

Introduction

The introduction to a BA should provide the following information:

- Name of the project proponent
- Clear identification of the federal nexus of the project
- Project purpose, need, and history, if relevant (not the same as the regulatory purpose and need statement required in NEPA documents)
- Location of project
- General project description.

The BA introduction should describe the rationale for preparing the BA in light of ESA requirements. Include the specific federal nexus for the project. The project purpose and need statement should provide a clear statement of purpose for the proposed project, as well as a brief description of proposed actions in relation to the needs discussed. (This is not the same as the NEPA purpose and need statement, which has stringent regulatory requirements and implications.) If the project is related to an ongoing series of projects or actions, provide a brief project history. This discussion is optional; however, it can provide reviewers with useful insight into the larger picture or context of the project.

Consultation activities with NOAA Fisheries and USFWS can be summarized in a paragraph that reviews early consultation efforts and submittal of species list requests to the federal Services. This provides readers of the BA with evidence that the required documents have been requested and received by the project biologist or action agency. If project representatives attended a pre-BA meeting, provide the date of the meeting and the names of the USFWS and NOAA biologists attending, so that the BA can be assigned to a reviewer who participated in the pre-BA meeting.

Project Location

The description of the project location should include information on the following topics:

- State route or interstate identification
- Milepost start and end of project
- County
- Township, section, and range
- Latitude and longitude
- Watershed in which project is located:
 - ❑ Water bodies in which work will occur
 - ❑ Water resource inventory area (WRIA) identification
 - ❑ Hydrologic unit code ([6th-field HUCs](#)).

Project Vicinity

The Project Vicinity section should provide reviewers with enough information to convey a clear understanding of the environmental surroundings and geographic area in which the project is situated, as well as activities that could influence, or have influenced, the project area over time. In this portion of the BA, related photographs can be particularly helpful for reviewers.

Additional information may be provided for the following topics:

Local topography and geomorphology

Predominant vegetation types

General habitat features

General development patterns in the vicinity of the project

Past and present uses of the lands surrounding the project area.

The discussion of habitat features present in the vicinity of the project can be general in nature. The habitat discussion should become more specific later in the document as environmental baseline conditions in the project action area are discussed. The discussion of habitat should be pertinent to the terrestrial or aquatic species addressed in the BA.

The project area should be defined in the [Project Vicinity](#) or Location sections. Project area refers to the geographic area contained within the limits of the proposed activities; it is the project footprint. A good description of the project area, as described in the [Biological Assessment Review Checklist](#), should provide a legal description of the project location (township, range, and section[s]). In addition, a vicinity map should visually identify the location of the project area; aerial photographs can also provide good contextual information.

General Project Description

The General Project Description section consists of a description of the proposed action, including project timeline and project footprint. This section should provide the reader with a clear picture of the proposed action, deconstructed into all of its elements, including specific construction techniques. The timeline subsection should provide an overview of the project timeline, with more specific timing information if in-water work is planned. The project footprint discussion should provide an overview of the extent of temporary and permanent disturbance associated with the project, including a summary of new impervious surface area that will be generated by the project. The methods, materials, and timing of each of the proposed project elements should be discussed in detail. The project biologist should incorporate into the project description section of the BA form all detailed project element [modules](#) that apply to the project.

In the [General Project Description](#) section, the discussion of construction activities should be general but should provide sufficient detail for a reviewer to clearly understand the project, all of its elements, and the general extent of potential impacts. A complete description is outlined in the [Biological Review Checklist](#).

Project Timeline

A detailed construction schedule should be provided illustrating the overall project timeframe as well as the sequencing or phasing of project elements or actions. If possible, it is preferable to include the specific dates or months during which construction will occur. Seasonal references are not sufficiently precise for the purposes of reviewers.

Often a BA is written before a project has been funded, advertised for contractor bids, or fully designed, in which case specific dates may not be available to the project biologist. In this situation, providing an example of how construction phasing and timing would occur is helpful for reviewers.

To allow for unforeseen complications or prohibitive weather conditions during project construction, the BA may stipulate more time for completion of construction activities than that estimated by project engineers. For example, a project biologist may add 10 percent contingency time to a project by extending the project end date. Or a few days may be added to the contract time (e.g., stipulating 260 rather than 240 days). Before making these revisions to the project schedule, the project biologist should check with the project manager to ensure that this contingency time is considered useful. Providing contingency time often ensures that the BA adequately addresses project activities in the event that the project is slightly delayed or behind schedule.

