APPENDIX B

BISCAYNE NATIONAL PARK

Appendix B: Biscayne National Park
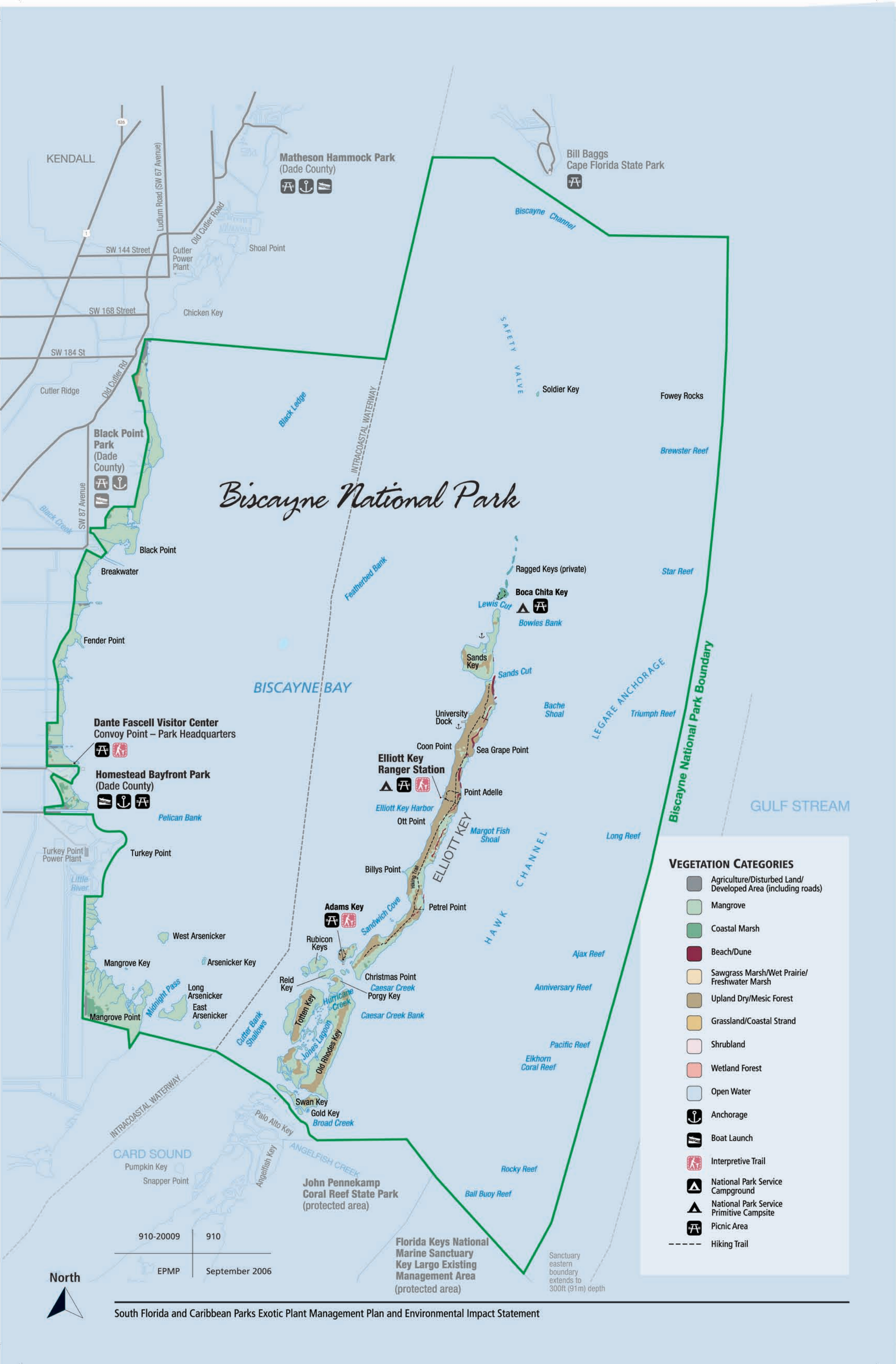
Maps _____

