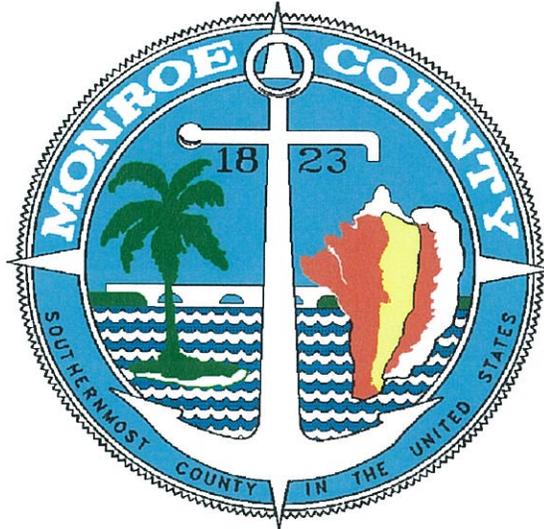


County of Monroe
Planning and Environmental Resources Department



We strive to be caring, professional, and fair.

INCIDENTAL TAKE PERMIT NUMBER TE083411-0

11th ANNUAL BIG PINE / NO NAME KEY MITIGATION REPORT

REPORTING YEAR 11: JANUARY 1, 2016 TO DECEMBER 31, 2016

Table of Contents

INTRODUCTION	3
I. 2016 KEY DEER CENSUS.....	3
II. KEY DEER MORTALITY SUMMARY.....	4
III. KEY DEER CENSUS AND MORTALITY DATA DISCUSSION.....	5
IV. SUMMARY OF HABITAT MANAGEMENT ACTIVITIES	6
V. KEY DEER MORTALITY RATIO	6
VI. ANNUAL IMPACTS TO LOWER KEYS MARSH RABBIT HABITAT 500-METER BUFFERS.....	6
VII. CUMULATIVE IMPACTS TO LOWER KEYS MARSH RABBIT HABITAT 500-METER BUFFERS	8
VIII. LOWER KEYS MARSH RABBIT ROAD MORTALITY	8
IX. CUMULATIVE IMPACTS TO PROJECT AREA SINCE PERMIT ISSUANCE (6/9/2006).....	8
X. DEVELOPMENT ACTIVITIES	10
XI. H-VALUE ASSOCIATED WITH DEVELOPMENT JANUARY 1, 2016 THROUGH DECEMBER 31, 2016	12
XII. CUMULATIVE H-VALUE FOR ALL DEVELOPMENT	13
XIII. CONSTRUCTION OBSERVATIONS	13
XIV. ACQUISITIONS THROUGH DECEMBER 31, 2016	13
XV. ACQUISITIONS FOR 2016.....	13
XVI. CUMULATIVE “H” ACQUIRED	14
XVII. MANAGEMENT ACTIVITIES CONDUCTED FROM JANUARY 1, 2016 TO DECEMBER 31, 2016.....	14
XVIII. ASSESSMENT OF ALL MITIGATION PARCELS	14

XIX. EXOTIC / NUISANCE PLANT CONTROL PROGRAM MONITORING REPORT 14

XX. MITIGATION CONFIRMATION STATEMENT 15

XXI. OTHER PERTINENT INFORMATION 16

XXII. UPDATED MASTER LIST OF ALL DEVELOPMENT PERMITTED ON BIG PINE KEY AND NO NAME KEY 17

Exhibits

Exhibit 1 Map of Development Activities – Cumulative

Exhibit 2 Map of Development Activities – 2016

Exhibit 3 Map of Acquired Mitigation Parcels – Cumulative

Exhibit 4 Map of Acquired Mitigation Parcels – 2016

Exhibit 5 Map of H Impacts in Lower Keys marsh rabbit habitat – 2016

Appendices

Appendix I Mitigation Lands Invasive Exotic Vegetation Status Report

Appendix II HCP Development Permit Master List Through 2016 (11th Annual Reporting Period)

INTRODUCTION

Efforts to address the development impacts on the habitat of the endangered Key deer and Lower Keys marsh rabbit, and the threatened eastern indigo snake on Big Pine Key and No Name Key, began in the mid-1980s. In 1998, Monroe County (County), the Florida Department of Transportation, and the Florida Department of Community Affairs signed a Memorandum of Agreement in which they committed to develop a Habitat Conservation Plan (HCP) in accordance with Section 10(2)(A) of the Endangered Species Act for these two Keys. In order to determine community needs, the County also carried out a planning effort called the “Livable CommuniKeys Plan” (LCP) that was based on community participation and carried out concurrently with the HCP. The County initiated the LCP in April 2000 and adopted the Master Plan for Future Development of Big Pine Key and No Name Key in December 2004.

The HCP, together with the LCP for Big Pine Key and No Name Key, provide the basis of a Master Growth Management Plan for development on Big Pine Key and No Name Key. It satisfies the functional and recreational needs of a rural community while maintaining the long-term viability of covered species and their habitat. The HCP provides for minimization and mitigation of incidental take by regulating development and acquisition activities. The goals of the HCP are to ensure that future development activity does not have a negative effect on Key deer, Lower Keys marsh rabbit, and eastern indigo snake populations. The federal Incidental Take Permit (ITP), TE083411-0, is the accompanying regulatory document to the HCP. The ITP has a 20-year lifespan from June 9, 2003 through June 30, 2023. To account for development activities authorized prior to the adoption of the LCP, impacts and land acquisitions are included for the period from March 13, 1995 to June 8, 2006. The initial monitoring year is the period from the effective date of the ITP, June 9, 2006, to the end of the same calendar year (December 31, 2006). Items in the cumulative data counts over the 20-year period include numbers of County-acquired parcels, fence permits, single family residential developments, and commercial developments.

This document constitutes the *11th Annual Monitoring Report on the Habitat Conservation Plan for the Key Deer and Other Protected Species*, a report that Monroe County prepares annually and presents to the U.S. Fish and Wildlife Service (USFWS or Service) to fulfill the requirements of the ITP. The current document provides an account of development and acquisition activities from March 13, 1995 through December 31, 2016, and includes the balance of the H-values debited by development activities, as well as those credited by acquisitions, dedications, and conservation activities.

I. 2016 KEY DEER CENSUS

Results of the Key deer abundance indices, including the calculation of the average number of deer seen.

For January 1, 2016 to December 31, 2016

Average count for full year = 53

The Key deer road-count index value is the average count from multiple road-count surveys throughout the year on Big Pine Key and No Name Key. It has also been referred to as the Key deer “census,” “road count,” and “count index”; these labels are often used interchangeably. The road counts are conducted monthly in most years on the USFWS Survey Route. Recent changes to protocols require a complete road-count survey once every two months, or six times annually. Initially in 2016, five sunset surveys were completed by USFWS personnel for the months of January, March, May, July and September. Due to the recent outbreak of New World screwworm, an emergency census was performed by researchers from Texas A&M University. This census consisted of survey efforts following the standard survey route over eight consecutive days, from 27 October to 3 November, but also included both a sunrise and sunset survey. These measures were taken to be able to determine post-screwworm mortality estimates of density and population size, as well as potential future impacts and management decisions for the Key deer herd. USFWS personnel have continued the sunrise /sunset surveys on a once weekly basis to gather data during the incident. Although these three surveys are of different temporal frequencies, the resulting average counts are within 5% of each other. Summaries of the count indices for 2016 and values from previous years for comparison are presented in Table 1.

