

Upland Invasive Exotic Plant Control Program Fiscal Year 2017-2018 Summary

Over one-and-one-half million acres of Florida's public conservation land have been invaded by alien (exotic, nonnative, nonindigenous) plants such as melaleuca, Brazilian pepper, cogon grass, and Asian climbing ferns. However, invasive alien plants respect no boundaries; millions of acres of agricultural and other private properties are also affected. Florida's nearly 11 million acres of public conservation land support an outdoor recreation and nature tourism economy valued at over \$58 billion annually.

The Fish and Wildlife Conservation Commission's Invasive Plant Management Section (IPMS) is the designated lead entity in Florida responsible for coordinating and funding the statewide control of invasive aquatic and upland plants in public waterways and on public conservation land. The Upland Invasive Exotic Plant Management Program (a subsection of IPMS) was established in 1997 to address the need for a statewide coordinated approach to the terrestrial (vs. aquatic) invasive exotic plant problem. The "Uplands Program" incorporates place-based management concepts, bringing together regionally diverse interests to develop flexible, innovative strategies to address weed management issues at the local level. The program funds individual exotic plant removal projects statewide on public conservation land. Projects are considered for funding based upon recommendations from eleven Regional Invasive Plant Working Groups.

The mission of the Uplands Program is to achieve maintenance control of invasive exotic plants such as cogon grass (*Imperata cylindrica*), melaleuca (*Melaleuca quinquenervia*), Brazilian pepper (*Schinus terebinthifolius*), Old World climbing fern (*Lygodium microphyllum*), and Japanese climbing fern (*L. japonicum*) on public conservation land.

Once invasive plants become established in native habitats, eradication is difficult, if not impossible to achieve. Thus, continuous maintenance of invasive plants must occur to preserve native plant communities, sustain wildlife habitat, and provide outdoor recreational opportunities.

Invasive plants infested fifteen percent of public conservation land statewide in 2018. Nearly fifty percent (726,294 acres) of the affected area is currently under maintenance control. \$14 million was spent during fiscal year 2018 to control 243,000 acres of invasive plants on 180 publicly managed areas.

Funding for the program derives from the Land Acquisition Trust Fund, as set forth in Section 369.252(4), Florida Statutes, which reads: "A minimum of 20 percent of the amount appropriated by the Legislature for invasive plant control from the Land Acquisition Trust Fund shall be used for the purpose of controlling nonnative, upland, invasive plant species on public lands."

During its 21 years of operation, the Uplands Program has spent \$188 million on 2,900 invasive plant control operations targeting 3 million¹ acres of conservation land. The program has assisted land managers on more than 700 federal, state, county and city natural areas that comprise over 10 million acres. Cooperating agencies contributed \$50 million in matching funds toward these projects. Another \$11 million was spent on invasive plant surveys, research, outreach, and other program support activities.

¹Annual maintenance figures include areas that were re-treated in previous years, so the cumulative acreage is greater than the estimated total area infested.

Statewide Invasive Plant Management Activities

Although the Invasive Plant Management Section (IPMS) is housed within the Florida Fish and Wildlife Conservation Commission (FWC), the section's programs direct significant staff and monetary resources to controlling and eradicating invasive exotic plants on lands and waters managed by other public agencies. During FY 2017-2018, the Uplands Invasive Exotic Plant Management Subsection (Uplands Program) spent \$14 million for control of terrestrial invasive plants on public conservation land managed by various agencies, as shown in the table below.

MANAGER	COST	ACRES
Cities	\$429,977	1,271
Counties	\$2,472,263	47,738
Local Total	\$2,902,240	49,009
Department of Environmental Protection ¹	\$96,788	380
Florida Forest Service	\$1,443,164	11,308
Florida Park Service	\$2,520,983	15,772
Fish & Wildlife Conservation Commission ²	\$759,115	37,372
Universities ³	\$39,135	73
Water Management Districts ⁴	\$3,996,275	114,927
State Total	\$8,855,459	179,831
Department of Defense	\$184,540	1,052
National Park Service	\$853,911	5,595
US Department of Agriculture ⁵	\$16,165	61
US Forest Service	\$272,692	2,418
US Fish & Wildlife Service	\$870,674	4,984
Federal Total	\$2,197,982	14,110
Grand Total	\$13,955,681	242,950

¹DEP other than the Division of Recreation and Parks (Florida Park Service). Includes Bureau of Mine Reclamation and Florida Coastal Office managed areas.

²Wildlife Management Areas, Wildlife Environmental Areas, and Public Small Game Hunting Areas.

³Conservation lands managed by Florida's state universities.

⁴Includes \$1 million Melaleuca Program, as required by §206.606(1)(a), Florida Statutes.