Tables _____

SUMMARY DESCRIPTION OF VEGETATION CATEGORIES REFERENCED IN APPENDIX

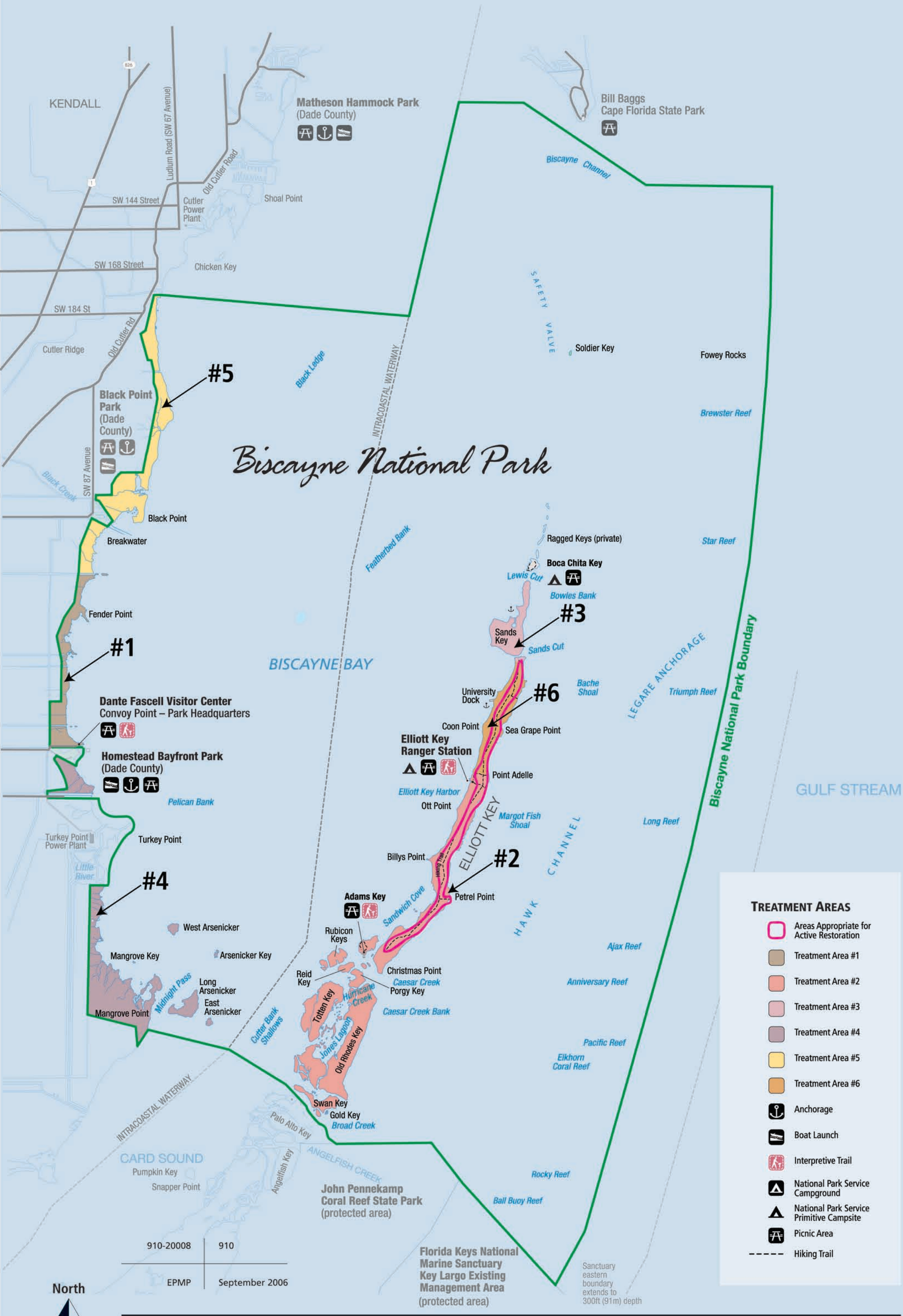| Vegetation Category	Vegetation Subcategories
Agriculture / Disturbed Land / Developed Area	Agriculture areas, barren lands, mixed grasslands, drought-deciduous shrublands, shrub and brush lands, and exotic plants.
Grassland / Coastal Strand	Dry prairies, coastal grasslands, coastal strands, and coastal uplands.
Mangrove	Mangrove fringe, mangrove forest and woodland, and mangrove shrubland.
Coastal Marsh	Salt marshes, salt flats, and salt ponds.
Beach / Dune	Beach and dune areas.
Sawgrass Marsh / Wet Prairie / Freshwater Marsh	Freshwater marshes and wet prairies.
Shrubland	Sclerophyllous evergreen shrublands, mixed dry shrublands, gallery shrublands, thicket scrub, coastal scrub, thorn scrub, and coastal hedge. In the Virgin Island parks it includes gallery shrublands, mixed, dry shrublands, and coastal hedge.
Upland Dry / Mesic Forest	Tropical hardwood hammocks, pine flatwoods, south Florida rocklands, mixed hardwood/pine forests, coastal hammock, xeric oak scrub, oak-saw palmetto scrub, drought-deciduous forests, semi-deciduous forests, gallery semi-deciduous forests, semi-evergreen forests, evergreen woodlands, gallery semi-deciduous woodlands, semi-deciduous woodlands, drought-deciduous woodlands, upland moist forests, and gallery moist forests.
Wetland Forest	Mixed cypress strands, cypress sloughs, cypress domes, bay swamps, hardwood swamp forests, basin moist forests, mixed swamps, and shrub swamps.

