WRITTEN FINDINGS OF THE WASHINGTON STATE NOXIOUS WEED CONTROL BOARD

(NOVEMBER 1997)

Scientific Name: Soliva sessilis (Ruiz & Pavon) SY=S. daucifolia Nutt.

SY=S. pterosperma (Juss.) Less.

Common Name: lawnweed, lawn burweed, burweed, carpet burweed

<u>Family:</u> Asteraceae (Compositae)

Legal Status: Class B (changed from a Class A in 2008)

<u>Description and Variation:</u> Lawnweed is a low growing winter annual. The plant will grow to about 2 inches tall, with a spread of 6 inches in diameter. One to ten stems, that can range from light to dark colored and hairy to sparsely hairy and often with purple-spots, grow from the base of the plant. The leaves are pinnately divided, which gives them a feathery appearance. The small composite flowers occur from February to July; they consist of greenish-translucent disc flowers and lack rays. The flat, hard seeds (achenes) are small and light-weight and tipped with serrated spines, essentially forming a bur, that makes dispersal by human activities common. Probably self-fertile.

There have been taxonomic questions over species differentiation by achene characteristics. Research supports that only one species exists, *Soliva sessilis*. The following species are considered synonyms: *S. pterosperma*, and *S. daucifolia*. The following species are referable to *S. sessilis*: *S. neglecta* and *S. valdiviana*. (Ray 1987).

<u>Economic Importance</u>: *Detrimental*: Lawnweed is associated with maintained recreational areas, particularly public swim areas or boat launches in WA state. This low-growing and sprawling weed can successfully compete with planted and mowed grasses. As a winter annual, lawnweed dies back in the summer, leaving large dead spots during times of the heaviest use. It also produces the sharp seeds, or burs, during the summer which penetrate skin and tires. These seeds are then dispersed by attaching themselves to anyone using these high traffic areas.

Beneficial: None known.

<u>Habitat:</u> Lawnweed is found in managed perennial grass areas usually associated with heavy foot traffic, public swim areas or boat launches of public lakes. (Lewis County and UW Herbarium information). This plant is also found in watered lawns, golf courses and hard-packed soils near paths and roadsides. Human activities are the probable cause of seed dispersal and establishment in areas of maintained recreational use, world-wide (Ray 1987).

<u>Geographic Distribution:</u> Native to South America this species was first described in Chile in 1794. Lawnweed was naturalized in California by 1836. It may have traveled from Chile in hide

shipments (Ray 1987). Lawnweed is well established in CA. Lawnweed is commonly found throughout Texas, the southwest, GA, FL, AL, MI and SC with increasing infestations in southern coastal plains. It is found in wheat (Cardina). This species also occurs in New Zealand and Australia. The Weed ID Request from the University of Idaho stated "This is our first report for Pacific Northwest." (Lewis County ID Request records, 1994).

<u>History:</u> Lawnweed was first identified in 1991 in Snohomish County at the Flowing Lake County Park. Lewis County first identified lawnweed in 1994, at Ike Kinswa State Park. In 1997, sod was replaced at the public swim area and the boat launch in an effort to remove the plant, the sharp seeds and the seed bank. The Lewis County site is monitored. Humans (clothes, shoes, tires of lawnmowers, cars, bikes) appear to be a major factor in the distribution of lawnweed.

<u>Growth and Development:</u> Herbaceous winter annual with fibrous roots. The seeds (achenes) are small with stiff hairs and persistent spines that attach themselves easily to a variety of dispersal mechanisms. Lawnweed is able to establish in areas with perennial grasses and regular mowing. This species can also withstand grazing.

<u>Reproduction:</u> Germination begins with the first heavy rains of autumn. The plants produce inconspicuous greenish-translucent flowers from February to July (in CA). The plant dries up in summer weather, avoiding hot dry conditions. The achenes remain and germinate the next fall. There may be a low carry over of achenes from year to year (reduced seed bank). The advantage of this species may be the fact that it is a winter annual. Germination begins early and seedlings develop rapidly, resulting in dense local cover and eliminating competition from neighboring vegetation. (Johnson 1980).

<u>Response to Herbicide:</u> Products containing 2,4-D at the seedling stage. Selective herbicide applications are recommended, avoiding competitive vegetation. (Duble).

<u>Response to Cultural Methods:</u> Establishing thicker lawns and appropriate timing of a fall applied herbicide should help prevent the establishment of lawnweed. (Joe Yenish, pers. conversation).

<u>Response to Mechanical Methods:</u> Lewis County removed infested ground cover and replaced with sod.

Biocontrol Potentials: None known.

References:

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- *Cardina, J. C. Lawn Burweed *Soliva pterosperma*. Southern Weed Science Society Weed Identification. USDA-ARS, Tifton, GA. 13SOVPT.
- *Duble, R. L. Burweed. Texas Agricultural Extension Service.
- *The Jepson Manual: Higher Plants of California. 1993. Edited by James C. Hickman. University of California Press, Berkeley, Los Angeles and London. Pp 343-44.
- *Johnson, C. D. and P. H. Lovell. 1980. Germination, establishment and spread of *Soliva valdiviana* (Composite). New Zealand Journal of Botany. Vol. 18:487-93.
- *Radford, A. E., H. F. Ahles and C. R. Bell. 1968. Manual of the Vascular Flora of the Carolinas. University of North Carolina Press, Chapel Hill. p. 1139.
- *Ray, Martin F. 1987. Soliva (Asteraceae: Anthemideae) in California. Madrono. Volume. 34, No. 3, pp 228-239.
- * References available from the Washington State Noxious Weed Control Board Office in Kent.

Rationale for Listing:

Lawnweed establishes in high-use recreational areas - public swim and boat launching areas and sites that have a high level of disturbance in managed grass areas. This weed produces very sharp seeds (burs) that can puncture skin and attach themselves to tires. This winter annual successfully out-competes the perennial grasses of managed lawn areas in parks and recreation areas, worldwide. Lawnweed dies back in the summer leaving open, brown and bare areas, which contribute to its spread. The limited distribution, combined with the history and biology of this plant, meet the requirements for placement of *Soliva sessilis* as a Class A Noxious Weed on the Washington State Noxious Weed List.

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