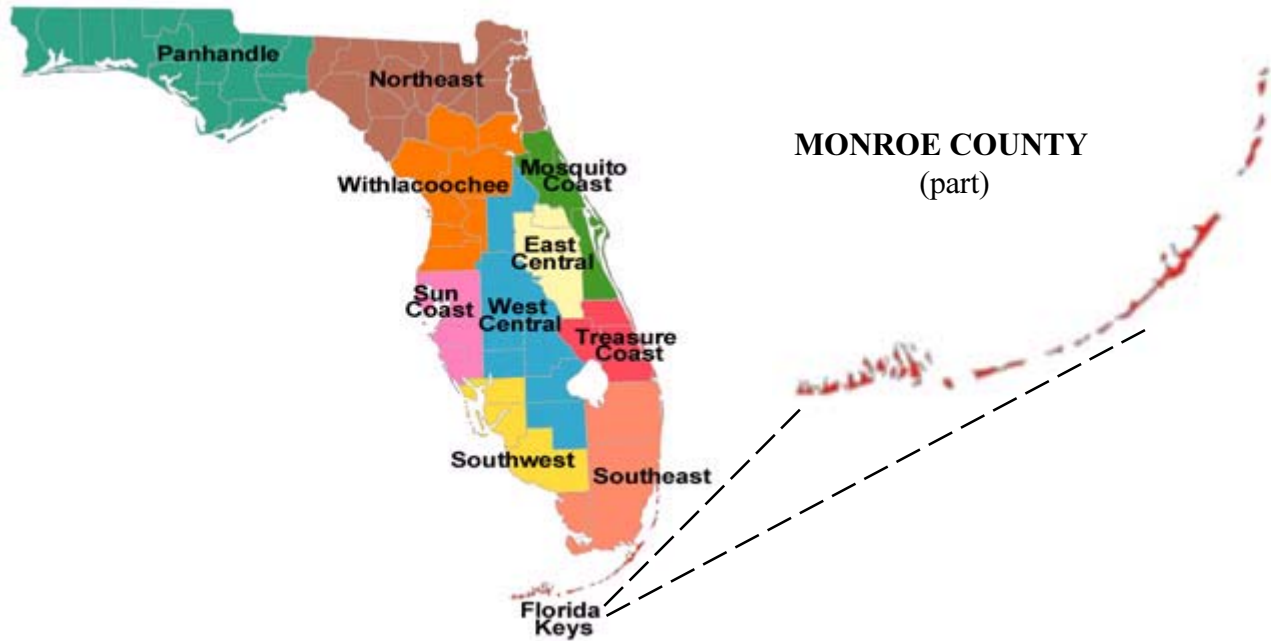


Florida Keys Regional Working Group



The Florida Keys Regional Working Group liaison is Mr. Chris Bergh, The Nature Conservancy, P.O. Box 420237, Summerland Key, Florida, 33042, phone: 305-745-8402, fax: 305-745-8399, e-mail: cbergh@tnc.org. Eleven projects were completed in the Keys, involving partnerships with local, state, and federal conservation agencies, as well as the U.S. Navy, and non-profit conservation groups.

The National Key Deer Refuge has participated since the beginning of the Uplands Program. The Refuge protects habitat critical to survival of the endangered key deer, and other species of rare animals and plants. Two projects were completed on the Refuge this year. The project manager for both projects was:

Phil Frank, Refuge Manager
 U.S. Fish and Wildlife Service
 28950 Watson Boulevard, Big Pine Key, Florida 33043
 Phone: 305-872-2239, Fax: 305-872-3675
 E-mail: phil_frank@fws.gov

Big Pine Key Invasive Exotic Plant Control	County: Monroe
PCL: National Key Deer Refuge	PCL Size: 8,650
Project ID: FK-016	Project Size: 137 acres
Fiscal Year 02/03	Project Cost: \$60,583.20

The site consisted of 834 parcels located on Big Pine and No Name Keys. These properties were purchased by the U.S. Fish and Wildlife Service, the CARL program, and the Monroe Land Authority, to provide essential habitat for the endangered Key deer. All lots targeted for this project are under public ownership by either the State of Florida, the U.S. Fish and Wildlife Service, or Monroe County. The lands are all managed by the U.S. Fish and Wildlife Service as part of the National Key Deer Refuge headquartered on Big Pine Key. These sites were infested by rapidly expanding populations of invasive exotic plant species, primarily Brazilian pepper and Australian pine.

