

**State and Private Forestry
FY 2010 Western Competitive
Resource Allocation
Multi-State Project Proposal**

Filename	
HI_ants.doc	
Administration Information	
Dollar Amount Requested:	\$300,000
Matching Share:	\$470,964

Lead Applicant Information	
State Forestry Agency:	Hawaii Division of Forestry & Wildlife
Contact Person:	Robert Hauff
Address:	1151 Punchbowl St., Rm. 325
City/State/Zip Code:	Honolulu 96795
Phone (Work/Cell):	
Email:	Robert.D.Hauff@hawaii.gov
Fax:	

Lead Applicant - Project Information			
Descriptive Title of Project:	Prevention, detection management of invasive forest ants in the Pacific region		
Names of Partnering Agencies / Organizations:	University of Hawaii, Pacific Cooperative Studies Unit (PCSU) Hawaii Department of Agriculture (HDOA)		
State(s):	Hawaii, Federated States of Micronesia, Palau, Commonwealth of Northern Mariana Islands (CNMI)	Congressional Districts:	1 and 2
Counties:	statewide	Forest Service Regions:	Pacific Southwest Region 5

Lead Applicant – Total Leverage							
Please specify each 3 rd party contributor (partnering organizations and agencies, including other Federal) and the dollar value of each contribution. Please DO NOT show grant requested funds in this table.							
3	Contributors: (Please specify by name)	HDOA	PCSU				TOTAL
	Value of Contributions:	\$222,490	\$93,474	\$0	\$0	\$0	\$315,964

Lead Applicant – Project Budget					
	Grant Share (\$ requested)	Applicant	Non-Federal Contributors	TOTAL	
		Cash¹	In-Kind²		
4	Personnel / Labor:	\$100,000	\$0	\$166,000	\$266,000
	Fringe Benefits:	\$0	\$0	\$127,122	\$127,122
	Travel:	\$70,000	\$0	\$0	\$70,000
	Equipment:	\$15,000	\$0	\$0	\$15,000
	Supplies:	\$5,000	\$0	\$0	\$5,000
	Contractual:	\$0	\$0	\$0	\$ 0
	Construction:	\$0	\$0	\$0	\$ 0
	Other:	\$0	\$0	\$0	\$ 0
	Indirect Costs:	\$10,000	\$0	\$22,842	\$32,842
	TOTAL:	\$200,000	\$ 0	\$315,964	\$515,964

5		Project Duration		
		What is the duration of this project? <input type="checkbox"/> One Year <input checked="" type="checkbox"/> Two Years <input type="checkbox"/> Three Years		

6		National Relevance	
		Conserve Working Forest Landscapes <input checked="" type="checkbox"/>	Protect Forests From Harm <input checked="" type="checkbox"/>
		Enhance Public Benefits From Trees and Forests <input checked="" type="checkbox"/>	

¹ 'Cash' is the value of *any qualifying match* the applicant pays for such as cash, staff time, supplies, or equipment.

² 'In-Kind' is the value of *any qualifying match* contributed by a nonfederal 3rd party contributor such as donated time, supplies, or equipment.

Co - Applicant Information	
1.1	State Forestry Agency: Federated States of Micronesia
	Contact Person: Gibson Susumu
	Address: Dept. of Economic Affairs P.O. Box PS-12
	City/Zip Code: Palikir, Pohnpei FSM 96941
	Phone (Work/Cell):
	Email:
	Fax:

Co - Applicant Project Information				
2.1	Title of Project:	Prevention, detection management of invasive forest ants in FSM		
	Partnering Agencies / Organizations:	Secretariat of the Pacific Community, FSM Government, Conservation Society of Pohnpei College of Micronesia, state govts (Yap, Chuuk, Kosrae, Pohnpei)		
	State(s):	Yap, Chuuk, Kosrae, Pohnpei	Congressional Districts:	1 and 2
	Counties:	all	Forest Service Regions:	Pacific southwest division 5

Co-Applicant – Total Leverage							
3.1	3rd Party Contributors: (Specify by name)	SPC	FSM	CSP	COM	States	TOTAL
	Value of Contributions:	\$10,000	\$10,000	\$10,000	\$5,000	\$10,000	\$0

