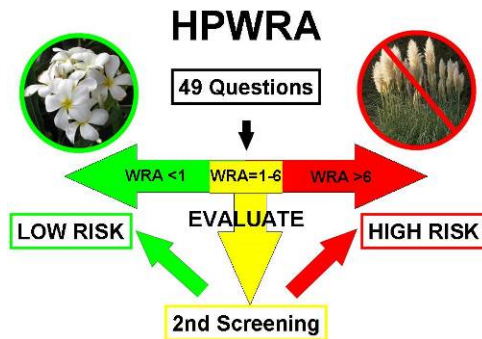


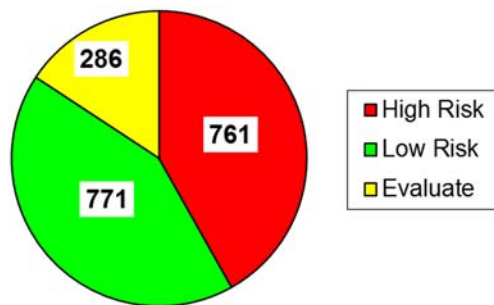
Title: Continued Support of the HPWRA
Organization: Hawaii-Pacific Weed Risk Assessment (HPWRA)
Award(s): \$78,688.00

Introduction: The Hawaii-Pacific Weed Risk Assessment (HPWRA) system is an internationally recognized screening tool that rates a plant’s potential to become invasive by answering 49 questions about its biology, ecology and history of invasiveness elsewhere. The answers generate a score that predicts a plant’s likelihood to be invasive in Hawaii or other tropical Pacific islands. For 15+ years, the HPWRA system has been an important tool for the promotion of responsible importation and planting decisions and has provided information necessary for preventing new invasive plant species from becoming unknowingly established and disseminated throughout the islands. The screening system addresses several goals and strategies developed by the 2015-2020 strategic planning process and recommendations of the Regional Biosecurity Plan for Micronesia and Hawaii and increases the capacity and collaboration within the Prevention, Established Pests, and Public Outreach Working Groups. The HPWRA program is available to international, federal, state, and county agencies and private sectors to use as a preventative measure to assess the risk of introducing or planting a species in the country, state, or county. In accordance with these objectives, a Weed Risk Assessment Specialist has been funded by the Hawaii Invasive Species Council to the amount of \$78,688 in 2016.



Achievements in 2016

[Deliverable 1] 100 New or Revised Assessments: The HPWRA continues to provide new and to update old assessments, both for species already present in the Hawaiian Islands, as well as for new introductions. This information is summarized and disseminated to the requesting individual or agency via direct correspondence, and to the public and land management agencies through technical and general publications, websites, public presentations, and other outreach activities. From January to December 2016, 163 assessment requests were received, and 125 assessments (120 new and 5 revised) were completed.



1,818 Risk Assessments by Category

As of December 31, 2016, 1,818 assessments have been completed and assigned to the following categories:

- High Risk (761 plants): Predicted to become invasive in Hawaii or Pacific Island ecosystems
- Low Risk (771 plants): Not predicted to become invasive
- Evaluate (286 plants): Needs more information to make a prediction of invasiveness

Assessment requests in 2016 originated from members of the public as well as individuals associated with island invasive species committees, county, state and federal government agencies, private businesses, nurseries and botanical gardens, university researchers and extension agents, and

international invasive species organizations, among others. The following is a list of highlights and accomplishments during this time period:

Island Invasive Species Committees (ISCs), Early Detection (ED) Teams & Conservation Organizations:

The HPWRA produced sixty-four species assessments for Invasive Species Committees and conservation organizations to aid in early detection and prioritization for control of potentially invasive plants. Assessments provide scientifically researched information on a species' potential invasiveness to Hawaii and other Pacific Islands and a concise, consolidated source of current references useful to assist in management decisions. The HPWRA is also utilized as a component of plant species prioritization efforts by resource managers in the islands. For example, the Office of Mauna Kea Management (OMKM) utilizes HPWRA scores and ratings to prioritize management of incipient and established non-native plants within the Mauna Kea Science Reserve. OMKM staff requested assessments for 31 plants included in their management plan that had not already been screened. In 2015, 19 of these had been screened, and in 2016, the remaining 12 assessments from this list have been completed.



