designed and implemented in a manner that would effectively engage personnel in active forms of learning and comprehension, and could support a flexible tailored learning process specific to the needs of the particular individual and/or line officer.

- b) The FS and BLM, with assistance from NMFS and FWS, should review the utility of current web-based training module as a supplement to more rigorous training methods. For example, if deemed appropriate, the current web-based training (or a revised version) could be used as a periodic “refresher” for those individuals who have completed the new teacher-based training, referenced above

6.0 Conclusion

According to the ACAs, both the FS and BLM were required to report a list of National Fire Plan projects by March 1, 2005, for which the counterpart regulations were used (Section H of the ACA). The FWS and NMFS received a list of projects and the BA/BEs from the FS in mid-April 2005, and NMFS received information from the BLM in late August 2005. NMFS completed the evaluation and submitted a draft summary and draft report to the FS, BLM and FWS for discussion and comment in January 2006. In response to the findings of the first year evaluation, the BLM and FS requested that NMFS and FWS provide individualized feedback to line office personnel. For projects where documentation did not meet one or more of the six criteria, FWS and NMFS personnel met with FS and BLM personnel to explain the results of the review and how the office/certified personnel can improve the BE/BAs. NMFS and FWS completed several feedback meetings in April of 2006, and subsequently both the FS and BLM increased oversight and provided additional guidance for counterpart regulation use. Also, as a result of the reviews, the Agencies found that it would be helpful to include a substantial narrative assessment in the instance that a criterion is not fully met, indicating how it is not fully met, and recommendations to fully meet the criterion, or avoid the error/oversight in the future.

In the interim, the FWS requested feedback from both BLM and FS on the BA/BE reviews. While a draft report was prepared, the final report on the year-one evaluation was delayed awaiting this feedback.

In conclusion, the four agencies recommend that additional oversight is needed in implementation of the counterpart regulations, and that the approach to training FS and BLM employees should be improved.

Literature Cited

- Bowell, T. and G. Kemp. 2002. Critical thinking. A concise guide. Routledge; London, United Kingdom.
- Damer, T.E. 2001. Attacking faulting reasoning: A practical guide to fallacy-free arguments. Fourth Ed. Wadsworth Publishers, Inc. Belmont, CA.
- Feldman, R. 1993. Reason and argument. Prentice-Hall, Inc. Upper Saddle River, NJ.

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