KENDALL

Ludlum Road (SW 67 Avenue)
526
Old Cutler Road
SW 144 Street
Cutler Power Plant
Shoal Point
1
SW 168 Street
Chicken Key
SW 184 St
Cutler Ridge
Old Cutler Rd

Matheson Hammock Park
(Dade County)

Bill Baggs
Cape Florida State Park

Biscayne Channel

SAFETY VALVE

Soldier Key

Fowey Rocks

Black Point
Park
(Dade County)

Black Ledge

INTRACOASTAL WATERWAY

Brewster Reef

SW 87 Avenue

Black Creek

Black Point

Breakwater

Featherbed Bank

Biscayne National Park

Ragged Keys (private)

Star Reef

Boca Chita Key
Lewis Cut
Bowles Bank

Fender Point

BISCAYNE BAY

Sands
Key
Sands Cut

University
Dock

Bache
Shoal

Triumph Reef

LEGARE ANCHORAGE

Biscayne National Park Boundary

Dante Fascell Visitor Center
Convoy Point – Park Headquarters

Coon Point
Sea Grape Point

Elliott Key
Ranger Station

Point Adelle

GULF STREAM

Homestead Bayfront Park
(Dade County)

Pelican Bank

Elliott Key Harbor

Ott Point

Margot Fish
Shoal

ELLIOTT KEY

Long Reef

HAWK CHANNEL

Turkey Point
Power Plant

Turkey Point

Little
River

Billys Point

Hiking Trail

Ajax Reef

West Arsenicker

Adams Key

Anniversary Reef

Petrel Point

Sandwich Cove

VEGETATION CATEGORIES

Mangrove Key

Arsenicker Key

Rubicon
Keys

Christmas Point

Agriculture/Disturbed Land/
Developed Area (including roads)

Mangrove

Coastal Marsh

Long Arsenicker

Reid
Key

Caesar Creek
Porgy Key

Pacific Reef

Beach/Dune

Midnight Pass

East
Arsenicker

Totten Key

Hurricane Creek

Caesar Creek Bank

Elkhorn
Coral Reef

Sawgrass Marsh/Wet Prairie/
Freshwater Marsh

Mangrove Point

Cutler Bank Shallows

Jones Lagoon

Old Rhodes Key

Upland Dry/Mesic Forest

Grassland/Coastal Strand

Shrubland

Swan Key
Gold Key
Broad Creek

Wetland Forest

Open Water

CARD SOUND

Palo Alto Key

Angelfish Key

ANGELFISH CREEK

Rocky Reef

Anchorage

Pumpkin Key

Boat Launch

Snapper Point

John Pennekamp
Coral Reef State Park
(protected area)

Ball Buoy Reef

Interpretive Trail

INTRACOASTAL WATERWAY

National Park Service
Campground

National Park Service
Primitive Campsite

910-20009   910

Florida Keys National
Marine Sanctuary
Key Largo Existing
Management Area
(protected area)

Sanctuary
eastern
boundary
extends to
300ft (91m) depth

Picnic Area

Hiking Trail

EPMP   September 2006

North

South Florida and Caribbean Parks Exotic Plant Management Plan and Environmental Impact Statement

Biscayne National Park

KENDALL

SW 144 Street
SW 168 Street
SW 184 St
Cutler Ridge

Ludlum Road (SW 67 Avenue)
Old Cutler Road
Cutler Power Plant
Shoal Point
Chicken Key

Matheson Hammock Park
(Dade County)

Bill Baggs
Cape Florida State Park

Biscayne Channel

Black Ledge

#5

Black Point Park
(Dade County)

SW 87 Avenue

Old Cutler Rd

Black Creek

Black Point
Breakwater

Fender Point

#1

Dante Fascell Visitor Center
Convoy Point – Park Headquarters

Homestead Bayfront Park
(Dade County)

Pelican Bank

Turkey Point Power Plant
Turkey Point

Little River

#4

West Arsenicker
Arsenicker Key

Mangrove Key

Long Arsenicker
East Arsenicker

Mangrove Point

Midnight Pass

Cutler Bank Shallows

Adams Key
Rubicon Keys
Reid Key
Totten Key
Jones Lagoon
Old Rhodes Key
Hurricane Creek
Christmas Point
Caesar Creek
Porgy Key
Caesar Creek Bank

Swan Key
Gold Key
Broad Creek

Palo Alto Key
Angelfish Key
ANGELFISH CREEK

CARD SOUND
Pumpkin Key
Snapper Point

INTRACOASTAL WATERWAY

John Pennekamp
Coral Reef State Park
(protected area)

