

## WEED RISK ASSESSMENT FORM

Botanical name:	<i>Plantago major</i> L.	
Common name:	common plantain, broadleaf plantain	
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### Outcome score:

<b>A. Climatic Comparison</b>		
This species is present or may potentially establish in the following eco-geographic regions:		
1	South Coastal	Yes
2	Interior-Boreal	Yes
3	Arctic-Alpine	Yes

B.	Invasiveness Ranking	Total (Total Answered*) Possible	Total
1	Ecological impact	40 (40)	8
2	Biological characteristic and dispersal ability	25 (25)	13
3	Ecological amplitude and distribution	25 (25)	16
4	Feasibility of control	10 (10)	7
	Outcome score	100 (100) <sup>b</sup>	44 <sup>a</sup>
	Relative maximum score†		0.44

\* For questions answered "unknown" do not include point value for the question in parentheses for "Total Answered Points Possible."

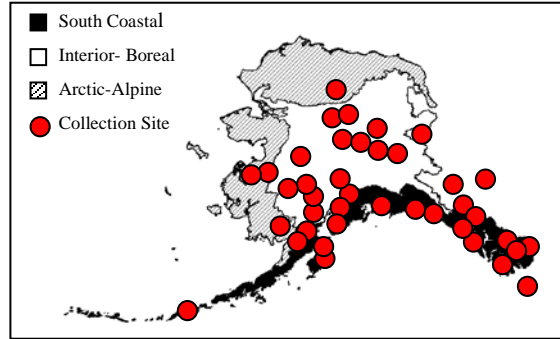
† Calculated as <sup>a</sup>/<sub>b</sub>.

**SPECIAL NOTE - NATIVITY:** Many experts believe this taxon originated in Europe (Dempster 1993, Whitson et al. 2000) and it is now cosmopolitan in distribution. However, according to USDA Plants Database and ITIS (2003) this taxon is considered native to Alaska, Hawaii, and the continental US. Hultén (1968) reported a native variety with upright leaves (var. *pilgeri*) as possibly native to Alaska. Hitchcock and Cronquist (1973) recognized a native variety (var. *pachyphylla* Piper) of saline habitats and introduced variety (var. *major* L.). We therefore treat this as a polymorphic taxon of primarily or exclusively non-native genotypes.

Greater study, using molecular and morphological markers and paleoecological study is necessary to tease apart the patterns of nativity of this species in Alaska.

**A. CLIMATIC COMPARISON:**

	1.1. Has this species ever been collected or documented in Alaska?
Yes	Yes – continue to 1.2
	No – continue to 2.1
	1.2. Which eco-geographic region has it been collected or documented (see inset map)? <i>Proceed to Section B. Invasiveness Ranking.</i>
Yes	South Coastal
Yes	Interior-Boreal
Yes	Arctic-Alpine



Documentation: *Plantago major* has been collected in all ecogeographic regions of Alaska (Hultén 1968, UAM 2004).

Sources of information:

Hultén, E. 1968. *Flora of Alaska and Neighboring Territories*. Stanford University Press, Stanford, CA. 1008 p.

University of Alaska Museum. University of Alaska Fairbanks. 2004.

<http://hispidamuseum.uaf.edu:8080/home.cfm>

2.1. Is there a 40% or higher similarity (based on CLIMEX climate matching) between climates any where the species currently occurs and

a. Juneau (South Coastal Region)?

Yes – record locations and similarity; proceed to Section B. Invasiveness Ranking

No

b. Fairbanks (Interior-Boreal)?

Yes – record locations and similarity; proceed to Section B. Invasiveness Ranking

No

c. Nome (Arctic-Alpine)?