Target Plants	Common Name	FLEPPC Rank	Treatment	Herbicide
<i>Casuarina equisetifolia</i>	Australian pine	Category I	cut stump	Garlon 4
<i>Schinus terebinthifolius</i>	Brazilian pepper	Category I	cut stump	Garlon 4

Big Pine/Ohio Keys Invasive Exotic Plant Control

PCL: National Key Deer Refuge

Project ID: FK-025

Fiscal Year 02/03

County: Monroe

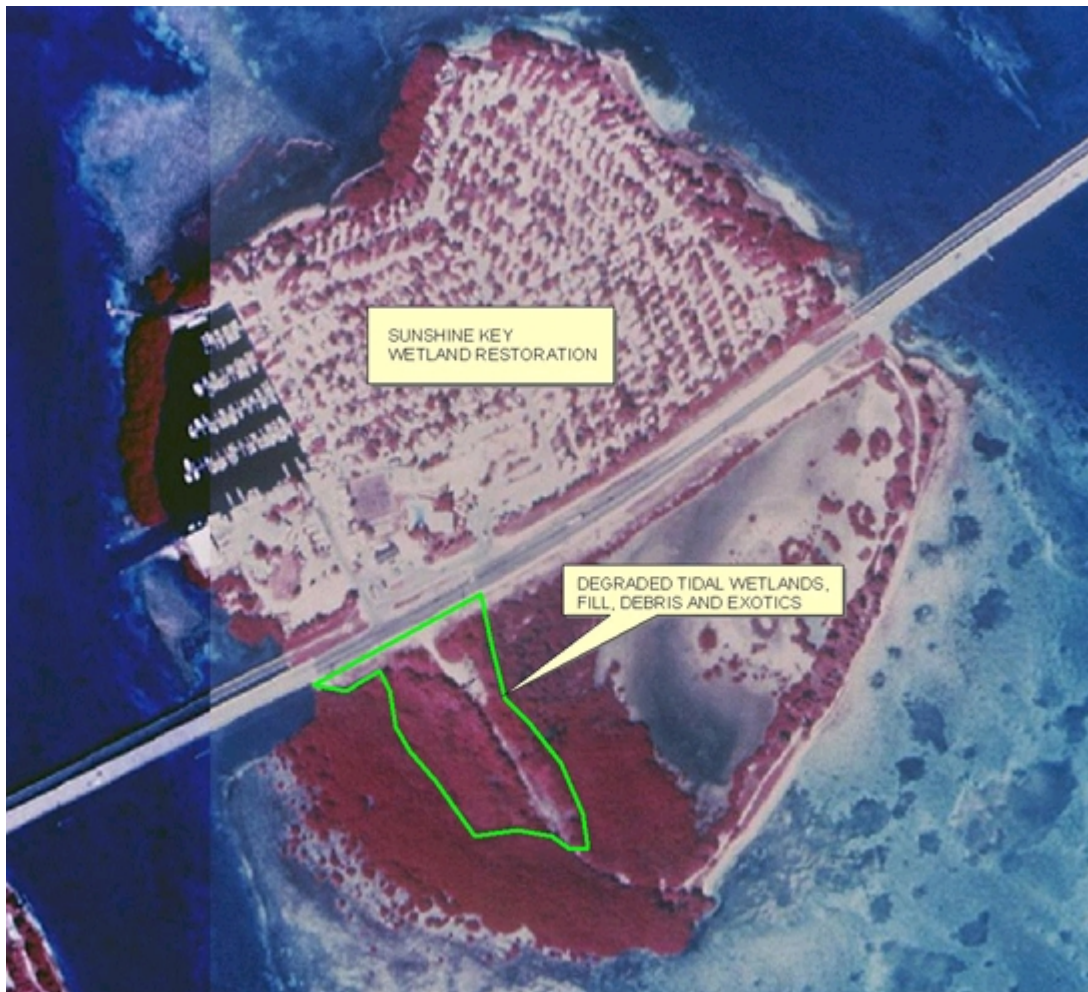
PCL Size: 8,649 acres

Project Size: 10 acres

Project Cost: \$81,000

Natural communities on the Refuge include tropical hardwood hammock, pine rocklands, freshwater wetlands, and mangrove swamp. The refuge is home to a number of rare plants and animals, five of which are found nowhere else in the world. Ohio Key and Kinercha Subdivision on Big Pine Key were infested by rapidly expanding populations of invasive exotic plant species, primarily Brazilian pepper, Australian pine, seaside mahoe, and lather leaf. These properties were purchased by the U.S. Fish and Wildlife Service, the CARL program, and the Monroe Land Authority, to provide essential habitat for the endangered Key deer. All lots targeted for this project are under public ownership and are all managed by the U.S. Fish and Wildlife Service as part of the National Key Deer Refuge headquartered on Big Pine Key.

