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1. Introduction

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Natural resource management as we know it today is the result of a long evolutionary process influenced by changing public attitudes and legal mandates. The early history of this country portrayed an attitude of natural resource exploitation, with little regard for damages to the environment or losses to future generations of Americans. Fortunately, these attitudes toward natural resources in general, and to fish and wildlife in particular, have changed (Udall 1963; Trefethen 1975). Legislative actions have resulted from these changes, and in some instances, have been initiators of change (Bean 1978).

The purpose of this document is to describe the concepts behind, and the rationale in support of, a habitat-based impact assessment methodology currently available for use in certain aspects of fish and wildlife resource management. The document does not, however, conclude that habitat is the only basis for environmental assessments. Several assessment methods are discussed and compared to selected criteria in reaching the conclusion that a habitat approach is most appropriate within the current legal and institutional constraints on the USFWS. Other criteria can be used, and other equally valid arguments can be made in support of other approaches for impact assessment. This document does not specifically address non-habitat-based impact assessment methodologies such as the monetary and user-day approaches.

This document presents deductive reasoning in support of a habitat approach to impact assessment. It begins with a discussion of the legal mandates for impact assessments (101 ESM 2), progresses through a description of the ecological basis for impact assessments (101 ESM 3 and 4), and concludes (101 ESM 5) with the identification of an assessment technique which has evolved within the USFWS under the selective pressures of legal mandates and accepted ecological principles.