Yes – record locations and similarity; proceed to Section B. Invasiveness Ranking

No

– If “No” is answered for all regions, reject species from consideration

Documentation:

Sources of information:

**B. INVASIVENESS RANKING**

*1. ECOLOGICAL IMPACT*

1.1. Impact on Natural Ecosystem Processes

- A. No perceivable impact on ecosystem processes 0
- B. Influences ecosystem processes to a minor degree (e.g., has a perceivable but mild influence on soil nutrient availability) 3
- C. Significant alteration of ecosystem processes (e.g., increases sedimentation rates along streams or coastlines, reduces open water that are important to waterfowl) 7
- D. Major, possibly irreversible, alteration or disruption of ecosystem processes (e.g., the species alters geomorphology; hydrology; or affects fire frequency, altering community composition; species fixes substantial levels of nitrogen in the soil making soil unlikely to support certain native plants or more likely to favor non-native species) 10
- U. Unknown

Score 1

Documentation:

Identify ecosystem processes impacted:

Common plantain has no perceivable effect on ecosystem process (Densmore et al. 2001). Though this plant is only found in highly disturbed environments it has

potential for retarding succession after sites have been invaded.

Rational:

Sources of information:

Densmore, R. V., P. C. McKee, C. Roland. 2001. Exotic plants in Alaskan National Park Units. Report on file with the National Park Service – Alaska Region, Anchorage, Alaska. 143 pp.

### 1.2. Impact on Natural Community Structure

- A. No perceived impact; establishes in an existing layer without influencing its structure 0
- B. Influences structure in one layer (e.g., changes the density of one layer) 3
- C. Significant impact in at least one layer (e.g., creation of a new layer or elimination of an existing layer) 7
- D. Major alteration of structure (e.g., covers canopy, eradicating most or all layers below) 10
- U. Unknown

Score

Documentation:

Identify type of impact or alteration:

Common plantain establishes in a sparsely vegetated herbaceous layer, increasing the density of the layer in south-central Alaska (I. Lapina – pers obs.).

Rational:

Sources of information:

Lapina, I. Botanist, Alaska Natural Heritage Program, University of Alaska Anchorage, 707 A Street, Anchorage, Alaska. Tel: (907) 257-2710 – Pers. obs.

### 1.3. Impact on Natural Community Composition

- A. No perceived impact; causes no apparent change in native populations 0
- B. Influences community composition (e.g., reduces the number of individuals in one or more native species in the community) 3
- C. Significantly alters community composition (e.g., produces a significant reduction in the population size of one or more native species in the community) 7
- D. Causes major alteration in community composition (e.g., results in the extirpation of one or several native species, reducing biodiversity or change the community composition towards species exotic to the natural community) 10
- U. Unknown

Score

Documentation:

Identify type of impact or alteration:

Common plantain has not been observed in undisturbed areas in Alaska, little or no impact on native populations has been observed (Densmore et al. 2001).

Rational:

Sources of information:

Densmore, R. V., P. C. McKee, C. Roland. 2001. Exotic plants in Alaskan National Park Units. Report on file with the National Park Service – Alaska Region, Anchorage, Alaska. 143 pp.

### 1.4. Impact on higher trophic levels (cumulative impact of this species on the animals, fungi, microbes, and other organisms in the community it invades)

- A. Negligible perceived impact 0
- B. Minor alteration 3
- C. Moderate alteration (minor reduction in nesting/foraging sites, reduction in habitat connectivity, interference with native pollinators, injurious components such as spines, toxins) 7
- D. Severe alteration of higher trophic populations (extirpation or endangerment of an existing native species/population, or significant reduction in nesting or foraging sites) 10
- U. Unknown

Score

**Documentation:**

Identify type of impact or alteration:

Common plantain is an alternate host for number of viruses and fungi (MAFRI 2004, Royer and Dickinson 1999). Many insect species feed on this plant (Sagar and Harper 1964). Seeds contain high percentage of oil and are desirable to birds (Ohio perennial and biennial weed guide 2004). The non-native taxon may hybridize with native species of *Plantago*.

Rational:

Sources of information:

MAFRI - Manitoba Agriculture, Food and Rural Initiatives. 2004. Pest management – Weeds – Broad-leaved plantain. Available:

<http://www.gov.mb.ca/agriculture/index.shtml> [February 10, 2004].

Ohio perennial and biennial weed guide. 2004. Broadleaf plantain. The Ohio State University. Available: <http://www.oardc.ohio-state.edu/weedguide/> [November 30, 2004].

