

and how we can control it, our attempts to promote environmentally, economically and socially sustainable blue-green development in PICTs in the face of global change will be increasingly problematic.

Key Words: Fruit flies, food and livelihood security, invasive alien species, agrobiodiversity.

Reversing an Ecological Collapse: Native Habitat Restoration and Invasive Alien Plant Control in Rapa Nui (Easter Island)

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The native vascular flora of Rapa Nui (Easter Island, South Pacific), a 166 km² subtropical island located 4,000 km from Tahiti and 3,700 km from Chile, comprises only 30 native flowering plants (including 4 endemics) and 16 ferns (4 endemics). Several plant extinctions (such as the "toromiro" *Sophora toromiro* and the palm *Paschalococcus disperta*) during Polynesian occupation have been widely documented (called "ecocide" by Jared Diamond), but more cryptic extinctions (mainly ferns) have occurred since European arrival. Most of the remaining native and endemic species are threatened by anthropogenic pressures such as fires, grazing and browsing by introduced ungulates (horses, cattle, goats) and invasive plants, with more than 180 naturalized alien species. A collaborative (France-French Polynesia and Chile-Rapa Nui) restoration project was initiated in 2012 in three selected sites with remnant native vegetation (Rano Kau crater forest, Ovahe coastal vegetation and Rano Raraku wetland). Its goals were to control invasive plants in permanent plots in order to promote native plant recruitment and to ultimately reintroduce native or endemic species. After one year of monitoring, the results on weed control (hand removal of herbaceous species and cut stump chemical treatment for woody species) and native plant recruitment are promising, especially for the native coastal plants in Ovahe. The complete success of this restoration project, which is part of a larger program on sustainable development and resource management in the island, will require long-term funding, trained and dedicated people, as well as local community support to try to reverse the "ecological collapse".

Key Words: Rapa Nui, restoration, weed control.

Living Pollution: Are Invasive Alien Species (IAS) a Greater Threat to the Pacific Islands than Climate change??

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Invasive alien species (IAS), in the forms of a wide range of weeds, vertebrate and invertebrate animals and diseases, are a "living pollution" just as serious, but harder to prepare for and recover from, than natural disasters, overexploitation, environmental degradation and economic downturns. Unlike these threats, and like human induced climate change and sea-level rise, IAS will not go away . . . and, in most cases, only get worse. Largely unseen, IAS silently move beneath the radar screens of most of us as they destroy the health and productivity of our islands. Dramatic examples of impacts of IAS on island environments and food, health, economic and livelihood security are seen in New Zealand, Australia, Hawaii, French Polynesia, New Caledonia, Guam, Kiribati, Samoa, Fiji, Solomon Islands and many other island countries and territories. The long-term real cost of IAS is almost unimaginable, and, if economists would take the time to assess it, they would find that IAS contribute to a form of "bio-bankruptcy" comparable to the current financial crisis in Europe, which severely undermines food and livelihood security and increases the vulnerability of every country. This is particularly true for island countries where most extinctions of native plants and animals and, historically, the devastation of taro and other important food and export crops and death of large numbers of our indigenous human populations, have been due to IAS, against which islands species, ecosystems and human communities have little natural resistance. There is also increasing evidence that marine IAS constitute an extremely serious, but less understood, threat to our fisheries, coral reefs and marine ecosystems. If the control and management of IAS are not made a priority, building resilience to all forms of climate, environmental and economic change will be problematic.

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