DEPARTMENT OF TRANSPORTATION’S

REPORT TO THE LEGISLATURE

OF

THE STATE OF HAWAII

REQUIRED UNDER

SECTION 14.2, HAWAII REVISED STATUTES

**STATEWIDE NOXIOUS INVASIVE PEST PROGRAM**

**FROM ACT 106**

**SESSION LAWS OF HAWAII 2012**

**STATE OF HAWAII**

**DEPARTMENT OF TRANSPORTATION, HIGHWAYS DIVISION**

**OCTOBER 2014**

**Report on Highways Division**

**Statewide Noxious Invasive Pest Program**

**Project Background**

The purpose of the Hawai‘i Department of Transportation (HDOT) Highways Division Statewide Noxious Invasive Pest Program (SNIPP) is to implement the goals, objectives, and tasks outlined in the Highways Division 10-year SNIPP Strategic Plan (2012–2022) while supporting HDOT’s mission to provide safe and efficient travel ways. The 10-year SNIPP Strategic Plan was adopted by the Highways Division in 2012 to guide the division in meeting its responsibilities as a good steward of State lands.

Pursuant to and Federal (L24# HWY-SM 2.1873) resources, funds were made available for the execution of the first 5 years (2013–2017) of the 10-year SNIPP Strategic Plan, Federal Aid Project No. STP 1500(73), titled Statewide Noxious Invasive Pest Program. SWCA Environmental Consultants (SWCA) was contracted to implement the first 5 years of the goals, objectives, and tasks outlined in the 10-year SNIPP Strategic Plan.

The SNIPP project embraces five main goals to aid in the control of invasive species and the conservation of native flora and fauna in Hawai‘i:

1. the prevention of the spread and establishment of invasive species along highway rights-of-way (ROWs);
2. early detection and rapid response to identify, report, and respond to newly detected species before they become a detriment to highway ROWs;
3. control and management of already-established species to reduce their harmful impacts along state highways;
4. restoration using non-invasive or appropriate native plants on highway ROWs that reduce risk from harmful invasive plants; and
5. community outreach and collaboration with other state agencies, non-profit organizations, and neighboring land owners to ensure long-term solutions for the invasive species problem in Hawaiʻi.

The purpose of this report is to provide an update on the Highways Division’s accomplishments related to the SNIPP project from October 1, 2013, to September 30, 2014.

**Report**

SWCA’s work for the first year of the SNIPP Project (October 1, 2013–September 30, 2014) accomplished the following tasks related to the five main goals listed above (prevention, early detection and rapid response, control and management, restoration, and community outreach and collaboration.

**Prevention:**

1. Best management practices (BMPs) were published via laminated flash cards and wall posters created for maintenance and construction workers as a visual aid to prevent the entry and spread of invasive species on highway ROWs. The cards were distributed during Invasive Species Prevention Trainings to Highway Division maintenance personnel and contractors on Hawai‘i Island, Kauaʻi, Maui, and O‘ahu.
2. An Ecological Zones and Native Planting List was created as a guide for HDOT landscape architects, engineers, and contractors to facilitate selection of appropriate native Hawaiian plant species for highway ROW projects on Hawai‘i Island, Kaua‘i, Maui, and O‘ahu. The benefits of using native plants for roadside revegetation include enhanced soil and slope stabilization, conservation of water, aesthetics, carbon sequestration, weed suppression, and enhanced habitat for native wildlife. When selecting plants for roadside revegetation, it is important to consider what plants are adapted to the conditions in that location. Plants have a better chance of surviving if they are locally adapted to the site being revegetated. The Ecological Zones and Native Planting List can help save time and money by guiding HDOT designers, engineers, and contractors to choose the right plants for roadside landscape projects.
3. Six half-day BMP and Invasive Species Prevention Trainings were conducted on Hawai‘i Island, Kaua‘i, Maui, and O‘ahu for 122 HDOT maintenance staff and 18 contractor staff.

**Early Detection:**

1. Roadside surveys were conducted in each district to identify native and invasive species in highway ROWs. These surveys covered 219 miles on Hawai‘i Island, 109 miles on Kaua‘i, 100 miles on Maui, and 129 miles on O‘ahu.
2. A Coconut Rhinoceros Beetle (CRB) early detection effort was launched with an initial survey conducted on highway ROWs surrounding the Honolulu International Airport Viaduct off of Nimitz Highway. This was done in collaboration with the Hawai‘i Department of Agriculture and the U.S. Department of Agriculture. An additional 30 miles of highways were surveyed for CRB along Fort Weaver Road, Ewa Beach Park, Iroquois Road, Roosevelt Avenue, Coral Sea Road, Enterprise Street, and Kualakai Parkway.
3. Two quarterly electronic newsletters focusing on pests, especially CRB, fountain grass, tumbleweed, and little fire ant, were distributed to Highways Division maintenance staff.
4. Pest Identification cards were produced for maintenance staff for Hawai‘i Island, Kaua‘i, Maui, and O‘ahu to assist in the identification and early detection of problem species for each island. The Pest Identification cards were incorporated into the Invasive Species Prevention Trainings in all districts.
5. As an invasive species early detection initiative, a Draft Basis of Design report was created for two sentinel landscapes on ROWs on O‘ahu. Sentinel landscapes can be used as a tool to document newly introduced invasive species before they become widespread.