Florida Keys National
Marine Sanctuary
Key Largo Existing
Management Area
(protected area)

BISCAYNE BAY

Featherbed Bank

INTRACOASTAL WATERWAY

Ragged Keys (private)

Boca Chita Key

Lewis Cut

Bowles Bank

#3

Sands Key

Sands Cut

University Dock

#6

Coon Point
Sea Grape Point

Elliott Key
Ranger Station

Point Adelle

Elliott Key Harbor

Ott Point

Margot Fish Shoal

Billys Point

ELLIOTT KEY

Sandwich Cove

#2

Petrel Point

Bache Shoal

SAFETY VALVE

Soldier Key
Fowey Rocks

Brewster Reef

Star Reef

LEGARE ANCHORAGE

Triumph Reef

Biscayne National Park Boundary

HAWK CHANNEL

GULF STREAM

Long Reef

Ajax Reef

Anniversary Reef

Pacific Reef

Elkhorn Coral Reef

Rocky Reef

Ball Buoy Reef

Sanctuary eastern boundary extends to 300ft (91m) depth

TREATMENT AREAS

- ▭ Areas Appropriate for Active Restoration
- ▮ Treatment Area #1
- ▮ Treatment Area #2
- ▮ Treatment Area #3
- ▮ Treatment Area #4
- ▮ Treatment Area #5
- ▮ Treatment Area #6
- ⚓ Anchorage
- 🚤 Boat Launch
- 🚶 Interpretive Trail
- 🏕 National Park Service Campground
- ▲ National Park Service Primitive Campsite
- ⛱ Picnic Area
- - - - Hiking Trail

910-20008 | 910
EPMP | September 2006

North

South Florida and Caribbean Parks Exotic Plant Management Plan and Environmental Impact Statement

APPENDIX B: BISCAYNE NATIONAL PARK TREATMENT AREAS

TABLE B-1: ACRES WITHIN VEGETATION CATEGORIES THAT
COULD POTENTIALLY BE RESTORED UNDER ALTERNATIVES A, B, AND C[a]

Vegetation Category	Alternative A	Alternative B	Alternative C	
	Potential Acres Passively Restored	Potential Acres Passively Restored	Potential Acres Passively Restored	Potential Acres Actively Restored
Biscayne National Park				
Agriculture / Disturbed Land / Developed Area (including roads)	2	2	0	2
Grassland / Coastal Strand	0	0	0	0
Mangrove	106	106	102	4
Coastal Marsh	5	5	5	<1
Sawgrass Marsh / Wet Prairie / Freshwater Marsh	1	1	1	<1
Beach / Dune	1	1	1	<1
Shrubland	0	0	0	0
Upland Dry / Mesic Forest	47	47	32	15
Wetland Forest	<1	<1	0	<1
Total	**162**	**162**	**141**	**21**

a. Although treatments would occur under alternative A to control exotic plant species, it is assumed that within the life of the plan all acres may not be restored. Under alternatives B and C, it is assumed all acres would be restored due to re-treatment of exotic plant species under an optimal re-treatment schedule (see the "Alternatives" Chapter, Alternative B, Maintaining Treated Sites section).

Key to Table B-2 below

a. Gross infested acres of exotic plants within Biscayne National Park were based on data provided by park staff.

b. Initial treatment methods for each area under alternatives A, B and C were based on data provided by EPMT in the APCAM database or from communications with park staff (see the "Alternatives" Chapter, Alternative A, Initial Treatment section and Alternative B, Treatment Method Decision Tool section). As all areas have been treated and are re-treated under an optimal treatment schedule the methods of initial treatment are assumed to be the same for all alternatives.

c. Re-treatment methods under alternatives A, B, and C were based on data provided by park staff. As all areas have been treated and are re-treated under an optimal treatment schedule the methods of re-treatment are the same for all alternatives. (see the "Alternatives" Chapter, Alternative A, Initial Treatment section and Alternative B, Maintaining Treated Sites section).

d. Herbicides applied under alternatives A, B, and C are based on prior treatment data provided by EPMT in the APCAM database.

e. The potential herbicide use under alternative A was calculated based on the average use of each herbicide within the parks in the past 5 years as provided in the APCAM database. The average application rate of metsulfuron methyl was 0.05 undiluted gallons; glyphosate was 0.14 undiluted gallons; imazapyr was 0.20 undiluted gallons; and triclopyr was 0.91 undiluted gallons. To determine the range of potential herbicide use for treatment areas under alternative A when no prior information existed, the average application rate was multiplied by the gross infested acres. This same calculation was used to calculate the range of potential herbicide use under alternatives B and C. See the "Environmental Consequences" Chapter, General Methodology, Treatment and Re-treatment of Exotic Plants section.

f. Under alternatives A and B all treatment areas would be restored passively. Under alternative C, areas within the park where active restoration could take place was based on a decision framework described in the "Environmental Consequences" Chapter, Alternative C, Proposed Restoration Program.