⁵The US Department of Agriculture, other than the Forest Service; in this case, one of their research stations.

Projects Listed by Managing Agency (MGR)

The table on the following pages lists all of the individual projects completed during the year. The regional working group is identified by the first two letters in the task assignment number, abbreviated as follows: EC - East Coast; FK - Florida Keys; MC - Mosquito Coast; NE - Northeast; PH - Panhandle; SC - Sun Coast; SE - Southeast; SW - Southwest; TC - Treasure Coast; WC - West Central; WR - Withlacoochee River.

The task assignment (i.e., work order) numbers are sequential; thus, SW-290 is the 290th operational project (contracted work as opposed to Herbicide Bank projects) completed by the program in that working group over the past twenty-one years of the program.

Acres controlled are divided between initial, generally sites where no work was previously conducted, and maintenance, where prior work was done by the program or by the managing agency.

The Herbicide Bank provides chemicals at no cost to land managers for ongoing in-house maintenance, or for current year projects to reduce the total cost to the program. Herbicide Bank requests today are required to originate from the highest operational level, such as a county, state district or region, or a national park. Acres for Herbicide Bank projects are tracked for each managed area, but are reported as a single number for this report; e.g., the 3,365 acres reported for Florida Park District 4 represents work done on 16 state parks. Acres are recorded as "*" when herbicide is provided for a contracted project.

TASK#	PROJECT NAME	ACRES	COST
EC-140	City of Casselberry Properties	24	\$9,480
EC-EDR2	Lake Lotus Park	13	\$3,445
EC-ONP	Oakland Herbicide Bank	44	\$266
MC-186	Turkey Creek Sanctuary	114	\$35,568
PH-165	Elinor Klapp-Phipps Park	504	\$179,105
PH-166	Lafayette Heritage Trail Park	177	\$57,525
PH-168	Timberlane Ravine	47	\$15,181
PH-169	Tom Brown Park	57	\$24,884
PH-170	Governors Park	49	\$26,697
PH-171	A.J. Henry Park	42	\$17,850
PH-172	Inidan Head Acres Park	37	\$25,853
SE-280	Coral Reef Park	5	\$9,440
WR-206	Palm Point	128	\$23,745
WR-CGP	Gainesville Herbicide Bank	30	\$939
City Projects		1,271	\$429,977
EC-136	Makinson Island Conservation Area	156	\$28,080
EC-139	Chuluota Wilderness Area	84	\$18,060
EC-141	Orange County SR 520 Parcel	109	\$23,435
EC-143	Moss Park	104	\$19,281
EC-145	Lake Harney Wilderness Area	149	\$26,820
EC-EDR1	Lake Proctor Wilderness Area	27	\$7,023
EC-EDR3	Isle of Pine Preserve	41	\$10,530
FK-146	Monroe County Lands - Initial	4	\$70,000
FK-151	Monroe County Lands - Maintenance	270	\$80,000
MC-182	Pine Island Conservation Area	400	\$123,000
MC-183	Brevard County Lands South	288	\$60,970
MC-BRE	Brevard County Herbicide Bank	357	\$13,007
SC-186	Blackwater Creek Preserve	25	\$3,968
SC-187	Balm Scrub	568	\$95,187
SC-189	Shamrock Park and Nature Center	59	\$14,000
SC-191	Upper Little Manatee River Preserve	330	\$68,310
SC-192	Caspersen Beach County Park	153	\$32,837
SC-193	Red Bug Slough Preserve	60	\$41,343
SC-197	Pinelands Reserve	1,391	\$66,047
SC-199	Rye Preserve	157	\$25,484
SC-200	Duette Preserve	1,029	\$68,916
SC-201	Wolf Branch	138	\$45,816
SC-202	Pine Island Preserve	17	\$30,991
SC-203	Myakkahatchee Creek EnviroPark	188	\$11,073
SC-204	English Creek	22	\$4,324
SC-205	Walsingham Park	138	\$32,706
SC-207	Culverhouse Nature Park	10	\$9,639
SC-EDR	Lake Townsend Preserve	14	\$3,933
SC-MAN	Manatee County Herbicide Bank	163	\$12,434
SC-SAR	Sarasota County Herbicide Bank	23	\$6,233
SE-275	R. Hardy Matheson Preserve	18	\$27,500

