
6 EO TRACKING

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6.1 Purpose of EO Tracking

Element tracking and Element Occurrence (EO) tracking are closely related but distinct concepts. **ELEMENT LISTS** are compiled at global, national, and subnational levels to define the universe of Elements present in the jurisdiction. These lists may be complete (comprehensive) or partial (ad hoc), depending on the knowledge of that group. Comprehensive lists for a given group are comprised of all the Elements present in a jurisdiction (including demonstrably secure species, exotic species, and semi-natural community types), while ad hoc lists for a group tend to include only Elements of documented or probable conservation concern. See Appendix E for more detailed discussion of Element tracking.

An **EO TRACKING LIST** (also known as an Element Inventory List) is a subset of an Element List. EO Tracking Lists are compiled at national and subnational levels to define the set of Elements that are of sufficient conservation concern to warrant the accumulation and maintenance of detailed locational and status data (*i.e.*, EO records) on some or all occurrences. Element Occurrences tracked by Natural Heritage Programs and Conservation Data Centers serve as the foundation for environmental review, conservation planning, and conservation action, including land management. Thus, the purpose of EO tracking is to ensure that locational information is gathered for Element Occurrences having the greatest conservation significance. While decisions on which EOs to track should be based primarily on status and biogeographic considerations, political or jurisdictional considerations also need to be addressed. Guidelines for determining which EOs are meaningful from a conservation perspective, and thus should be tracked, are provided in this section.

The selection of which occurrences to track is, in essence, a decision about potential conservation targets in a particular jurisdiction. Selecting which occurrences to track is a three-step process. First, Elements present in a specific jurisdiction are compiled into an Element List (see Appendix E2, Element Lists). Second, Elements on the Element List for which occurrences will be inventoried are compiled into an EO Tracking List. Third, a distinction is made between those Elements on the EO Tracking List for which *all* occurrences will be tracked, and those for which only *selected* occurrences will be tracked. Decisions about which Elements are tracked, which occurrences of those Elements are tracked (see Section 6.3, Summary Guidelines for EO Tracking), and how the EOs are ranked and prioritized within a jurisdiction are fundamental for effective conservation. Conservation planning at various scales relies on the EO Tracking List and inventory results to determine conservation targets.

Although conservation decisions might ideally be based on comprehensive data on all Elements, practical considerations dictate that data is collected on only a selected set of Elements. Gathering data on EOs and maintaining this data in a database is expensive. Implicit in the concept of tracking occurrences is the need to maintain some degree of currency of the data for tracked

occurrences, since only up-to-date information is of direct conservation application.³¹ If the information about an occurrence is not regularly reassessed through field work or remote sensing, the data becomes stale and its use limited, especially for conservation planning and environmental review. However, information on former locations of EOs, or locations of uncertain status, are still useful for planning inventory work and environmental review. Tracking occurrences that are not priorities for conservation takes time and resources away from maintaining current data on occurrences that are most critical to conservation planning and action. Conversely, failure to track occurrences for Elements in need of conservation attention precludes their consideration in conservation decisions.

A **WATCH LIST** should be used for Elements of some current or potential conservation concern for which occurrences are not currently tracked. Watch List status is commonly assigned on the basis of lesser conservation concern than Elements that are EO tracked. Other reasons for assigning Elements to a Watch List include uncertainty about status (*e.g.*, taxonomic distinctness, uncertain Element rank, native status), and concerns related to threats or declining trends for Elements that are currently relatively secure. Additionally, Watch List status may be used for Elements for which EO tracking has been deferred due to limited program resources.

For Watch List Elements, maintaining at least minimal information on specific locations is desirable. Watch List status for Elements may involve the maintenance of an observations file, consisting minimally of a log sheet and/or completed field forms. Watch List status can provide more complete information for ranking and rangewide assessments, since it provides information from parts of the range that might not otherwise be represented with any data. However, the general absence of centralized electronic and mapped information on Watch List Elements in the EO database, and in any regional/national databases compiled or derived from that database, makes it difficult to access and use this information for either ranking or conservation planning. Use of the proposed observations database for Watch List species may allow better flexibility for data maintenance, transfer, and access than the use of manual observations files alone.

Resource limitations necessitate a selective approach to determining which Elements (and which occurrences of those Elements) to include on an EO Tracking List. Despite this limitation, excellent decisions on conservation priorities can be made on the basis of selective, carefully maintained, and cost-effective EO Tracking Lists.