Table 1. Summary of Key deer counts during road surveys and averages for 2010-2016.

Year	Notes	Number of Surveys	Average Deer Count
2010		10	57
2011		11	61
2012		10	59
2013		5	68
2014		6	67
2015		5	52
2016	USFWS pre-screwworm (Jan.-Sept.)	5	54
2016	Texas A&M Univ. (Nov.)	16	54
2016	USFWS remainder (Dec.)	10	51

II. KEY DEER MORTALITY SUMMARY

A summary of Key deer mortality information, including the calculation of the number of human-related deaths.

The other index of Key deer abundance is the mortality index for the core area, *i.e.*, the number of deer deaths documented on Big Pine and No Name keys. In 2016, the total mortality count (all known mortalities from all causes) on Big Pine and No Name keys was 277. This total is the highest recorded, and was due to the number of deaths attributed to the outbreak of New World screwworm, *Cochliomyia hominivorax*. Of the 130 recorded deaths from screwworm in 2016, 126 (97%) occurred within the core islands of Big Pine and No Name keys. There were 151 non-screwworm-related deaths in the core, of which 109 (72%) were caused by deer-vehicle collisions (DVC). Additional human involved (anthropogenic) deer mortalities such as poaching,

drowning, and entanglement accounted for 10 additional deaths (7%) on Big Pine and No-Name keys. The remaining 32 mortalities are attributed to various causes such as combat inflicted injuries, natural disease (exempting screwworm), or undetermined causes. Total mortalities and causes from 2016 and previous years for comparison are presented in Table 2.

Table 2. Detailed mortality information for core areas of Big Pine and No Name keys from 2010-2016. DVC = deer-vehicle collision. *Variation in reported deer-vehicle collisions may be due to reporting error. **Combat injuries in 2016 resulted in screwworm infestation and fatalities.

Year	Cause of Mortality										
	Combat	Disease	Dog	Drowning	Entanglement	Human Misc.	Poaching	Screwworm	DVC	Undet.	Total
2010	1	7	0	7	3	0	0		103	20	141
2011	2	12	6	3	3	2	0		131	16	175
2012	4	17	2	3	5	0	0		151	15	197
2013	0	8	0	5	2	0	0		109	27	151
2014	0	3	3	5	1	0	1		121	13	147
2015	1	6	1	2	2	0	4		75*	13	104
2016	0**	8	0	4	3	3	0	126	109	24	277

III. KEY DEER CENSUS AND MORTALITY DATA DISCUSSION

A discussion and interpretation of census and mortality data.

In 2016, the average number of deer seen during road surveys was 53. This number is nearly identical to the previous year's average count. Previous years' surveys were slightly higher than the last two survey years. Speculatively, this variation in detections may be due to a combination of low availability of fresh water during the unusually dry summer months of 2015 and 2016, disease prevalence, and observer bias.

In 2016, there were 277 mortalities from all causes recorded for Big Pine and No Name keys. The 126 deaths from New World screwworm is a marked event for the Key deer population, and estimates place the reduction of the herd for 2016 at around 15%. Researchers have determined, however, that the loss of mostly breeding age males during the incident does not currently represent a significant threat to the future of the Key deer population. The highly female-biased population, large male range, and polygamous nature of breeding males means that only 38 males are needed to ensure continued population growth on the core islands of Big Pine and No Name keys. Survey data indicate that there are at least four times as many breeding males currently remaining in the core area as the number required for population growth. At the time of this report, the monitoring, treatment, and response to the screwworm incident by the agencies involved is projected to continue through the summer of 2017.

The considerable increase in anthropogenic mortalities from 2015 to 2016 does not likely represent a trend because reporting errors during 2015 probably under reported the number of deer deaths. During the beginning of 2015, refuge staff was dramatically reduced by scheduled staff transitions, and the introduction of replacement staff was gradual throughout the year. In

addition, a cooperative agreement with both county and state law enforcement officials to augment and improve the response to calls regarding deer injury and mortality was being developed and not fully implemented.

IV. SUMMARY OF HABITAT MANAGEMENT ACTIVITIES

The Monroe County Land Steward is responsible for managing all of the County’s conservation lands, including the County’s mitigation properties on Big Pine and No Name Keys. Over the past year, the Land Steward, with the assistance of the County’s contracted crew of invasive exotic plant technicians and other contractors, has conducted numerous invasive exotic plant removal projects, site cleanups, and native plantings on County mitigation properties. Larger scale work sites included parcels within Sands, Eden Pines, Palm Villa, and Bahia Shores subdivisions.

V. KEY DEER MORTALITY RATIO

An assessment of the ratio of the number of anthropogenic (human-caused) deaths to the average number of deer seen.

In 2016, the ratio of human-related deaths to the average number of deer seen was 2.24 (Table 3), which is greater than the upper boundary of the 95% confidence interval (1.53) defined in the HCP.

Table 3. Ratio of anthropogenic (human-related) deaths to the average number of deer seen during annual censuses from 2010 to 2016.

Year	Anthropogenic Deaths	Average Deer Seen	Ratio
2010	113	57	2
2011	145	61	2.4
2012	161	59	2.7
2013	116	68	1.7
2014	131	67	2
2015	84	52	1.6
2016	119	53	2.24

VI. ANNUAL IMPACTS TO LOWER KEYS MARSH RABBIT HABITAT 500-METER BUFFERS (January 1, 2016 – December 31, 2016)

Item G 20 of the ITP stipulates: “No development will be allowed in Lower Keys marsh rabbit habitat. No residential or commercial development will be allowed within 500 meters of marsh rabbit habitat, with the exception of isolated areas (i.e., the green-hatched areas on HCP Figure 2.2).”

For Reporting Year 11, a total of six development permits were issued for parcels in the Lower Keys marsh rabbit (LKMR) 500-meter habitat buffers (Table 4). All six development permits within the habitat buffers are located in the green-hatched subareas illustrated on Figure 2.2 of the HCP. These are areas within the buffers wherein the ITP allows development due to the presence of canals and other barriers to the species.

The issued permits resulted in an area of 1.52 acres affecting the LKMR habitat 500-meter habitat buffers. A federal development project is located in a LKMR's 500-meter habitat buffer, but did not require a Monroe County building permit. The new National Key Deer Refuge visitor center is being built on a 2.01 ac. parcel, bringing the total acreage of development impacts to the LKMR habitat 500-meter buffers to 3.53 (Table 4).