Project Footprint

The Project Footprint section should address the temporary and permanent disturbances or impacts associated with the proposed construction activities (construction methods, construction equipment, secondary project features, and major project elements). Impacts associated with vegetation removal, aquatic habitat disturbance, disturbance to other habitat types, and new impervious surface area should be specified in this section. This section should provide an account of each of the primary construction elements or project features proposed as part of the action. This description should be accompanied by plan drawings, as appropriate, to illustrate the locations and configuration of the project components and proposed activities. Project plans should be kept readable and simple, and may be included in this section or referenced in a BA appendix. Project elements should be listed in chronological order, if possible.

A list or description of the required site preparation and construction equipment should be provided for each impact or project element, if the equipment is capable of producing high noise levels or measurable impacts on listed species or habitats. For many projects the standard equipment list of bulldozers, dump trucks, etc., is suitable. However, some projects require special equipment, such as rock drills or spiders for in-water work, and these should be listed explicitly in the BA.

The locations of various secondary project features, including staging areas, waste sites, stockpile sites, and construction material source sites (e.g., rock quarries, or gravel pits developed specifically because of this project), if known, should be addressed in the BA to provide reviewers with a complete picture of the extent of the proposed project. These areas

are considered during the analysis of direct and indirect effects or are addressed as interrelated and interdependent activities or actions of the proposed project and may appreciably expand the action area of a project.

If needed, more detailed project description information or [BA Form modules](#) can be incorporated into the project description section. In the BA form, most major project elements, associated construction activities, methods, equipment, timing, and conservation measures are addressed in the modules incorporated into the project description section of the form. If no specific module is provided for the proposed project activities, the project biologist should use the modules provided as examples of the types of items to include in the BA.

Impact Avoidance and Minimization Measures

The BA should highlight the measures that have been taken to avoid or minimize project impacts. These may include design elements of the project, such as the construction of retaining walls to minimize impacts on streams, or use of steel piles or untreated wood piles to avoid contamination of aquatic habitats, in addition to conservation measures and BMPs. Descriptions of conservation measures and BMPs should be clearly worded and should describe specific actions to be implemented to eliminate or reduce adverse effects of the action in general. Because the Services cannot consult on recommendations, but only on project elements or methods that will actually occur, choose language such as *will* or *shall be implemented*, instead of *may*, *to the practicable extent possible*, *frequently*, etc. The following link provides more detailed information on [Impact Avoidance and Minimization Measures](#).

Specific project-related impacts on habitat features and species in the action area are assessed in the Effects Analysis section of the BA, where additional conservation measures for individual species may also be identified. A summary of construction-related and species-related conservation measures and BMPs should be provided near the end of the Effects Analysis section, before the Effect Determinations section of the BA.

While each construction technique may require specific conservation measures to avoid, minimize, or mitigate its potential impacts, project-related impacts may be reduced through careful planning, design, and timing. A project biologist can work with project designers and engineers throughout the entire design process, from pre-project planning to project implementation, to aid in identifying potential impacts and minimization measures.

For example, project biologists may be called upon to help identify sensitive species and habitats in the general vicinity of a proposed project prior to any design work, so that these issues will be considered and represented in any subsequent planning or project design. Similarly, a project biologist can help designers identify whether proposed project designs or methods would adversely affect a listed species or its habitat, and whether alternative designs would minimize those impacts or avoid the need for formal consultation. A project biologist can also help project managers identify whether timing restrictions are necessary for a

project, so that project timing and phasing can be planned appropriately to avoid or minimize impacts on listed species.

Useful information sources for determining whether habitat and species impacts can be avoided include the following:

- Habitat management plans for nest territories or [recovery plans](#) for listed species
- ESA highway runoff effects guidance (Stormwater)
- Definitions of [harm](#) and take under the ESA, as related to habitat and listed species
- ESA take avoidance plans for suitable habitat
- [Online Resources for BA Authors](#)
- [Wildlife sensitive periods](#) and [plant identification windows](#).

Examples of alternative construction methods that may be helpful include the following:

- Vibratory pile driving rather than hammer pile driving techniques
- Nonexplosive expansion materials rather than explosive materials
- Special equipment or techniques known to have lower or fewer impacts
- Noise shields to help contain the radius of sound impacts.

Many conservation measures or BMPs identified by project biologists within the BA may be consistent with WSDOT standard specifications and can easily be incorporated into contract documents. However, other conservation measures that are not standard specifications (e.g., timing restrictions) may be identified by a project biologist as necessary to minimize impacts on species; these measures must be coordinated with the project manager so that they can be incorporated into contract documents as special provisions (for more information, see [Impact Avoidance and Minimization Measures](#)).