



## AT-RISK ASSESSMENT TOOL: SCORING GUIDE

### I. Life History: How vulnerable are plants based on their life history?

#### 1. Life span

- +4 Annual or Biennial (1-2 years)
- +4 Perennial Plant that is not destructively harvested
- +8 Short Lived Perennial (2-5 years)
- +12 Long Lived Perennial (> 5 years)

#### 1.1 Age at first reproduction

- 2 1 or less
- 0 2 to 4
- +2 5 or more

#### 1.2 Ability to withstand disturbance (e.g. ability to grow after vegetation and soil have been mowed, plowed, grazed or otherwise disturbed)

- 2 Thrives on disturbance (weedy or early succession species)
- 0 Tolerates some disturbance or some types of disturbances
- +2 Intolerant (very conservative species)

#### 1.3 Ability to reproduce vegetatively under normal conditions

- 2 Reproduces vegetatively regularly in the wild and from small parts of plant (includes suckers, runners, bulblets and tubers)
- 0 Occasionally reproduces vegetatively in the wild
- +2 Rarely to never seen to reproduce vegetatively in the wild

#### 1.4 Ability to reproduce from seed under normal conditions

- 2 Seedlings regularly seen or easy to cultivate from seed
- 0 Seedlings occasionally seen
- +2 Seedlings rarely to never seen

#### 1.5 Interactions with other organisms required for growth and reproduction (e.g. known obligatory mycorrhizal associations, pollinator specificity, parasitism)

- 2 No special associations needed to grow it in places outside of natural range
- 0 Not known
- +2 Known limiting associations



## II. Effects of Harvest on Individuals and Populations: How does harvest affect plants?

### 2. Part of plant most commonly harvested

- +4 Harvest is of leaves and twigs only.
- +8 Harvest is of seeds, fruits, flowers, stem bark or off-shoots.
- +12 Harvest is of roots, root bark or entire plant.

### 2.1 Post-Harvest Recovery of Individual Plants

- 2 Plants are able to reproduce normally the season following harvest.
- 1 Harvest limits the next season's growth
- 0 At least some plants in a harvested population can re-grow after harvest, but re-growth takes several growing seasons
- +2 Individual plants cannot re-grow after harvest

### 2.2 Harvest Interval

- 2 A plant can be harvested multiple times in one year
- 0 1 to 2 years
- +2 3 years or more

### 2.3 Length of Harvest Season

- 2 Harvestable for one month or less
- 0 Harvestable for 1 to 3 months
- +2 Harvestable for more than 3 months per year

## III. Abundance and Range: How many plants are there?

### 3. Is the plant naturally abundant?

- +4 Many dense populations exist. (There are many populations in which someone could harvest all day in a very local area.)
- +6 A few dense populations exist and many more scattered populations exist. (There are a few populations in which someone could harvest all day without moving and many in which one could harvest all day by moving across some local acreage.)
- +8 Many scattered populations exist. (There are many places in which someone could harvest all day by driving to several local patches.)
- +10 Few scattered populations exist and many more sparse populations. (There are a few places in which a harvester could harvest all day moving around a bit, but most places the harvester would need to drive distances to harvest all day.)
- +12 Populations are few and sparse.



### 3.1 Range

- 2 Large (plant found across an area greater than 300 miles)
- 0 Medium (plant found across an area 100 to 300 miles)
- +2 Small (plant found across an area less than 100 miles)

### 3.2 Change in overall population size in primary harvest range

- 2 Population known to be increasing
- 0 Population stable or status unknown
- +2 Declines in population size documented

### 3.3 Degree of habitat specialization

- 2 Can grow in roadsides, vacant lots or other disturbed areas
- 0 Can grow in broad habitat categories (e.g. "eastern deciduous forest" or "great plains grassland")
- +2 Can only grow in a very limited habitat (e.g. "moist acidic glades in eastern deciduous forest" or "limestone outcrops in tall-grass prairie")

## **IV. Habitat: How vulnerable is the habitat?**

### 4. How vulnerable is the plant's physical habitat?

- +4 Habitat is widespread and no more threatened than all land areas.
- +8 Habitat is limited OR specifically threatened
- +12 Habitat is limited AND specifically threatened

### 4.1 Habitat Acreage Change

- 2 Habitat acreage is expanding (e.g. forest edge, roadsides, "suburban savannas")
- 0 Habitat acreage unchanged or not dramatically reduced
- +2 Habitat acreage has been reduced by 50% or more over last 100 years.

### 4.2 Habitat Fragmentation

- 2 Large tracts of continuous acres of habitat exist
- 0 Habitat areas intermediate or unknown
- +2 Only very small habitat patches exist

### 4.3 Confined to a limited or very vulnerable soil type

- 0 No
- +2 Yes (includes hydric or salty soils)



#### 4.4 Habitat Threats

Add 1 point for each of these habitat threats (to a maximum of 2 points)

logging expansion      rapid development      mining      over-grazing      take-over from invasive species  
use land for recreation growing rapidly      widespread regular herbicide use      vulnerability to disease  
acid deposition      fire suppression

### **V. How much is needed? What is the demand? Are there alternatives? Can the plant be cultivated?**

#### 5 Annual Demand for Wild Harvested Plant

- +4      Less than 1 ton dry weight
- +8      1 to 10 tons dry weight
- +12      More than 10 tons dry weight

#### 5.1 Yield per Acre

- 2      Ten pounds or more
- 0      One to ten pounds
- +2      Less than one pound

#### 5.2 Availability of good substitute to wild-harvested plant

- 2      Substitute known and widely accepted
- 0      Substitute known but not widely accepted as such
- +2      No known substitutes

#### 5.3 Cultivation and potential for cultivation

- 2      Currently cultivated and commercially viable
- 1      Not commercially cultivated but cultivation on a commercial scale horticulturally achievable (plant material available, no special associations required)
- 0      Growth on a commercial scale not easily achievable or economically viable (plant material not available or special associations required)
- +2      Growth on a commercial scale probably not achievable (plant material not available AND special associations required)