

Naio thrips (*Klambothrips myopori*) monitoring at Kaloko-Honokohau National Historical Park

Annual Report 2013

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Summary of Activities:

During 2013 permit period, monitoring of the introduced pest, myoporum thrips or naio thrips (*Klambothrips myopori*) was conducted monthly on 10 randomly selected naio (*Myoporum sandwicense*) plants. The only month that we did not collect data was October, due to the government shutdown and the resulting lack of access to the study site. This is the final year of a three year project. We used an established infestation (Fig. 1) and dieback scale (Fig. 2) to assess damage by thrips. Infestation level was determined by the degree of distortion of young leaves. Dieback level was determine by the proportion of the plant tissue that show necrotic or dead tissue. We also took random samples of a single branch tip from each of five trees, to assess thrips densities at every visit.

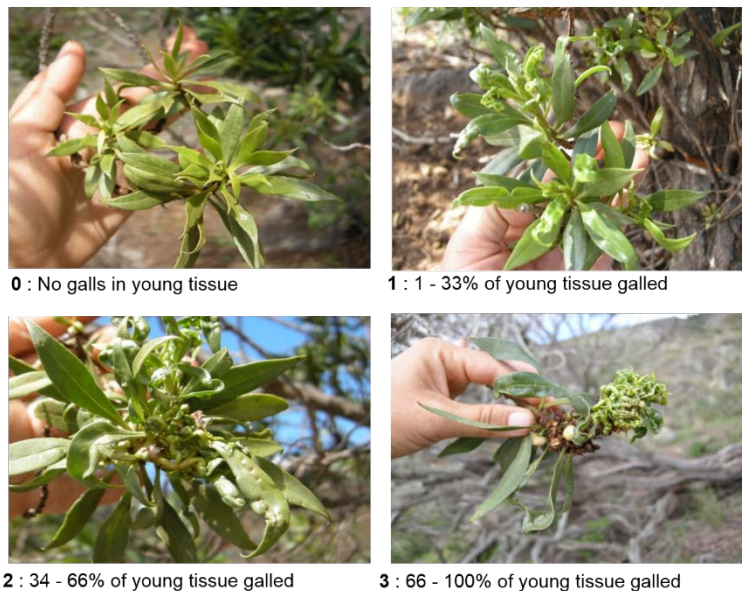


Figure 1. Infestation scale used in field monitoring (scale from 0-3)

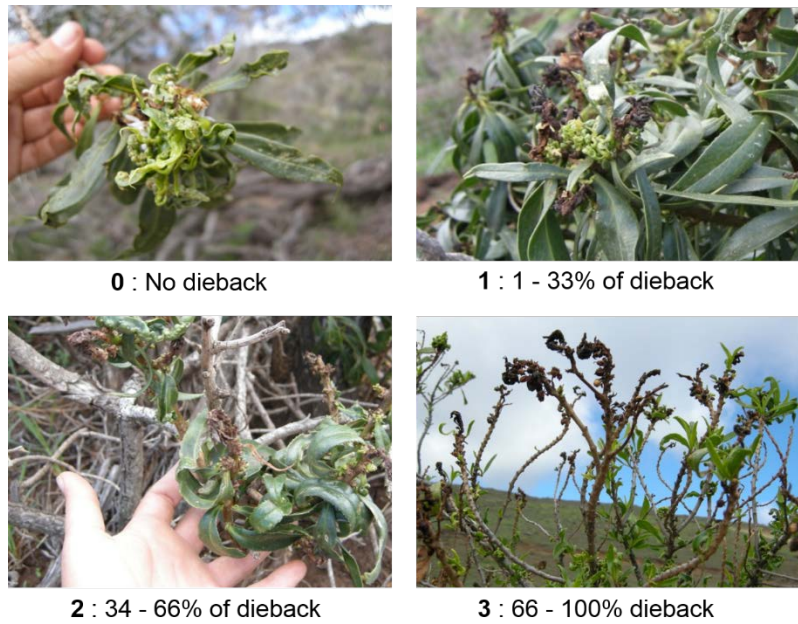


Figure 2. Dieback scale used in field monitorings (scale from 0-3)

Results:

Infestation and dieback rates increased rapidly throughout the year. By December 2013 most of the tissue rated in our monitoring was documented to have high levels of infestation (Figure 3) and dieback levels (Figure 4). Even though the high levels of infestation, this site has not yet experienced mortality due to naio thrips.