Royer, F. and R. Dickinson. 1999. Weeds of the Northern U.S. and Canada. The University of Alberta press. 434 pp.

Sagar, G.R. and J.L. Harper. 1964. *Plantago major* L., *P. media* L. and *P. lanceolata* L. The Journal of Ecology. 52(1): 189-221.

Total Possible	40
Total	8

**2. BIOLOGICAL CHARACTERISTICS AND DISPERSAL ABILITY**

**2.1. Mode of reproduction**

- A. Not aggressive reproduction (few [0-10] seeds per plant and no vegetative reproduction) 0
- B. Somewhat aggressive (reproduces only by seeds (11-1,000/m<sup>2</sup>) 1
- C. Moderately aggressive (reproduces vegetatively and/or by a moderate amount of seed, <1,000/m<sup>2</sup>) 2
- D. Highly aggressive reproduction (extensive vegetative spread and/or many seeded, >1,000/m<sup>2</sup>) 3
- U. Unknown

Score	3
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**Documentation:**

Describe key reproductive characteristics (including seeds per plant):

Common plantain reproduces by seeds and can resprout from root and root fragments. Each plant is capable of producing up to 14,000 seeds (Royer and Dickinson 1999, Rutledge and McLendon 1996, Sagar and Harper 1964).

Rational:

Sources of information:

Royer, F. and R. Dickinson. 1999. Weeds of the Northern U.S. and Canada. The University of Alberta press. 434 pp.

Rutledge, C.R., and T. McLendon. 1996. An Assessment of Exotic Plant Species of Rocky Mountain National Park. Department of Rangeland Ecosystem Science. Colorado State University. 97pp. Northern Prairie Wildlife Research Center Home Page.

<http://www.npwrc.usgs.gov/resource/othrdata/explant/explant.html> (Version 15Dec98).

Sagar, G.R. and J.L. Harper. 1964. *Plantago major* L., *P. media* L. and *P. lanceolata* L. The Journal of Ecology. 52(1): 189-221.

**2.2. Innate potential for long-distance dispersal (bird dispersal, sticks to animal hair, buoyant fruits, wind-dispersal)**

- A. Does not occur (no long-distance dispersal mechanisms) 0
- B. Infrequent or inefficient long-distance dispersal (occurs occasionally despite lack of adaptations) 2
- C. Numerous opportunities for long-distance dispersal (species has adaptations such as 3

- pappus, hooked fruit-coats, etc.)  
 U. Unknown

Score 3

**Documentation:**

Identify dispersal mechanisms:

Seeds are sticky when wet, causing them to adhere to soil particles, feathers, fur, skin, or vehicles (Ohio perennial and biennial weed guide 2004, Royer and Dickinson 1999, Rutledge and McLendon 1996).

Rational:

Sources of information:

Ohio perennial and biennial weed guide. 2004. Broadleaf plantain. The Ohio State University. Available: <http://www.oardc.ohio-state.edu/weedguide/> [November 30, 2004].

Royer, F. and R. Dickinson. 1999. Weeds of the Northern U.S. and Canada. The University of Alberta press. 434 pp.

Rutledge, C.R., and T. McLendon. 1996. An Assessment of Exotic Plant Species of Rocky Mountain National Park. Department of Rangeland Ecosystem Science. Colorado State University. 97pp. Northern Prairie Wildlife Research Center Home Page. <http://www.npwrc.usgs.gov/resource/othrdata/explant/explant.html> (Version 15Dec98).

2.3. Potential to be spread by human activities (both directly and indirectly – possible mechanisms include: commercial sales, use as forage/revegetation, spread along highways, transport on boats, contamination, etc.)

- A. Does not occur 0  
 B. Low (human dispersal is infrequent or inefficient) 1  
 C. Moderate (human dispersal occurs) 2  
 D. High (there are numerous opportunities for dispersal to new areas) 3  
 U. Unknown

Score 3

**Documentation:**

Identify dispersal mechanisms:

The plant travels widely with humans. Seeds can be spread by vehicles, contaminated topsoil, and commercial seeds (Hodkinson and Thompson 1997).