6.2 Conceptual Process for Developing or Modifying an EO Tracking List

The current paradigm (employed by The Nature Conservancy and the Heritage Network) in conservation site selection is that the most efficient and effective way to attempt to conserve native biodiversity is to target all viable, native communities and all viable, vulnerable, native species. Vulnerable species are those that have a heritage global rank of G1, G2, G3, or GH (or T1, T2, T3, or TH). (See Appendix E3.2, Element Ranking Definitions.) This approach, sometimes called a “coarse filter/fine filter” approach to conservation site selection, is utilized to ensure that a broad, practical, and well-balanced representation of the biological diversity in an ecoregion or jurisdiction is protected. Communities may be viewed as a coarse filter; identification

³¹The frequency of update of EO records depends on resource availability, but might ideally be related to both the global rank of the Element and the likelihood that the status of the EO has changed (*e.g.*, as a result of anthropogenic impact).

and protection of the best examples of *all* types of communities (*i.e.*, terrestrial, subterranean, freshwater, marine), regardless of vulnerability, will ensure that most species and ecological processes are conserved. However, some species that are imperiled or vulnerable “fall through” the coarse filter – due to their rarity, they are not reliably found in the habitats or communities where they might be expected for natural diversity; thus, a “fine filter” comprised of these species is needed. Targeting fine filter Elements for conservation along with communities ensures that a broad spectrum of biodiversity, including the imperiled and vulnerable Elements, will be preserved. Thus, minimally all G1, G2, G3, and GH (and T1, T2, T3, and TH) species, and all communities should be included in an EO Tracking List, although not necessarily all occurrences of these Elements will be tracked (see Section 6.2.2, EO Rank).

Additionally, it may be desirable (or legally or politically necessary [see Section 6.2.5.1, Political Jurisdictions]) on the basis of ecological and/or jurisdictional considerations to track additional species with lower (*i.e.*, G4 or G5) global ranks. These might include taxa that are disjunct to the ecoregion or jurisdiction, or taxa that are officially listed in the jurisdiction, or taxa that are imperiled, vulnerable, or otherwise of concern within the jurisdiction.

Therefore, to ensure that data collected and recorded will provide the best possible basis for conservation action, EO Tracking Lists should be developed and regularly re-evaluated on the basis of the following:

- a) global Element rank;
- b) global and regional threats and trends;
- c) national or subnational Element rank;
- d) EO rank (*i.e.*, spread and number of occurrences of an Element);
- e) changes to the Element list (including additions);
- f) taxonomic distinctness;
- g) questionable origin of the taxon;
- h) jurisdictional context; and
- i) biogeographic context (including significant disjunction).

An Element belongs on the EO Tracking List when further attention to that Element (*i.e.*, tracking occurrences) would be beneficial to the goal of conserving natural diversity. Whether an Element is included on a national or subnational EO Tracking List is indicated in the EO tracking fields in the Element files through the use of “A” = “all extant”, “P” = “partial”³², “N” = “no”, or “W” = “Watch List”.

Generally, species that are globally historical, critically imperiled, imperiled, or vulnerable are included on the EO Tracking List (indicated by “A” in EO tracking fields). However, in some situations it may be useful to track only selected occurrences of an Element within a jurisdiction

³² Partial tracking of EOs is a relatively new concept, and thus not included in the previous standard documented in the Natural Heritage Program Model Operations Manual (The Nature Conservancy 1988).

(indicated by “P” in EO tracking fields). Below are four potential reasons for the partial tracking of EOs:

- a) tracking occurrences having specific EO ranks (see Section 6.2.2, EO Rank);
- b) tracking disjunct occurrences (see Section 6.2.6, Biogeographic Context);
- c) tracking occurrences only in selected geographic areas, such as watersheds, ecoregions, or other biogeographic units (see Section 6.2.6, Biogeographic Context); and
- d) tracking occurrences only on selected sites determined by present or prospective conservation status (see Section 6.2.5.2, Sites and Managed Areas).