TABLE B-2: BISCAYNE NATIONAL PARK
ALTERNATIVE SUMMARY TABLE OF TREATMENT AREAS WITHIN THE PARK

Treatment Area ID	Priority for Treatment	Exotic Species	Gross Infested (acres)[a]	Initial Treatment Methods[b]	Re-treatment Methods[b]	Herbicides[d]	Total Initial Herbicide Applied to Treatment Area (undiluted gal)[e]	Vegetation Category	Sensitive Resources	Restoration[f]
Alternatives A and B										
1	NA	Brazilian pepper Australian pine Thespesia Scaevola Colubrina Neyraudia	13	Basal bark Cut-surface application Manual pulling	Foliar ground and leave Manual pulling	Triclopyr	12	Agriculture / Disturbed Land / Developed Area (including roads) Grassland / Coastal Strand Mangrove Coastal Marsh Sawgrass Marsh / Wet Prairie / Freshwater Marsh Upland Dry / Mesic Forest Wetland Forest	E. indigo snake Visitor use areas	Passive
2	NA	Thespesia Manilkara Australian pine Brazilian pepper Colubrina Phoenix Agave Scaevola	84	Cut stump Basal bark Manual pulling	Foliar ground and leave Manual pulling	Triclopyr Imazapyr	17–76	Agriculture / Disturbed Land / Developed Area (including roads) Mangrove Coastal Marsh Beach / Dune Sawgrass Marsh / Wet Prairie / Freshwater Marsh Upland Dry / Mesic Forest Wetland Forest	American crocodile E. indigo snake Florida semaphore cactus Visitor use areas	Passive

TABLE B-2: BISCAYNE NATIONAL PARK
ALTERNATIVE SUMMARY TABLE OF TREATMENT AREAS WITHIN THE PARK (CONTINUED)

Treatment Area ID	Priority for Treatment	Exotic Species	Gross Infested (acres)[a]	Initial Treatment Methods[b]	Re-treatment Methods[b]	Herbicides[d]	Total Initial Herbicide Applied to Treatment Area (undiluted gal)[e]	Vegetation Category	Sensitive Resources	Restoration[f]
3	NA	Colubrina Australian pine Thespesia Brazilian pepper Neyraudia	12	Cut stump Forial ground leave Manual pulling	Foliar ground and leave Manual pulling	Triclopyr Glyphosate	2–11	Agriculture / Disturbed Land / Developed Area (including roads) Mangrove Coastal Marsh Beach / Dunes Sawgrass Marsh / Wet Prairie / Freshwater Marsh Upland Dry / Mesic Forest Wetland Forest	E. indigo snake Visitor use areas	Passive
4	NA	Brazilian pepper Australian pine Thespesia Colubrina Neyraudia	14	Cut stump Basal bark Foliar ground leave Manual pulling	Foliar ground and leave Manual pulling	Triclopyr	13	Agriculture / Disturbed Land / Developed Area (including roads) Mangrove Coastal Marsh Sawgrass Marsh / Wet Prairie / Freshwater Marsh Upland Dry / Mesic Forest Wetland Forest	American crocodile E. indigo snake Visitor use areas	Passive
5	NA	Australian pine	24	Foliar ground leave Manual pulling	Foliar ground and leave Manual pulling	Triclopyr	22	Agriculture / Disturbed Land / Developed Area (including roads) Mangrove Coastal Marsh Upland Dry / Mesic Forest	E. indigo snake Visitor use areas	Passive

TABLE B-2: BISCAYNE NATIONAL PARK
ALTERNATIVE SUMMARY TABLE OF TREATMENT AREAS WITHIN THE PARK (CONTINUED)

Treatment Area ID	Priority for Treatment	Exotic Species	Gross Infested (acres)[a]	Initial Treatment Methods[b]	Re-treatment Methods[b]	Herbicides[d]	Total Initial Herbicide Applied to Treatment Area (undiluted gal)[e]	Vegetation Category	Sensitive Resources	Restoration[f]
6	NA	Neyraudia Brazilian pepper Thespesia Manilkara Rhoe Colubrina Agave Sansevieria Tradescantia	16	Basal bark Cut-surface application Foliar ground leave Manual pulling	Foliar ground and leave Manual pulling	Triclopyr Glyphosate	2–15	Agriculture / Disturbed Land / Developed Area (including roads) Mangrove Coastal Marsh Beach / Dunes Sawgrass Marsh / Wet Prairie / Freshwater Marsh Upland Dry / Mesic Forest Wetland Forest	E. indigo snake Visitor use areas	Passive
Alternative C										
1	1	Brazilian pepper Australian pine Thespesia Scaevola Colubrina Neyraudia	13	Basal bark Cut-surface application Manual pulling	Foliar ground and leave Manual pulling	Triclopyr	12	Agriculture / Disturbed Land / Developed Area (including roads) Grassland / Coastal Strand Mangrove Coastal Marsh Sawgrass Marsh / Wet Prairie / Freshwater Marsh Upland Dry / Mesic Forest Wetland Forest	E. indigo snake Visitor use areas	Passive