Rational:

Sources of information:

Hodkinson, D., K. Thompson. 1997. Plant dispersal: the role of man. Journal of Applied Ecology, 34: 1484-1496.

2.4. Allelopathic

- A. No 0  
 B. Yes 2  
 U. Unknown

Score 0

**Documentation:**

Describe effect on adjacent plants:

Common plantain has no allelopathy potential (USDA 2002).

Rational:

Sources of information:

USDA (United States Department of Agriculture), NRCS (Natural Resource Conservation Service). 2002. The PLANTS Database, Version 3.5 (<http://plants.usda.gov>). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

2.5. Competitive ability

- A. Poor competitor for limiting factors 0
- B. Moderately competitive for limiting factors 1
- C. Highly competitive for limiting factors and/or nitrogen fixing ability 3
- U. Unknown

Score 1

**Documentation:**

Evidence of competitive ability:

Common plantain is a moderate competitor if not overgrown by other vegetation (Densmore et al. 2001, Miao et al. 1991). It is known to suppress the growth of corn and oat seedlings (Manitoba Agriculture and Food 2002).

Rational:

Sources of information:

Densmore, R. V., P. C. McKee, C. Roland. 2001. Exotic plants in Alaskan National Park Units. Report on file with the National Park Service – Alaska Region, Anchorage, Alaska. 143 pp.

Manitoba Agriculture and Food. 2002. Pest Management – Weeds – Broad-leaved plantain. <http://www.gov.mb.ca/agriculture/crops/weeds/fab60s00.html>

Miao, S.L., F.A. Bazzaz, R.B. Primack. 1991. Persistence of maternal nutrient effects in *Plantago major*: the third generation. *Ecology*. 72(5): 1634-1642.

**2.6. Forms dense thickets, climbing or smothering growth habit, or otherwise taller than the surrounding vegetation**

- A. No 0
- B. Forms dense thickets 1
- C. Has climbing or smothering growth habit, or otherwise taller than the surrounding vegetation 2
- U. Unknown

Score 0

**Documentation:**

Describe grow form:

Common plantain usually does not form thickets. The stem is very short, leafless flowering stalks grow to 2 feet tall (Royer and Dickinson 1999). At high densities, common plantain responds by high mortality (Palmblad 1968).

Rational:

Sources of information:

Palmblad, I.G. 1968. Competition in experimental populations of weeds with emphasis on the regulation of population size. *Ecology*. 49(1): 26-34.

Royer, F. and R. Dickinson. 1999. Weeds of the Northern U.S. and Canada. The University of Alberta press. 434 pp.

**2.7. Germination requirements**

- A. Requires open soil and disturbance to germinate 0
- B. Can germinate in vegetated areas but in a narrow range or in special conditions 2
- C. Can germinate in existing vegetation in a wide range of conditions 3
- U. Unknown

Score 0

**Documentation:**

Describe germination requirements:

Common plantain is a colonizer of disturbed soil, requiring open soil for germination and establishment (Densmore et al. 2001). In experiments in Massachusetts (Miao et al. 1991) germination was significantly higher in open soil and seed germination was greatly reduced in established grass stands. Sagar and Harper (1964) report germination and establishment only on bare soil and sparse plant communities. No establishment was observed in any vegetated or sites with leaf litter.

Rational:

Sources of information:

Densmore, R. V., P. C. McKee, C. Roland. 2001. Exotic plants in Alaskan National Park Units. Report on file with the National Park Service – Alaska Region, Anchorage, Alaska. 143 pp.

Miao, S.L., F.A. Bazzaz, R.B. Primack. 1991. Persistence of maternal nutrient effects in *Plantago major*: the third generation. *Ecology*. 72(5): 1634-1642.

Sagar, G.R. and J.L. Harper. 1964. *Plantago major* L., *P. media* L. and *P. lanceolata* L. *The Journal of Ecology*. 52(1): 189-221.

2.8. Other species in the genus invasive in Alaska or elsewhere

- A. No 0
- B. Yes 3
- U. Unknown

Score 

3
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Documentation:

Species:

*Plantago media* L., *P. lanceolata* L., *P. patagonica* Jacq. (Royer and Dickinson 1999, Whitson et al. 2000).

