

**UNITED STATES DEPARTMENT OF AGRICULTURE**  
**Natural Resources Conservation Service**  
**Corvallis, Oregon**

**UNITED STATES DEPARTMENT OF INTERIOR**  
**U. S. Fish and Wildlife Service**  
**Corvallis, Oregon**

and

**OREGON STATE UNIVERSITY**  
**Agricultural Experiment Station**  
**Corvallis, Oregon**

**NOTICE OF RELEASE OF BASKETT SLOUGH**  
**CALIFORNIA OATGRASS**  
**Selected Class of Natural Germplasm**

**CALIFORNIA OATGRASS** (*Danthonia californica* Boland.)

From Baskett Slough, Polk County, Oregon

Plant Symbol: DACA3

Accession Number: 9040747

The Natural Resources Conservation Service, U.S. Department of Agriculture; the U. S. Fish and Wildlife Service, Department of Interior; and the Oregon State Agricultural Experiment Station announce the pre-varietal selected class release of a natural ecotype of California oatgrass (*Danthoniacalifornica* Boland).

As a "Selected, class release, this native grass will not be given a name, but will be referred to as "the Baskett Slough germplasm" of California oatgrass to document its original collection location.

**Origin:** Seed of 9040747 was collected at Baskett Slough National Wildlife Refuge, Polk County, Oregon. Longitude: 123 deg. 15 min. West; Latitude: 45 deg. 00 min. North. Township: 7 South. Range: 4 West. Soils: Steiwer silt loam, moderately deep, well-drained and Chehulpum silt loam, shallow, well-drained low, foothill soil. Plant community: Oregon white oak savanna/ grassland bald. USDA plant hardiness zone: **8b**. Ecoregion: Willamette Valley. MLRA: A2. Elevation: 350 – 500 feet above mean sea level. Average annual precipitation: **48** inches. Growing season: 235 days average.

**Description:** California oatgrass is long-lived, native perennial bunchgrass. It naturally occurs from southern British Columbia to southern California, and east to Montana and New Mexico. It is found in wet to dry meadows, oak savannas, rocky ridges, coastal

prairies, grassy balds, and up to 4500 feet in southern California mountains, especially in Ponderosa pine woodlands. It generally grows in full sun. The grass stems are up to three feet in height, glabrous, tending to disarticulate at the lower nodes. The sheaths are glabrous and pilose at the throat. Self-fertilized seed initiates at the nodes between the sheath and stem. The leaf blades are usually two to eight long and flat, the new blades may be involute and glabrous. The panicle consists of two to five spikelets on a slender pedicel, up to one inch long. California oatgrass also produces cross-pollinated seed. While moderately slow to establish, and a low seed producer, it tolerates wet, cool winter, summers droughts, and heavy grazing by domestic livestock.

**Method of Selection:** 9040747 was selected from an assembly of 59 California oatgrass ecotypes evaluated at the Corvallis Plant Materials Center from 1982 to 1999. It was selected for its overall good vigor and high seed production compared to other oatgrass ecotypes in this evaluation, and an accessible central Willamette Valley indigenous prairie location. There was no apparent limiting disease or insect pests exhibited during this evaluation. This selection shows great promise for conservation uses and ecosystem restoration in western Oregon.

**Ecological Impact Assessment:** California oatgrass will have a beneficial ecological impact when used on areas within its natural ecosystems. It is a native grass species to Oregon and Washington, and is not considered a weedy species and is not known to have any toxic properties to domestic livestock, wildlife, or humans. It did not volunteer or spread in the PMC test plots or fields. A further review of the current literature did not indicate any invasive qualities for the intended area and type of conservation/restoration use.

**Anticipated Conservation and Restoration Uses:** The potential uses for the Baskett Slough germplasm (9040747) California oatgrass are erosion control along roadsides and other critical areas (upland and wetland sites), native plant ecosystem diversity, grassland and prairie restoration, rangeland/woodland planting, and wildlife habitat.