SE-277	SWA Greenway Preserve	208	\$109,200
SE-278	Castellow Hammock Preserve	60	\$50,000
SE-282	Kendall Indian Hammocks Park	33	\$18,428
SE-MDC	Miami-Dade County Herbicide Bank	2,784	\$34,033
SE-PBC	Palm Beach County Herbicide Bank	31,796	\$115,329
SW-272	Bob Janes Preserve	686	\$49,947
SW-273	Caloosahatchee Creeks Preserve	54	\$64,800
SW-276	Six Mile Cypress Slough Preserve	1,124	\$233,842
SW-280	Bob Janes Preserve	218	\$29,341
SW-285	Railhead Scrub Preserve	137	\$16,303
SW-286	Red Maple Swamp Preserve	94	\$29,732
SW-287	St. James Creek Preserve	64	\$14,985
SW-288	Morse Shores Preserve	26	\$19,000
SW-289	Fred W Coyle Freedom Park	18	\$4,806
SW-291	Wild Turkey Strand	1,170	\$114,660
SW-292	CREW County	23	\$9,787
SW-293	Red Maple Swamp EDRR	13	\$23,004
TC-223	Captain Forster Hammock Preserve	97	\$42,048
TC-225	IRL Greenway-Flinn Tract CA	39	\$17,082
TC-230	Halpatiokee Park/Culpepper Ranch	125	\$18,214
TC-234	Martin County (5 properties)	297	\$46,088
TC-238	Bluefield & Cypress Creek Preserves	1,193	\$98,574
TC-239	North Sebastian Conservation Area	154	\$41,584
TC-243	Oxbow, Citrus, and Hammond's Preserves	350	\$144,590
TC-245	Indrio North Savannah	60	\$16,065
WC-177	The Sun N Lake Preserve	218	\$25,942
WR-LCP	Lake County Parks Herbicide Bank	210	\$3,934
County Projects		47,738	\$2,472,263
TOTAL LOCAL GOVERNMENT PROJECTS		49,009	\$2,902,240
SW-271	Rookery Bay Estuarine Research Reserve	227	\$43,584
SW-282	Lemon Bay Aquatic Preserve	9	\$12,636
SW-290	Rookery Bay Estuarine Research Reserve	94	\$31,343
WC-180	Hardee Lakes Conservation Area	50	\$9,225
Department of Environmental Protection Projects		380	\$96,788
NE-108	Twin Rivers State Forest	1,167	\$114,994
NE-FS6	FFS District 6 Herbicide Bank	168	\$4,315
NE-FS7	FFS District 7 Herbicide Bank	50	\$2,817
PH-164	Blackwater River State Forest	518	\$143,587
PH-FS1	FFS District 1 Herbicide Bank	1,015	\$21,562
PH-FS2	FFS District 2 Herbicide Bank	20	\$1,614
PH-FS4	FFS District 4 Herbicide Bank	150	\$1,488
SC-195	Myakka State Forest	29	\$16,054
SC-FS15	FFS District 15 Herbicide Bank	180	\$7,657
SW-217	Babcock Ranch Preserve	5,843	\$645,546
WC-174	Lake Wales Ridge State Forest	85	\$62,006
WC-175	Okaloacoochee Slough State Forest	141	\$31,866
WC-178	Peace River State Forest	51	\$31,662

WC-FS17	FFS District 17 Herbicide Bank	700	\$162,452
WR-200	Withlacoochee State Forest-Richloam	813	\$154,470
WR-202	Indian Lake State Forest	92	\$9,200
WR-203	Newnans Lake State Forest	64	\$20,416
WR-FS11	FFS District 11 Herbicide Bank	111	\$8,239
WR-FS8	FFS District 8 Herbicide Bank	111	\$3,221
Florida Forest Service Projects		11,308	\$1,443,164
D2-FPS	FPS District 2 Herbicide Bank	200	\$8,826
D3-FPS	FPS District 3 Herbicide Bank	870	\$21,998
D4-FPS	FPS District 4 Herbicide Bank	3,365	\$24,933
EC-138	Rock Springs Run State Reserve	171	\$109,300
FK-147	Long Key State Park	14	\$9,180
FK-148	Key Largo Hammock Botanical State Park	389	\$64,185
MC-184	Sebastian Inlet State Park	113	\$27,470
MC-185	St. Sebastian River Preserve State Park	448	\$80,444
NE-109	Nature Coast State Trail	166	\$35,771
SC-185	Terra Ceia Preserve State Park	214	\$73,353
SC-190	Myakka River State Park	1,153	\$131,442
SC-194	Little Manatee River State Park	196	\$30,340
SE-276	Mizell-Johnson State Park	74	\$19,660
SW-267	Fakahatchee Strand Preserve State Park	1,040	\$119,600
SW-269	Collier-Seminole State Park	87	\$34,820
SW-277	Charlotte Harbor Preserve State Park	546	\$125,580
SW-278	Charlotte Harbor Preserve State Park	126	\$51,050
SW-279	Charlotte Harbor Preserve State Park	285	\$53,469
SW-281	Koreshan State Historic Site	37	\$10,791
TC-228	Jonathan Dickinson State Park	1,658	\$223,373
TC-231	Savannas Preserve State Park	436	\$191,916
TC-232	Seabranh Preserve State Park	234	\$73,864
TC-240	St. Lucie Inlet Preserve State Park	186	\$59,905
WC-176	Lake Louisa State Park	718	\$218,923
WR-188	Cross-Florida Greenway	1,234	\$123,620
WR-192	Ravine Gardens State Park	74	\$62,920
WR-199	Paynes Prairie Preserve State Park	320	\$115,350
WR-204	Salt Springs State Park	1,420	\$418,900
Florida Park Service Projects		15,772	\$2,520,983
EC-3LK	Three Lakes WMA Herbicide Bank	1,250	\$41,565
EC-TOS	Tosohatchee WMA Herbicide Bank	579	\$30,799
SE-259	Mimosa Pigra Project	4,697	\$259,709
SW-003	Babcock/Webb WMA Herbicide Bank	1,124	\$73,615
TC-005	Herky Huffman WMA Herbicide Bank	*	\$18,373
WC-010	Dinner Island Ranch WMA Herbicide Bank	4,300	\$52,716
WC-FEC	Fisheating Creek WMA Herbicide Bank	18,000	\$16,920
WCHOME	Homeland Tract Herbicide Bank	560	\$8,692
WC-LWR	Lake Wales Ridge WEA Herbicide Bank	200	\$5,997
WC-SOW	Spirit of the Wild WMA Herbicide Bank	6,662	\$56,159
WHJWC	JW Corbett WMA Herbicide Bank	*	\$194,570