TABLE B-2: BISCAYNE NATIONAL PARK
ALTERNATIVE SUMMARY TABLE OF TREATMENT AREAS WITHIN THE PARK (CONTINUED)

Treatment Area ID	Priority for Treatment	Exotic Species	Gross Infested (acres)[a]	Initial Treatment Methods[b]	Re-treatment Methods[b]	Herbicides[d]	Total Initial Herbicide Applied to Treatment Area (undiluted gal)[e]	Vegetation Category	Sensitive Resources	Restoration[f]
2	1	Thespesia Manilkara Australian pine Brazilian pepper Colubrina Phoenix Agave Scaevola	84	Cut stump Basal bark Manual pulling	Foliar ground and leave Manual pulling	Triclopyr Imazapyr	17–76	Agriculture / Disturbed Land / Developed Area (including roads) Mangrove Coastal Marsh Beach / Dunes Sawgrass Marsh / Wet Prairie / Freshwater Marsh Upland Dry / Mesic Forest Wetland Forest	American crocodile E. indigo snake Florida semaphore cactus Visitor use areas	Active Passive
3	1	Colubrina Australian pine Thespesia Brazilian pepper Neyraudia	12	Cut stump Foliar ground leave Manual pulling	Foliar ground and leave Manual pulling	Triclopyr Glyphosate	2–11	Agriculture / Disturbed Land / Developed Area (including roads) Mangrove Coastal Marsh Beach / Dunes Sawgrass Marsh / Wet Prairie / Freshwater Marsh Upland Dry / Mesic Forest Wetland Forest	E. indigo snake Visitor use areas	Passive

TABLE B-2: BISCAYNE NATIONAL PARK
ALTERNATIVE SUMMARY TABLE OF TREATMENT AREAS WITHIN THE PARK (CONTINUED)

Treatment Area ID	Priority for Treatment	Exotic Species	Gross Infested (acres)[a]	Initial Treatment Methods[b]	Re-treatment Methods[b]	Herbicides[d]	Total Initial Herbicide Applied to Treatment Area (undiluted gal)[e]	Vegetation Category	Sensitive Resources	Restoration[f]
4	2	Brazilian pepper Australian pine Thespesia Colubrina Neyraudia	14	Cut stump Basal bark Foliar ground leave Manual pulling	Foliar ground and leave Manual pulling	Triclopyr	13	Agriculture / Disturbed Land / Developed Area (including roads) Mangrove Coastal Marsh Sawgrass Marsh / Wet Prairie / Freshwater Marsh Upland Dry / Mesic Forest Wetland Forest	American crocodile E. indigo snake Visitor use areas	Passive
5	2	Australian pine	24	Foliar ground leave Manual pulling	Foliar ground and leave Manual pulling	Triclopyr	22	Agriculture / Disturbed Land / Developed Area (including roads) Mangrove Coastal Marsh Upland Dry / Mesic Forest	E. indigo snake Visitor use areas	Passive
6	1	Neyraudia Brazilian pepper Thespesia Manilkara Rhoe Colubrina Agave Sansevieria Tradescantia	16	Basal bark Cut-surface application Foliar ground leave Manual pulling	Foliar ground and leave Manual pulling	Triclopyr Glyphosate	2–15	Agriculture / Disturbed Land / Developed Area (including roads) Mangrove Coastal Marsh Beach / Dunes Sawgrass Marsh / Wet Prairie / Freshwater Marsh Upland Dry / Mesic Forest Wetland Forest	E. indigo snake Visitor use areas	Active Passive