**Potential Area of Adaptation:** The primary area for intended conservation use is the Willamette Valley of Oregon, and adjacent foothills, associated tributary watersheds in western Oregon, below 1250 feet elevation. Secondary area of intended use is the Umpqua Valley of southern Oregon, below 1500 feet elevation; Clark and Cowlitz Counties in southwestern Washington, including the Kalama and Lewis River watersheds and adjacent foothills, below 1000 feet elevations.

**Potential Soil Adaptation:** California oatgrass prefers shallow to deep silt loam and clay loam, well drained to moderately well-drained soils. It may tolerate less well-drained soils and short term flooding during winter.

**Seed Maintenance:** Generations are G0 through G3. G0 equals parental population(s) at Origin. G1 equals the first generation (seed from G0 used to establish G1 agronomic seed increase, tagged). G2 is the second generation (seed from G1 certified stand used to

establish G2 agronomic seed increase, tagged). G3 is the seed from G2 certified stand, tagged. Growers may produce two generations: G2 and G3. G2 is grown from G1 seed and G3 from G2 seed. Seed may be harvested from production fields for up to ten years as recommended by USDA NRCS, CorvallisPMC, Corvallis Oregon.

A high percentage of seed can exhibit both physical and physiological dormancy. Specific guidelines have been developed for the collection of G1 seed, at the origin (*GO*) for appropriate genetic representation of the population.

### References:

Franklin, J.F. and C.T. Dyrness. 1988, revised. *Natural Vegetation of Oregon and Washington*. Oregon State University Press for USDA Forest Service. Corvallis, Oregon.

Hitchcock, A.S. (Revised by A. Chase, 1951) *Manual of the Grasses of the United States*. USDA Misc. Pub. No. 200. USGPO. Washington DC.

Hitchcock, C.L. and A. Cronquist. 1976. *Flora of the Pacific Northwest*. University of Washington Press. Seattle, Washington.

Pojar, J. and A. Mackinnon. 1994. *Plants of the Pacific Northwest Coast*. Lone Pine Publishing. Redmond, Washington.

Rose, R., C.E.C. Chachulski, and D.L. Haase. 1998. *Propagation of Pacific Northwest Native Plants*. OSU Press. Corvallis, Oregon.

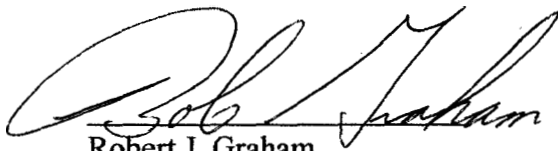
Trask, M.M. and D.A. Pyke. 1998. *Variability in seed dormancy of the three Pacific Northwestern grasses*. *Seed Science and Technology*, 26 (1), 179-191.

United States Department of Agriculture, Forest Service. 1988 (Reprint). *Range Plant Handbook*. Dover Publications. Mineola, New York.

### Prepared by:

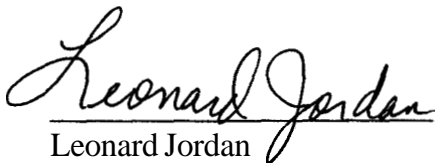
Scott M. Lambert, USDA NRCS, Washington State University, P.O. 646410, Pullman Washington 99164 and Dale C. Darris, USDA NRCS, 3415 NE Granger Avenue, Corvallis Oregon 97330.

**SIGNATURE PAGE for Baskett Slough selection California oatgrass**  
(*Danthonia californica*)



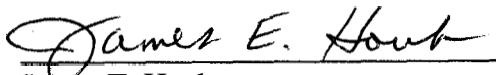
Robert J. Graham  
State Conservationist, Oregon  
Natural Resources Conservation Service

Date: 10/3/00



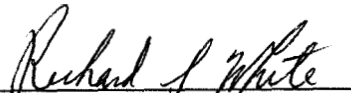
Leonard Jordan  
State Conservationist, Washington  
Natural Resources Conservation Service

Date: 9/27/00




James E. Houk  
Project Leader  
Willamette Valley National Wildlife Refuge Complex  
U.S. Fish and Wildlife Service

Date: 9/20/00

for   
Diane E. Gelburd

Director, Ecological Sciences  
Natural Resources Conservation Service

Date: 5/10/01

  
Thayne R. Dutson

Director, Agricultural Experiment Station  
Oregon State University

Date: 1-24-01

Addendum H

Environmental Evaluation of Plant Materials Releases

Name of person

scoring:

SCOTT LAMBERT

Date of scoring:

DALE DARRIS

Scientific Name:

DANTHONIA CALIFORNICA

Common Name:

California oatgrass

Release Name:

Basket Slough selection (pre-varietal)

Is the plant native to the US?

