1. Introduction/Background
In July, 2012, the U.S. Fish and Wildlife Service’s (FWS) Director sent a message to all employees discussing the FWS’s commitment to Strategic Habitat Conservation as an approach to address the challenges of the 21st century utilizing advances in geospatial technology and conservation and decision theory as science-based cornerstones to achieving its Mission of sustaining fish and wildlife. In concert with that message, the FWS distributed a version of a draft of Selecting Species for Design of Landscape Scale Conservation (Technical Guidance) as a practical step in the biological planning component of the Strategic Habitat Conservation approach. All FWS employees, States, Tribes and Non-Governmental Organizations were encouraged to submit comments on this draft technical guidance. U.S. Fish and Wildlife Service employees attended discussion sessions throughout each region to learn and discuss this important conservation approach. Significant response provided additional information and suggestions to improve the guidance and the document was revised in March 2014.

Given the long-term conservation implications of the Technical Guidance, and its influential information, a formal, external, independent scientific peer review was conducted on the March 2014 version to review the document’s scientific integrity, the validity of the arguments for its application, the interpretation of the science cited in support of how the FWS will develop the science in using and validating surrogate species, and whether the use of surrogates as part of the Strategic Habitat Conservation approach were likely to help achieve the goal of conserving landscapes capable of sustaining fish and wildlife populations. In summary, the reviewers found the document in need of significant reorganization and better focus and recommended a thorough analysis of the literature on the different uses of surrogates, including their successes and failures to achieve intended conservation goals. The FWS has determined that producing a technical reference document that summarizes surrogate species and their appropriate uses would address many of the comments.

2. Description of Analyses/Service
The purpose of this work is to help the FWS address comments received via the independent peer review and to produce a final technical reference document for the FWS and its partners to consult when developing guidance for applying and testing the surrogate species concept for landscape conservation designs and targeted conservation actions. This reference document could also be used by the FWS and its partners when using surrogate species. The July 2012 and March 2014 versions presented the underlying agency policies and decisions resulting in adoption of Strategic Habitat Conservation and provided guidance on the use of surrogate species; this led to confusion over the purpose and application of the guidance document. To improve clarity and understanding, the FWS has decided to develop first, a technical reference document focused on the application of surrogates, as described by the literature and past
experiences. The technical reference document will not address broader agency policy decisions or provide agency-specific guidance but will focus on the appropriate use of surrogates in landscape conservation planning and design within a Strategic Habitat Conservation framework. The technical reference document will use knowledge gained from a thorough literature review on the application of surrogates in landscape conservation design and incorporate, where appropriate, those parts of the Draft Technical Guidance that help describe the uses for surrogate species in landscape conservation design. The reference document will be useful to both FWS staff and its partners because it will be focused solely on the science of surrogates.

3. Methods, Protocols and/or Scientific Standards
The contractor will review and analyze comments from the panel of five reviewers and help provide solutions for addressing comments. Working with the FWS, the contractor will prepare a document that can be used as a technical reference document by the FWS when using surrogate species as part of Strategic Habitat Conservation. This technical reference document will be an evolution of earlier references on Strategic Habitat Conservation and will consider the successes and lessons learned from other efforts. The technical reference will analyze the existing literature on applying or testing the use of surrogate species for landscape conservation design to achieve the conditions in the landscape needed to support a broader number of species of conservation interest. It will include examples to help illustrate the use of surrogate species within Strategic Habitat Conservation and Adaptive Management.

Specific tasks include:

1. Developing a Project Timeline, including updating the timeline as milestones are achieved

2. Develop a Table of Contents, working with FWS personnel, for the technical reference document. The table of contents will define document sections, their purpose, information within each section, including graphics and examples, and identify FWS staff or outside experts to work with the Contractor on specific sections. During this phase, material and content that will be provided by the FWS or generated by the Contractor will be identified.