It is important to distinguish between Elements for which all extant occurrences are tracked (indicated by “A” in EO tracking fields), and those Elements for which certain extant occurrences are tracked, depending on whether their EO rank and/or location meet specific criteria (indicated by “P” in EO tracking fields). Although partial tracking on the basis of EO rank is not a new concept (it has been the rule for communities), decisions on which occurrences to track have rarely been well documented. In situations where EOs are partially tracked on the basis of EO rank or location, information on which EOs are tracked and the reasons for this should also be recorded in a tracking comment field in the Element file. In either situation (*i.e.*, EO tracking = “A” or “P”), it is useful to record information on whether “H” and “F”-ranked EOs are also tracked.

6.2.1 Element Ranks and Status

Element ranks should be used as one of the principal factors for determining which Elements should be added to the EO Tracking List. Global ranks (GRANKs, including infraspecific taxon ranks [“T” ranks]) provide information on the relative risk of extinction of an Element, based on a five-point hierarchical scale. At a jurisdictional level, national and subnational Element ranks (NRANKs and SRANKs, respectively) provide information on the relative risk of extirpation within a jurisdiction. Each of these Element ranks may be modified by qualifiers or incorporated in ranges reflecting more detailed information on the status of the Element. To facilitate interpretation, ranks may be rounded to the five-point scale. (See Appendix E3, Element Ranking for a summary of rules on assigning Element ranks and rounded ranks.)

The following three sections may refer to Elements with rounded global ranks (or the equivalent rounded global infraspecific taxon ranks).

6.2.1.1 G1, G2, and GH Elements

Elements that are imperiled throughout their range have global ranks of G1, G2, or GH. Many G1 and G2 Elements have obvious and active threats that contribute to their global rank. However, even if the threats are not overt or currently active, G1 and G2 Elements are considered intrinsically vulnerable because of their existence in low numbers or at few locations. Because GH Elements may still be extant, they should be treated similarly to G1 and G2 Elements.

Because of their vulnerability to extinction, all G1 and G2 Elements are considered conservation targets. If rediscovered, GH Elements are also considered conservation targets. Thus, G1, G2, and GH Elements should always be included on an EO Tracking List (unless extirpated from the jurisdiction, not native to the jurisdiction, or highly questionable taxonomically).

6.2.1.2 G4 and G5 Elements

At the other end of the global rank spectrum, Elements ranked G4 and G5 are generally considered to be widespread, abundant, and at least apparently secure. They are rarely subjected to serious threats throughout their range; if such Elements are determined to be seriously threatened rangewide, their global rank should be changed to G3. However, most G4 and G5 Elements are threatened and/or vulnerable somewhere in their range. Decisions on tracking occurrences of G4 and G5 species should be based on biogeographic context, as well as on local jurisdictional considerations (see Section 6.2.6, Biogeographic Context, and Section 6.2.5, Jurisdictional Context).

In contrast, G4 and G5 communities should always be included on an EO Tracking List. In jurisdictions where they are most widespread or abundant (*e.g.*, matrix communities), emphasis should be placed on tracking the highest quality examples (*i.e.*, those with the highest EO ranks). (See Section 6.2.2, EO Rank.)

6.2.1.3 G3 Elements

At the middle of the global ranking scale, G3 Elements are generally considered to be vulnerable to extinction. Although not imperiled rangewide, G3 Elements are typically important conservation targets.

In general, G3 Elements should be included on EO Tracking Lists. However, tracking all EOs for G3 Elements often requires a large amount of resources, especially in those regions having high biodiversity. In situations where it is currently not practical to track all the occurrences of G3 Elements, decisions about which EOs to track will require careful analysis. Higher quality EOs should be tracked for most, if not all, G3 Elements (see Section 6.2.2, EO Rank). In addition, consideration should be given to tracking all occurrences of G3 Elements considered to be of higher conservation concern due to relatively greater vulnerability or various other factors, including disjunct distribution or legal status.

6.2.1.4 Threats and Trends

Elements that are too common and widespread to require inventory and conservation protection should not be included on the EO Tracking List (indicated by “N” in the EO tracking fields of the Element file). However, judgment will often have to be used in borderline cases (*e.g.*, G4 Elements with significant downward trends or increasing threats). Such Elements should be placed on a Watch List (indicated by “W” in EO tracking fields) and periodically reviewed for evidence of changes in status. This will make additional resources available for inventory and monitoring of more threatened, higher-priority Elements.