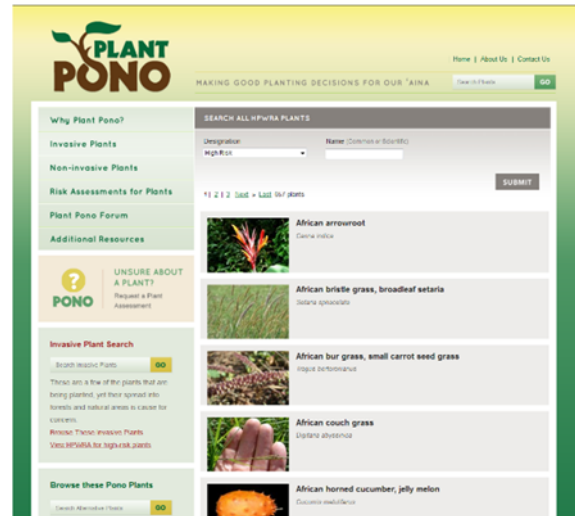
64 Assessments requested in 2016 for ISCs, ED Teams, & Conservation Organizations

Other Public and Private Organizations, Individual Plant Growers, and Landscape Professionals:

The HPWRA program receives screening requests from plant growers, landscape professionals, and both public and private individuals and institutions including the National Tropical Botanical Garden (NTBG), Honolulu Botanical Garden, University of Hawaii faculty and students, and others. Assessments are also provided for plants submitted to the Plant Pono liaison on behalf of the landscaping and nursery industries. Sixty-one such assessments were completed in 2016. Of note were the thirty-six species of ornamental plants screened for nurseries participating in the Plant Pono Endorsement program. As part of this program, nurseries agree to request a risk assessment when introducing a new plant species, and to discontinue or avoid using plants identified as having a high risk of becoming invasive. Other assessments of interest include sixteen rare or novel plants introduced for cultivation and conservation purposes at the National Tropical Botanical Gardens on Kauai. NTBG has been submitting plants for screening prior to cultivation since 2013.



[Deliverable 2] hpwra.org & Partner Website Updates: All new and previously completed assessments continue to be posted at hpwra.org. This site allows users to download individual assessments, as well as a regularly updated list of all assessments completed to date. From January 1, 2016 to December 31, 2016, the website received 2,510 visits and 5,090 page views, demonstrating continued interest and need for risk assessment predictions to make informed planting decisions. In addition, all 1818+ assessments to date have been uploaded and posted to the Plant Pono website, a more user-friendly, non-academic planting site with HPWRA-generated content.



WRA Page (www.plantpono.org)

Summary of website developments (January 2016 – December 2016):

- 1,818 assessments posted to hpwra.org (<https://sites.google.com/site/weedriskassessment/home>)
- 1,818 assessments posted to Plant Pono (www.plantpono.org/)
- 155 plant images uploaded to Plant Pono website
- HPWRA Project website (<https://sites.google.com/site/hpwraproject/>) provides access to the work calendar, quarterly and annual reports, and other HPWRA-related documentation.

[Deliverable 3] Quarterly and Annual Reports: Quarterly and annual reports documenting HPWRA progress and accomplishments are publicly available through the HPWRA Project website. A synopsis of daily work activity can also be viewed through a project calendar hosted at the website: (<https://sites.google.com/site/hpwraproject/>).