Table 4. Development impacts for 2016 to Lower Keys marsh rabbit habitat 500-meter buffers.

2016 DEVELOPMENT IMPACTS TO LKMR HABITAT BUFFER				
REAL ESTATE NUMBER	PERMIT NUMBER	ISSUE DATE	LAND USE DEVELOPMENT TYPE	IMPACTS (ACRES)
00310280-000000	07100485	03/18/16	SFR	0.40
00310220-000000	07100486	06/06/16	SFR	0.38
00310240-000000	07100479	06/06/16	SFR	0.34
00312572-000300	06101001	09/07/16	SFR	0.15
00271270-000000	07102237	12/15/16	SFR	0.14
00310490-000000	07103911	12/19/16	SFR	0.11
00111078-000200	NA	NA	INSTITUTIONAL (NKDR Visitor Center)	2.01
TOTAL AREA IMPACTED (ACRES)				3.53

VII. CUMULATIVE IMPACTS TO LOWER KEYS MARSH RABBIT HABITAT 500-METER BUFFERS

Since 2003, the cumulative impact of all development projects affecting buffer areas for the LKMR through 2016 is 54.10 acres. Cumulative impacts to the LKMR buffer since permit issuance (June 9, 2006) are 28.84 acres.

VIII. LOWER KEYS MARSH RABBIT ROAD MORTALITY

A summary of reported Lower Keys marsh rabbit road mortality.

One Lower Keys marsh rabbit mortality attributed to anthropogenic causes occurred in 2016. The individual was discovered on June 10, 2016 by Refuge personnel on a Big Pine Key road; the cause of death was determined to be from a vehicle strike.

IX. CUMULATIVE IMPACTS TO PROJECT AREA SINCE PERMIT ISSUANCE (6/9/2006)

CUMULATIVE IMPACTS TO PROJECT AREA 2006 - 2016				
REAL ESTATE NUMBER	PERMIT NUMBER	ISSUE DATE	PERMIT TYPE	ACRES
00249720-000000	98100115	10/26/06	SFR	0.34
00316150-000000	97101902	10/26/06	SFR	0.41
00313100-000000	98100811	11/22/06	SFR	0.26
00245720-000000	03103814	01/02/07	SFR	0.15
00249130-000000	04104077	01/10/07	SFR	0.17
00248460-000000	04102831	01/17/07	SFR	0.17
00248980-000000	04101652	01/18/07	SFR	0.17
00245880-000000	07100308	01/19/07	SFR	0.15
00249660-000000	06106296	01/19/07	SFR	0.17
00249900-000000	07100309	01/19/07	SFR	0.17
00249150-000000	03104466	01/24/07	SFR	0.17
00248390-000000	05101386	01/25/07	SFR	0.18
00285290-000000	03102339	01/25/07	SFR	0.19
00285300-000000	04100750	01/25/07	SFR	0.12
00247780-000000	04104936	02/23/07	SFR	0.17
00312571-000200	97101893	03/12/07	SFR	0.37
00248700-000000	05101709	03/26/07	SFR	0.17
00249380-000000	05102876	03/26/07	SFR	0.17
00248310-000000	05103866	03/30/07	SFR	0.17
00312572-003300	02100058	04/23/07	SFR	0.14
00309761-000101	97101413	05/03/07	SFR	0.58
00286360-000000	07101477	07/31/07	Commercial	10.17
00248960-000000	02105130	08/16/07	SFR	0.17
00247930-000000	05104608	08/24/07	SFR	0.18
00245900-000000	05106221	08/30/07	SFR	0.15

00245600-000000	06100466	09/20/07	SFR	0.14
00109340-000300	99103072	12/21/07	SFR	0.14
00111420-000100	05105317	02/01/08	Commercial	1.02
00111420-000500	05105321	02/01/08	Commercial	1.02
00111420-000100	07102786	02/01/08	SFR	-
00111420-000100	07103037	02/01/08	SFR	-
00111420-000500	07102787	02/01/08	SFR	-
00111420-000500	07103036	02/01/08	SFR	-
00111460-000000	02100313	04/23/08	Public	1.64
00289710-000000	03102303	04/29/08	SFR	0.12
00249660-000000	06106296	05/13/08	SFR	0.17
00245880-000000	07100308	06/05/08	SFR	0.15
00249900-000000	07100309	06/05/08	SFR	0.17
00246170-000000	07105045	08/13/08	SFR	0.14
00249040-000000	07104806	09/16/08	SFR	0.17
00111090-000000 & 00275620-000000	07105046	11/21/08	Commercial	1.26
00312572-003400	04100574	12/08/08	SFR	0.14
00266770-000000	06104582	02/09/09	SFR	0.35
00266780-000000	06104582	02/19/09	SFR	0.00
00248690-000000	08102594	03/12/09	SFR	0.17
00111690-000900	08103853	04/24/09	Commercial	3.02
00247820-000000	08103005	08/25/09	SFR	0.17
00250410-000000	09101886	10/30/09	SFR	0.17
00296820-000000	97101361	12/16/09	SFR	0.17
00111690-000400	09105095	01/04/10	Commercial	1.99
00250510-000000	09102323	03/08/10	SFR	0.17
00248640-000000	09102011	05/20/10	SFR	0.17
00313510-000000	05103051	12/01/10	SFR	0.20
00247640-000000	10105246	01/19/11	SFR	0.18
00310700-000000	05101712	02/11/11	SFR	0.15
00110830-000103	08103871	07/12/11	SFR	1.12
00313820-000000	05102824	08/16/11	SFR	0.17
00313620-000000	05102823	08/25/11	SFR	0.17
00250150-000000	11100039	08/26/11	SFR	0.17
00250390-000000	11102869	10/21/11	SFR	0.17
00250520-000000	11101010	11/28/11	SFR	0.17
00285310-000000	10107566	12/22/11	SFR	0.12
00248280-000000	12104710	05/21/13	SFR	0.17
00248310-000000	12105054	08/20/13	SFR	0.17
00248780-000000	12104815	05/21/13	SFR	0.17
00249610-000000	12105028	09/13/13	SFR	0.17
00110830-000500	14101053	04/17/14	Commercial	2.14
00111420-001300	08100720	09/16/14	Commercial	1.02
00111420-001300	08100719	09/16/14	SFR	-
00111420-001300	07102788	09/16/14	SFR	-
00248160-000000	14101905	06/06/14	SFR	0.17
00285491-001200	12103130	09/24/14	SFR	0.20