3. Peer review panelists (that reviewed the draft Technical Guidance) will review the draft Table of Contents to ensure the technical reference document will address their comments relating to the appropriate application of surrogate species in landscape conservation design and the technical issues with their selection and use. This is separate from addressing their comments relating to guidance on their use by FWS.

4. Develop the literature review components of the technical reference document, working with a designated FWS employee. The systematic literature review will summarize the existing literature on the use of surrogate species for designing landscapes that support multiple species of conservation interest, and evidence of their success or failure. Create a summary spreadsheet of key information from the references reviewed.
For each reference include information on: (1) goals for using the surrogates (if stated); (2) the stated surrogate type versus the actual surrogate type (e.g., there are a lot of papers that claim they are testing the umbrella species approach, but are actually testing biodiversity indicators); whether they have criteria for selecting species (yes or no); (3) was the effectiveness of the approach tested or proposed; (4) whether the approach was effective toward achieving the goal (if tested) and if not, what were the problems; biome; and study duration.

5. Based on the results of the literature review and following the Table of Contents, develop the technical reference document to illustrate: (1) how surrogate species use fits within the larger Strategic Habitat Conservation program, (2) what approaches (i.e., focal species, surrogate habitat measures, physical measurements, etc.) are not surrogate species, but how they may complement the use of surrogate species and support landscape conservation design, (3) the potential uses and types of surrogate species approaches in conservation designs for landscapes to support multiple species of conservation interest, (4) methods and criteria for selecting potential surrogate species, (5) a general summary of the methods and criteria for testing the assumptions associated with surrogate species and monitoring the conservation outcomes of surrogate species and the species of conservation interest represented and (6) monitoring and adaptive management considerations when using surrogate species (This section is not a monitoring/adaptive management ‘how-to’ but rather will identify key elements and critical steps associated with surrogate species specifically.). The new technical reference document will combine information captured from the literature review, new material developed by technical experts and AMEC, and, as appropriate, portions of the draft July 2012 and March 2014 guidance documents.

6. Provide a letter report summarizing how and which comments received via the peer review have been addressed by the technical reference document.

Conducting the above tasks will require the use of experts in landscape ecology and landscape conservation planning, including FWS personnel. The Contractor will be responsible for assigning an experienced, senior and well-qualified manager to lead this review and will work with the FWS to bring in any expertise needed to accomplish the tasks.

The technical reference document will be no more than 150 pages (excluding appendices) and the letter report will be no more than 10 pages. If FWS direction/input results in exceeding these page limits, then a modification will be discussed. FWS will provide all photos needed and at least 90% of the references for the literature review as digital documents. FWS will also provide draft versions of any additional graphics, such as process maps. The Contractor will be responsible for finalizing these graphics.

Conflict of Interest: Experts will not have any financial or other interest that conflicts with or that could impair their objectivity.
In accordance with the agreement terms and Statement of Work, the Contractor is reminded of the requirements to protect information and that services shall consist of unbiased assessments through proper management and enforcement of scientific integrity standards, to include conflict of interests. This information is distributed solely for the purpose of pre-dissemination peer review under applicable information quality guidelines. It has not been formally disseminated by the FWS. It does not represent and should not be construed to represent any agency determination of policy. Until it is made public, no information from the technical reference document may be released by the Contractor without express written permission from the FWS.

4. Required Service (Work) Items - Task Line Item Numbers (TLIN): As described in the agreement’s Performance Work Statement the below TLINs are required in the performance of this requirement. The TLINs are different, but interrelated to the tasks listed in task/deliverable and payment schedule:
TLIN 001: Selecting for peer reviews or review panels, or for task orders to provide scientific support.
TLIN 002: Organizing, structuring, leading, and managing the scientific reviews and task order products.
TLIN 003: Managing and producing a final report/product.
TLIN 004: Responding to any follow-up questions from FWS on original review comments (not to exceed 10 consecutive days)
TLIN 005: Maintaining an official record for peer reviews or task orders.

