

Trip Report: - Palau - September 13-22, 2004

The Forestry staff provided me an excellent orientation to the landscape and invasive issues in Palau . They were a most gracious host. Joe Tiobech was especially helpful.

Babeldaob Road, Disturbance and Invasive Species

On September 13 and September 20, I toured Babeldaob Island and the compact road with Joe Tiobech of Forestry. Along with the new road, the capital is moving from Koror State to Meleleok state on Babeldaob. The road and the new capital will undoubtedly open up new areas to the spread of invasive species, particularly as people settle and resettle throughout Babeldaob. It is also likely that there will be many new secondary roads built to access the homesteads, further increasing the possibility and extent of weed spread. There is a lot of disturbance with the construction of the 52 mile road and approximately ½ to an equal amount of temporary road. A new *Ipomea* species (*hederifolia* - ivy-leaved morning glory) was found at one location along the compact road ROW likely a contaminant in the seed mix. Forestry and the U.S. Army Corps Of Engineers (COE) is monitoring and treating this species along the road. Monitoring and treatment should continue for several years and Forestry should try and pass at least some of the cost along to the contractor or COE as a mitigation measure, if possible. Forestry should consult with John Vogt, the environmental representative from the COE, to determine if any mitigation money could be made available for a period of 3-5 years following the construction of the compact road for monitoring the roadside for invasive species. This will be a critical time to catch new species as they spread up the road and this is a significant additional workload for Forestry.

Merriemia peltata

Merriemia peltata is another significant concern along this road. Although this vine is believed to be an early indigenous introduction, appreciable increases in the extent and cover of this species have followed the opening of forested areas along the compact road. It has already overtopped many of the trees along portions of the road. At this time the vine is mostly restricted to a 10-30 meter corridor along the roadside. The COE has two years of aerial photography for portions of the road and it would be extremely useful to use this information, along with subsequent aerial photography to map the distribution and spread of *Merriemia* along the compact road and determine if it is moving into intact forest. Photopoints or some other monitoring would be helpful as well to create a long-term record of spread. At this time, forestry is serving as an advisor to states and private individuals for *Merriemia* control as the problem is beyond the scope of their resources to control. An area of private land in Koror that was infested with *Merriemia* has since been cleared of this vine with good success. The extent of the effort, in terms of man-hours, is unknown but would be a useful piece of information to have.

Mikania

We also visited sites of *Mikania* infestation at several taro farms on Babeldaob where Joe is doing a good job with control of this species and has a good outreach program. On Saturday, we also visited Peliliu to look at the status of *Mikania* in that State. Once again, Joe is doing a good job on the control

program and this site is important to keep *Mikania* out of the Rock Islands to the north. More work needs to be done with the Women's Groups and this action item has been identified in the strategic plan. There is only one main road in Peliliu and Joe should continue to survey along this road for *Mikania*.

Rock Islands

We also toured the rock islands on Saturday on the return from Peliliu. The forests on these islands are relatively intact. Many of the beach areas have *Casaurina*, however. These islands are managed Koror state and they have ranger staff who could monitor the access points for the presence of invasive species. Forestry could advise Koror state on species of concern and identification of these species.

Nekken Station

We also visited Forestry's new office location at Nekken (they had an office here previous to their current one and their nursery is still at this site). Forestry may want to revisit their ornamental plantings around their office (past plantings) to determine if there are any species that are potentially invasive that they would not want the public to be using now. As this will be a place where the public will be coming, I would recommend that if any are found these should be removed from the area so Forestry can set an example.

Strategic Planning Workshop

On September 14, I visited with Deborah Kingsland, the Charge d'Affaires with the U.S. embassy Koror for a brief, informal meeting. I discussed the purpose of my visit and, in particular, the workshop that was planned for the week. Deborah asked that I send her a copy of my trip report. Following that, I met with Forestry and a consultant (Patricia Leon) for the Nature Conservancy in Palau, who is facilitating the Bureau of Agriculture's strategic plan. We reviewed the progress of the plan to date and discussed the upcoming invasive weeds strategic planning workshop and the need for the weeds plan to be a part of the overall BOA plan. Because the weeds plan will be taken to the action level and therefore will contain far more detail than the current BOA plan, it is possible that the Forestry weeds plan could serve as a model for the remainder of the BOA. Palau will soon draft a National Invasive Species Strategy. Much of the work from this workshop could be incorporated into that plan in some form as yet to be determined.

On September 15-17, I met with the forestry staff and several of their close collaborators who are also part of the national group Weedbusters, to draft a strategic plan for invasive species for the Forestry section of BOA. This was a hard-working group and we accomplished a lot in the three days. Forestry's strongest asset is their staff, which is focused and hard working. Forestry has a clear idea of their problems and issues and this is reflected in the strategic plan. This plan should help them with annual work planning and hopefully, assist them with securing additional funding to complete some of their priority programs. They currently have only one full time staff person dedicated to the invasive species (weeds) program and one temporary person. The addition of 1 staff person devoted to the weeds program is a critical need identified in the strategic plan.

At the end of three days, the group had a rough draft of a plan with two principal issues: early detection and rapid response to invasions of high risk weed species and the idea that weeds are everyone's problem and everyone's business. The group drafted goals, objectives and action plans for each issue. The group also worked on two other issues, although these were not fully developed: action for widespread weeds and prevention, seen as largely the job of the Quarantine branch but Forestry's role was defined, as well as the need for outreach to the public. The group also set up a system for measuring the success of their plan. At the end of three days, the group was tired but satisfied and considered the workshop a success. Forestry staff, with the assistance of Dr. Joel Miles from OERC and Weedbusters, will set the final priorities and draft a final plan in the next few weeks.

Clidemia hirta

On Monday, Joe, Kashgar, Joel Miles and I visited several *Clidemia* sites near the Nekken Forestry station. All known sites of *Clidemia* are located within a 2 mile perimeter of the Nekken station, with the exception of one individual located near the site of the Imperata infestation at the Palau airport found by Joel Miles. *Clidemia* was first sighted in the early 1970's near the pump station at Nekken. Details of the visit can be found in the assessment of *Clidemia* to be provided to Forestry along with recommendations on control options.