Co-Applicant – Project Budget					
	Grant Share (\$ requested)	Applicant	3 rd Party Contributors	TOTAL	
		Cash	In-Kind		
4.1	Personnel / Labor:	\$20,000	\$10,000	\$20,000	\$50,000
	Fringe Benefits:	\$0	\$0	\$0	\$ 0
	Travel:	\$8,000	\$10,000	\$15,000	\$38,000
	Equipment:	\$4,000	\$0	\$0	\$4,000
	Supplies:	\$2,000	\$0	\$0	\$2,000
	Contractual:	\$0	\$10,000	\$0	\$10,000
	Construction:	\$0	\$0	\$0	\$ 0
	Other:	\$0	\$0	\$0	\$ 0
	Indirect Costs:	\$0	\$2,000	\$10,000	\$12,000
	TOTAL:	\$34,000	\$37,000	\$45,000	\$116,000

Co - Applicant Information	
1.2	State Forestry Agency: CNMI
	Contact Person: Victor Guerrero
	Address: Dept of Lands & Natural Resources P.O. Box 10007
	City/Zip Code: Saipan, MP i6950
	Phone (Work/Cell):
	Email:
	Fax:

Co - Applicant Project Information				
2.2	Title of Project:	Prevention, detection management of invasive forest ants in CNMI		
	Partnering Agencies / Organizations:	Northern Marianas College CNMI Division of Agriculture, Division of Fish and Wildlife, Division of Environmental Quality ** APPLICANT MATCH INSERTED HERE BASED ON 200K MATCH WAIVER FOR CNMI**		
	State(s):		Congressional Districts:	1 and 2
	Counties:	all	Forest Service Regions:	Pacific South West Division 5

Co-Applicant – Total Leverage								
3.2	3rd Party Contributors: (Specify by name)							TOTAL
	Value of Contributions:	\$0	\$0	\$0	\$0	\$0	\$0	\$ 0

Co-Applicant – Project Budget					
	Grant Share (\$ requested)	Applicant	3 rd Party Contributors	TOTAL	
		Cash	In-Kind		
4.2	Personnel / Labor:	\$20,000	\$20,000	\$0	\$40,000
	Fringe Benefits:	\$0	\$0	\$0	\$ 0
	Travel:	\$8,000	\$8,000	\$0	\$16,000
	Equipment:	\$3,000	\$3,000	\$0	\$6,000
	Supplies:	\$2,000	\$2,000	\$0	\$4,000
	Contractual:	\$0	\$0	\$0	\$ 0
	Construction:	\$0	\$0	\$0	\$ 0
	Other:	\$0	\$0	\$0	\$ 0
	Indirect Costs:	\$0	\$0	\$0	\$ 0
	TOTAL:	\$33,000	\$33,000	\$ 0	\$66,000

Co - Applicant Information	
1.3	State Forestry Agency: Palau
	Contact Person: Agriculture and Forestry
	Address: P.O. box 460
	City/Zip Code: Koror, Palau 96940
	Phone (Work/Cell):
	Email:
	Fax:

Co - Applicant Project Information				
2.3	Title of Project:	Prevention, detection management of invasive forest ants in Palau		
	Partnering Agencies / Organizations:	Belau National Museum National Invasive Species Council State of Hatothobei		
	State(s):	all	Congressional Districts:	1 and 2
	Counties:	all	Forest Service Regions:	south west Pacific division 5

Co-Applicant – Total Leverage							
3.3	3rd Party Contributors: (Specify by name)	Belau Museum	NISC				TOTAL
	Value of Contributions:	\$15,000	\$5,000	\$0	\$0	\$0	\$20,000

Co-Applicant – Project Budget					
	Grant Share (\$ requested)	Applicant		3 rd Party Contributors	TOTAL
		Cash		In-Kind	
4.3	Personnel / Labor:	\$8,000	\$10,000	\$10,000	\$28,000
	Fringe Benefits:	\$0	\$0	\$0	\$ 0
	Travel:	\$20,000	\$2,000	\$3,000	\$25,000
	Equipment:	\$3,000	\$0	\$1,000	\$4,000
	Supplies:	\$2,000	\$0	\$1,000	\$3,000
	Contractual:	\$0	\$0	\$0	\$ 0
	Construction:	\$0	\$0	\$0	\$ 0
	Other:	\$0	\$0	\$0	\$ 0
	Indirect Costs:	\$0	\$8,000	\$5,000	\$13,000
	TOTAL:	\$33,000	\$20,000	\$20,000	\$73,000

