



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)