TABLE B-3: BISCAYNE NATIONAL PARK
AMOUNT OF HERBICIDE TO BE APPLIED OVER TIME UNDER ALTERNATIVES A AND B

Vegetation Category	Total Acres to be Initially Treated	Potential Minimum Application of Herbicide (gallons)[a]	Potential Maximum Application of Herbicide (gallons)[b]
Agriculture / Disturbed Land / Developed Area (including roads)	2	<1	2
Grassland / Coastal Strand	—	—	—
Mangrove	106	5	96
Coastal Marsh	5	<1	5
Sawgrass Marsh / Wet Prairie / Freshwater Marsh	1	<1	1
Beach / Dune	1	<1	1
Shrubland	—	—	—
Upland Dry / Mesic Forest	47	2	43
Wetland Forest	—	—	—
Total	**162**	**8**	**147**

a. Potential minimum application of herbicide is calculated by taking the average minimum concentration of herbicide that could be applied (0.05 undiluted gallons/acre) multiplied by the acres to be treated. For a discussion on the average rate of herbicide application, see the "Environmental Consequences" Chapter, General Methodology, Treatment and Re-treatment of Exotic Plants section.

b. Potential maximum application of herbicide is calculated by taking the average maximum concentration of herbicide that could be applied (0.91 undiluted gallons/acre) multiplied by the acres to be treated.

TABLE B-4: BISCAYNE NATIONAL PARK
AMOUNT OF HERBICIDE TO BE APPLIED OVER TIME UNDER ALTERNATIVES A AND B [a,b]

Vegetation Category	Initial Treatment	Potential Minimum Application of Herbicide (gallons/acre) Number of Months											
		6	12	18	24	30	36	42	48	54	60	66	72
Agriculture / Disturbed Land / Developed Area (including roads)	<1	<1	0	0	0	0	0	0	0	0	0	0	0
Grassland / Coastal Strand	—	—	—	—	—	—	—	—	—	—	—	—	—
Mangrove	5	3	1	1	<1	0	0	0	0	0	0	0	0
Coastal Marsh	<1	<1	0	0	0	0	0	0	0	0	0	0	0
Sawgrass Marsh / Wet Prairie / Freshwater Marsh	<1	<1	0	0	0	0	0	0	0	0	0	0	0
Beach / Dune	<1	<1	0	0	0	0	0	0	0	0	0	0	0
Shrubland	—	—	—	—	—	—	—	—	—	—	—	—	—
Upland Dry / Mesic Forest	2	1	1	<1	0	0	0	0	0	0	0	0	0
Wetland Forest	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	**8**	**4**	**2**	**1**	**1**	**<1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
		Potential Maximum Application of Herbicide (gallons/acre)											
Agriculture / Disturbed Land / Developed Area (including roads)	2	1	<1	0	0	0	0	0	0	0	0	0	0
Grassland / Coastal Strand	—	—	—	—	—	—	—	—	—	—	—	—	—
Mangrove	96	48	24	12	6	3	2	1	<1	0	0	0	0
Coastal Marsh	5	2	1	1	<1	0	0	0	0	0	0	0	0
Sawgrass Marsh / Wet Prairie / Freshwater Marsh	1	<1	0	0	0	0	0	0	0	0	0	0	0
Beach / Dune	1	<1	0	0	0	0	0	0	0	0	0	0	0
Shrubland	—	—	—	—	—	—	—	—	—	—	—	—	—
Upland Dry / Mesic Forest	43	21	11	5	3	1	1	<1	0	0	0	0	0
Wetland Forest	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	**147**	**74**	**37**	**18**	**9**	**5**	**2**	**1**	**1**	**0**	**0**	**0**	**0**

a. It was assumed that re-treatment on average every 6 months would result in 50% less the number of stems that would need to be treated and therefore only 50% of the prior herbicide use would be applied. See the "Environmental Consequences" Chapter, General Methodology, Treatment and Re-treatment of Exotic Plants section.

b. Note that Biscayne National Park is currently under an optimal re-treatment schedule and therefore the amount of potential herbicide applied is same for these alternatives.

TABLE B-5: BISCAYNE NATIONAL PARK
POTENTIAL MINIMUM AMOUNT OF HERBICIDE TO BE APPLIED OVER TIME UNDER ALTERNATIVE C

Vegetation Category	Potential minimum application of herbicide (gallons) for initial treatment	Potential minimum application of herbicide (gallons) for re-treatment[a]	Potential Minimum Application of Herbicide (gallons/acre)[b] Number of Months											
			6	12	18	24	30	36	42	48	54	60	66	72
Agriculture / Disturbed Land/ Developed Area (including roads)	<1	<1	<1	0	0	0	0	0	0	0	0	0	0	0
Grassland / Coastal Strand	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mangrove	5	5	3	1	1	<1	0	0	0	0	0	0	0	0
Coastal Marsh	<1	<1	<1	0	0	0	0	0	0	0	0	0	0	0
Sawgrass Marsh / Wet Prairie / Freshwater Marsh	<1	<1	<1	0	0	0	0	0	0	0	0	0	0	0
Beach / Dune	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Shrubland	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Upland Dry / Mesic Forest	2	2	1	<1	0	0	0	0	0	0	0	0	0	0
Wetland Forest	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	**8**	**7**	**4**	**2**	**1**	**<1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

a. It was assumed for the analysis that only those acres that would be allowed to passively restore would continue to be re-treated with herbicides.

b. It was assumed that re-treatment on average every 6 months would result in 50% less the number of stems that would need to be treated and therefore only 50% of the prior herbicide use would be applied. See the "Environmental Consequences" Chapter, General Methodology, Treatment and Re-treatment of Exotic Plants section.