Co - Applicant Information	
1.4	State Forestry Agency:
	Contact Person:
	Address:
	City/Zip Code:
	Phone (Work/Cell):
	Email:
	Fax:

Co - Applicant Project Information				
2.4	Title of Project:			
	Partnering Agencies / Organizations:			
	State(s):		Congressional Districts:	
	Counties:		Forest Service Regions:	

Co-Applicant – Total Leverage								
3.4	3rd Party Contributors: (Specify by name)							TOTAL
	Value of Contributions:	\$0	\$0	\$0	\$0	\$0	\$0	\$ 0

Co-Applicant – Project Budget					
	Grant Share (\$ requested)	Applicant	3rd Party Contributors	TOTAL	
		Cash	In-Kind		
4.4	Personnel / Labor:	\$0	\$0	\$0	\$ 0
	Fringe Benefits:	\$0	\$0	\$0	\$ 0
	Travel:	\$0	\$0	\$0	\$ 0
	Equipment:	\$0	\$0	\$0	\$ 0
	Supplies:	\$0	\$0	\$0	\$ 0
	Contractual:	\$0	\$0	\$0	\$ 0
	Construction:	\$0	\$0	\$0	\$ 0
	Other:	\$0	\$0	\$0	\$ 0
	Indirect Costs:	\$0	\$0	\$0	\$ 0
	TOTAL:	\$ 0	\$ 0	\$ 0	\$ 0

Co - Applicant Information	
1.5	State Forestry Agency:
	Contact Person:
	Address:
	City/Zip Code:
	Phone (Work/Cell):
	Email:
	Fax:

Co - Applicant Project Information				
2.5	Title of Project:			
	Partnering Agencies / Organizations:			
	State(s):		Congressional Districts:	
	Counties:		Forest Service Regions:	

Co-Applicant – Total Leverage								
3.5	3rd Party Contributors: (Specify by name)							TOTAL
	Value of Contributions:	\$0	\$0	\$0	\$0	\$0	\$0	\$ 0

Co-Applicant – Project Budget					
	Grant Share (\$ requested)	Applicant	3rd Party Contributors	TOTAL	
		Cash	In-Kind		
4.5	Personnel / Labor:	\$0	\$0	\$0	\$ 0
	Fringe Benefits:	\$0	\$0	\$0	\$ 0
	Travel:	\$0	\$0	\$0	\$ 0
	Equipment:	\$0	\$0	\$0	\$ 0
	Supplies:	\$0	\$0	\$0	\$ 0
	Contractual:	\$0	\$0	\$0	\$ 0
	Construction:	\$0	\$0	\$0	\$ 0
	Other:	\$0	\$0	\$0	\$ 0
	Indirect Costs:	\$0	\$0	\$0	\$ 0
	TOTAL:	\$ 0	\$ 0	\$ 0	\$ 0

Project Description

Maximum 10,000 Characters Including Spaces – Clearly summarize the proposed project, including goals, objectives, measurable outputs, outcomes, and how grant funds will be used towards successful completion of the project. – Please specify the components of the project that will occur in each state.

Invasive ants pose a significant threat to forest ecosystems through biodiversity losses, interference with essential ecological processes and promotion of scale and mealybug populations. This is especially so for island forest ecosystems which are predisposed to biological invasions. In severe cases, invasive ants have caused the collapse of entire forest ecosystems through defoliation of the rainforest canopy and predation on keystone species. Additionally, utilization of forests by people living subsistence lifestyles can be severely compromised by ant stings, promotion of phytophagous insects on subsistence tree crops and lack of game for hunting. The Yellow Crazy Ant (*Anoplolepis gracilipes*), the Singapore Ant (*Monomorium destructor*) and the Little Fire Ant (*Wasmannia auropunctata*) are especially noteworthy forest pests in Pacific Island ecosystems. Potential additional threats to the Pacific region include the introduction of the Red Imported Fire Ant (*Solenopsis invicta*) and the Raspberry Ant (*Paratrechina sp. nr. pubens*), which are not known to occur in the region at this time; and the continuing spread of the Little Fire Ant (*Wasmannia auropunctata*).