Yes No

Is the plant native to the area of intended use?

Yes No

Authority used to determine native status:

Flora of the Pacific Northwest

What is the intended area of use for this plant?

Willamette Valley, western Oregon to SW Washington

What is the intended use for this plant?

grassland & prairie restoration, wildlife habitat, rangeland/woodland planting, CAP.

Areas in which the release is known to be invasive or has a high probability of being invasive:

NONE

Summary of Criteria from Section A

Score

Part 1. Impact on Habitats, Ecosystems, and Land Use

0

Part 2. Ease of Management

3

Part 3. Conservation Need and Plant Use

15

Part 4. Biological Characteristics

25

Final Determination of Release Based on the Environmental Evaluation:

OK to Release

OK to Release but qualify use and intended area of use\*

Do Not Release - NPL determines if release is made\*

Signature of NPL indicating that it is OK to make the release:

Richard J. White  
National Program Leader, PM

5/10/01  
date

Do Not Release - document and destroy materials

\* An Environmental Assessment (EA) and/or Environmental Impact Statement (EIS) may be required prior to release. If required, attach the EA and/or EIS to this worksheet and to the release notice.

Section A. Scoring of Criteria for Impact, Management, Need and Biological Characteristics

Circle the appropriate number for each of the following criteria. Add up the scores for each part **and** record at the end of each part. Comments which clarify answers or provide supporting information may be included in the right margin of the worksheet or attached on a separate sheet of paper.

Part 1: Impact on Habitats, Ecosystems, and Land Use

*This section assesses the ability of the species or release to adversely affect habitats, ecosystem, and agricultural areas.*

- 1) Ability to invade natural systems where the species does not naturally occur
  - a) Species not known to spread into natural areas on its own 0
  - b) Establishes only in areas where major disturbance has occurred in the last 20 years (e.g., natural disasters, highway corridors) 3
  - c) Often establishes in mid- to late successional natural areas where minor disturbances occur (e.g., tree falls, streambank erosion), but no major disturbance in last 20-75 years 6
  - d) Often establishes in intact or otherwise healthy natural areas with no major disturbance for at least 75 years 10
  
- 2) Negative impacts on ecosystem processes (e.g., altering fire occurrence, rapid growth may alter hydrology)
  - a) No perceivable negative impacts 0
  - b) Minor negative impacts to ecosystem processes 2
  - c) Known significant negative impacts to ecosystems processes 6
  - d) Major, potentially irreversible, alteration or disruption of ecosystem processes 10
  
- 3) Impacts on the composition of plant communities where the species **does** not naturally occur
  - a) No negative impact; causes no perceivable changes in native populations 0
  - b) Noticeable negative influences on community composition 5
  - c) Causes major negative alterations in community composition 10
  
- 4) Allelopathy
  - a) No known allelopathic effects on other plants 0
  - b) Demonstrates allelopathic effects on seed germination of other plants 3
  - c) Demonstrates allelopathic effects to mature stages of other plants 5

- 5) **Impact on habitat for wildlife or domestic animals (aquatic and terrestrial), including threatened and endangered species**
- a) **No** negative impact on habitat, or this criteria not applicable based on intended use for the plant 0
  - b) Minor negative impact on habitat (e.g., decreased palatability; lower wildlife value; decreased value for undesirable **animal** species) 2
  - c) Significant negative impact **on** habitat (e.g., **foliage** toxic to **animals**; significantly **lower** value **for** wildlife; excludes desirable animal species **from an** area) 5
- 6) **Impact on other land use**
- a) No negative impacts on **other** land uses 0
  - b) Minor impacts (plant could **invade** adjacent areas **and** decrease its value) 3
  - c) Significant impacts (plant **may** alter the system **or** adjacent lands significantly enough to prevent certain **uses**) 5
- Total Possible Points 45**  
**Total Points for Part 1 0**