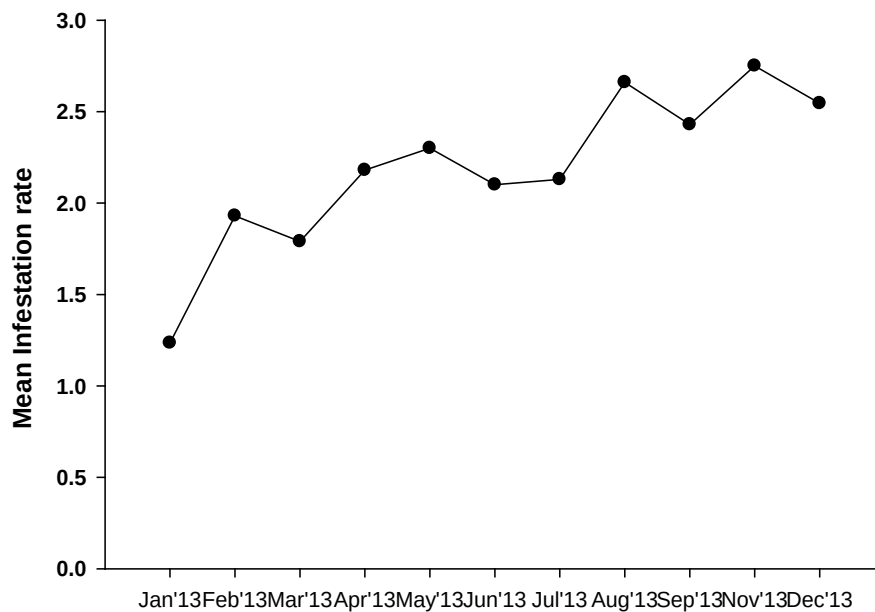


Figure 3. Infestation rates by naio thrips at Kaloko

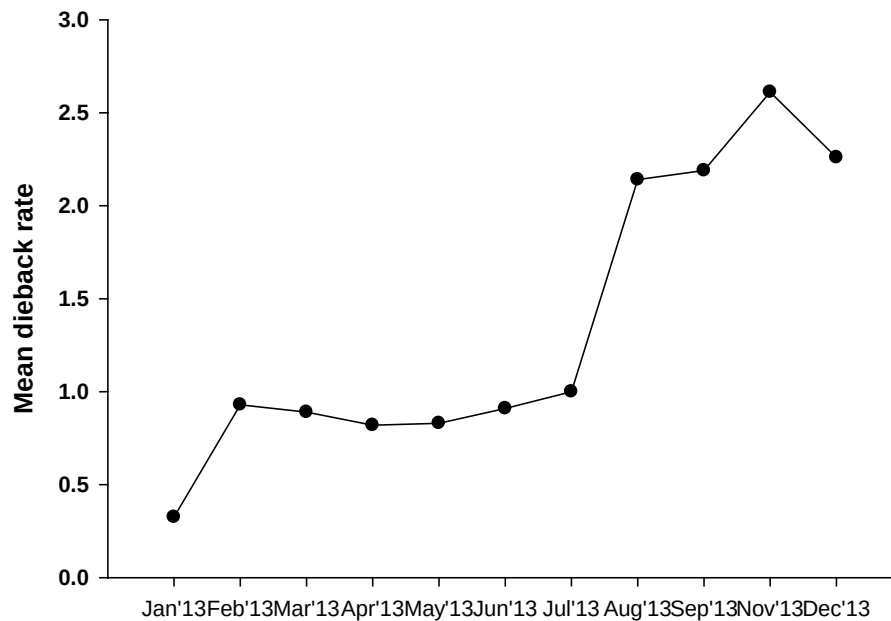


Figure 4. Dieback rates caused by naio thrips at Kaloko

Future Work:

Quarterly monitoring will be continuing in 2014, although funding for the project has lapsed. The three years of monitoring at this field site have documented a significant decline in naio health. Despite high mortality levels observed at other West Hawaii field sites, we have not observed naio mortality at Kaloko-Honokohau National Historical Park. It may be that the availability of fresh water resources (given the high water table) is helping the trees to persist and regrow despite heavy infestation.