5. Deliverables

There are no additional deliverables. However, the contractor will be required to respond to questions, inquiries, or other related requests after the contract expiration date, and final acceptance, as needed. These request(s) will be by the COR (in coordination with the Contracting Officer). Inquiries or requests are limited to the products provided, and work performed under this contract (order). Responses include, but not limited to: phone calls, written responses, and/or virtual meetings.

6. Task Schedule
The period of performance shall not exceed the contract expiration date without a contract modification. In accordance with the terms of the contract, the contractor shall notify the Contracting Officer of any delays. Delays by the Government or Contractor must be rectified by accelerating the next deliverable on a one to one basis (i.e., if the
delay was 2 days then the next deliverable must be submitted 2 days early). Deliverables that fall on a holiday or weekend must be delivered on the first work day after the weekend or holiday. The period of performance (contract expiration date) includes all possible holidays or weekend deliveries:

<table>
<thead>
<tr>
<th>TASK/DELIVERABLE</th>
<th>CALENDAR DAYS AFTER AWARD</th>
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<tbody>
<tr>
<td>Task 1: The Contractor will provide a Proposed Timeline and draft Table of Contents</td>
<td>21</td>
</tr>
<tr>
<td>Task 2: The Contractor shall provide summary spreadsheet of key information from literature review</td>
<td>90 (+ 69 days)</td>
</tr>
<tr>
<td>Task 3: The Contractor shall provide Draft Technical Reference Document, including draft letter report summarizing how peer review comments were addressed</td>
<td>150 (+ 60 days)</td>
</tr>
<tr>
<td>Task 4: The Contractor shall provide Final Technical Reference Document and final letter report (after addressing FWS comments)</td>
<td>180 (+ 30 days)</td>
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NOTE: Contractor may propose alternate timelines in their proposal for consideration if the above timelines are unrealistic or a shorter time is being proposed. If the Contractor’s proposed timelines are accepted then they will be incorporated into the resultant contract.

7. Official Administrative Record
The preparation of an official administrative record is required.

8. Information Sources
The Final Summary Report for the Technical Guidance can be found in the attached.

9. Payment Schedule: In accordance with and in addition to the agreement, the contract will submit invoices via the Internet Payment Platform (IPP) (see agreement). Invoices that do not coincide with a deliverable shall be submitted with a brief status report (not to exceed 1 page). The status report will detail the period of performance, the services performed during the period, key personnel involved, and percentage of the task(s) complete, if other than 100%. Partial payment for task(s) that are not 100% complete will be paid in an amount up to, but not to exceed, 65% of the task’s total cost. For instance, if the total cost of the project is $100.00, 100% of task 2 related cost would be $10.00. If task 2 is 75% complete, the invoice amount will not exceed 65% or $6.50.

The payment schedule is as follows:

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<tr>
<th>TASK/DELIVERABLE</th>
<th>% OF EFFORT &amp; PRICE</th>
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Task 1: The Contractor will provide a Proposed Timeline and draft Table of Contents 20

Task 2: The Contractor shall provide summary spreadsheet of key information from literature review. 10

Task 3: The Contractor shall provide Draft Technical Reference Document and draft letter report 50

Task 4: The Contractor shall provide Final Technical Reference Document and final letter report (after addressing FWS comments) 20

Total: 100

10. Points of Contact:

**Contracting Officer’s Representative (COR):** Melanie Steinkamp, who can be reached at 202-208-4923 or melanie_steinkamp@fws.gov

**Contracting Officer,** Mr. Steve Gess. Mr. Gess’s phone number is 303-236-4334 or email: steve_gess@fws.gov.

**Project Leader:** Mr. Seth Mott. Mr. Mott’s phone number is (703) 358-1969 or email: seth_mott@fws.gov

11. List of Enclosures/Attachments
None

12. **Required Proposal submission:** AMEC shall submit a detailed cost proposal, clearly identifying each element of work along with proposed hours and classification being proposed with hourly rate in accordance with the FWS Contract agreement. Proposal shall include a detailed narrative outlining your proposed project approach along with an explanation of each of the steps you propose your firm will take to successfully complete this Statement of Work as described herein.