Ants are notorious invaders and five ant species are listed in the top 100 worst invasive alien species by the International Union for Conservation of Nature (IUCN) (Lowe et al. 2000). Preventing the entry of new invasive forest ant species and managing those already present must be addressed at a regional scale because once present in the region the likelihood of spread to other locations within the region is much greater.

1. The Little Fire Ant, *Wasmannia auropunctata*: (present in Hawaii, threatens Palau, CNMI, FSM)

7 *Wasmannia auropunctata* or the Little Fire Ant (LFA) is an invasive ant species native to South America. Over the last century it has spread occupy a pan-tropical distribution, including New Caledonia, Solomon Islands, Wallis and Futuna, and Tahiti. In the last two decades, Little Fire Ants appear to be spreading more rapidly than before. Since the 1990s, new infestations have been discovered in Vanuatu, Cairns Australia, Tuvalu and Hawai'i. More recently, LFA invaded Papua New Guinea and is causing severe hardship to forest villages in East Sepik Province.

Little Fire Ants over-run urban and forest ecosystems developing three dimensional super-colonies that occupy both the ground and arboreal strata. They impact wildlife populations, domestic animals, and public health. Little Fire Ants often sting domestic and wild animals on the eyes, causing keratopathy leading to blindness. They are a serious urban, agricultural and ecological pest, enhancing homoptera populations, stinging agricultural workers and interfering with beneficial insects introduced for biological control.

Arguably the most damaging invasive forest ant in the Pacific, the Little Fire Ant has been slowly spreading. It has not yet been recorded in US affiliated island countries and territories in the region, but is now present on the islands of Hawaii and Kauai where it has over-run forests, rural areas and homes and caused severe impacts to forest ecosystems and the ability of people to enjoy and utilize forests. There is substantial trade and movement of people between Hawaii and US affiliates in the Pacific, providing numerous opportunities for continuing spread of this species to US affiliates. This is a species very difficult to detect at the quarantine barrier and much more likely to reach forest ecosystems without being intercepted by quarantine staff. Once established it is extremely difficult to control in all but simple ecosystems.

2. The Singapore Ant, *Solenopsis destructor*: (broad pan-Pacific distribution, causing impacts in Palau)

The Republic of Palau is one of the world's smallest and youngest sovereign states. The 16 island states that make up Palau are scattered across more than 400 miles of the western Pacific Ocean. Travel to individual island states is difficult and uncertain.

No thorough survey for invasive ants has been conducted in Palau and there is only incomplete knowledge of the

distribution of invasive ant species. Inter-island quarantine is often ad-hoc and varies by state. In recent years, Singapore Ants (*Monorium destructor*) were discovered on Tobi Island and Helen reef, which comprise Hatohobei, the state most distant from Koror. The islands are extremely small and are only barely above sea level. Erosion and rising sea levels are a real and constant threat. On these islands, Singapore Ants have severely impacted the life of residents and threaten the dominant tree species *Tournefortia argentea* (Rirs) trees through their association with phytophagous insects. These trees provide habitat for many bird species and contribute to the structural stability of the islands. More recently, Singapore Ants have been discovered in Babeldaob, and Peleliu although the extent of its distribution there is uncertain.

It is important to Palau's forests, the lifestyles of its residents, and possibly the stability of some of the lower-lying islands that the extent of the threat posed by Singapore Ants is measured and a suitable response formulated. Additionally, a thorough survey of all islands is needed in order to determine the distribution of all ant species through the islands, so that responses and quarantine strategies can be formulated.

The Cooperative Island Initiative (CII) is hosted by the Invasive Species Specialist Group (ISSG) of the Species Survival Commission of IUCN (the International Union for Conservation of Nature), under the umbrella of the Global Invasive Species Programme. In 2006, the CII funded a feasibility study for eradication of Singapore Ants from Hatohobei state (<http://www.issg.org/cii/PII/demo/helenReef.html>). The eradication program developed as part of the feasibility study has been partly implemented, however no funding is currently available for the completion of this project. While the situation has changed somewhat since 2006 (additional populations detected), the feasibility study provides a template for eradication. This project will, in part, build on this study and the actions needed to complete the eradication program.