Decisions on whether to track occurrences of G3 and G4 Elements that are threatened by epidemic disease or exotic pest infestations are difficult to make. Because the threat is evident but unrelated to land conservation, locational data on occurrences generally cannot be used as a basis for effective conservation action. In most cases, tracking of EOs is not recommended; however, partial tracking of very high quality or relatively healthy occurrences should be considered.

Alternatively, information on the location of relatively healthy populations could be maintained in an observations database or manual file.

Example:

- *Juglans cinerea* (butternut or white walnut) is threatened throughout its extensive distribution in eastern North America by a fatal canker disease, apparently introduced from abroad. In some states and provinces, the number of historical (and even current) locations for *J. cinerea* may be in the hundreds. Comprehensive EO data is unlikely to aid in the conservation of this species, although recording locations of large or apparently healthy populations (*i.e.*, “A”-ranked occurrences) might be of use to researchers. Information on other populations could be recorded in an observations database or manual file.

6.2.2 EO Rank

EO rank is a useful and desirable filter on which to base decisions about which EOs to track. Because communities blanket the landscape, it has long been the desired practice to only track the most viable occurrences of common (*e.g.*, G4 and G5) communities.

In contrast, selective EO tracking on the basis of EO rank has not been generally practiced for species. As a result, occurrences of many vulnerable (*e.g.*, G3) species are not tracked in high biodiversity jurisdictions where the species may be most abundant and protectable. While the coarse filter approach of conservation of communities may protect many of these vulnerable species, specific information on all, or at least the most viable, occurrences of vulnerable species is of great value in conservation planning.

It may not be practical, particularly in regions having high biodiversity, to attempt to track (and keep data current for) all occurrences of all species on an EO Tracking List, especially species that are not imperiled (*i.e.*, not G1, G2, or GH) and may, therefore, have many EOs. For vulnerable (G3) species, minimally all “A”-ranked occurrences should be tracked, and it is strongly recommended that all “B”, “C”, and “E”-ranked occurrences be tracked as well. If resources do not permit tracking of these occurrences for a G3 species in a jurisdiction, the decision about which EOs to track for a species should ideally be made in a biogeographic context. For example, in order to support ecoregional planning, the tracking of “A”-ranked occurrences of a particular Element in any portions of jurisdictions within that ecoregion would ensure that the most viable EOs are identified for conservation purposes.

Partially tracking occurrences on the basis of EO rank is particularly useful for more common Elements, especially for G3, G4, and G5 communities, and for G3 species. Tracking the best EOs (*i.e.*, occurrences having a high EO rank) of common communities and G3 species can overcome the bias and lack of depth of a conservation portfolio based on only imperiled Elements, and will result in a more complete representation of biodiversity.

In general, if “A”, “B”, and “C”-ranked occurrences of a species are tracked, then “E”-ranked occurrences of that species are recommended for tracking since many of these occurrences will be ranked “C” or higher when further information is obtained. Occurrences ranked “D”, “H”, and “F” usually have lower priority for tracking than “A”, “B”, and “C”-ranked occurrences.

It is generally not advisable to spend limited resources tracking “X”-ranked EOs, especially where the habitat is destroyed. Knowledge of these occurrences will typically be very incomplete, and resources are better spent increasing the depth and/or currency of data on extant, or possibly extant, EOs for which conservation actions are possible. However, maintaining information on “X”-ranked occurrences of extant Elements in manual or electronic files may be valuable in documenting the decline and former extent of the Element. In those situations where information is more complete, storing such information in electronic files may be preferable. Information on extirpated occurrences provides evidence of locations where the Element formerly existed, which may be valuable in guiding inventory and recovery efforts, and in environmental review.

Partial tracking of occurrences on the basis of EO rank can create complexities and difficulties, in comparison to the simplicity of an “all or nothing” approach to the tracking of Elements. Partial EO tracking puts a premium on the existence of EO rank specifications, and on the relatively consistent application of those specifications by individuals and programs. Partial tracking of occurrences may mean that global, national, and subnational Element ranks cannot be based strictly on the number of occurrences of an Element in the database; however, this is currently rarely possible. Furthermore, partial EO tracking may mean that an EO Tracking List requires additional information on precisely which occurrences of an Element should be tracked (*e.g.*, all viable occurrences of the Element should be recorded). All of these potential difficulties and complexities are minor compared to the alternative: the absence of data on critically important, priority occurrences of conservation targets.