00312470-000000	06101006	07/03/14	SFR	0.14
00312571-002000	06101002	07/02/14	SFR	0.14
00247990-000000	13103734	09/18/14	SFR	0.18
00109350-000500	06106156	07/20/15	SFR	0.28
00245860-000000	05106290	04/23/15	SFR	0.33
00313370-000000	05101328	02/24/15	SFR	0.61
00312880-000000	04105552	02/24/15	SFR	0.65
00313060-000000	99100786	04/21/15	SFR	0.21
00248820-000000	14101264	07/14/15	SFR	0.18
00312572-002100	06101005	09/04/15	SFR	0.14
00269910-000000	03105296	12/11/15	SFR	0.16
00303500-000000	15105649	11/20/15	SFR	-
00306560-000000	15101786	06/16/15	SFR	-
00111420-000500	11105561	04/24/15	Commercial	1.02
00111420-000100	11105559	02/27/15	Commercial	1.02
U.S. Hwy. 1	NA	Pre-2010	Public	1.65
00310280-000000	07100485	03/18/16	SFR	0.40
00112270-000400	16100219	03/23/16	SFR	0.60
00310220-000000	07100486	06/06/16	SFR	0.38
00310240-000000	07100479	06/06/16	SFR	0.34
00248140-000000	13103839	06/17/16	SFR	0.17
00111340-000000	15101160	07/20/16	SFR	-
00312572-000300	06101001	09/07/16	SFR	0.15
00249560-000000	14101545	11/18/16	SFR	0.17
00271270-000000	07102237	12/15/16	SFR	0.14
00310490-000000	07103911	12/19/16	SFR	0.11
00111078-000200	NA	NA	Institutional	2.01
			TOTAL:	45.93

X. DEVELOPMENT ACTIVITIES

The H_{impact} for Reporting Year 11, from January 1, 2016 to December 31, 2016, is 0.0373. The cumulative H-impact of all development activities between March 13, 1995 and December 31, 2016 is 0.4581 (see Appendix II).

The following tables detail the H_{impact} for different permit types for the current reporting year. The H_{impact} for the new National Key Deer Refuge visitor center is not included in the tables because no permit was required from Monroe County. The acreage of the project area for the visitor center, however, is included in the table for cumulative impact above, in Section IX, and the H_{impact} for “Institutional” land use is accounted for in the HCP Development Permit Master List (see Appendix II).

2016 SINGLE FAMILY RESIDENTIAL (SFR) PERMIT H-IMPACTS						
RE Number	Permit No.	Permit Issue Date	Parcel H	H Impact	Tier	Permit Type
00310280-000000	07100485	03/18/16	0.0000	0.0000	2	SFR
00112270-000400	16100219	03/23/16	NO DATA		3	SFR from MH
00310220-000000	07100486	06/06/16	0.0010	0.0010	2	SFR
00310240-000000	07100479	06/06/16	0.0011	0.0011	2	SFR
00248140-000000	13103839	06/17/16	0.0012	0.0012	3	SFR-MOD
00111340-000000	15101160	07/20/16	NO DATA		1	SFR-MOD from MH
00312572-000300	06101001	09/07/16	0.0010	0.0010	2	SFR
00249560-000000	14101545	11/18/16	0.0005	0.0005	3	SFR
00271270-000000	07102237	12/15/16	0.0007	0.0007	2	SFR
00310490-000000	07103911	12/19/16	0.0007	0.0007	2	SFR-MOD
TOTAL H-IMPACT SFR				0.0062		

2016 FENCE PERMIT H-IMPACTS						
RE Number	Permit No.	Permit Issue Date	Parcel H	H Impact	Tier	Permit Type
00267170-000000	16100037	01/28/16	0.0008	0.0002	2	FENCE
00309890-000000	16100591	02/18/16	0.0009	0.0002	2	FENCE
00246460-000000	15106135	02/22/16	0.0033	0.0000	1	FENCE
00312571-004000	16100099	03/09/16	0.0007	0.0001	2	FENCE
00248820-000000	16101591	04/06/16	0.0010	0.0002	3	FENCE
00313880-000000	16101438	04/06/16	0.0024	0.0005	2	FENCE
00312571-004000	16101828	04/18/16	0.0007	0.0001	2	FENCE
00292900-000000	16102835	05/02/16	0.0008	0.0002	1	FENCE
00268710-000100	16102834	05/02/16	NO DATA		2	FENCE
00292900-000000	16102865	05/04/16	0.0008	0.0002	1	FENCE
00304440-000000	16103013	05/27/16	0.0005	0.0001	3	FENCE
00250270-000000	16104330	07/07/16	0.0008	0.0002	3	FENCE
00289360-000000	16105518	08/01/16	0.0013	0.0000	1	FENCE
00285550-000000	16104270	08/16/16	0.0028	0.0006	1	FENCE
00305810-000000	16106407	09/14/16	0.0015	0.0000	1	FENCE
00289610-000000	16106356	09/14/16	0.0011	0.0000	1	FENCE
00218750-000000	16104760	09/21/16	NO DATA		3	FENCE
00266720-000000	16106232	10/11/16	0.0010	0.0002	2	FENCE
00285550-000000	16104264	10/21/16	0.0028	0.0006	1	WALL
00311870-000000	16107642	11/08/16	0.0010	0.0002	2	FENCE
00286140-000000	16107845	11/29/16	0.0000	0.0000	3	FENCE
00285550-000000	16107962	11/29/16	0.0028	0.0006	1	WALL
00304540-000000	16107212	12/01/16	0.0004	0.0000	3	FENCE
00105900-000000	16108048	12/02/16	NO DATA		3	FENCE-COMM
TOTAL H-IMPACT FENCES				0.0042		

2016 LAND CLEARING PERMIT H-IMPACTS						
RE Number	Permit No.	Permit Issue Date	Parcel H	H Impact	Tier	Permit Type
NO IMPACTS						
TOTAL H-IMPACT LAND CLEAR				0.0000		

2016 U.S. Hwy. 1 WIDENING/PAVING H-IMPACTS						
RE Number	Permit No.	Permit Issue Date	Parcel H	H Impact	Tier	Permit Type
NO IMPACTS						
TOTAL H-IMPACT US-1 PAVING/WIDENING				0.0000		

2016 COMMERCIAL BUILDING PERMITS						
RE Number	Permit No.	Permit Issue Date	Parcel H	H Impact	Tier	Permit Type
NO IMPACTS						
TOTAL COMMERCIAL H-IMPACT				0.0000		

XI. H-VALUE ASSOCIATED WITH DEVELOPMENT JANUARY 1, 2016 THROUGH DECEMBER 31, 2016

H-VALUE SUMMARY FOR REPORTING YEAR 11 (2016)							
Reporting Year 11	H impact	H mitigation	No. of SFR Permits	No. of Permits in Tier 1	Tier 1 H	Native Habitat (acres)	Rabbit Buffer (acres)
1/1/2016 - 12/31/2016	0.0373	0.0239	10	1	0.0272	4.47	3.53

XII. CUMULATIVE H-VALUE FOR ALL DEVELOPMENT

The total H_{impact} for all time periods is 0.4581 “H” (See Appendix II).