**Control and Management:**

1. Six 2-day workshops were conducted on the *Highway Manual for Sustainable Landscape Maintenance* on Hawai‘i Island, Kaua‘i, Maui, and O‘ahu for 122 HDOT maintenance and landscaping staff and 18 contractors. The workshops were developed to increase workforce competencies of the Highways Division’s maintenance and landscaping staff and contractors. Workshop topics included roadside safety and personal protective equipment; temporary traffic control; mowing and edging in landscape maintenance zones (LMZs); rubbish and debris management; pruning trees, palms, shrubs, and hedges; replacing plants in the LMZs; use of pesticides in vegetation maintenance; fertilizer application; irrigation systems; invasive species management; contractor qualifications; reporting; and inspecting.
2. Tree Risk Management and Pesticide Use Awareness curricula were developed for six 3-day *Maintenance Professional Track Development Trainings*. The objectives of the trainings are to educate HDOT Highways Division maintenance supervisors and contractors on: (1) how to identify, analyze and evaluate tree risk in highways ROW; and (2) principles of weed control, herbicide application and compliance. The trainings will be conducted for each district on Hawai‘i Island, Kaua‘i, Maui, and O‘ahu.
3. Invasive species removal was completed on highway ROWs in the following areas.
	1. Hawai‘i Island:
		1. Miconia on Mamalahoa Highway (Highway11) in Volcano
		2. Molucca raspberry on Mamalahoa Highway (Highway11) in Volcano
		3. Smoke bush on Mamalahoa Highway (Highway11) and Queen Ka‘ahumanua Highway (Highway19)
		4. Dahoon hollyon Mamalahoa Highway (Highway11)
		5. Rubber vineon Mamalahoa Highway (Highway11)
		6. Albizia on Highway Mamalahoa Highway (Highway11), Ka‘ahumanua Highway (Highway19), Keaau-Pahoa Road (Highway130), and Saddle Road (Highway 200)
		7. Tree tobacco along Saddle Road (Highway 200) between mile markers 46 and 51
	2. Kaua‘i:
		1. Calliandra on 1.5 acres of Kuhio Highway (Highway 50) near Halfway Bridge
	3. Maui:
		1. Common mulleinon Kula Highway (Highway 37)
		2. Ivy gourd on Honoapiilani Highway (Highway 30)
		3. Milk thistle on Haleakala Highway (Highway 378)
	4. O‘ahu:
		1. Small populations of fountain grass off Pali Highway (Highway 61) and Farrington Highway (Highway 93)
4. An Integrated Pest Management chapter was drafted to incorporate into the *Highway Manual for Sustainable Landscape Maintenance.*
5. A National Pollutant Discharge Elimination System application is being developed for Kaua‘i District to be submitted to the Hawai‘i State Department of Health.
6. A 10-Year Invasive Species Project Prioritization Plan is being developed to guide project selection that will mitigate and reduce the least-acceptable invasive species impacts.

**Restoration:**

1. A Highways Division 10-year Statewide Native Species Project Prioritization Plan is being drafted to help HDOT select valuable native species projects that are likely to be successful.
2. Six native species planting projects are being monitored on highway ROWs on O‘ahu to identify project issues and inform future projects.
3. Due to the lack of native seed availability, seeds of five native species were collected for future HDOT landscaping projects. This seed collection includes approximately 15,000 Oʻahu sedge seeds, 21,000 ʻaʻaliʻi seeds,200,000kāwelu seeds, and 500 nehe seeds*.*
4. Ten landscape and construction project plans were reviewed to incorporate BMPs for invasive species prevention and to recommend appropriate species for planting.

**Community Outreach and Organizational Collaboration:**

1. An Adopt-a-Highway weeding and native planting project was launched in collaboration with the Sierra Club Adopt-a-Highway group near Sandy Beach, O‘ahu. In September 2014 at mile marker 10.2, volunteers weeded grasses surrounding naturally occurring native plants and applied mulch to prevent the re-growth of weeds.

**Budget**

The total budget for the first year of the SNIPP Project is $2,060,389. Federal funds obligated are $1,648,311.20, and state highway funds are $412,077.80. Table 1 lists the first-year budget for each of the five major tasks of the SNIPP Project.

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| **Table 1.** Budget Details for Year 1 of the Statewide Noxious Invasive Pest Program  |
| **Task** | **Budget for Year 1 (2013–2014)** |
| Prevention | $119,031 |
| Early detection and rapid response | $746,984 |
| Control and management | $633,987 |
| Restoration | $191,925 |
| Community outreach and collaboration | $277,103 |
| Allowances | $91,359 |
| **Total**  | **$2,060,389** |