Target Plants	Common Name	FLEPPC Rank	Treatment	Herbicide
<i>Schinus terebinthifolius</i>	Brazilian pepper	Category I	mechanical	n/a
			cut stump	Garlon 3A
<i>Casuarina equisetifolia</i>	Australian pine	Category I	mechanical	n/a
			cut stump	Garlon 3A



Boca Chica Beach Invasive Exotic Plant Control

County: Monroe

PCL: Key West Naval Air Station

PCL Size: 6,323

Project Manager: Florida Keys Environmental Restoration Trust Fund

Jeanette Hobbs, Manager

11400 Overseas Highway, Suite 204, Marathon, FL 33050

Phone: 305-289-9988; Fax: 305-289-0073

E-mail: jhobbs@audubon.org

Project ID: FK-018

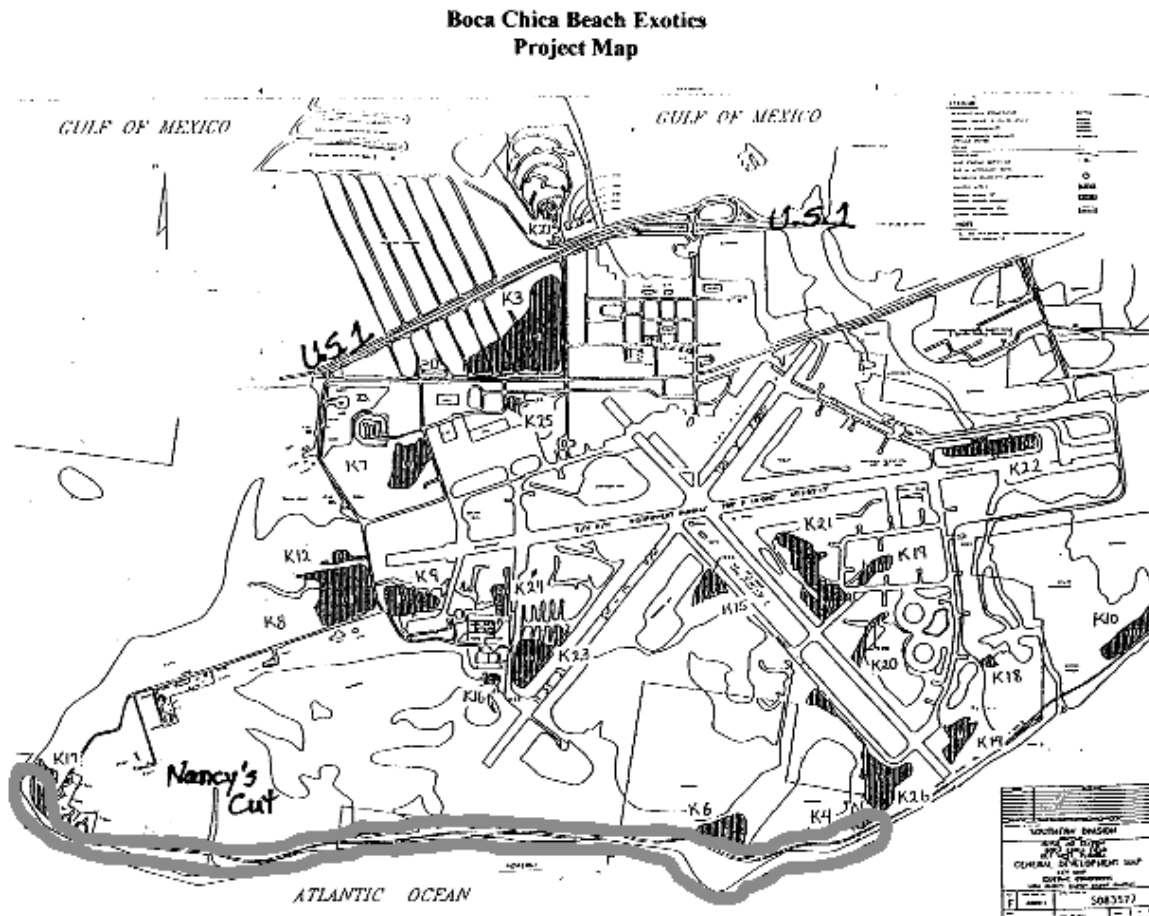
Project Size: 45 acres

Fiscal Year 02/03

Project Cost: \$34,387

The site consists of a natural dune feature that runs along the southern perimeter of Boca Chica Key. This natural beach berm was infested by rapidly expanding populations of invasive exotic plant species. The two primary invaders were latherleaf and Brazilian pepper. Also present, to a much lesser extent, were Australian pine and seaside mahoe. The area treated is owned by the U.S. Navy as part of Key West Naval Air Station and is managed as open space and natural habitat. About 12.4 acres of the project area was west of an old tidal creek called Nancy's Cut, with the remaining 32.6 acres east of the cut. The exotics were largely concentrated along the berm top and road edges.