6.2.3 Discoveries and Taxonomic Changes

In order to best preserve the existing biodiversity in a jurisdiction, the EO Tracking List should be regularly evaluated and changes made to reflect advances in knowledge and increased understanding of biodiversity. For example, additions and other changes to the Element List, and revisions to Element ranks, should be evaluated for their impact on the EO Tracking List.

6.2.4 Questionable Taxonomy and Origin

6.2.4.1 Questionable Taxonomy

In general, decisions on whether to include Elements considered to be questionably taxonomically distinct³³ on an EO Tracking List should be based on the same criteria (*e.g.*, global rank, EO rank, and biogeographic factors) as for any clearly distinct Element. If there is a reasonable expectation that such an Element may be taxonomically valid, it is preferable to track its occurrences because the potential irreparable loss of a taxonomically valid Element outweighs the costs incurred in data management. However, if the taxonomy is highly questionable, with little expectation that the Element may be taxonomically valid, it may be appropriate to place it on a Watch List (*e.g.*, apomictic microspecies sometimes recognized in the plant genus *Rubus*).

³³ Uncertainty concerning the taxonomic classification of a particular Element is reflected in the taxonomic status (for species) or confidence (for communities) fields in the Element files (not necessarily by the assignment of a “Q” qualifier to the global rank). See Appendix E2.2.8, Questionably Distinct Elements.

6.2.4.2 Questionable Origin

It is sometimes difficult to determine whether a species is native to a particular jurisdiction or biogeographic region. For plant species in particular, determination of origin status may be very ambiguous. In general, such species have weedy or opportunistic capabilities, and are globally ranked G4 or G5.

Occurrences of species that are not native (*i.e.*, are introduced) should not be tracked unless the Element is globally critically imperiled and the occurrence is critical to the survival of the species (see Section 5.2.3, Origin Status Subranks). For Elements of questionable origin, decisions about which occurrences to track should be informed by multi-jurisdictional or biogeographic considerations; this will help ensure consistency in EO tracking among the jurisdictions within the Element's range.

6.2.5 Jurisdictional Context

6.2.5.1 Political Jurisdictions

Natural Heritage Programs and Conservation Data Centers often have missions that involve the conservation of Elements of biodiversity within their jurisdictions. Programs working under the mandate of national or subnational government may be required to track occurrences for all species that are at risk in a given jurisdiction, typically occurrences of species that are ranked S1 or S2.

Additionally, there are legitimate biological arguments for tracking occurrences of some species that are imperiled in a given jurisdiction (NH, N1, or N2; or SH, S1, or S2) but secure globally (G4 or G5). Tracking and maintaining currency for such EOs will inevitably compete for resources that could be directed towards tracking occurrences of globally imperiled and/or vulnerable (GH, G1, G2, or G3) species. However, there may be value in tracking occurrences of G4 or G5 species that are locally at risk (NH, N1, or N2; or SH, S1, or S2) on the basis of the known or hypothesized genetic distinctness of peripheral populations. It has also been argued that species should be conserved before they collapse to a small portion of their original range.

Because a limited jurisdictional perspective of a species' rarity may be misleading, the best conservation decisions should be based on broader analyses of biodiversity needs. Consequently, decisions on whether to include species that are globally secure (G4 or G5) and locally imperiled (NH, N1, or N2; or SH, S1, or S2) on an EO Tracking List are better made from a regional or rangewide perspective (see Section 6.2.6, Biogeographic Context).

Example:

- *Polymnia canadensis* (white-flower leafcup) is abundant (S5) in Tennessee, primarily on calcareous substrates. In immediately adjacent North Carolina, *P. canadensis* is more imperiled (S2), with few occurrences. Thus, this species might be described as "trivially rare" in North Carolina, and EOs should not be a priority for tracking in that state, where it has no legal status. Resources spent tracking occurrences of this species would be better spent maintaining currency on species that are globally at risk and exemplary communities.

6.2.5.2 Sites and Managed Areas

In some cases it may be necessary to track occurrences of particular Elements on selected Sites or Managed Areas without tracking occurrences of those Elements in the remainder of the jurisdiction. Tracking EOs on Sites or Managed Areas exclusively (indicated by “P” in EO tracking fields) may be appropriate for certain research and/or contract-related projects.