[Deliverable 4] Public presentations and Outreach: To promote awareness and encourage use of the HPWRA system, the WRA Specialist is involved in additional outreach activities with partner agencies and interested parties. The following highlights outreach activities and efforts from January – December 2016:



Kona Master Gardeners Presentation, Feb 2

- 02 Feb: Native plant presentation to Kona Master Gardeners class, Kona, HI (25 attendees)
- 02 Feb: WRA & invasive plant presentation to Kona Master Gardeners class, Kona, HI (25 attendees)
- 29 Mar: Participation in ROD panel on Crossroads, Akaku Maui Community TV
- 28 Apr: Conducted WRA workshop in Hilo, HI (6 participants)
- 22 Oct: Native plant talk at Lahaina Public Library (12 attendees)

[Deliverable 6] Respond to public inquiries directed to the Hawaii Invasive Species Council and island Invasive Species Committees about invasive plants, and questions about specific plant assessments:

The WRA Specialist, stationed on Maui, responded to 37 plant-related calls, providing information on identification, impacts and control of invasive, non-native plants.

Other Activities in 2016

The WRA Specialist has participated in or contributed to a number of activities pertaining to invasive species and conservation in the Hawaiian Islands, including the following:

- 27 Jan: Wrote letter of support for HB799
- 03 Feb: Attended Maui Rapid Ohia Death meeting at UHMC
- 04 Feb: Met with journalist writing an article for Nautilus Magazine about novel ecosystems
- 22 Feb: Participated in on-line online seminar: "A Life-cycle Approach to Low-invasion Potential Bioenergy Production" hosted by ELI and NISC
- 03 Mar: Attended Maui Rapid Ohia Death meeting at UHMC
- 04 Mar: Phone conversation with journalist writing an article on invasive edible plants for Atlantic magazine
- 18 Mar: Attended CTAHR Seminar: "Impacts of Non-native Ungulate Removal on Plant Communities and Ecological Processes"
- 08 Apr: Led native garden tour for Kamehameha School teachers
- 20 Apr: Worked on update of ROD vector analysis
- 06 May: Provided feedback for HISC biosecurity survey & priorities
- 30-31 May: Participated in workshop "Frugivory & Seed Dispersal on Islands", Honolulu & Hilo, May30-June 3
- 01 Jul: Managed MISC heli-ops for pampas grass control
- 29-22 Jul: Peer review for Restoration Ecology on restoration of formerly grass-dominated riparian corridors



ROD discussion on Crossroads, Akaku Maui Community TV, Mar 29

- 03 Aug: Managed MISC heli-ops for pampas grass control
- 25 Aug: Attended International Crop Biosecurity Festival Biosecurity Meeting. Kihei, Maui
- 30 Aug: East Maui Watershed Partnership art show receiving (screening art submissions to ensure they are native species of Maui Nui)
- 01 Sep: Submitted testimony at HDOA ROD Quarantine hearing
- 12 Sep: Led a native garden tour activity with Kamehameha School students for MISC
- 07 Oct: Restoration Ecology peer review on dry forest restoration article
- 25-26 Oct: Prepared contribution for Frugivores & Seed Dispersal Facebook page on loss of native dispersers in the Hawaiian Islands
- 04 Nov: Attended Maui Nui Natural Area Weed Management Forum
- 11 Nov: Participated in silversword monitoring at Haleakala National Park with UH Botany staff
- 30 Nov: Attended ROD Summit in Honolulu and moderated Rapid Response breakout session
- 01 Dec: Attended HISC brownbag meeting on legislative process (remote participation)
- 01 Dec: Judge at Iao School Science Fair, Wailuku, Maui
- 02 Dec: Attended MISC meeting on LFA
- 05 Dec: Interviewed about weed risk assessment and invasive plant threats to watershed by author writing a book on watersheds
- 16 Dec: Wrote article on Rapid 'Ōhi'a Death for Native Hawaiian Plant Society annual newsletter



Native Hawaiian Plant Society
Newsletter – 2017

For more information, please contact: hpwra@yahoo.com or visit hpwra.org