TABLE B-6: BISCAYNE NATIONAL PARK
POTENTIAL MAXIMUM AMOUNT OF HERBICIDE TO BE APPLIED OVER TIME UNDER ALTERNATIVE C

Vegetation Category	Potential maximum application of herbicide (gallons) for initial treatment	Potential maximum application of herbicide (gallons) for re-treatment[a]	Potential Maximum Application of Herbicide (gallons/acre)[b] Number of Months											
			6	12	18	24	30	36	42	48	54	60	66	72
Agriculture / Disturbed Lands / Developed Areas (including roads)	2	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland / Coastal Strand	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mangrove	96	93	46	23	12	6	3	1	1	<1	0	0	0	0
Coastal Marsh	5	5	2	1	1	<1	0	0	0	0	0	0	0	0
Sawgrass Marsh / Wet Prairie / Freshwater Marsh	1	1	<1	0	0	0	0	0	0	0	0	0	0	0
Beach / Dune	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Shrubland	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Upland Dry / Mesic Forest	43	29	15	7	4	2	1	<1	0	0	0	0	0	0
Wetland Forest	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	**147**	**128**	**64**	**32**	**16**	**8**	**4**	**2**	**1**	**<1**	**0**	**0**	**0**	**0**

a. It was assumed for the analysis that only those acres that would be allowed to passively restore would continue to be re-treated with herbicides.

b. It was assumed that re-treatment on average every 6 months would result in 50% less the number of stems that would need to be treated and therefore only 50% of the prior herbicide use would be applied. See the "Environmental Consequences" Chapter, General Methodology, Treatment and Re-treatment of Exotic Plants section.

TABLE B-7: BISCAYNE NATIONAL PARK
DISTRIBUTION OF APPROPRIATE TREATMENT METHODS BY VEGETATION CATEGORY UNDER ALTERNATIVES A AND B

Biscayne National Park[a]	Total Acres within Park	Total Potential Acres Infested within Park	Initial Treatment Methods[a] Basal Bark, Cut/Stump, Cut Surface Application, Foliar Ground and Leave, or Manual Pulling	Re-treatment Methods[a] Foliar Ground and Leave, Manual Pulling
Agriculture / Disturbed Land / Developed Area (including roads)	174	2	2	2
Grassland / Coastal Strand	<1	0	0	0
Mangrove	5,519	106	106	106
Coastal Marsh	419	5	5	5
Sawgrass Marsh / Wet Prairie / Freshwater Marsh	32	1	1	1
Beach / Dune	58	1	1	1
Upland Dry / Mesic Forest	1,615	47	47	47
Wetland Forest	22	<1	<1	<1
Total	**7,839**	**162**	**162**	**162**

a. All areas infested have been treated and are re-treated under an optimal treatment schedule under alternatives A and B, therefore, it is assumed that the methods used for initial treatment and re-treatment under alternative A would be the same for alternative B.

TABLE B-8: BISCAYNE NATIONAL PARK
DISTRIBUTION OF APPROPRIATE TREATMENT METHODS BY VEGETATION CATEGORY UNDER ALTERNATIVE C

Biscayne National Park	Total Acres within Park	Total Potential Acres Infested within Park	Initial Treatment Methods[a] Basal Bark, Cut / Stump, Cut Surface Application, Foliar Ground and Leave, or Manual Pulling	Re-treatment Methods[b] Foliar Ground and Leave, Manual Pulling
Agriculture / Disturbed Land / Developed Area (including roads)	174	2	2	0
Grassland / Coastal Strand	<1	0	0	0
Mangrove	5,519	106	106	102
Coastal Marsh	419	5	5	5
Sawgrass Marsh / Wet Prairie / Freshwater Marsh	32	1	1	1
Beaches / Dune	58	1	1	1
Shrubland	0	0	0	0
Upland Dry / Mesic Forest	1,615	47	47	32
Wetland Forest	22	<1	<1	0
Total	**7,839**	**162**	**162**	**141**

a. All areas infested have been treated and are re-treated under an optimal treatment schedule under alternatives A, B and C, therefore, the methods used for initial treatment and re-treatment under alternative C are the same as described for alternatives A and B.

b. The acres to be re-treated are those that would be allowed to passively restore and are not subject to active restoration (see table B-1 for acres actively and passively restored).