8th Annual Monitoring Report on the Habitat Conservation Plan for the Key Deer and other Protected Species

January 1, 2013 – December 31, 2013
Incidental Take Permit Number TE083411-0

Monroe County Growth Management

County of Monroe
Growth Management Division

Department of Environmental Resources
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We strive to be caring, professional, and fair.

August 25, 2014

Brian Powell
Habitat Conservation Planning Coordinator
U.S. Fish and Wildlife Service
1339 20th Street
Vero Beach, FL 32960-3559

RE: HCP/ITP Annual Report

Dear Mr. Powell,

The Federal Fish and Wildlife Incidental Take Permit #TE083411-0 requires the County to provide an annual report for each of the 20 years of the permit. Enclosed please find Monroe County's 8th Annual Report for the year of January 1, 2013 to December 31, 2013.

Should you have any questions or comments, do not hesitate to contact me. Thank you for your patience.

Sincerely,

Michael Roberts, CEP; PWS
Sr. Administrator – Environmental Resources
Monroe County Department of Planning and Environmental Resources

Cc: Rebecca Jetton, Florida Department of Economic Opportunity
Aileen Boucle, Florida Department of Transportation

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INTRODUCTION

Efforts to address the development impacts on the habitat of the Key deer, Lower Keys marsh rabbit, and the 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) for these two keys. In order to determine community needs, Monroe County also carried out a planning effort called the "Liveable 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 (Monroe County 2004).

The HCP, in conjunction with the LCP for Big Pine Key and No Name Key, provides 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 impact on the Key deer, Lower Keys marsh rabbit, and the eastern indigo snake. The federal Incidental Take Permit, TE083411-0 (ITP) is the accompanying document to the HCP. The ITP has a 20-year lifespan running from June 9, 2003 through June 30, 2023. To account for development activities authorized prior to the adoption of the LCP, impacts and land acquisition activities are included for the period from March 13, 1995 to June 8, 2006. The initial monitoring year (1st Annual Monitoring Report) 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 8th Annual Big Pine Key/No Name Key Mitigation Report, a report that the County prepares annually and presents to the U.S. Fish and Wildlife Service (USFWS) to fulfill the requirements of the ITP. The present document provides an account of development and acquisition activities from March 13, 1995 through December 31, 2013, and presents the balance of the H-values debited by development activities, as well as those credited by acquisition and conservation activities.

I. 2013 KEY DEER CENSUS

Key Deer National Wildlife Refuge data for January 1, 2013 to December 31, 2013

For 2013, the Key deer road-count index value was 68. The 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" with these terms being used interchangeably. The road counts are conducted at approximately monthly intervals along the USFWS survey route. The 2013 road-count index value of 68 is derived from five standardized count surveys (one each from January, April, June, November, and December). The preceding years' values were 59 (2012, n =10), 61 (2011, n =11), 57 (2010, n =10), and 64 (2009, n =11) where n equals the number of standardized count surveys from which the count index values were derived. The record high count

index value for any year since 1975, when the road counts began, was 71.5 in 2006; the second highest was 69.5 in 2005.

II. KEY DEER MORTALITY SUMMARY

Key Deer National Wildlife Refuge data for January 1, 2013 to December 31, 2013

The other index of Key deer abundance on Big Pine Key and No Name Key is the mortality index (documented human-caused deer deaths). The mortality index for 2013 was 117 (Table 1); preceding years' indices were 161 (2012), 145 (2011), 113 (2010), and 121 (2009). The 2012 mortality index of 161 was the highest on record since the mortality counts were started in 1966. The 2011 and 2009 counts were the second and the third highest values, respectively. Prior to the period from 2009 to 2012, the highest mortality index occurred in 2005 with 105 human-caused deaths. The number of human-caused deer deaths first surpassed 100 in 2003 with 102 documented mortalities. It is likely that human factors also contributed to 'Disease' and the 'Undetermined' causes, some of which are probably related to DVCs (deer vehicle collisions) (see Table 1).

Table 1. ***Summary of Key deer mortality information in the core of the range (HCP area--Big Pine and No Name keys), 2009 to 2013.***

YEAR	Combat	Disease	Dog	Drowning	Entanglement	Poached	Deer-vehicle collisions (DVCs)	Miscellaneous (human-caused)	Mortality index (total human-caused)	Undetermined	Total mortality (all causes)	DVCs as % of total
2009	0	4	**0**	**4**	**2**	**2**	**112**	**1**	121	25	150	75
2010	1	7	**0**	**7**	**1**	**0**	**103**	**2**	113	20	141	73
2011	2	12	**6**	**3**	**3**	**0**	**131**	**2**	145	16	175	75
2012	4	17	**2**	**3**	**5**	**0**	**150**	**1**	161	15	197	76
2013	0	8	**0**	**5**	**2**	**0**	**110**	**0**	117	27	152	72

Human-caused mortalities are shown in bold. DVCs = deer vehicle collisions.

In 2013, the total mortality count (all known mortalities from all causes) on Big Pine Key and No Name Key was 152 (see Table 1). The preceding years' values were 197 (2012), 175 (2011), 141 (2010), and 150 (2009). Prior to the period from 2009 to 2012, the highest total mortality count on Big Pine Key and No Name Key of 133 occurred in 2003. The values first surpassed 100 in 1997.