6.2.6 Biogeographic Context

Decisions regarding the EO tracking of G3, G4, and G5 species (or T3, T4, and T5 infraspecific taxa) should be informed by biogeographic context. The rangewide distribution and status of the Element provides an important perspective on the conservation significance of occurrences of the Element in that jurisdiction, for example when disjunction is involved. There are various large geographic units (*e.g.*, physiographic provinces, ecoregions, major watersheds, floristic regions) that can provide a perspective on biogeographic context independent of jurisdictional boundaries.

For many Elements, taxonomy or classification will effectively account for disjuncts through the recognition of genetically distinct plant or animal populations, or geographically distinct community associations. However, this is not always the case, especially for plant and animal populations. Disjunction should be an important consideration in tracking occurrences of G4 and G5 species. This is particularly true for plants, which often have relict fragmented distributions; the disjunct portions of the range often represent populations distinct in biogeographic history and possibly genetics.³⁴

EOs that represent peripheral populations of G4 and G5 species are generally not considered to be of great conservation importance in jurisdictions where they are rare, unless they are geographically disjunct. Tracking decisions related to such occurrences should not be affected by the hypothetical shifting of political boundaries.

Example:

- *Trichophorum cespitosum* (*Scirpus cespitosus*), an G5 sedge abundant in arctic regions of the northern hemisphere, extends south in eastern North America to scattered populations on alpine summits and in fens located in northern New York (in the Northern Appalachian Ecoregion). It then reappears as disjunct populations on about a dozen sites in the Southern Blue Ridge Ecoregion, specifically in western North Carolina (S2), eastern Tennessee (S1), and northeastern Georgia (S1). Rangewide or ecoregional analysis would suggest that conservation of these relict southern populations is important, and that all three states in the Southern Blue Ridge Ecoregion should track occurrences of this species.

³⁴ Ecological distinctiveness of an occurrence may have similar significance to geographic disjunction (*e.g.*, a rare instance of a lowland plant occurring at a high elevation in the same geographic area, or a plant commonly found on limestone that has a single occurrence on acidic sandstone).

