



Landcare Research
Manaaki Whenua

Preparing for the Inevitable: A Pre-emptive Strike Against Glassy-Winged Sharpshooter

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Biocontrol for Conservation

- Well familiar to NZ biosecurity practitioners
- Particularly suitable
- Current focus: weeds
- A gap: Invasive environmental arthropods



What is Pre-emptive? Why Go There?

- Target potential pests prior to invasion
- Cost-effectiveness
- Some ecological damage irreversible

Pre-emptive Biocontrol

- Biocontrol is most effective at early stages of invasion
- Biocontrol: Long process
- Initiate early stages in anticipation
- How far???

Why Now? Why Us?

- Everyone is talking about it
- Pressing conservation needs
- World-leading regulatory system
- Vast experience (weeds)
- Society not risk-averse

Glassy-winged Sharpshooter



Sampling Sites in Southern California



Plant Species	Comm Name	Plant Family	N Taken	N Diseased
<i>Agathis australis</i>	Kauri	Araucariaceae	2	1
<i>Alectryon excelsus</i>	Titoki	Sapindaceae	5	2
<i>Brachyglottis</i> sp.		Asteraceae	1	1
<i>Coprosma</i> spp.	Taupata	Rubiaceae	9	5
<i>Cordyline</i> sp.		Asparagaceae	2	1
<i>Corokia cotoneaster</i>	Korokio	Argophyllaceae	2	2
<i>Corokia macrocarpa</i>	Hokataka	Argophyllaceae	1	1
<i>Corynocarpus laevigatus</i>	Karaka	Corynocarpaceae	2	2
<i>Haloragis erecta</i>	Toatoa	Haloragaceae	1	1
<i>Hebe</i> sp.	Hebe	Plantaginaceae	6	5
<i>Melicope ternata</i>	Wharangi	Rutaceae	1	1
<i>Meliicytus ramiflorus</i>	Mahoe	Violaceae	1	1
<i>Meryta sinclairii</i>	Puka	Araliaceae	4	2
<i>Metrosideros excelsa</i>	Pōhutukawa	Myrtaceae	12	6
<i>Myoporum laetum</i>	Ngaio	Scrophulariaceae	8	1
<i>Phormium</i> spp.	Harakeke	Xanthorrhoeaceae	3	2
<i>Pittosporum</i> spp.		Pittosporaceae	21	11
<i>Vitex lucens</i>	Puriri	Lamiaceae	2	1

Glassy-winged Sharpshooter Symptoms

Dieback Symptoms: Titoki



Glassy-winged Sharpshooter Symptoms



Dieback Symptoms: Pōhutukawa

Glassy-winged Sharpshooter Egg Parasitoids

Gonatocerus ashmeadi
on Five-finger



Unparasitised
on Jojoba



Ufens sp. on
Coprosma



What's Next

- Review *Ufens* safety & climate match
- Find out if *Xylella* is in NZ
- Apply to release parasitoids???