Sources of information:

Royer, F. and R. Dickinson. 1999. Weeds of the Northern U.S. and Canada. The University of Alberta press. 434 pp.

Whitson, T. D., L. C. Burrill, S. A. Dewey, D. W. Cudney, B. E. Nelson, R. D. Lee, R. Parker. 2000. Weeds of the West. The Western Society of Weed Science in cooperation with the Western United States Land Grant Universities, Cooperative Extension Services. University of Wyoming. Laramie, Wyoming. 630 pp.

2.9. Aquatic, wetland, or riparian species

- A. Not invasive in wetland communities 0
- B. Invasive in riparian communities 1
- C. Invasive in wetland communities 3
- U. Unknown

Score 

0
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Documentation:

Describe type of habitat:

Common plantain is a common on cultivated fields, lawns, pastures, gardens, roadsides, and waste areas (Parker 1990, Royer and Dickinson 1999, Rutledge and McLendon 1996, Whitson et al. 2000).

Rational:

Sources of information:

Parker, K.F. 1990. An illustrated guide to Arizona weeds. The University of Arizona Press, Tucson. Available online: <http://www.uapress.arizona.edu/onlinebks/weeds/titlweed.htm> [November, 30, 2004].

Royer, F. and R. Dickinson. 1999. Weeds of the Northern U.S. and Canada. The University of Alberta press. 434 pp.

Rutledge, C.R. and T. McLendon. 1996. An Assessment of Exotic Plant Species of Rocky Mountain National Park. Department of Rangeland Ecosystem Science. Colorado State University. 97pp. Northern Prairie Wildlife Research Center Home Page. <http://www.npwrc.usgs.gov/resource/othrdata/explant/explant.html> (Version 15Dec98).

Whitson, T.D., L.C. Burrill, S.A. Dewey, D.W. Cudney, B.E. Nelson, R.D. Lee and R. Parker. 2000. Weeds of the West. The Western Society of Weed Science in cooperation with the Western United States Land Grant Universities, Cooperative Extension Services. University of Wyoming. Laramie, Wyoming. 630 pp.

Total Possible 

25
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Total 

13
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### 3. DISTRIBUTION

#### 3.1. Is the species highly domesticated or a weed of agriculture

- A. No 0
- B. Is occasionally an agricultural pest 2
- C. Has been grown deliberately, bred, or is known as a significant agricultural pest 4
- U. Unknown

Score 

4
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##### Documentation:

Identify reason for selection, or evidence of weedy history:

Common plantain one of the most common weeds in gardens, pastures, lawns, and crop fields (MAFRI 2004, Ohio perennial and biennial weed guide 2004, Parker 1990, Royer and Dickinson 1999). A red-leaved form is occasionally grown as a cultivar (J. Riley – pers. com.).

Rational:

Sources of information:

MAFRI - Manitoba Agriculture, Food and Rural Initiatives. 2004. Pest management – Weeds – Broad-leaved plantain. Available:

<http://www.gov.mb.ca/agriculture/index.shtml> [February 10, 2004].

Ohio perennial and biennial weed guide. 2004. Broadleaf plantain. The Ohio State University. Available: <http://www.oardc.ohio-state.edu/weedguide/> [November 30, 2004].

Parker, K.F. 1990. An illustrated guide to Arizona weeds. The University of Arizona Press, Tucson. Available online:

<http://www.uapress.arizona.edu/onlinebks/weeds/titlweed.htm> [November, 30, 2004].

Riley, J. Horticulture Agent, UAF Cooperative Extension Service. 2221 E. Northern Lights Blvd. #118 Anchorage, AK 99508-4143. tel: (907) 786-6306. Pers. com.

Royer, F. and R. Dickinson. 1999. Weeds of the Northern U.S. and Canada. The University of Alberta press. 434 pp.