SUMMARY OF H-IMPACT FOR BIG PINE KEY AND NO NAME KEY						
	SFR	Fence	Commercial	Public*	Accessory	TOTALS
Baseline	0.0513	0.0189	0.0590	0	0.0002	0.1294
Year 1A,B 2006	0.0341	0.0159	0.0211	0	0	0.0711
Year 2 2007	0.0177	0.0001	0.0890	0	0	0.1068
Year 3 2008	0.0058	0.0016	0.0255	0.0012	0	0.0341
Year 4 2009	0.0049	0	0	0	0	0.0049
Year 5 2010	0.0025	0.0016	0.0014	0	0	0.0055
Year 6 2011	0.0067	0.0007	0	0	0	0.0074
Year 7 2012	0.0016	0.0013	0	0	0	0.0029
Year 8 2013	0.0024	0.0023	0	0	0	0.0047
Year 9 2014	0.0173	0.0018	0.0065	0	0	0.0256
Year 10 2015	0.0143	0.0029	0.0010	0.0101	0	0.0283
Year 11 2016	0.0062	0.0042	0	0.0272	0	0.0376
TOTAL	0.1648	0.0513	0.2035	0.0385	0.0002	0.4583**

*Includes road widening and paving, and NKDR Visitor Center (“Institutional” land use) for 2016 only

**Discrepancy with Appendix II total H_{impact} due to rounding errors

XIII. CONSTRUCTION OBSERVATIONS

The permittees made no observations of direct or incidental take of Key deer during construction monitoring of County facilities and road expansion activities.

XIV. ACQUISITIONS THROUGH DECEMBER 31, 2016

A total of 1,389 parcels comprise the mitigation lands on both Big Pine Key and No Name Key under the Habitat Conservation Plan. These lands are managed by the Monroe County Land Steward and, in some instances, staff of the National Key Deer Refuge.

March 13, 1995 – December 31, 2016

For the reporting period of March 13, 1995 through December 31, 2016 (the end of Reporting Year 11), Monroe County acquired parcels with a total H-value of 2.9701 “H”.

XV. ACQUISITIONS FOR 2016

January 1, 2016 – December 31, 2016

During Reporting Year 11, Monroe County acquired 20 parcels with a total “H” of 0.0239.

XVI. CUMULATIVE “H” ACQUIRED

Total cumulative “H” mitigation credit acquired through 2016 (Reporting Year 11) is 2.9701. The cumulative “H” mitigation credit acquired to date (2.9701) is 90% of the 3.3 mitigation “H” required for the maximum allowable H-impact of 1.1.

XVII. MANAGEMENT ACTIVITIES CONDUCTED FROM JANUARY 1, 2016 TO DECEMBER 31, 2016

The Monroe County Land Steward is responsible for managing all of the County’s conservation lands, including the County’s mitigation properties on Big Pine and No Name Keys. Over the past year, the Land Steward, with the assistance of the County’s contracted crew of invasive exotic plant technicians and other contractors, has conducted numerous invasive exotic plant removal projects, site cleanup projects, and native plantings on County mitigation properties. Larger scale work sites included parcels within Sands, Eden Pines, Palm Villa, and Bahia Shores Subdivisions. Assistance was also provided by the County’s Solid Waste Department.

XVIII. ASSESSMENT OF ALL MITIGATION PARCELS

There are 1,389 mitigation parcels on Big Pine and No Name keys. Many of these parcels are individual lots within developed subdivisions. This situation creates an extensive amount of edge between developed parcels and the subject mitigation lands. The edge effects include the constant threat of invasive exotic plant invasion and the potential for dumping and encroachment by neighboring residents. The Monroe County Land Steward is working to address these management issues by conducting invasive exotic plant removal projects (with the assistance of the County’s contracted crew of invasive exotic plant technicians and other independent contractors), notifying residents of encroachment issues, and working with Monroe County Solid Waste to clean up dumped debris. Additionally, the Land Steward has created an informational brochure for homeowners that provides information regarding invasive exotic plant species, native plants, and the proper disposal of landscape debris.

XIX. EXOTIC / NUISANCE PLANT CONTROL PROGRAM MONITORING REPORT

Site visits and aerial photo interpretation were used to determine the level of invasive exotic vegetation infestation on mitigation parcels. For the purposes of this report, an “invasive exotic plant” is one that is listed on the Florida Exotic Pest Plant Council’s list as either a Category I or a Category II species. A total of 59 parcels were found to have invasive exotic infestation levels greater than ten percent aerial coverage. These parcels comprise approximately 4.2 percent of the total number of parcels (1,389). Seven of the 59 parcels (12%) that are infested with invasive exotic vegetation were acquired within the current 2016 reporting period and, consequently, the County has not yet had the opportunity to restore these parcels.

The greatest concentration of invasive exotics occurring on Monroe County mitigation lands on Big Pine Key is found in Sands Subdivision. However, the County continues to make progress on the eradication of exotics in Sands. Additional invasive exotic removal projects are planned for the coming years, subject to available funding.

The Monroe County Land Steward, with the assistance of independent contractors, continues to monitor and treat invasive exotic plant species on Monroe County's mitigation lands. The "Invasive Exotic Vegetation Status Report" is presented in Appendix I. for additional information.

XX. MITIGATION CONFIRMATION STATEMENT

3:1 H-mitigation to impact ratio

The cumulative H-value of lands acquired as mitigation since March 13, 1995 through the end of the reporting period, December 31, 2016, is 2.9701 "H".

The cumulative H_{impact} of parcels impacted by development activities since March 13, 1995 through the end of the reporting period, December 31, 2016 is 0.4581 "H".

The ratio of mitigation "H" (acquired lands) to H_{impact} (from development activities) is:

$$2.9701/0.4581 = 6.4835 \text{ "H"}$$

5% lag in meeting mitigation requirements

	H_{impact} :	= 0.4581
Mitigation required ($H_{\text{impact}} \times 3$):		= 1.3743
Mitigation provided:		= 2.9701

Percent of required mitigation provided: 216%

There is more than twice the required amount of mitigation H for the present reporting period. The permittees are not lagging behind the required 3:1 H-mitigation-to-impact ratio by more than 5%.

Statement of confirmation

The permittees confirm that mitigation as of December 31, 2016 is sufficient to maintain a 3:1 H-mitigation-to-impact ratio with respect to development activities. The calculations above demonstrate that the cumulative H-value of lands acquired to mitigate the cumulative H_{impact} through the reporting period is not less than the required minimum five-percent.



Mayté Santamaria, Senior Director of Planning and Environmental Resources

XXI. OTHER PERTINENT INFORMATION

The Incidental Take Permit allows development of ten dwelling units or 0.0220 H_{impact} in Tier 1 on Big Pine and No Name keys, whichever results in a lower “H”. A total of 17 ROGO allocations have been awarded to date in Tier 1 on Big Pine Key and No Name Key. Four of these allocation awards had issued permits that subsequently received certificates of occupancy with a resulting combined H_{impact} of 0.0074.