Target Plants	Common Name	FLEPPC Rank	Treatment	Herbicide
<i>Colubrina asiatica</i>	latherleaf	Category I	cut stump	Garlon 4+Stalker
<i>Schinus terebinthifolius</i>	Brazilian pepper	Category I	cut stump	Garlon 4+Stalker
<i>Casuarina equisetifolia</i>	Australian pine	Category I	cut stump	Garlon 4+Stalker
<i>Thespesia populnea</i>	seaside mahoe	Category I	cut stump	Garlon 4+Stalker
<i>Sansevieria hyacinthoides</i>	bowstring hemp	Category II	cut stump	Garlon 4+Stalker



Boca Chica Key



Latherleaf (the leaves create a thin lather when crushed and rubbed in water) carpeted the old dune ridge with an impenetrable thicket.



Boca Chica Key



Treated latherleaf along the beach.

An Australian pine dying on the berm.



Treated latherleaf and Brazilian pepper on the berm.

Dove Creek Hammock Invasive Exotic Plant Control

County: Monroe

PCL: Florida Keys Wildlife and Environmental Area

PCL Size: 1,809 acres

Site Manager: Florida Fish and Wildlife Conservation Commission

Randy Grau
 P.O. Box 430541, Big Pine Key, Florida 33043
 Phone: 305-872-0022
 E-mail: graur@fwc.state.fl.us