Fish & Wildlife Conservation Commission Projects		37,372	\$759,115
EC-142	University of Central Florida Natural Areas	60	\$26,694
SE-EDR	Pine Jog Environmental Education Center	13	\$12,441
State University Projects		73	\$39,135
EC-144	Upper Lakes Basin-Reedy Creek	308	\$69,188
SC-196	Deer Prairie Creek Preserve	285	\$121,980
SE-274	Model Lands Basin	638	\$63,591
SE-285	Melaleuca Program	60,520	\$1,100,000
SE-286	WCA 1-Loxahatchee National Wildlife Refuge	40,193	\$1,399,036
SE-287	East Coast Buffer	1,769	\$248,543
SW-274	Corkscrew Regional Ecosystem Watershed	2,938	\$210,974
TC-233	Kissimmee River-Chandler Slough	1,599	\$188,789
TC-235	Dupuis Reserve South	2,025	\$150,000
TC-236	Kissimmee River Floodplain	1,330	\$99,750
TC-237	Dupuis Reserve North	545	\$50,000
TC-244	Hobe Sound (Harmony) Ranch	1,814	\$137,826
WC-169	Observation Island	279	\$81,405
WC-172	Scleria microcarpa EDRR	684	\$75,195
Water Management District Projects		114,927	\$3,996,275
TOTAL STATE GOVERNMENT PROJECTS		179,831	\$8,855,459
EK-149	Naval Air Station Key West	112	\$56,932
PH-162	Tyndall Air Force Base	364	\$35,490
WC-173	Avon Park Air Force Range	576	\$92,118
Department of Defense Projects		1,052	\$184,540
EK-150	Lower Keys Refuges	37	\$26,061
MC-178	Merritt Island National Wildlife Refuge	1,404	\$258,520
MC-180	St. Johns National Wildlife Refuge	749	\$183,505
SW-270	Florida Panther National Wildlife Refuge	1,278	\$162,306
SW-283	Florida Panther National Wildlife Refuge	1,090	\$161,320
SWFWV	Farm Workers Village Brazilian Pepper	10	\$3,144
TC-241	Hobe Sound National Wildlife Refuge	4	\$26,075
WC-179	Everglades Headwaters NWR/CA	62	\$9,843
WC-181	Lake Wales Ridge National Wildlife Refuge	350	\$39,900
Fish & Wildlife Service Projects		4,984	\$870,674
PH-163	Apalachicola National Forest	1,796	\$213,676
WR-201	Ocala National Forest	622	\$59,016
National Forest Service Projects		2,418	\$272,692
SE-237	Everglades National Park	4,026	\$421,680
SW-197	Big Cypress National Preserve	1,569	\$432,232
National Park Service Projects		5,595	\$853,911
WR-207	Brooksville Plant Material Center	61	\$16,165
US Department of Agriculture Projects		61	\$16,165
TOTAL FEDERAL GOVERNMENT PROJECTS		14,110	\$2,197,982
Uplands Program FY2017-18 Projects Grand Total		242,950	\$13,955,681