SUMMARY OF H-IMPACT FOR TIER 1 PERMITS AND ALLOCATIONS					
RE#	Permit #	Issue Date	H Value	H Impact	Tier
00285550-000000	95101813	6/1/2005	0.0028	0.0028	1
00289510-000000	96101622	5/1/2006	0.0022	0.0022	1
00289710-000000	03102303	4/29/2008	0.0013	0.0013	1
00296820-000000	97101361	12/16/2009	0.0011	0.0011	1
00319494-001300	96101472	Allocation award expired 9/22/2012	0.0026	0	1
00319494-001000	96101470	Allocation award expired 7/22/2015	0.0029	0	1
00319494-000900	96101469	Allocation award expired 7/22/2015	0.0032	0	1
00319494-000500	96101464	Allocation award expired 7/22/2015	0.0024	0	1
00319494-000400	96101463	Allocation award expired 7/22/2015	0.0019	0	1
00319494-001400	96101473	Allocation award expired 7/22/2015	0.0023	0	1
00319494-000300	96101462	Allocation award expired 1/30/2016	0.0026	0	1
00319494-000200	96101461	Allocation award expired 1/30/2016	0.0022	0	1
00319494-000100	96101460	Allocation award expired 1/30/2016	0.0043	0	1
00319494-000600	96101465	Allocation award expired 1/30/2016	0.0026	0	1
00319494-000700	96101467	Allocation award expired 9/05/2016	0.0034	0	1
00319494-000800	96101468	Allocation award expired 9/05/2016	0.0025	0	1
00319494-0011000	96101471	Allocation award expired 9/05/2016	0.0027	0	1
TOTAL H-IMPACT FOR ISSUED BUILDING PERMITS				0.0074	
TOTAL H-IMPACT FOR ISSUED ALLOCATIONS				0.0000	
H-IMPACT OF ALLOCATIONS + ISSUED PERMITS				0.0074	

Thirteen of the issued but unused allocation awards for Tier 1 parcels have expired (see table above). There are currently no active allocations and, consequently, no assigned allocation “H”. The total amount of used allocation “H” is 0.0074 which leaves 0.0146 “H” ($0.0220 \text{ “H”} - 0.0074 \text{ “H”}$) remaining of the total amount allowed by the ITP. The number of issued building permits and the remaining H_{impact} are both well under their respective maximum limits. Also, there are four Tier 1 applications currently competing in ROGO for parcels with a combined “H” value of 0.0051.

An ordinance by the Monroe County Board of County Commissioners (BOCC) amended The Livable Communikeys Master Plan by changing the tier designation of four parcels (00300090-000000, 00300180-000000, 00300590-000000, and 00300670-000000) in two subdivisions on Big Pine Key from Tier 1 to Tier 3, and another amended the Tier Overlay District to reflect the change. Development of the four parcels was restricted to only affordable housing. The parcels are all developed land with no

available habitat for the Key deer and located outside of established deer corridors. The ordinance further provides for the amendment's inclusion in the Monroe County 2010 Comprehensive Plan.

A resolution (No. 192-2016) of the Monroe County BOCC approved the reservation of 16 affordable ROGO allocations for a proposed affordable/employee dwelling unit development on a Tier 3 parcel on Big Pine Key. The related Resolution No. 193-2016 approves the reservation of 0.0870 H_{impact} with 0.261 $H_{\text{mitigation}}$. It should be noted however that no building permits have been issued for this project to date.

In order to address the potential for having insufficient Tier I allocations to meet demand prior to the expiration date of the HCP (2023), the Monroe County Board of County Commissioners adopted Comprehensive Plan Policy Policy 101.6.2 and amended Section 138-24 (Residential ROGO Allocations) to limit the annual maximum number of residential permit allocations awarded in Tier I on Big Pine Key and No Name Key to be no more than one (1) every 2 years.

XXII. UPDATED MASTER LIST OF ALL DEVELOPMENT PERMITTED ON BIG PINE KEY AND NO NAME KEY

The HCP Development Permit Master List is attached as Appendix II. The "H" balance reflected in this 11th Annual Report is the cumulative H_{impact} from all impacts occurring from March 13, 1995 through December 31, 2016. The H-value remaining for impacts is calculated as follows:

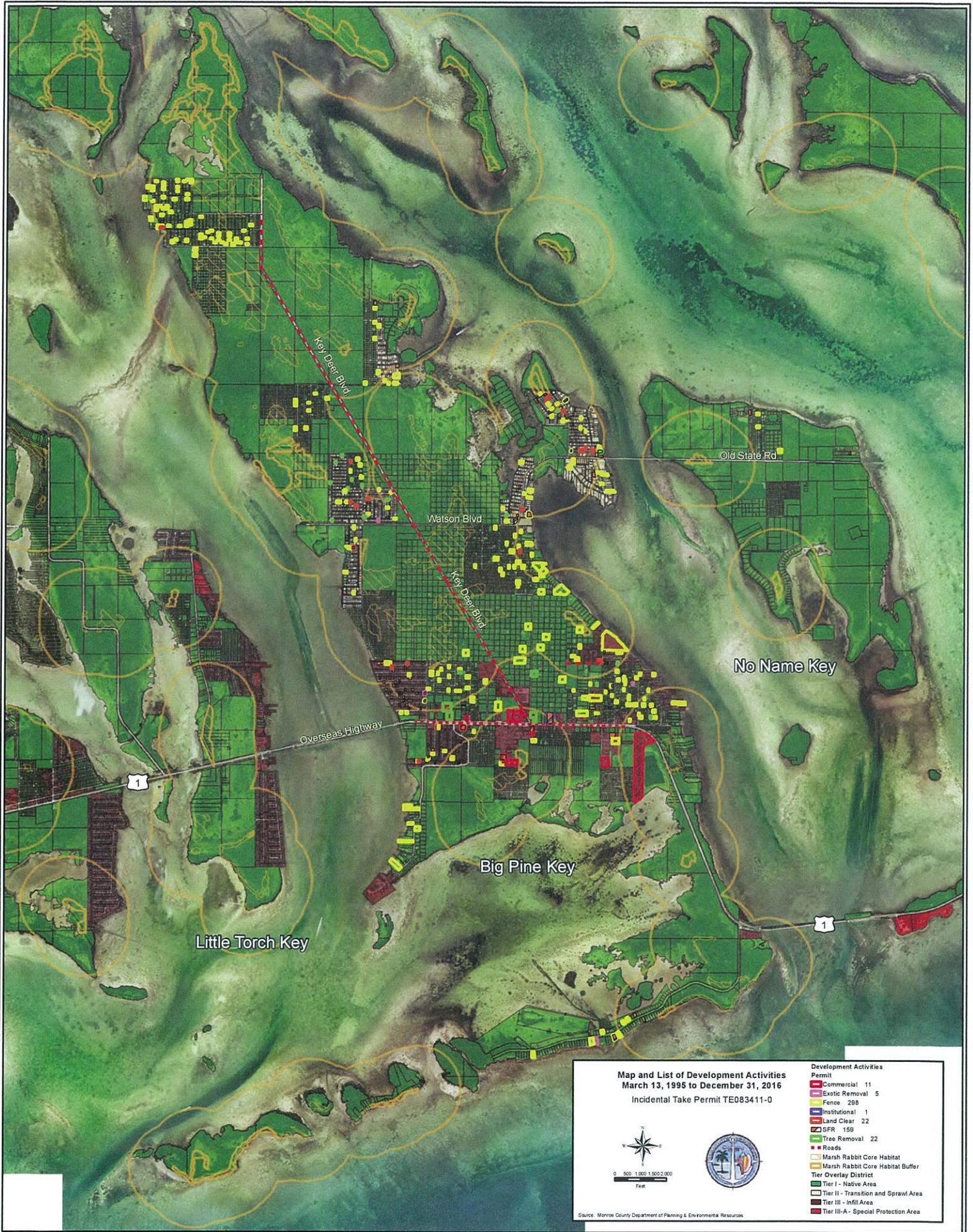
• Maximum H-value allowed for impacts	1.1000
• Cumulative H_{impact} for all approved permits from March 13, 1995 through December 31, 2016	<u>-0.4581</u>
Remaining "H" available for development impacts:	0.6419