Project ID: FK-022, -030

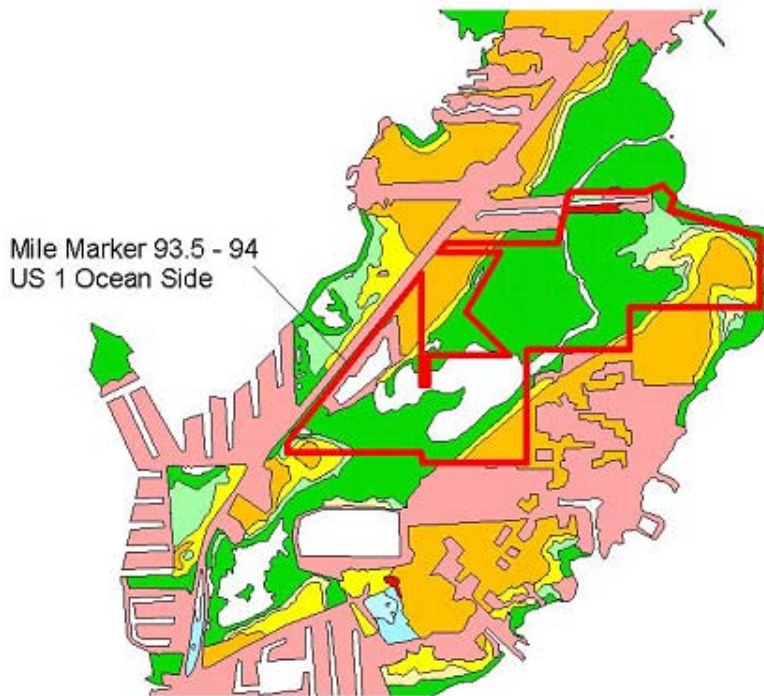
Project Size: 51.82 acres

Fiscal Year 02/03

Project Cost: \$20,190.58

Dove Creek Hammock is a site on Key Largo and is part of the Florida Keys Wildlife and Environmental Area. The hammock harbors rare and endemic species of plants and animals. The project area lay along US-1 and included 29.51 acres of tropical hardwood hammock, 12.31 acres of scrub mangrove, and 10 acres of disturbed area. The exotics were randomly scattered throughout the tropical hardwood hammock and in the scrub mangrove habitat. A 2-acre infestation of lead tree was mechanically controlled with a Hydro-ax type brush mower, with a foliar spot application of all lead tree re-sprouts using Escort herbicide.

Target Plants	Common Name	FLEPPC Rank	Treatment	Herbicide
<i>Schinus terebinthifolius</i>	Brazilian pepper	Category I	cut stump	Garlon 3A
<i>Casuarina equisetifolia</i>	Australian pine	Category I	cut stump	Garlon 3A
<i>Manilkara zapota</i>	sapodilla	Category I	cut stump	Garlon 3A
<i>Leucaena leucocephala</i>	lead tree	Category II	mechanical	n/a



Dove Creek Hammock



A well-girdled tree.

Dove Creek Hammock



Mechanical control is expensive, typically costing thousands of dollars per acre, but in a small area of dense infestation can be the most efficient means of control.



Plantation Key Conservation Lands Invasive Exotic Plant Control

County: Monroe

PCL: Roth Tract, Keoskie Key

PCL Size: 3.68, 15.1 acres

Project Manager: Islamorada, Village of Islands

Zully Williams

P.O. Box 568, Islamorada, Florida 33036

Phone: 305-664-2345, Fax: 305-853-5357

E-mail: zully.williams@islamorada.fl.us

Project ID: FK-026, 031

Project Size: 18.32 acres

Fiscal Year 02/03

Project Cost: \$29,629.73

The Roth tract and Keoskie property are state-owned lands managed by Islamorada as conservation areas on Plantation Key. The Keoskie property is predominantly Rockland Hammock, with approximately 10% of the site containing lead tree and Brazilian pepper. The Roth tract is a parcel of partially cleared land approximately 15% of which is Rockland Hammock, with the remainder in degraded condition. This portion of the site contained invasive exotic plant species, primarily Brazilian pepper, Australian pine, and lead tree. The southwestern portion of the property contained Brazilian pepper, which was close to residential housing. Australian pine occurred along the edge of a canal. Lead tree was pervasive throughout the property. Poisonwood trees on the two parcels serve as food for a variety of species, including the threatened white-crowned pigeon.

Target Plants	Common Name	FLEPPC Rank	Treatment	Herbicide
<i>Schinus terebinthifolius</i>	Brazilian pepper	Category I	basal/cut stump	Garlon 4
<i>Lygodium microphyllum</i>	Old World climbing fern	Category I	foliar	Rodeo
<i>Leucaena leucocephala</i>	lead tree	Category II	basal/cut stump	Garlon 4



Dense growths of Brazilian pepper and Australian pine crowd out native hammock plants. Clearing out the invasive species is a necessary precursor to restoring the natural communities.

Key West Salt Ponds Invasive Exotic Plant Control

County: Monroe

PCL: Key West Salt Ponds

PCL Size: 150

Project Manager: City of Key West
 Cynthia Snell, Landscape Coordinator
 1801 White Street, Key West, Florida 33040
 Phone: 305-293-6418, Fax: 305-293-8320
 E-mail: csnell@keywestcity.com