3. The Yellow Crazy Ant, *Anoplolepis gracilipes*: (broad pan-Pacific distribution, causing impacts on Oroluk, FSM)

This ant species, although widely distributed in the Pacific, is characterized by episodic population explosions, usually in association with phytophagous insects. These population explosions can cause the collapse of entire ecosystems as evidenced on Christmas Island (Indian Ocean) and Tokelau where forest canopy collapse and predation on keystone species have been reported. Currently Oroluk Island in FSM is experiencing a similar outbreak of this species.

Proposed response

The Pacific Ant Prevention Plan (PAPP)

(http://www.invasivespecies.net/database/species/reference_files/PAPP.pdf) was developed by the Pacific Invasive Ant Group through the IUCN in 2003 to serve as a co-ordinated template for detection, prevention response and policy activities of invasive ants in the Pacific region. It identified 11 invasive ant species of concern including the Yellow Crazy Ant, the Singapore Ant and the Little Fire Ant which are forest species. The Pacific Ant Prevention Plan was embraced by 21 Pacific island countries and territories present at a PPPO (Pacific Plant Protection Organization) meeting held by SPC in Fiji, March 2004. Hawaii was influential in the development of the plan but has had little involvement since. The Secretariat of the Pacific Community has undertaken to implement it but currently no funding is available, thus exposing US affiliates in the Pacific to the risk of further exotic ant incursions. This proposal seeks to implement the plan initially for Hawaii, American Samoa, CNMI, Palau and the Federated States of Micronesia and later to be extended to all US Pacific affiliates. The program is comprised of the following components:

- Early detection through surveys of points of entry and at-risk forest habitats,
- Training in ant identification and survey techniques utilizing GPS and simple desktop mapping options
- Development of island-specific emergency response plans
- Continuing development of web-based resources that allow for quick access to relevant resources
- Ensuring policy and regulatory frameworks are in place to respond to incursions
- Incorporation of ant response activities with island invasive species action plans, and facilitating inter-agency cooperation and coordination
- Training in management of invasive ants and implementation of management plans in high value forest

ecosystems currently impacted by invasive ant species.

This project will serve as a case study and is expected to be extended to other US affiliates in the Pacific in the future. Should funding for the PAPP be forthcoming in the future, it is anticipated the two programs would work co-operatively or merge to form a single prevention strategy for the entire Pacific region.

The University of Hawaii Pacific Cooperative Studies Unit (PCSU) will manage the project through DOFAW. The Hawaii Department of Agriculture will contribute funding and in-kind to support an ant specialist to coordinate detection, prevention, policy and response activities. The appointee will work with universities, conservation groups NGOs island forestry agencies and Hawaiian State agencies to survey for invasive forest ants and train local agencies in survey methods. Management plans will be developed and implemented for selected pest ant invasions along with generalized response plans applicable to other ant and pest species.

Program Integration

Maximum 1250 Characters Including Spaces

The proposed project integrates elements of S&PF Forest Health Protection and Urban Forestry programs. Trees, ecosystems, and the people who utilize them are directly impacted by ant invasions in Pacific islands and this project takes an approach that uses prevention, early detection, survey/monitoring and control; as well as works with communities that utilize forests for traditional subsistence, religious, and other needs .

In addition, the proposed project addresses detection and control of invasive ants at a regional (Pacific-wide) level and aims to co-ordinate activities within and between Pacific Island Countries and Territories thus providing a regional defense against invasive ants.

To achieve this, both within-country and between-country integration is needed.

Within-country integration includes:

- Palau feasibility study for eradication of Singapore Ants
- Island Invasive Species strategies
- forest health programs
- country quarantine programs
- legislation and invasive species policy

between-country integration includes:

- the Pacific Ant Prevention Plan,
- regional invasive species strategies
- regional forest health surveillance
- regional quarantine strategies

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Collaboration

Maximum 1250 Characters Including Spaces

Hawaii

University of Hawaii Pacific Cooperative Studies Unit

Hawaii Department of Lands and Natural Resources

University of Hawaii College of Tropical Agriculture and Human Resources

Hawaii Invasive Species Council

Big Island Invasive Species Committee

Kauai Invasive Species Committee

County of Hawaii

CNMI

Northern Marianas College

CNMI Division of Agriculture, Division of Fish and Wildlife, Division of Environmental Quality

Palau

National Invasive Species Council (Palau)