For the allowed 1.1000 H_{impact} for development, Monroe County is required to mitigate "H" on a 3:1 basis with "H" credits through land acquisitions or dedications. The mitigation required for the current level of development is 1.3743 "H" ($0.4581 H_{\text{impact}} \times 3$). The County currently has 2.9701 "H" mitigation credits, which is 2.16 times the amount presently required. Thus, the mitigation "H" satisfies the ITP requirement that the cumulative H-value of lands acquired as mitigation does not lag more than five percent behind what is necessary to fully mitigate the cumulative H_{impact} .

Exhibits

Exhibit 1

Map of Development Activities – Cumulative



Source: Monroe County Department of Planning & Environmental Resources

Exhibit 2

Map of Development Activities – 2016



Exhibit 3

Map of Acquired Mitigation Parcels – Cumulative

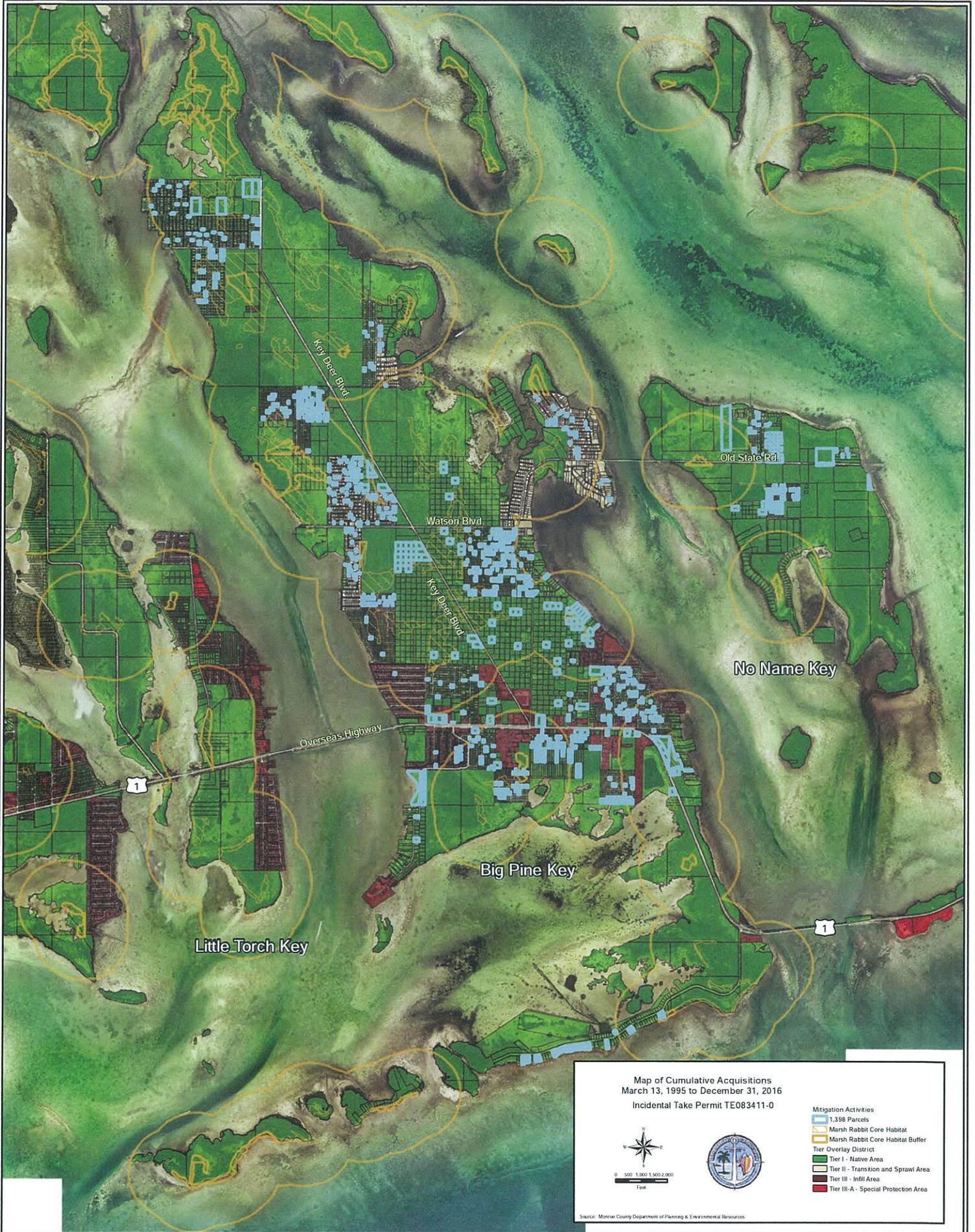


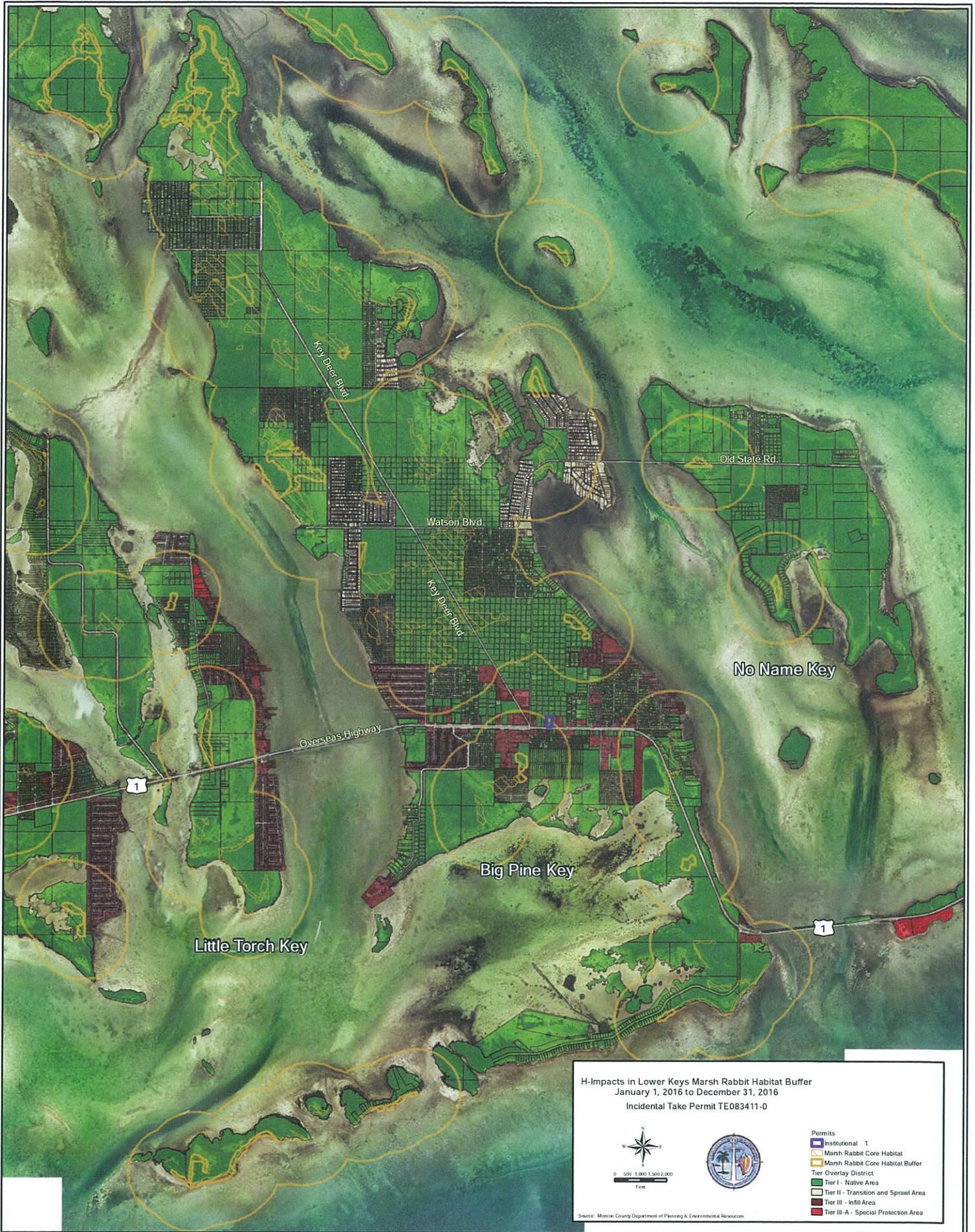
Exhibit 4

Map of Acquired Mitigation Parcels - 2016



Exhibit 5

Map of H-Impact in Lower Keys Marsh Rabbit Habitat - 2016



Appendices

Appendix I

Mitigation Lands Invasive Exotic Vegetation Status Report

**Monroe County
Mitigation Lands
Invasive Exotic Vegetation Status Report**

February 2017

As required by
Incidental Take Permit # TE083411-0

Prepared by
Beth Bergh
Monroe County Land Steward

This report has been prepared in accordance with Requirement # 19, Block 11: K of the Incidental Take Permit (ITP) # TE083411-0 that requires Monroe County to submit “A *monitoring report documenting compliance with the exotic/nuisance plant control program on county conservation lands, demonstrating no more than 20 percent aerial coverage of nuisance and 10 percent aerial coverage of invasive species identified by Florida Exotic Pest Plant Council.*”

There are a total of 1,389 parcels that comprise the mitigation lands under Monroe County’s Habitat Conservation Plan (HCP). These lands are managed by the Monroe County Land Steward and, in some instances, by the U.S. Fish and Wildlife Service’s National Key Deer Refuge staff. A total of 141 parcels are located on No Name Key and the remaining 1,248 parcels are on Big Pine Key. The following table shows the breakdown of the mitigation parcels by subdivision:

Key	Subdivision	Number of Parcels
No Name	Bahia Shores	9
No Name	Ocean Heights	31
No Name	Tuxedo Park	57
No Name	Other	44
Big Pine	Cahill Pines & Palms	18
Big Pine	Doctor’s Arm	42
Big Pine	Eden Pines	145
Big Pine	Kinercha	83
Big Pine	Koehns	9