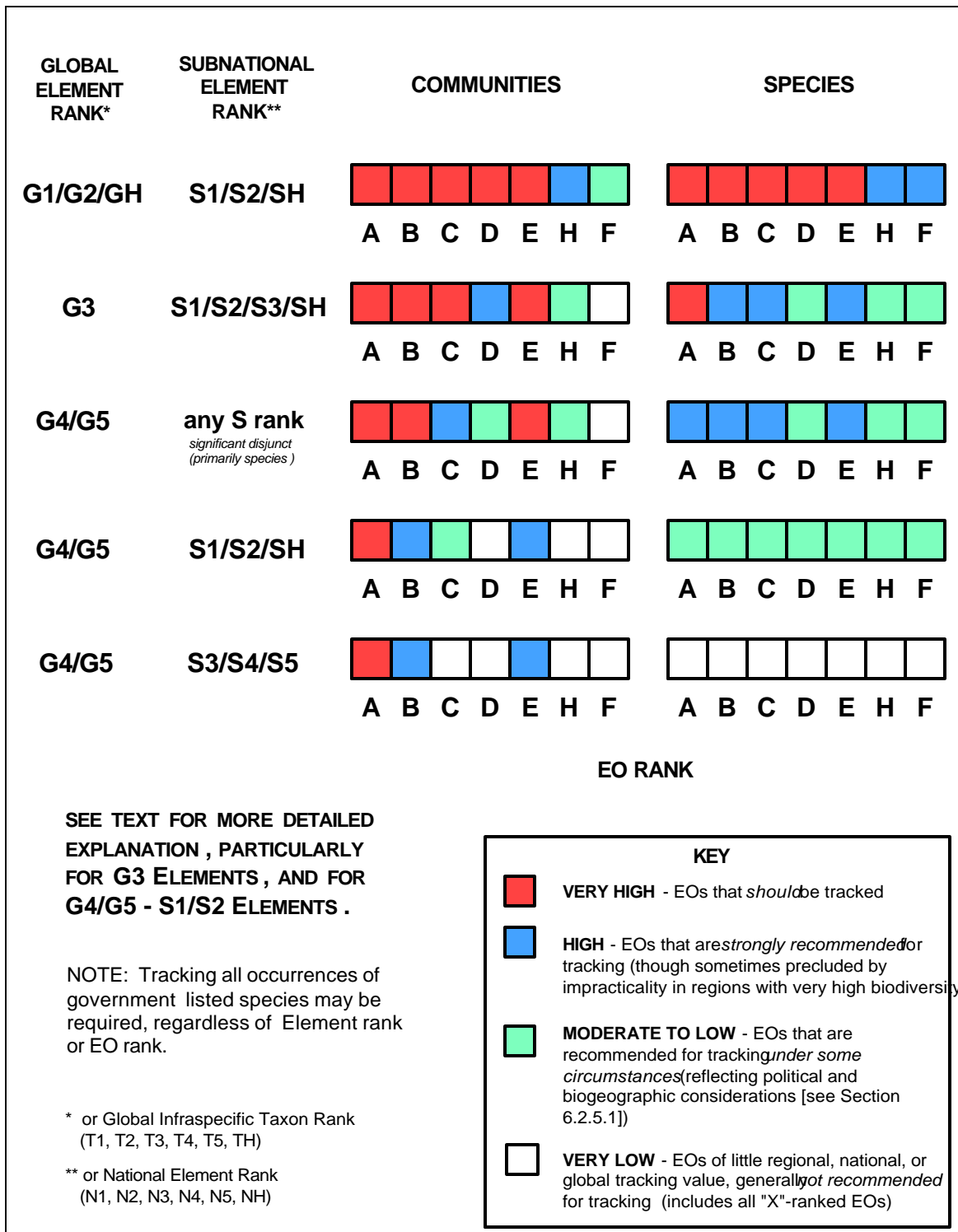
6.3 Summary Guidelines for EO Tracking

6.3.1 EO Tracking Decisions

Inclusion of an Element on an EO Tracking List indicates that occurrences of that Element should be inventoried. However, in many cases it is not practical (or even possible) to track *all* the occurrences of a given Element within a particular jurisdiction or biogeographic region. Decisions on partial tracking of occurrences are ideally based on multiple factors, including global and subnational ranks, EO rank, decline, and biogeographic distribution.

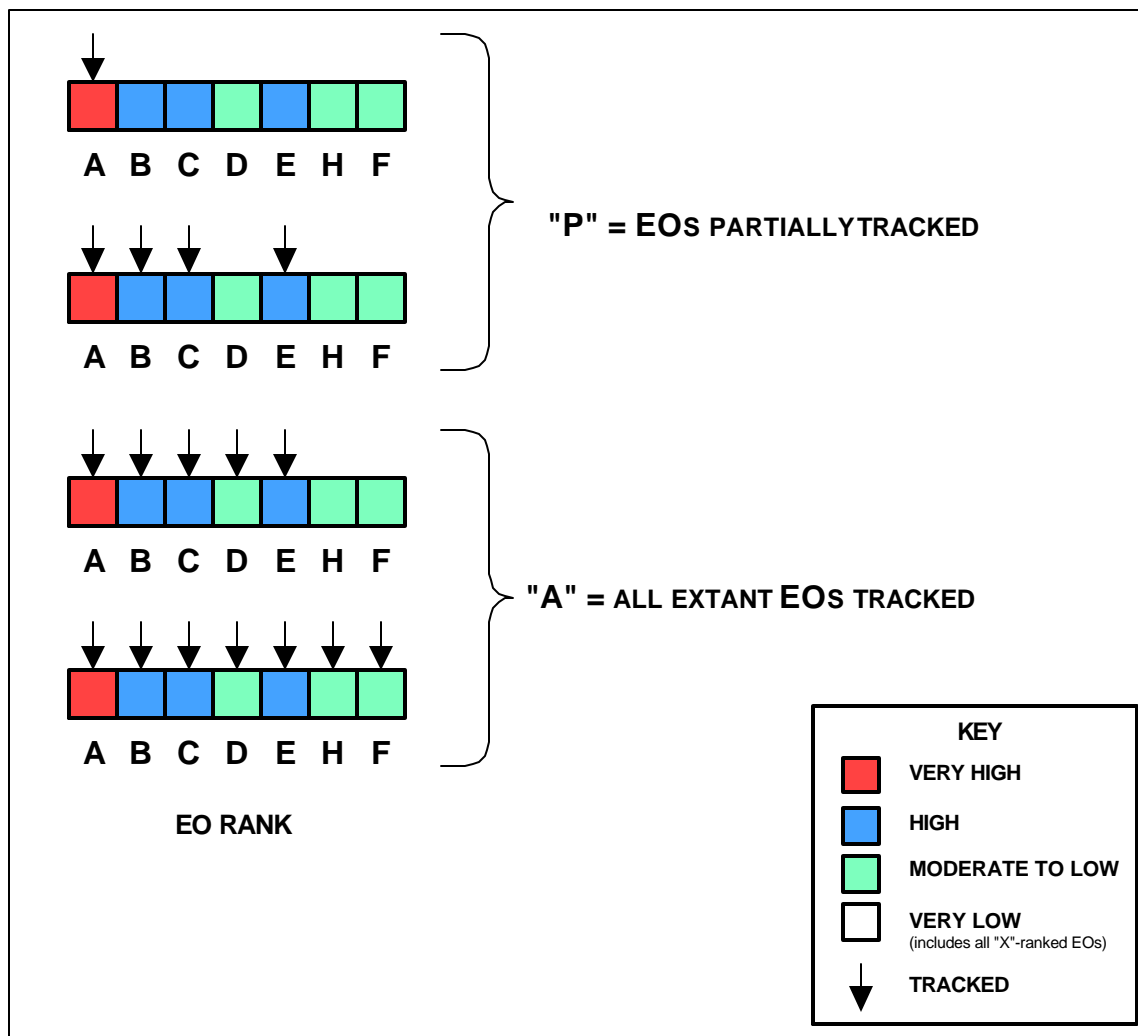
An illustration of the summary guidelines for making EO tracking decisions is provided in Figure 6.1. These guidelines are primarily intended for making decisions related to processing data on new occurrences. (Decisions on the retention, archiving, or deletion of existing EO records may differ from these guidelines depending on the potential value of the records, database use and maintenance issues, and other factors.) While the EO tracking guidelines are intended for global use, it should be noted that decisions on tracking occurrences will frequently be made at the national or subnational level on the basis of the specific political, financial, and biological concerns of that jurisdiction. Whenever possible, the rangewide distribution of occurrences should be considered when making decisions on EO tracking; this will help to ensure conservation of disjunct occurrences and the most viable occurrences within various jurisdictions or biogeographic areas.