Balau National Museum

Environmental Quality Protection Board

9

FSM

College of Micronesia, COM FSM

Conservation Society of Pohnpei, CSP

Chuuk Conservation Society , CCS

KIRMA (Kosrae)

USDA, NRCS

The Nature Conservancy TNC

Pohnpei Invasive Species Taskforce PIST

Chuuk Invasive Species Taskforce CIST

Kosrae Invasive Species Taskforce KIST

Yap Invasive Species Taskforce YIST

FSM National Government, Dept. Economic Affairs

Pohnpei State Government, Dept. Economic Affairs

Kosrae State Government, Dept of Economic Affairs

Yap Agriculture

FSM Quarantine

Regional

South Pacific Regional Environment Programme

Secretariat of the Pacific Community

Invasive Species Specialist Group

Leverage	
10	<p>Maximum 1250 Characters Including Spaces</p> <p>The project will lever in-kind support from the forestry, quarantine and invasive species agencies of US affiliated countries and in-kind support from the Hawaiian Department of Agriculture and the Pacific Cooperative Studies Units.</p> <p>This project will be leveraging both Federal and State funds utilized by HDOA.. The Hawaii Department of Agriculture will be utilizing its own funds and personnel to assist in this project including staff support supplied by 19 individuals, at a rate of 10% FTE, equipment (including vehicles) and supplies (laboratory support supplies and equipment).</p> <p>Further, HDOA receives Federal funding from the Cooperative Agriculture Pest Survey program of USDA-APHIS. Funds for this program will be used as leverage including the total value of the CAPS IFA project, \$28,000 for two years, 1 entomologist at 50% FTE and 1 technician at 20% FTE. CAPS salary support totals \$25,400 with fringe of \$10,000. CAPS IFA Project will also support the purchase of survey equipment and supplies totaling an addition \$10,000 in leverage funds.</p> <p>PCSU will provide leverage support for administration of the proposal in addition to current staff support for the Invasive Ant Coordinator position.</p>

Meaningful Scale	
11	<p>Maximum 1250 Characters Including Spaces</p> <p>The Pacific Ant Prevention Plan recognizes the need for addressing invasive species issues in the Pacific from a regional perspective. Preventing invasive forest ant species from establishing or spreading in the Pacific region must be addressed through a regional approach. The ease with which these species disperse once established in a location means neighboring islands and countries are at much greater risk of invasion. Should an invasive ant become established on one island in the Pacific, it provides a source for it spreading to other islands within the country and to neighboring countries. Such island invasions in the Pacific are likely to lead to considerable ecological impact, biodiversity losses and hardship for communities, especially those living a subsistence lifestyle in forest locations. Therefore a regional approach as the one proposed is a strategy that should be considered. For the current proposal, we intend to involve a sub-set of US affiliates and extend this to encompass all US affiliates as funding becomes available and ultimately develop a whole-of-region approach.</p>

Sphere of Influence	
12	<p style="color: red; margin: 0;">Maximum 1250 Characters Including Spaces</p> <p>This proposal will provide a number of benefits that extend beyond the physical and discipline boundaries of the states/Territories/Islands involved.</p> <p>First, it will be an example of a regional approach to prevention and control of invasive forest species. The model for dealing with one invasive forest species can be used a a generic approach by the states for other species of concern.</p> <p>Second, it will be a model for other island states to adapt to their individual needs: both against invasive forest ants and other species that might impact on forests.</p> <p>These invasive ants to not respect boundaries of any sort. The approach and methods used from this project will be shared with many international countries in the Pacific, in hopes that a Pacific-wide collaborative efforts can be achieved in the future.</p>

Sustainability of Outcomes	
13	<p style="color: red; margin: 0;">Maximum 1250 Characters Including Spaces</p> <p>The projects focuses on skills transfer and capacity building for local forestry agencies quarantine staff, invasive species agencies and NGOs, including components related to survey methodology, taxonomy and early detection, incursion response and pest management techniques. These skills are expected to outlive the project and continue to be used after project completion for surveys of invasive ants and other forest pests. The project will include supply of GPS units, bait distribution equipment and training in basic desktop pest mapping. It shall also include increased taxonomy capability, identification guides, survey and response plans (which can be adapted to address other forest pests), and identification of usable resources to build a region-wide network of expertise and contacts.</p>