Over the long-term, the mortality index (count of human-caused deaths documented over the year) and the road-count index illustrate a direct correlation, with an overall positive trend in each. The peak road count (71.5) occurred in 2006, and remained between 57 and 66 from 2007 to 2012. The higher mortality indices in recent years are due to an increase in the number of road-kills (DVCs). There has also been an increase in the number of disease-related deaths, although of a much smaller magnitude.

The proportion of all known Big Pine Key and No Name Key deer deaths in 2013 that were due to DVCs (approximately 72%) was similar to values for 2004 to 2012 which ranged from 73% to 78%. In 2013, approximately 77% of all known Big Pine Key and No Name Key mortalities were attributed to all human causes combined; the range of percentages from 2004 to 2012 was 79% to 85%. The 46-year average percentage (from 1966 to 2012) is approximately 83%. DVCs alone accounted for 76% of all known deaths over that period, somewhat higher than the 2013 value. From 1983 to 2001, the 13-year average attributed to human causes gradually declined from 91% to 73%. The 13-year average percentage attributed to human causes (80% as of 2012) has risen gradually subsequent to the 12-year average low in 2001 (73%). Some of the deaths for which the cause was "undetermined", and likely even some disease deaths, undoubtedly include a number of cases that may actually be attributable to human causes, particularly DVCs; however, an unknown number of both natural and human-caused deaths go entirely undetected.

Of the road mortalities within the core in which sex was determined, approximately 38% were females in 2013. Of the road mortalities within the core in which sex was determined since 1966, approximately 40% were females. The 13-year average has ranged from approximately 37% to 43% females since 1978, the first year that a 13-year average was available. The 13-year average as of 2013 was approximately 42% females.

DVCs on U.S.1 comprised approximately 63% of all DVC on Big Pine Key during 2013. The proportions in 2012 and 2011 were approximately 69% and 61%, respectively, which were the highest values since 1996 (70%). Similarly, DVCs on U.S.1 comprised approximately 63% of all DVCs mortalities on Big Pine Key and No Name Key combined, with only one of the DVCs documented on No Name Key. Of the road mortalities documented on Big Pine Key since 1966, approximately 54% were on U.S.1. Of the total DVCs mortalities documented since 1966 on Big Pine Key and No Name Key combined, approximately 51 % were on U.S.1. Thus, U.S.1 accounts for half of all DVCs in the core over the long term, but approximately two-thirds of DVCs since 2011.

Of the total mortalities documented throughout the core since 1966, approximately 74% were from DVCs. For the 13-year average ending in 2013, approximately 74% were due to DVCs. Throughout the core since 1966, of the mortalities where the cause was determined, approximately 87% were from DVCs.

Of all mortalities range-wide, the proportion that occurred on Big Pine Key was approximately 88% in 2013 (long term mean, 89% annually since 1966). Mortalities in the core (Big Pine Key and No Name Key combined) comprised approximately 89% of all mortalities range-wide in 2013 (annually 94% since 1966). Of all documented DVCs range-wide, the proportion that occurred on Big Pine Key was also approximately 87 % (annually 90% since 1966). The proportion of known DVCs that occurred on No Name Key was approximately 1% (annually 5% since 1966).

The long-term proportion of all Big Pine Key and No Name Key deaths attributed to disease, from 1966 to 2013, was approximately 4%. The annual proportion has been greater in recent periods (5%, 13-year annual mean 2001–2013) compared to earlier decades (less than 1%, 1966–1990). The proportion of all Big Pine Key and No Name Key deaths attributed to disease in 2012 was approximately 5%.

III. KEY DEER MORTALITY DATA DISCUSSION

Key Deer National Wildlife Refuge data

In 2013, there were 152 mortalities from all causes recorded in the core of the range. Total mortalities in the core had jumped to 175 and 197 in 2011 and 2012, respectively, from a previous record high of 150 in 2009. Total DVCs mortalities in the core jumped to 131 and 150 in 2011 and 2012, respectively, from a previous record high of 112 in 2009. DVC mortalities on U.S.1 increased to 78 and 103 in 2011 and 2012, respectively, from a previous record high of 53 in 2009. The value was approximately 69 in 2013. However, the proportion of all deaths attributed to DVCs was approximately 72% in 2013, similar to the long-term average (74%, as discussed above).

Overall, in 2013, the proportion of mortalities from DVCs, the proportion attributed to U.S.1, and the absolute number of DVCs attributed to U.S.1, were not particularly high, especially compared to 2011 and 2012. The 2013 values were similar to 2009 and 2010 values. Higher DVCs values on U.S.1 indicate that deer abundance has increased, movement has increased (resulting in more deer intersecting U.S.1 and thus, colliding with vehicles), or that U.S.1 has become more lethal to deer that intersect it.

