KEY FOR RANKING SPECIES ELEMENT OCCURRENCES
USING THE GENERIC APPROACH

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Introduction

The purpose of this key is to aid the user in assigning estimated viability ranks to Element Occurrences (EOs) by providing a step-by-step guide to applying the Generic EO Ranking Approach. The Occurrence Ranking Key (ORK) should be used for ranking occurrences *in conjunction with* the more comprehensive Generic EO Ranking Approach document ("Ranking Species Occurrences – A Generic Approach"), which includes definitions for the different EO ranks along with many ranking examples.

The generic EO ranking approach was developed to address the challenge of assigning ranks on the basis of minimal data, and encourages the use of combination ranks (specifically AB, AC, BC, or CD) to better represent the uncertainty of occurrence persistence. While the generic approach to ranking EOs is used for most species, specific criteria for assigning ranks have been developed for particular species or groups of species, and should be used instead of the generic approach when they exist. Before using the ORK for ranking occurrences, the user should *first* determine whether specific EO rank specifications exist for a species by reviewing either the EO Rank Specifications records in Biotics Tracker or the Population Viability section of a Comprehensive Report generated for the species using NatureServe Explorer.

Because EO ranks provide an assessment of the estimated viability (likelihood of persistence for the foreseeable future [i.e., at least 20-30 years] in the present condition or better) of occurrences based on current status information, future potential threats to an EO *should not* be used to raise or lower its rank. However, ongoing events (e.g., successional changes, favorable or unfavorable management) that are resulting in the improvement or decline of occurrence quality *should* be considered in assigning a rank. Occurrences that cannot be ranked A (excellent viability) through D (poor viability) or some combination rank may be assigned an E (verified extant), H (historical), F (failed to find), X (extirpated), U (unrankable), or NR (not ranked) value, as appropriate. Definitions of these ranks are provided in the Generic EO Ranking Approach document. The rationale for each rank assigned should be documented in an EO Rank Comments field.

To help ensure consistency in ranking among NatureServe member programs, users of the ORK should review the ranking examples in the Generic EO Ranking Approach document and familiarize themselves with EOs that have already been ranked using the ORK. This latter information can be obtained by utilizing the NatureServe Access Rangewide EO Service located at: https://services.natureserve.org/idd/applications/ which provides member program staff with the ability to view non-locational species occurrence data. Ideally, accuracy and consistency in EO ranks would be achieved by assessing EOs in workshops that include both persons with knowledge of the occurrences to be assessed and staff familiar with the generic EO ranking approach. However, when assessing occurrences in a workshop setting is not feasible, use of the ORK may help foster consistency in assigning species EO ranks across member programs.

OCCURRENCE RANKING KEY FOR APPLYING THE GENERIC APPROACH

1 **a**. No attempt has been made to assess the viability of the EO, or the existing EO rank no longer applies. → **NR: Not Ranked**

   b. An attempt has been made, or is being made, to assess the viability of the EO. **2**

2 **a**. EO has been recently (i.e., within last 20 years or an appropriate interval for the taxon) verified as extant. **3**

   b. EO has not been recently (i.e., within last 20 years or an appropriate interval for the taxon) verified as extant. **9**

3 **a**. Sufficient information (some aspect[s] of size, condition, and/or landscape context) is not available to assess EO viability. [*Note:* In this case, use an **E** rank rather than the **AD** or **BD** combination ranks]. → **E: Verified Extant**

   b. Sufficient information (some aspect[s] of size, condition, and/or landscape context) is available to assess EO viability. **4**

4 **a**. If current conditions prevail, EO persistence for the foreseeable future (i.e., at least 20-30 years) is reasonably certain. EOs with low or declining quality may be included if they still appear to have reasonable prospects for persistence for the foreseeable future. In addition, EOs that may persist for the foreseeable future with appropriate protection or management may be included if that management or protection is currently ongoing. → **AC: Excellent to Fair viability**
continue to 5 if rank may be further refined

   b. If current conditions prevail, EO persistence for the foreseeable future (i.e., at least 20-30 years) is uncertain because of small population size or area of occupancy, deteriorated habitat, poor conditions for reproduction, ongoing inappropriate management that is unlikely to change, or other factors. → **CD: Fair to Poor viability**
continue to 6 if rank may be further refined