#### 3.2. Known level of impact in natural areas

- A. Not known to cause impact in any other natural area 0
- B. Known to cause impacts in natural areas, but in dissimilar habitats and climate zones than exist in regions of Alaska 1
- C. Known to cause low impact in natural areas in similar habitats and climate zones to those present in Alaska 3
- D. Known to cause moderate impact in natural areas in similar habitat and climate zones 4
- E. Known to cause high impact in natural areas in similar habitat and climate zones 6
- U. Unknown

Score 

1
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##### Documentation:

Identify type of habitat and states or provinces where it occurs:

This plant appears to be having little effect on native plant communities or succession processes in Rocky Mountain National Park in Colorado (Rutledge and McLendon 1996).

Sources of information:

Rutledge, C.R. and T. McLendon. 1996. An Assessment of Exotic Plant Species of Rocky Mountain National Park. Department of Rangeland Ecosystem Science. Colorado State University. 97pp. Northern Prairie Wildlife Research Center

Home Page. <http://www.npwrc.usgs.gov/resource/othrdata/explant/explant.html> (Version 15Dec98).

#### 3.3. Role of anthropogenic and natural disturbance in establishment

- A. Requires anthropogenic disturbances to establish 0
- B. May occasionally establish in undisturbed areas but can readily establish in areas with natural disturbances 3



- C. Can establish independent of any known natural or anthropogenic disturbances 5
- U. Unknown

Score 1

**Documentation:**

Identify type of disturbance:

Soil disturbances by animals, vehicles, and natural erosion provide suitable open areas for germination and establishment of this species (Densmore et al. 2000, Sagar and Harper 1964). This plant usually does not persist without redisturbance. In Alaska it is found primary on sites disturbed within the last 10 years (Densmore et al. 2001, Weeds of Alaska Database 2004).

Rational:

Sources of information:

Densmore, R. V., P. C. McKee, C. Roland. 2001. Exotic plants in Alaskan National Park Units. Report on file with the National Park Service – Alaska Region, Anchorage, Alaska. 143 pp.  
 Sagar, G.R. and J.L. Harper. 1964. *Plantago major* L., *P. media* L. and *P. lanceolata* L. The Journal of Ecology. 52(1): 189-221.  
 Weeds of Alaska Database. 2004. AKEPIC Mapping Project Inventory Field Data. Alaska Natural Heritage Program, University of Alaska – US Forest Service – National Park Service. Available: <http://akweeds.uaa.alaska.edu/>

**3.4. Current global distribution**

- A. Occurs in one or two continents or regions (e.g., Mediterranean region) 0
- B. Extends over three or more continents 3
- C. Extends over three or more continents, including successful introductions in arctic or subarctic regions 5
- U. Unknown

Score 5

**Documentation:**

Describe distribution:

This taxon is generally believed to originate in Europe, but it is now cosmopolitan in distribution. Range of distribution includes arctic regions. (Dempster 1993, Hultén 1968, Sagar and Harper 1964, Whitson et al. 2000).

Rational:

Sources of information:

Dempster, L. T. 1993. Plantaginaceae in J. C. Hickman (ed.) The Jepson manual: higher plants of California. University of California Press, Berkeley, California. Pp. 1400.  
 Hultén, E. 1968. Flora of Alaska and Neighboring Territories. Stanford University Press, Stanford, CA. 1008 p.  
 Sagar, G.R. and J.L. Harper. 1964. *Plantago major* L., *P. media* L. and *P. lanceolata* L. The Journal of Ecology. 52(1): 189-221.  
 Whitson, T. D., L. C. Burrill, S. A. Dewey, D. W. Cudney, B. E. Nelson, R. D. Lee, R. Parker. 2000. Weeds of the West. The Western Society of Weed Science in cooperation with the Western United States Land Grant Universities, Cooperative Extension Services. University of Wyoming. Laramie, Wyoming. 630 pp.

**3.5. Extent of the species U.S. range and/or occurrence of formal state or provincial listing**

- A. 0-5% of the states 0
- B. 6-20% of the states 2
- C. 21-50%, and/or state listed as a problem weed (e.g., “Noxious,” or “Invasive”) in 1 state or Canadian province 4
- D. Greater than 50%, and/or identified as “Noxious” in 2 or more states or Canadian provinces 5
- U. Unknown

Score 

5
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**Documentation:**

Identify states invaded:

Common plantain has been recorded from all states of the United States. It is listed as invasive weed in Connecticut, Washington, Manitoba, and Quebec (USDA 2002). *Plantago* species are restricted noxious weeds in Alaska (Alaska Administrative Code 1987).