Absolute road mortalities in 2013 were below the peak values of 2011 and 2012, though the proportion attributed to U.S.1 remains high. Higher population levels could result in commensurately more DVCs. Alternatively, mortalities may be occurring at a higher per capita rate than in previous years, such as if U.S.1 has become more lethal to deer. This may be the case if the count index, which depicts a general lack of growth in recent years (all values from 2007 to 2013 remain below the 2006 peak), accurately depicts an actual leveling off, slight decline, or lack of population increase indicated over those recent years. Alternatively, an increase in annual productivity could result in the patterns observed, *i.e.*, a greater excess both produced and removed by DVCs annually in recent years.

With regard to recent years in the context of the long-term record of the count index, what may be occurring is a possible decrease in the long-term population growth trajectory. ***Key deer may have attained or exceeded the carrying capacity within the core of their range. Accordingly, in the absence of new and substantial threats or major changes in habitat that result in major changes in food availability and/or survival, the Key deer population within the core may fluctuate around carrying capacity, the actual value of which cannot be directly calculated.*** Numerical fluctuations will result from source-driven and random variation in factors including environmental influences, annual productivity of the landscape, mortality rates, and annual variation in female productivity. We are unable to determine whether or not the current mortality rate is compensatory or additive.

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 Key and No Name Key. Over the past year, the Land Steward and the Monroe County Invasive Exotic Plant Technicians have conducted numerous invasive exotic plant removal projects and site cleanup projects on County mitigation properties. Larger scale work sites included parcels within Sands, Eden Pines, Port Pine Heights, Palm Villa, and Doctor's Arm subdivisions. Some of these projects required the use of independent contractors and/or assistance from Monroe County Public Works.

V. KEY DEER MORTALITY RATIO

Key Deer National Wildlife Refuge data

Below are calculations of the ratio of the number of human-related deaths to the Key deer road-count index value for 2009 to 2013. This "mortality ratio" is required to remain below 1.53.

January through December 2013

$$\text{Ratio} = \frac{\text{human-related deaths}}{\text{deer road-count index}} = \frac{117}{68} = \mathbf{1.73}$$

January through December 2012

$$\text{Ratio} = \frac{\text{human-related deaths}}{\text{deer road-count index}} = \frac{161}{59.0} = \mathbf{2.73}$$

January through December 2011

$$\text{Ratio} = \frac{\text{human-related deaths}}{\text{deer road-count index}} = \frac{145}{61.3} = \mathbf{2.37}$$

January through December 2010

$$\text{Ratio} = \frac{\text{human-related deaths}}{\text{deer road-count index}} = \frac{113}{57.1} = \mathbf{1.98}$$

January through December 2009

$$\text{Ratio} = \frac{\text{human-related deaths}}{\text{deer road-count index}} = \frac{121}{63.9} = \mathbf{1.89}$$

The ratio of human-related Key deer deaths (the mortality index) to the average number of deer counted for the 2013 census (the road-count index) was 1.73 and is above the upper boundary of the 95% confidence interval (1.53) stipulated in the HCP. The 2012 mortality ratio of 2.73 was the highest ratio calculated since 1986. For every year from 2009 through 2012, the mortality ratios had been at their highest levels since 1987 (1.89, 1.98, 2.37, and 2.73,). The 2013 mortality ratio of 1.73 is the lowest recorded ratio since 2008. The 13-year average as of 1987—the first year data are available—was 2.18. That declined to about 1.4 during 1999 through 2002, and subsequently rose to 1.77 (13-year average, 2001—2013). The long-term average (39 years, 1975 to 2012) is 1.78.

VI. ANNUAL IMPACTS TO THE LOWER KEYS MARSH RABBIT HABITAT 500-METER BUFFERS

January 1, 2013 – December 31, 2013

For Reporting Year 8, one development permit was issued resulting in an area of 7,500 square feet impacting the Lower Keys marsh rabbit 500-meter habitat buffer. Four development permits were issued outside of the Lower Keys marsh rabbit habitat 500-meter buffer.

Table 2. ***Development impacts for 2013 to the Lower Keys marsh rabbit habitat 500-meter buffer.***

REAL ESTATE NUMBER	PERMIT NUMBER	ISSUE DATE	PERMIT TYPE	IMPACTS (BY ACREAGE)
00248780-000000	12104815	5/21/13	SFR	0.172
			TOTAL AREA IMPACTED (ACRES)	0.172

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 Lower Keys marsh rabbit is 44.474 acres. Cumulative impacts to the Lower Keys marsh rabbit buffer since permit issuance (June 9, 2006) are 19.212 acres.

VIII. LOWER KEYS MARSH RABBIT ROAD MORTALITY

In both 2006 and 2007, one road kill on Big Pine Key was verbally reported by local naturalists, but not otherwise substantiated. In 2008, two mortalities were detected and the carcasses retrieved. One was killed by a vehicle on Wilder Road along a stretch where a rabbit had previously been seen by USFWS personnel fleeing from a cat. In 2009, one was taken from Big Pine Key to a veterinarian, where it died. It reportedly involved a vehicle strike, but no other details were conveyed. A necropsy conducted on that mortality suggested that a predation attempt was likely, but that subsequently, a vehicle strike may have occurred as well. These observations indicate, as per the literature on Lower Keys marsh rabbits, that cats continue to suppress rabbit populations and that vehicle strikes are an additional threat. In 2010, no road mortalities were detected on Big Pine, No Name, or other areas outside of Naval Air Station Key West. In late February, 2011, one LKMR road mortality occurred and was retrieved on Key Deer Blvd., Big Pine Key. No Lower Keys marsh rabbit mortalities were reported for 2012 or 2013.