**Part 2. Ease of Management**

*This part evaluates the degree of management which might be needed to control the species or release if it becomes a problem, or eradicate the species or release if it is no longer desirable.*

- 1) **Level of effort required for control**
- a) Effective control can be achieved with mechanical treatment 0
  - b) **Can** be controlled **with** one chemical treatment 2
  - c) One or two chemical or mechanical treatments required or biological control is available **or** practical 5
  - d) Repeated chemical or mechanical control measures required 10
- 2) **Effectiveness of community management to potentially control the plant release**
- a) No management is needed, the plant release **is** short-lived and will significantly decrease or disappear within 5 years under normal conditions without human intervention 0
  - b) Routine management of a community or restoration/preservation practices (e.g., prescribed burning, flooding, controlled disturbance, pasture renovation) effectively controls the release 2
  - c) Cultural techniques beyond routine management can be used to control the release 4
  - d) The previous options are not effective for managing or controlling the release 10

- 3) **Side effects of chemical or mechanical control measures**
- a) Control measures used on release will have little or no effect on other plants 0
  - b) Control measures used on release will cause moderate effects on other plants 3
  - c) Control measures used on release will cause major effects on other plants 5

If it is not a seed and it means, go to #4  
\*\*If spreads by vegetative means (n) to #:

**d banks**

- a) Seeds viable in the soil for 1 year or less 0
  - b) Seeds remain viable in the soil for 2-3 years 3
  - c) Seeds remain viable in the soil for 4-5 years 3
  - d) Seeds remain viable in the soil for more than 5 years 5
- 5) **Vegetative regeneration under natural conditions**
- a) Regeneration from resprouting of cut stumps 1
  - b) Regeneration from pieces of the root left in the soil 3
  - c) Regeneration from root or stem parts left in the soil 5
- 6) **Resprouts after cutting above-ground parts**
- a) Does not resprout or resprouts but the release is sterile and does not produce seed 0
  - b) Resprouts and produces seed in future years 3
  - c) Resprouts and produces seed in same year 5

**Total Possible Points 40**  
**Total Points for Part 2 3**

**Part 3. Conservation Need and Plant Use**

*This part evaluates the importance of the species or release to meet a conservation need.*

- 1) **Potential Use(s) of the Plant Release**
- a) Used for low-priority issues or single use 1
  - b) Has several uses within conservation 2
  - c) Has many uses within conservation as well as outside of conservation 4
  - d) Has high-priority use within conservation 5
- 2) **Availability of Other Plants to Solve the Same Need**
- a) Many other plants available 1
  - b) Few other plants available 3
  - c) No other plants available 5



3) **Consequences of Not Releasing This Plant**

- a) No impact to conservation practices 0
- b) Minor impact on one or more conservation practice 1
- c) Serious impact on one conservation practice 3
- d) Serious impact on more than one conservation practices 5

Total Possible Points 15

Total Points for Part 3 15

**Part 4. Biological Characteristics**

*This part evaluates the biological properties which indicate the natural ability of the species or release to propagate and maintain itself under natural conditions. Note: these criteria relate to the species under natural conditions, as opposed to the species under managed conditions used to increase the species, i.e. seed increase programs, or specific propagation methods which do not normally occur in nature.*

1) **Typical mode of reproduction under natural conditions**

- a) Plant does not increase by seed or vegetative means (skip to #11) 0
- b) Reproduces almost entirely by vegetative means. 1
- c) Reproduces only by seeds 3
- d) Reproduces vegetatively and by seed 5

2) **Reproduction (by seed or vegetative) in geographic area of intended use**

- a) Reproduces only outside the geographic area of intended use 1
- b) Reproduces within the geographic area of intended use 3
- c) Reproduces in all areas of the United States where plant can be grown 5

3) **Time required to reach reproductive maturity by seed or vegetative methods**