Figure 6.1 - Summary Guidelines for EO Tracking



In addition to Element factors (*e.g.*, ranks, threats, decline) and EO rank, decisions on partial tracking of occurrences of a particular Element are also influenced by the abundance of biodiversity existing in the jurisdiction. For example, when tracking a G3 S1 species, a jurisdiction having low biodiversity may track all occurrences known to be extant, or possibly all but the extirpated occurrences; in contrast, a jurisdiction having high biodiversity may only have the ability to track a subset of the viable occurrences of the species (shown in Figure 6.2). Thus, in some cases EO tracking decisions will be more strongly influenced by the biodiversity existing within a jurisdiction rather than on other more global factors.

Figure 6.2 - Example of Partial EO Tracking of a G3 S1 Species



6.3.2 Communities

According to the EO tracking guidelines, at least some occurrences of all natural communities should be tracked, including occurrences of common natural communities. Rarely, if ever, are cultural (or even semi-natural) communities tracked. Tracking natural communities serves as a "coarse filter" for natural diversity, providing for the conservation of many unknown species, as

well as ecological processes operating at a community or ecosystem scale. Tracking the high quality occurrences of common communities is important for long-term conservation of biodiversity through preservation of the best remaining natural areas before they become critically threatened. Although not all communities are rare, nearly all have been substantially altered and/or reduced from their former natural extent and function (in particular, formerly widespread matrix communities which exist primarily in a fragmented and degraded condition). Thus, high quality and viable occurrences of common communities are often rare and there is a premium on the identification and conservation of such occurrences while they still exist.

6.3.3 Species

The majority of species should theoretically be conserved through the preservation of communities as a “coarse filter” for biodiversity. This does not hold true for imperiled and vulnerable species that, because of their inherent or induced rarity, are not reliably found in communities where they might otherwise be expected to occur. Thus, according to the EO tracking guidelines, all occurrences of imperiled and vulnerable species should be tracked as a “fine filter” for biodiversity. Because of their potential genetic distinctness, viable disjunct populations of more secure (G4 or G5) species should also be tracked.