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

REAL ESTATE NUMBER	PERMIT NUMBER	ISSUE DATE	PERMIT TYPE	ACRES
00249720-000000	98100115	10/26/2006	SFR	0.34
00316150-000000	97101902	10/26/2006	SFR	0.41
00313100-000000	98100811	11/22/2006	SFR	0.26
00245720-000000	03103814	1/2/2007	SFR	0.15
00249130-000000	04104077	1/10/2007	SFR	0.17
00248460-000000	04102831	1/17/2007	SFR	0.17
00248980-000000	04101652	1/18/2007	SFR	0.17
00245880-000000	07100308	1/19/2007	SFR	0.15
00249660-000000	06106296	1/19/2007	SFR	0.17
00249900-000000	07100309	1/19/2007	SFR	0.17
00249150-000000	03104466	1/24/2007	SFR	0.17
00248390-000000	05101386	1/25/2007	SFR	0.18
00285290-000000	03102339	1/25/2007	SFR	0.19
00285300-000000	04100750	1/25/2007	SFR	0.12
00247780-000000	04104936	2/23/2007	SFR	0.17
00312571-000200	97101893	3/12/2007	SFR	0.37
00248700-000000	05101709	3/26/2007	SFR	0.17
00249380-000000	05102876	3/26/2007	SFR	0.17
00248310-000000	05103866	3/30/2007	SFR	0.17
00312572-003300	02100058	4/23/2007	SFR	0.14
00309761-000101	97101413	5/3/2007	SFR	0.58
00286360-000000	07101477	7/31/2007	Commercial	10.17
00248960-000000	02105130	8/16/2007	SFR	0.17
00247930-000000	05104608	8/24/2007	SFR	0.18
00245900-000000	05106221	8/30/2007	SFR	0.15
00245600-000000	06100466	9/20/2007	SFR	0.14
00109340-000300	99103072	12/21/2007	SFR	0.14
00111420-000100	05105317	2/1/2008	Commercial	1.02
00111420-000500	05105321	2/1/2008	Commercial	1.02
00111420-000100	07102786	2/1/2008	SFR	1.02
00111420-000100	07103037	2/1/2008	SFR	
00111420-000500	07102787	2/1/2008	SFR	1.02
00111420-000500	07103036	2/1/2008	SFR	
00111460-000000	02100313	4/23/2008	Public	1.64
00289710-000000	03102303	4/29/2008	SFR	0.12
00249660-000000	06106296	5/13/2008	SFR	0.17
00245880-000000	07100308	6/5/2008	SFR	0.15
00249900-000000	07100309	6/5/2008	SFR	0.17
00246170-000000	07105045	8/13/2008	SFR	0.14
00249040-000000	07104806	9/16/2008	SFR	0.17

REAL ESTATE NUMBER	PERMIT NUMBER	ISSUE DATE	PERMIT TYPE	ACRES
00111090-000000 & 00275620-000000	07105046	11/21/2008	Commercial	1.26
00312572-003400	04100574	12/8/2008	SFR	0.14
00266770-000000	06104582	2/9/2009	SFR	0.35
00266780-000000	06104582	2/19/2009	SFR	0.00
00248690-000000	08102594	3/12/2009	SFR	0.17
00111690-000900	08103853	4/24/2009	Commercial	3.02
00247820-000000	08103005	8/25/2009	SFR	0.17
00250410-000000	09101886	10/30/2009	SFR	0.17
00296820-000000	97101361	12/16/2009	SFR	0.17
00111690-000400	09105095	1/4/2010	Commercial	1.99
00250510-000000	09102323	3/8/2010	SFR	0.17
00248640-000000	09102011	5/20/2010	SFR	0.17
00313510-000000	05103051	12/1/2010	SFR	0.20
00247640-000000	10105246	1/19/2011	SFR	0.18
00310700-000000	05101712	2/11/2011	SFR	0.15
00110830-000103	08103871	7/12/2011	SFR	1.12
00313820-000000	05102824	8/16/2011	SFR	0.17
00313620-000000	05102823	8/25/2011	SFR	0.17
00250150-000000	11100039	8/26/2011	SFR	0.17
00250390-000000	11102869	10/21/2011	SFR	0.17
00250520-000000	11101010	11/28/2011	SFR	0.17
00285310-000000	10107566	12/22/2011	SFR	0.12
00248280-000000	12104710	5/21/13	SFR	0.17
00248310-000000	12105054	8/20/13	SFR	0.17
00248780-000000	12104815	5/21/13	SFR	0.17
00249610-000000	12105028	9/13/13	SFR	0.17
			TOTAL:	**33.26**

X. DEVELOPMENT ACTIVITIES

a. March 13, 1995 – December 31 2012

The total H-value of all development activities between March 13, 1995 and December 31, 2012 is 0.3641 ("H_{impact}"). See Master List (Appendix II).

b. January 1, 2013 – December 31, 2013

The total H_{impact}-value for Reporting Year 8 is 0.0047.