- a) Requires more than 10 years 1
- b) Requires 5-10 years 2
- c) Requires 2-5 years 3
- d) Requires 1 year 5

\*\* If reproduces only by seed, skip to #5

4) **Vegetative reproduction (by rhizomes, suckering, or self-layering)**

- a) Vegetative reproduction rate maintains population (plant spreads but older parts die out) 1
- b) Vegetative reproduction rate results in moderate increase in population size (plant spreads <3' per year) 3
- c) Vegetative reproduction rate results in rapid increase in population size (plant spreads >3' per year) 5

\*\* If reproduces only vegetatively, skip to #11

- 5) Ability to complete sexual reproductive cycle in area of intended use**
- a) Not observed to complete sexual reproductive cycle in the geographic area of intended use, but completes sexual reproduction in distant areas of the United States 1
  - b) Not observed to complete sexual reproductive cycle in the geographic area of intended use, but completes **sexual** reproduction in adjoining geographic areas 3
  - c) Observed **to** complete the sexual reproductive cycle in **the** geographic area of intended use (5)

- 6) Frequency of sexual reproduction for mature plant**
- a) Almost never reproduces sexually 0
  - b) Once every five or more years 1
  - c) Every other year (3)
  - d) One or more times a year 5

- 7) Number of viable seeds per mature plant each reproductive cycle**
- a) None (does not produce viable seed) 0
  - b) Few(1-10) (1)
  - c) Moderate (11-1,000) 3
  - d) Many-seeded (>1,000) 5

- 8) Dispersal ability**
- a) Limited dispersal (<20') and few plants produced (<100) (1)
  - b) Limited dispersal (<20') and many plants produced (>100) 3
  - c) Greater dispersal (>20') and few plants produced (<100) 7
  - d) Greater dispersal (>20') and many plants produced (>100) 10

- 9) Germination requirements**
- a) Requires open soil and disturbance to germinate (1)
  - b) Can germinate in vegetated areas but in a narrow range or in special conditions 5
  - c) Can germinate in existing vegetation in a wide range of conditions 10

- 10) Hybridization**
- a) Has not been observed to hybridize outside the species
  - b) Hybridizes with other species in the same genera 3
  - c) Hybridizes with other genera 5

11) Competitive ability (of established plants)

- a) Poor competitor for limiting factors
- b) Moderately competitive for limiting factors
- c) Highly competitive for limiting factors

0  
 3  
 10

Total Possible Points 70  
 Total Points for Part 4 26

**References**

Many of the criteria used in this rating system were adapted from the following sources:

Hiebert, Ron D. and James Stubbendieck. 1993. Handbook for Ranking Exotic Plants for Management and Control. US Department of the Interior, National Park Service, Denver, CO.

Randall, John M., Nancy Benton, Larry E. Morse, and Gwendolyn A. Thornhurst. 1999. Criteria for Ranking Alien Wildland Weeds. The Nature Conservancy, Arlington, VA.

**Section B. Scoring and Interpretation**

Based on the scores from above, circle the points range you scored to determine the appropriate interpretation. The interpretation will be used to determine the course of action for the release.

Part	Points Scored	Interpretation
<b>Part 1.</b> Impacts on Habitats, Ecosystems, and Land Use	0-15	<u>Low</u> chance plant is going to affect the environment
	16-25	<u>Moderate</u> chance plant is going to affect the environment
	26-45	<u>High</u> chance plant is going to affect the environment
<b>Part 2.</b> Ease of Management	0-20	<u>Easy</u> to control
	21-30	<u>Moderate</u> to control
	31-40	<u>Difficult</u> to control
<b>Part 3.</b> Conservation Need and Plant Use	0-5	<u>Low</u> need
	6-9	<u>Moderate</u> need
	10-15	<u>High</u> need
<b>Part 4.</b> Biological Characteristics	0-25	<u>Low</u> chance plant is going to propagate and increase itself
	26-40	<u>Moderate</u> chance plant is going to propagate and increase itself
	41-70	<u>High</u> chance plant is going to propagate and increase itself