Identification:

The biennial plant is low to the ground or short in height. The leaves are alternate with a cottony underside. Leaves, bracts, and the stem all have spines along them. The flower is small in size, 15 to 40 mm, standing alone or in groups of 2 to 5. Flowers do not have any rays but have many yellow colored bracts which are linear and pointed. These flowers bloom when the weather is dry, July to September, and older plant persist for awhile. In order to reproduce, seeds are produced. The fruit is long, hairy, brown, achene, tips with feathery hairs that break off easily.

Habitat and Spread:

This plant prefers dry, poor soils like well grazed grassland, limestone grasslands, cliffs, dry banks, successional fields, roadside banks, disturbed area and quarries. It can grow in sandy, loamy, or clay soils and can tolerate a wide range of pH levels. Struggling to



Management Techniques:

In order to manage the plant at a lower level of infestation you can manually cut the plant down to its root in order to cause it stress. Once the plant produce new growth leaves, cut them off as well. This will stress the roots so much it will make it harder to survive. This process needs to occur before or during the flowering stage to ensure that seeds are not released. For larger infestations, you'll need to dig up as much of the plant as possible and place into a garbage bag in order to prevent new spreading. Then place some sort of light barrier on top of the removal site. This could range from mulch, cardboard, or straw. After removal watch the site in order to cut down any new growth that might occur. Using grass seed on bare spots can also provide competition for, which can help reduce survival rate of removed thistles.

Native Range and Original Introduction:

The native range of this plant is in Europe including Britain, north of Britain by 60 de-

grees, Finland, Siberia, Caucasus, and West Asia. In some of these areas it is considered a vulnerable species. After its introduction, it has become invasive in