2013 SINGLE FAMILY RESIDENTIAL (SFR) BUILDING PERMITS						
RE Number	**Permit No.**	**Permit Issue Date**	**Parcel H**	**H Impact**	**Tier**	**Permit type**
00248280-000000	12104710	5/21/13	0.0004	0.0004	3	SFR
00248310-000000	12105054	8/20/13	0.0004	0.0004	3	SFR
00248780-000000	12104815	5/21/13	0.0008	0.0008	3	SFR
00249610-000000	12105028	9/13/13	0.0008	0.0008	3	SFR
			TOTAL H-IMPACT SFR	**0.0024**		

2013 FENCE PERMITS						
RE Number	**Permit No.**	**Permit Issue Date**	**Parcel H**	**H Impact**	**Tier**	**Permit type**
00279050-000000	13100002	1/25/2013	0.0016	0.0000	3	Fence
00112340-001300	13100419	2/22/2013	0.3080	0.0000	1	Fence
00315930-000000	13103705	10/24/2013	0.0011	0.0002	2	Fence
00312571-002100	13104585	12/17/2013	0.0012	0.0002	2	Fence
00269880-000000	12105147	2/12/2013	0.0019	0.0004	2	Fence
00257370-000000	13101263	4/24/2013	0.0022	0.0000	1	Fence
00249380-000000	13100078	1/14/2013	0.0009	0.0000	3	Fence
00285930-000000	13100284	2/25/2013	0.0068	0.0014	1	Fence
00308720-000000	13100696	3/11/2013	0.0006	0.0001	3	Fence
			TOTAL H-IMPACT FENCES	**0.0023**		

2013 LAND CLEARING PERMITS						
RE Number	**Permit No.**	**Permit Issue Date**	**Parcel H**	**H Impact**	**Tier**	**Permit type**
00108050-000103	13102873	7/18/2013	0.1073	NA	1	Land Clear (exotics)
00111070-089000	13101738	5/6/2013	0.0084	NA	1	Land Clear (trimming)
00111660-000101	13102552	7/3/2013	0.0049	NA	3	Land Clear
00111882-008700	13103024	8/5/2013	0	NA	1	Land Clear (trimming)
00112340-001100	13104728	11/27/2013	0.0051	NA	1	Land Clear (exotics)
00248820-000000	13104740	12/3/2013	0.0010	NA		Land Clear (exotics)
00250591-005200	13104757	12/27/2013	0.0011	NA	1	Land Clear (trimming)
00264610-000000	13103947	10/4/2013	0.0006	NA		Land Clear (trimming)
00266220-000000	13100275	1/28/2013	0.0010	NA		Land Clear (trimming)
00266950-000000	13102862	7/18/2013	0.0006	NA		Land Clear (trimming)
00267170-000000	13103395	9/9/2013	0.0008	NA		Land Clear (trimming)
00267610-000000	13102337	6/26/2013	0.0012	NA	1	Land Clear (trimming)
00268630-000000	13103174	8/8/2013	0.0008	NA		Land Clear (trimming)
00268790-000000	13104414	11/19/2013	0.0011	NA		Land Clear (trimming)

RE Number	Permit No.	Permit Issue Date	Parcel H	H Impact	Tier	Permit type
00271240-000000	13104576	11/20/2013	0.0012	NA		Land Clear (trimming)
00271960-000000	13100695	3/20/2013	0.0011	NA		Land Clear (trimming)
00272180-000000	13102892	7/25/2013	0.0010	NA		Land Clear (exotics)
00296970-000000	13101094	4/11/2013	0.0011	NA	1	Land Clear (trimming)
00297560-000000	13100361	1/29/2013	0.0011	NA	1	Land Clear (trimming)
00300440-000000	13100209	2/6/2013	0.0011	NA	1	Land Clear (trimming)
00306280-000000	13103106	8/9/2013	0.0010	NA	1	Land Clear (exotics)
00313310-000000	13101848	5/16/2013	0.0008	NA		Land Clear (trimming)
TOTAL H-IMPACT LAND CLEAR				**0**		

2013 COMMERCIAL BUILDING PERMITS						
RE Number	**Permit No.**	**Permit Issue Date**	**Parcel H**	**H Impact**	**Tier**	**Permit type**
NO NEW COMMERCIAL DEVELOPMENT IN 2013						
TOTAL H IMPACTS (all permits)				**.0047**		

XI. H-VALUE ASSOCIATED WITH DEVELOPMENT JANUARY 1, 2013 THROUGH DECEMBER 31, 2013

Reporting Year 8	H impact	H mitigation	No. of SFR Permits	No. Permits in Tier 1	Tier I H	Native Habitat (acres)	Rabbit Buffer (acres)
1/1/2013 - 12/31/2013	0.00472	0.01416	4	1	0	0.00	0.172

XII. CUMULATIVE H-VALUE FOR ALL DEVELOPMENT

The total H impact for all time periods is 0.3688 "H". See Appendix II for the master list of all development permit activity.