5 **a**. Some aspect(s) of size, condition, landscape context, population size and/or quality and quantity of occupied habitat are optimal, exceptional, or highly favorable. EO is expected to persist in its current condition or better. EO has highly favorable and higher-quality characteristics. → **AB: Excellent to Good viability**
continue to 7 if rank may be further refined

   b. Some aspect(s) of size, condition, landscape context, population size and/or quality and quantity of occupied habitat are not optimal or exceptional. EO may or may not persist in its current condition or better. EO has favorable to lower-quality characteristics. → **BC: Good to Fair viability**
continue to 8 if rank may be further refined

6 **a**. EO has some risk of extirpation in the foreseeable future (i.e., at least 20-30 years) but restoration is deemed feasible and plausible, or stochastic events that would extirpate the population are of low probability within 20-30 years. → **CD: Fair to Poor viability**

   b. EO has a high risk of extirpation in the foreseeable future (i.e., at least 20-30 years). Restoration is not feasible and/or not plausible. Stochastic events that would extirpate the population are expected to occur within 20-30 years. → **D: Poor viability**

7 a. Most aspects of size, condition, landscape context, population size and/or quality and quantity of occupied habitat are optimal or exceptionally favorable. EO is very likely to persist for the foreseeable future (i.e., at least 20-30 years). These EOs have characteristics that make them relatively invulnerable to extirpation or sustained population declines even if they have declined somewhat relative to historical levels. If population size is unknown, area of occupied habitat is exceptionally favorable; or the EO has excellent condition and landscape context and a long history of persistence. In most cases these EOs occupy natural habitats; however, EOs somewhat modified by human actions may still be included if they otherwise meet the criteria. ➔ **A: Excellent viability**

b. Some aspect(s) of size, condition, landscape context, population size and/or quality and quantity of occupied habitat are favorable. EO is likely to persist for the foreseeable future (i.e., at least 20-30 years) in its current condition or better. This category includes EOs that contribute importantly to maintaining or improving the conservation status of declining or threatened species but do not meet **A** criteria. ➔ **B: Good viability**

8 a. Some aspect(s) of size, condition, landscape context, population size and/or quality and quantity of occupied habitat are favorable. EO is likely to persist for the foreseeable future (i.e., at least 20-30 years) in its current condition or better. This category includes EOs that contribute importantly to maintaining or improving the conservation status of declining or threatened species but do not meet **A** criteria. ➔ **B: Good viability**

b. Few aspect(s) of size, condition, landscape context, population size and/or quality and quantity of occupied habitat are favorable. There may be some uncertainty about the long-term persistence of the EO (i.e., for at least 20-30 years), or the EO may be expected to persist but not necessarily maintain its current quality. ➔ **C: Fair viability**

9 a. Appropriate surveys or other persuasive evidence indicate the EO no longer exists. ➔ **X: Extirpated**

b. EO may still exist. **10**

10 a. An appropriate survey was conducted but the EO was not found. **11**

b. No appropriate survey has been conducted but the EO is possibly extirpated due to a known major disturbance or general habitat loss/degradation, or the existence of the EO has not been reconfirmed for 40 or more years. This category includes EOs based on old information that cannot be surveyed because of access issues as well as EOs with locational information too imprecise to reconfirm. [*Note:* With very few exceptions, occurrences are to be regarded as **H** after 40 years without confirmation, even with no effort to locate the taxon. Exceptions can be found in the Generic EO Ranking Approach document]. ➔ **H: Historical**

11 a. One to a few surveys have been conducted which failed to locate the EO, but additional negative survey(s) are needed to provide sufficient evidence that the EO should be considered historical or extirpated. ➔ **F: Failed to find**

b. There have been sufficient surveys to justify considering the EO possibly extirpated. This category includes EOs that have not been reconfirmed for 20 or more years (or an appropriate interval for the taxon). [*Note:* With very few exceptions, occurrences are to be regarded as **H** after 40 years without confirmation, even with no effort to locate the taxon. Exceptions can be found in the Generic EO Ranking Approach document]. ➔ **H: Historical**

Note: In rare situations where there is a lack of sufficient information to rank an EO using the key above, the occurrence may be ranked **U: Unrankable**. However, use of this rank is discouraged. EOs with unknown viability should be ranked **H**, **F**, or **NR**, unless confirmed extant in which case the EO should be ranked **E**.