Project ID: FK-029
 acres

Project Size: 150

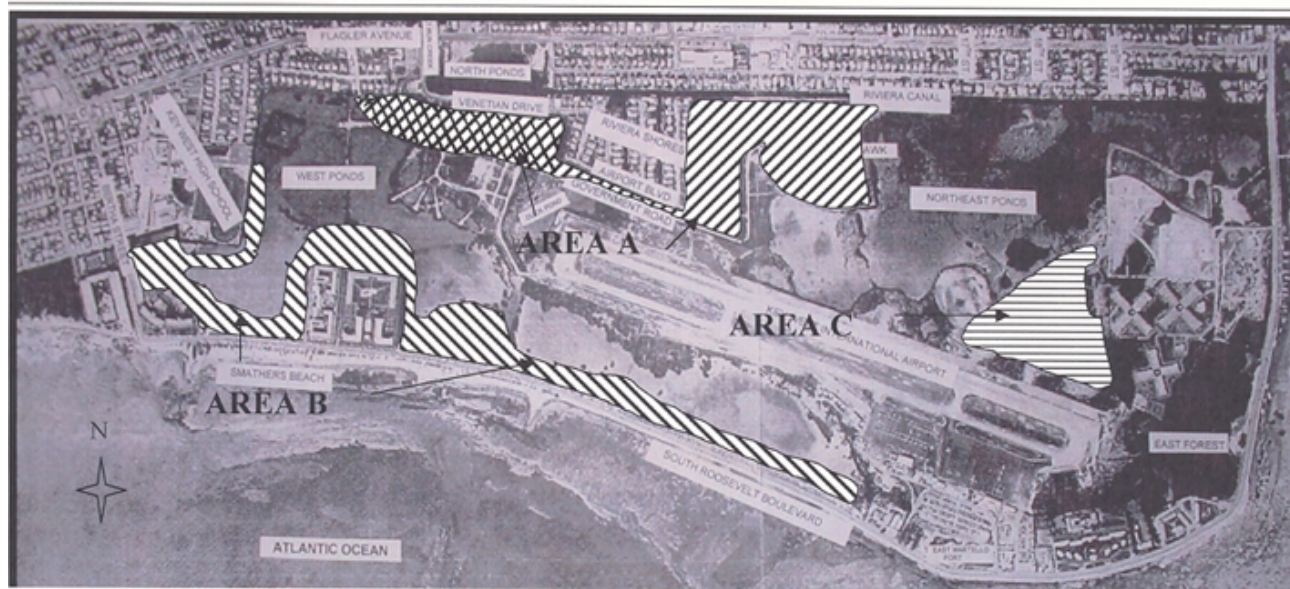
Fiscal Year 02/03

Project Cost: \$97,400

The goal of this project was to treat Australian pine trees within designated portions of the Key West Salt Ponds. The City also received a \$50,000 federal grant to assist in removing Brazilian pepper, schefflera, and other exotics from the property.

Target Plants	Common Name	FLEPPC Rank	Treatment	Herbicide
<i>Casuarina equisetifolia</i>	Australian pine	Category I	mechanical	n/a
			cut stump	Garlon 3A

Removal of Invasive Pest Plants from the Key West Salt Ponds
 Aerial Photograph Identifying Work Areas



- Area A - North of Government Rd, & South of Venetian Drive and the Riviera Canal, & includes the abandoned Hawk Missile Base.
- Area B - Southern Salt Ponds, extending from Key West International Airport to Bertha Street and North behind Key West High School.
- Area C - Northeast Salt Ponds, north of the eastern portion of the airport runway.
- Area D - Area where Australian pines will be cut, chipped, and stumps ground.

Key West Salt Ponds

From outside the project area.. well, you can't see anything with all those Australian pines in the way.



Land managers can now access the site to begin restoration.

Chipping thousands of Australian pines results in a mountain of mulch.



Florida Keys Conservation Lands Invasive Exotic Plant Control

County: Monroe

PCL: Dagny Johnson Key Largo Hammocks Botanical State Park

PCL Size: 2,415 acres

Project Manager: Florida Park Service (DEP)

James G. Duquesnel, Park Biologist

P. O. Box 487, Key Largo, Florida 33037

Phone: 305-451-1202, Fax: 305-853-3555

E-mail: james.g.duquesnel@dep.state.fl.us

Project ID: FK-015, -021

Project Size: 41.32 acres

Fiscal Year 02/03

Project Cost:\$186,596.19

A significant amount of Key Largo is held in public conservation lands. The native vegetation is primarily of the West Indian and Caribbean origin. This project includes several parcels within Key Largo Hammocks and John Pennekamp State Parks. This project integrates both mechanical and herbicidal control operations as part of an ongoing restoration and maintenance program.