SUMMARY OF H IMPACT FOR BIG PINE KEY AND NO NAME KEY							
		SFR	Fence	Commercial	Public	Accessory	TOTALS
Baseline		0.0513	0.0201	0.059	0	0.0002	**0.1306**
Year 1	2006	0.0341	0.0166	0.0211	0	0	**0.0718**
Year 2	2007	0.0178	0.0001	0.089	0	0	**0.1069**
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**
TOTAL		0.1271	0.0444	0.196	0.0012	0.0002	**0.3688**

XIII. CONSTRUCTION OBSERVATIONS

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

XIV. ACQUISITIONS THROUGH DECEMBER 31, 2012

A total of 1,236 parcels comprise the mitigation lands on both Big Pine Key and No Name Key under the Monroe County's Habitat Conservation Plan (HCP). These lands are managed by the Monroe County Land Steward and, in some instances, the USFWS Key Deer Refuge staff. Acquired parcels are summarized below:

March 13, 1995 – December 31, 2012
For the reporting period of March 13, 1995 through December 31, 2012, Monroe County acquired parcels with a total H-value of 2.5544 H.

XV. ACQUISITIONS FOR 2013

January 1, 2013 – December 31, 2013
During Reporting Year 8, Monroe County acquired 51 parcels (24.6 acres) with a total "H" of 0.2029.

XVI. CUMULATIVE "H" ACQUIRED

Total cumulative "H" acquired is 2.7573 "H".

XVII. MANAGEMENT ACTIVITIES CONDUCTED FROM JANUARY 1, 2013 TO DECEMBER 31, 2013

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 Key. Over the past year, the Land Steward and the Monroe County Invasive Exotic Plant Technicians have conducted numerous invasive exotic plant removal projects and site cleanup projects on County mitigation properties. Larger scale work sites included parcels within Sands, Eden Pines, Port Pine Heights, Palm Villa and Doctor's Arm Subdivisions. Some of these projects required the use of independent contractors and/or assistance from Monroe County Public Works.

XVIII. ASSESSMENT OF ALL MITIGATION PARCELS

There are 1,236 mitigation parcels on Big Pine and No Name Keys. Many of these parcels are individual lots within developed subdivisions. This situation creates a large 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 Invasive Exotic Plant Technicians and independent contractors), notifying residents of encroachment issues, and working with Monroe County Public Works 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 were conducted and aerial photo interpretation was used to determine the level of infestation of invasive exotic vegetation. For the purposes of this report, an "invasive exotic plant" is one that is listed on the Exotic Pest Plant Council's list as either a Category I or a Category II species. A total of 61 parcels were found to have invasive exotic infestation level greater than 10 percent. These parcels comprise approximately 4.9 percent of the total number of parcels (1,236).

The greatest concentration of invasive exotics occurring on Monroe County Mitigation Lands is found in Sands Subdivision; however, Monroe 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 and Invasive Exotic Plant Technicians continue to monitor and treat invasive exotic plant species on Monroe County Mitigation Lands.

Please see Appendix I for the "Invasive Exotic Vegetation Status Report" 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, 2013 is 2.7573 H.

The cumulative H_{impact} of parcels impacted by development activities since March 13, 1995 through the end of the reporting period, December 31, 2013 is 0.3688 H.

The ratio of mitigation H (acquired lands) to H_{impact} (from development activities) is:
2.7573/0.3688 = 7.4755:1 H.

5% lag in meeting mitigation requirements

H_{impact}:	= 0.3688
Mitigation required (H_{impact} x 3):	= 1.1064
Mitigation provided:	= 2.7573

% of required mitigation provided: = 249%

The permittees are not lagging behind the 3:1 H-mitigation-to-impact ratio requirement by more than 5%.

Statement of confirmation

The permittees confirm that mitigation as of December 31, 2013 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} does not lag by more than the allowable 5 percent authorized through the reporting period.

Townsley Schwab, Sr. Director of Planning & Environmental Resources

XXI. OTHER PERTINENT INFORMATION

The ITP allows development of 10 dwelling units (or 0.022 H impact, whichever results in a lower H) in Tier I on BPK/NNK, ROGO allocations for 9 dwelling units totaling 0.0201 H have been issued to date, with 4 of these allocations resulting in building permits with an H_{impact} of 0.0071. The remaining 5 parcels have allocations that are on hold and are valid until July 2015. For purposes of the annual monitoring reports submitted to the USFWS, 'H' impacts are not debited until the building permit is issued. So while the issued building permits for Tier I are well under the permit limits, the total allocations for Tier I development are within one allocation of the permit limits.

Due to the limit on Tier I building permits, the Monroe County Planning Commission has deferred building permit allocations to an additional 5 Tier I parcels that have accrued sufficient points to be awarded an allocation. In addition, there are 6 Tier I applicants with a cumulative 'H' value of 0.0102 currently competing in ROGO.