Big Pine	Long Beach Estates	20
Big Pine	Palm Villa	199
Big Pine	Pine Crest	38
Big Pine	Pine Grove	26
Big Pine	Pine Heights	127
Big Pine	Pine Key Acres	43
Big Pine	Port Pine Heights	60
Big Pine	Sands	151
Big Pine	Sea View Estates	30
Big Pine	Silas Knowles	49
Big Pine	Tropical Park	60
Big Pine	Wickfield Acres	18
Big Pine	Other	130
	TOTAL	1,389

As shown in the table above, the majority of the mitigation parcels are located in residential developments with the largest number of properties situated in Palm Villa, Sands, and Eden Pines subdivisions. The typical subdivision lot measures approximately 50 ft. x 100 ft. The size and the location of these lots create unique land management challenges, such as increased edge effects and the potential for encroachment from neighboring residences.

Site visits and aerial photo interpretation were used to determine the level of infestation of invasive exotic vegetation. For the purpose of this report, an “invasive exotic plant” is one that is on the Florida Exotic Pest Plant Council’s list as either a Category I or a Category II species. The percent cover of invasive exotics is classified as follows:

Level of Infestation	% Cover of Invasive Exotics
0	Not present
1	Less than 10 %
2	10-20%
3	20-50%
4	50-75%
5	75-100%

The level of infestation for all County Mitigation Land parcels is summarized in the following table:

Level of Infestation	Number of Parcels
0	1,130
1	200
2	26
3	16
4	7
5	10

A total of 59 parcels were found to have invasive exotic infestation levels greater than 10 percent. These parcels comprise approximately 4.2 percent of the total number of parcels (1,389). Seven of the 59 parcels containing invasive exotic infestations (or 12 percent) are recent acquisitions and the County has not yet had an opportunity to restore them.

The greatest concentration of invasive exotics occurring on Monroe County Mitigation Lands was found in Sands Subdivision. However, Monroe County continues to make progress on the eradication of exotics in Sands. Within the past year, the County hired contractors to conduct invasive exotic removals on several lots within this subdivision. The invasive exotic removals were followed by site cleanup and native vegetation planting as needed. Additional invasive exotic removal projects are planned for the coming years, subject to available funding.

The Monroe County Land Steward and the contracted team of Invasive Exotic Plant Technicians continue to monitor and treat invasive exotic plant species on Monroe County Mitigation Lands.