Key Largo Island consisted of 10.62 acres of Australian pine that were mechanically controlled. Trees were uprooted with an excavator and later burned. Burma reed grass was also found on island. *Key Largo Cottages* consisted of several contiguous lots (slightly less than one acre in total) in the Key Largo City Cottages subdivision of Key Largo located adjacent to the Key Largo Hammocks CARL project. The site was infested with many invasive exotic species including lead tree, woman's tongue, Brazilian pepper, yellow elder, oyster plant, and Australian pine. The 1.6-acre *Ecotone Site*, a low marine tidal marsh and coastal rock barren ecotone between red mangrove marine tidal swamp and rockland hammock, was infested by a dense and expanding population of portia. *Shaw's Canal* consisted of 6.2 acres to the north of Shaw's' canal and 1.9 acres south of Shaw's' canal. Australian pine and a small area with portia tree were found within the site. *Anglers Club*, a less than one-third-acre site located on north Key Largo, was infested by dense and expanding populations of several invasive exotics, both herbaceous and woody species. *Pennekamp Campground* (located on John Pennekamp Coral Reef State Park) had five exotic tree species requiring removal. *Sea Kritters* was an approximately 19-acre site located at the east terminus of Sea Kritter Boulevard.

Target Plants	Common Name	FLEPPC Rank	Treatment	Herbicide
<i>Casuarina equisetifolia</i>	Australian pine	Category I	mechanical	n/a
			basal/cut stump	Garlon 4
<i>Schinus terebinthifolius</i>	Brazilian pepper	Category I	cut stump	Garlon 3A
			basal	Garlon 4
<i>Ficus microcarpa</i>	laurel fig	Category I	basal/cut stump	Garlon 4
<i>Thespesia populnea</i>	portia	Category I	cut stump	Garlon 3A
<i>Colubrina asiatica</i>	lather leaf	Category I	basal	Garlon 4
<i>Manilkara zapota</i>	sapodilla	Category I	basal	Garlon 4
<i>Albizia lebbek</i>	woman's tongue	Category I	foliar	Roundup
<i>Tradescantia spathacea</i>	oyster plant	Category I	foliar	Roundup
<i>Neyraudia reynaudiana</i>	Burma reed	Category I	foliar	Roundup
<i>Hibiscus tiliaceus</i>	mahoe	Category II	cut stump	Garlon 3A
<i>Leucaena leucocephala</i>	lead tree	Category II	basal/cut stump	Garlon 4
<i>Sansevieria hyacinthoides</i>	bowstring hemp	Category II	foliar	Roundup
<i>Ficus benamina</i>	weeping fig	n/a	basal/cut stump	Garlon 4
<i>Tecoma stans</i>	yellow elder	n/a	cut stump	Garlon 3A
<i>Delonix regia</i>	royal Poinciana	n/a	cut stump	Garlon 3A
<i>Panicum maximum</i>	Guinea grass	n/a	foliar	Roundup
<i>Philodendron scandens</i>	philodendron vine	n/a	foliar	Roundup

Key Largo Hammocks

A key to any successful invasive control project is planning...



followed up by planning...

...along with a healthy dose of planning.



Key Largo Hammocks



To treat the Australian pines, contractors first had to surmount this wall of woman's tongue (seen in closeup below).



Long Key Point Invasive Exotic Plant Control

County: Monroe

PCL: Long Key State Park

PCL Size: 911 acres

Project Manager: Florida Park Service (DEP)
Catherine Close, Park Manager
P.O. Box 776, Long Key, Florida 33001
Phone: 305-664-4815, Fax: 305-664-2629
E-mail: catherine.close@dep.state.fl.us

Project ID: FK-028

Project Size: 25 acres

Fiscal Year 02/03

Project Cost: \$20,030.11

The project site is located on Long Key Point within Long Key State Park. The Long Key Point project area consists of Coastal Berm and Beach Dune communities that had low to moderate infestations of Brazilian pepper, Australian pine, and lather leaf. Long Key State Park was one of the initial control sites in fiscal year 1998, the first year of the Uplands Program.

Target Plants	Common Name	FLEPPC Rank	Treatment	Herbicide
<i>Schinus terebinthifolius</i>	Brazilian pepper	Category I	basal	Garlon 4+Stalker
			cut stump	Arsenal+Escort
<i>Thespesia populnea</i>	seaside mahoe	Category I	basal	Garlon 4+Stalker
			cut stump	Arsenal+Escort
<i>Colubrina asiatica</i>	lather leaf	Category I	basal	Garlon 4+Stalker
			cut stump	Arsenal+Escort