RE#	Permit #	Issue Date	H Value	H Impact	Tier
00285550-000000	95101613	6/1/2005	0.0028	0.0028	1
00289510-000000	96101622	5/1/2006	0.0022	0.0022	1
00289710-000000	3102303	4/29/2008	0.0013	0.001	1
00296820-000000	97101361	12/16/2009	0.0011	0.0011	1
00319494-001300	96101472	**Allocation award expired Sept. 22, 2012**	0.0026	0	1
00319494-001000	96101470	Allocation issued 7/22/2013 last day to pick up permit 7/22/2015	0.0029	0.0029	1
00319494-000900	96101469	Allocation issued 7/22/2013 last day to pick up permit 7/22/2015	0.0032	0.0032	1
00319494-000500	96101464	Allocation issued 7/22/2013 last day to pick up permit 7/22/2015	0.0024	0.0024	1
00319494-000400	96101463	Allocation issued 7/22/2013 last day to pick up permit 7/22/2015	0.0019	0.0019	1
00319494-001400	96101473	Allocation issued 7/22/2013 last day to pick up permit 7/22/2015	0.0023	0.0023	1
00319494-000300	96101462	**DEFERRED**	0.0026	0.0026	1
00319494-000200	96101461	**DEFERRED**	0.0022	0.0022	1
00319494-000100	96101460	**DEFERRED**	0.0043	0.0043	1
00319494-000600	96101465	**DEFERRED**	0.0026	0.0026	1
00319494-000700	96101467	**DEFERRED**	0.0034	0.0034	1
	TOTAL H VALUE OF ISSUED BUILDING PERMITS		**0.0071**		
	TOTAL H VALUE FOR ALLOCATIONS ISSUED		**0.0127**		
	TOTAL H VALUE ALLOCATED + ISSUED		**0.0198**		

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

The master list of all development has been added as Appendix II. Florida has very broad public records laws. Most written communications to or from the County regarding County business are public record, available to the public and media upon request.

The H balance reflected in this 8th Annual Report is the cumulative H_{impact} from all impacts occurring from March 13, 1995 through December 31, 2013. The H-value remaining for impacts is calculated as follows:

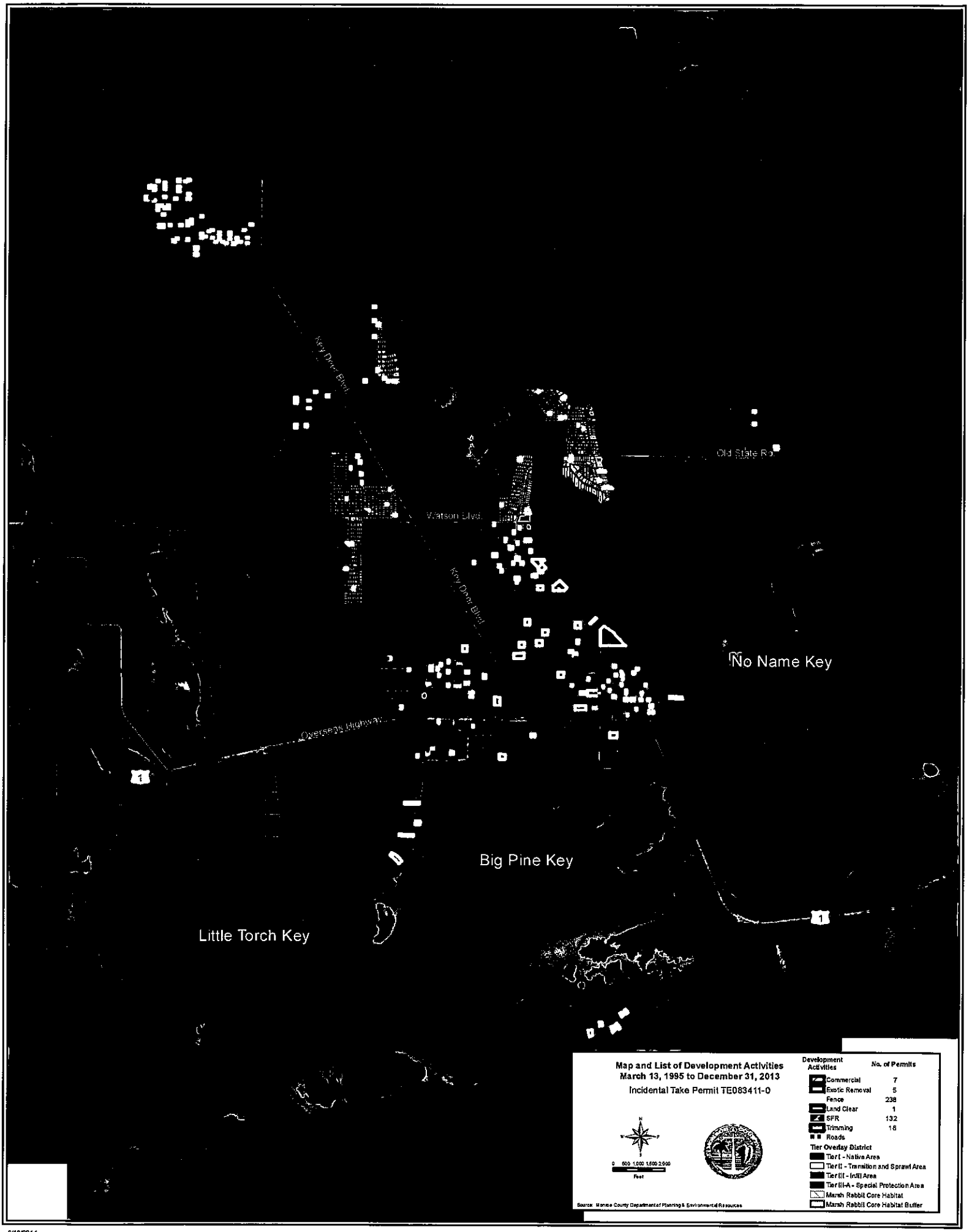
• Total H-value allowed for impacts	1.1000 H
• Cumulative H_{impact} for all approved permits from March 13, 1995 through December 31, 2012	-0.3688 H
Remaining H available for development impacts	0.7312 H