Rational:

Sources of information:

Alaska Administrative Code. Title 11, Chapter 34. 1987. Alaska Department of Natural Resources. Division of Agriculture.

USDA (United States Department of Agriculture), NRCS (Natural Resource Conservation Service). 2002. The PLANTS Database, Version 3.5 (<http://plants.usda.gov>). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

Total Possible 

25
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Total 

16
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#### 4. FEASIBILITY OF CONTROL

##### 4.1. Seed banks

- A. Seeds remain viable in the soil for less than 3 years 0
- B. Seeds remain viable in the soil for between 3 and 5 years 2
- C. Seeds remain viable in the soil for 5 years and more 3
- U. Unknown

Score 

3
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**Documentation:**

Identify longevity of seed bank:

Seeds buried in the soil remained viable for 3.5 years in Michigan (Duvel 1904). Chippendale and Milton's (1934) results suggest that viability is maintained for 50-60 years.

Rational:

Sources of information:

Duvel, J.W.T. 1904. Preservation of seeds buried in the soil. *Botanical Gazette*. 37(2): 146-147.

Chippendale, H.G. and W.E.J. Milton. 1934. On the viable seeds present in the soil beneath pastures. *The Journal of Ecology*. 22(2): 508-531.

##### 4.2. Vegetative regeneration

- A. No resprouting following removal of aboveground growth 0
- B. Resprouting from ground-level meristems 1
- C. Resprouting from extensive underground system 2
- D. Any plant part is a viable propagule 3
- U. Unknown

Score 

2
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**Documentation:**

Describe vegetative response:

Common plantain has the ability to resprout from the crown, roots, or root fragments (Densmore et al. 2001, Rutledge and McLendon 1996).

Rational:

Sources of information:

Densmore, R. V., P. C. McKee, C. Roland. 2001. Exotic plants in Alaskan National Park Units. Report on file with the National Park Service – Alaska Region, Anchorage, Alaska. 143 pp.

Rutledge, C.R., and T. McLendon. 1996. An Assessment of Exotic Plant Species of

Rocky Mountain National Park. Department of Rangeland Ecosystem Science. Colorado State University. 97pp. Northern Prairie Wildlife Research Center Home Page.  
<http://www.npwr.usgs.gov/resource/othrdata/explant/explant.html> (Version 15Dec98).

4.3. Level of effort required

- A. Management is not required (e.g., species does not persist without repeated anthropogenic disturbance) 0
- B. Management is relatively easy and inexpensive; requires a minor investment in human and financial resources 2
- C. Management requires a major short-term investment of human and financial resources, or a moderate long-term investment 3
- D. Management requires a major, long-term investment of human and financial resources 4
- U. Unknown

Score 

2
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**Documentation:**

Identify types of control methods and time-term required:

This species does not persist without repeated anthropogenic disturbance. However multiple weeding treatments may be necessary to eliminate plants germinating from buried seeds and root fragments. It is easily controlled by herbicides (Densmore et al. 2001, Rutledge and McLendon 1996).

Rational:

Sources of information:

Densmore, R. V., P. C. McKee, C. Roland. 2001. Exotic plants in Alaskan National Park Units. Report on file with the National Park Service – Alaska Region, Anchorage, Alaska. 143 pp.

Rutledge, C.R., and T. McLendon. 1996. An Assessment of Exotic Plant Species of Rocky Mountain National Park. Department of Rangeland Ecosystem Science. Colorado State University. 97pp. Northern Prairie Wildlife Research Center Home Page.

<http://www.npwr.usgs.gov/resource/othrdata/explant/explant.html> (Version 15Dec98).

Total Possible 

10
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Total 

7
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**Total for 4 sections Possible**

100
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**Total for 4 sections**

44
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