Monroe County is allowed 1.1 H_{impact} for development, for which 3.3 H in mitigation credits, through land acquisition, is required. The mitigation required for the current level of development is 1.1064 H (0.3688 H x 3). Currently, there is 0.7312 H remaining for development and 0.5427 "H" remaining for acquisition.

Monroe County has demonstrated that the cumulative H-value of lands acquired as mitigation does not lag any more than five percent (5%) behind what is necessary to fully mitigate the cumulative "H" value of impacts authorized by the ITP through the reporting period.

Exhibits

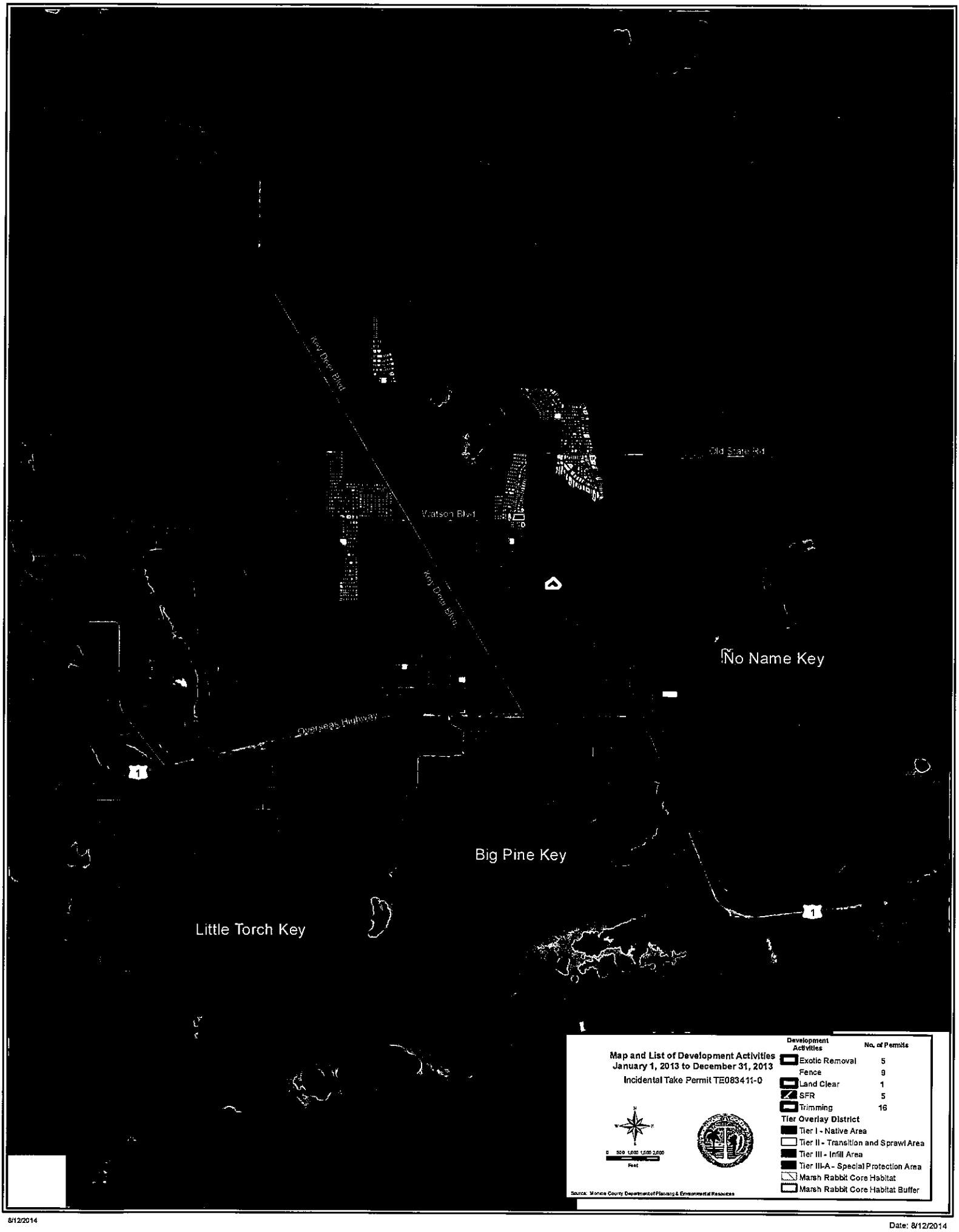
Exhibit 1
Map of Development Activities – Cumulative



8/13/2014

Date: 8/13/2014

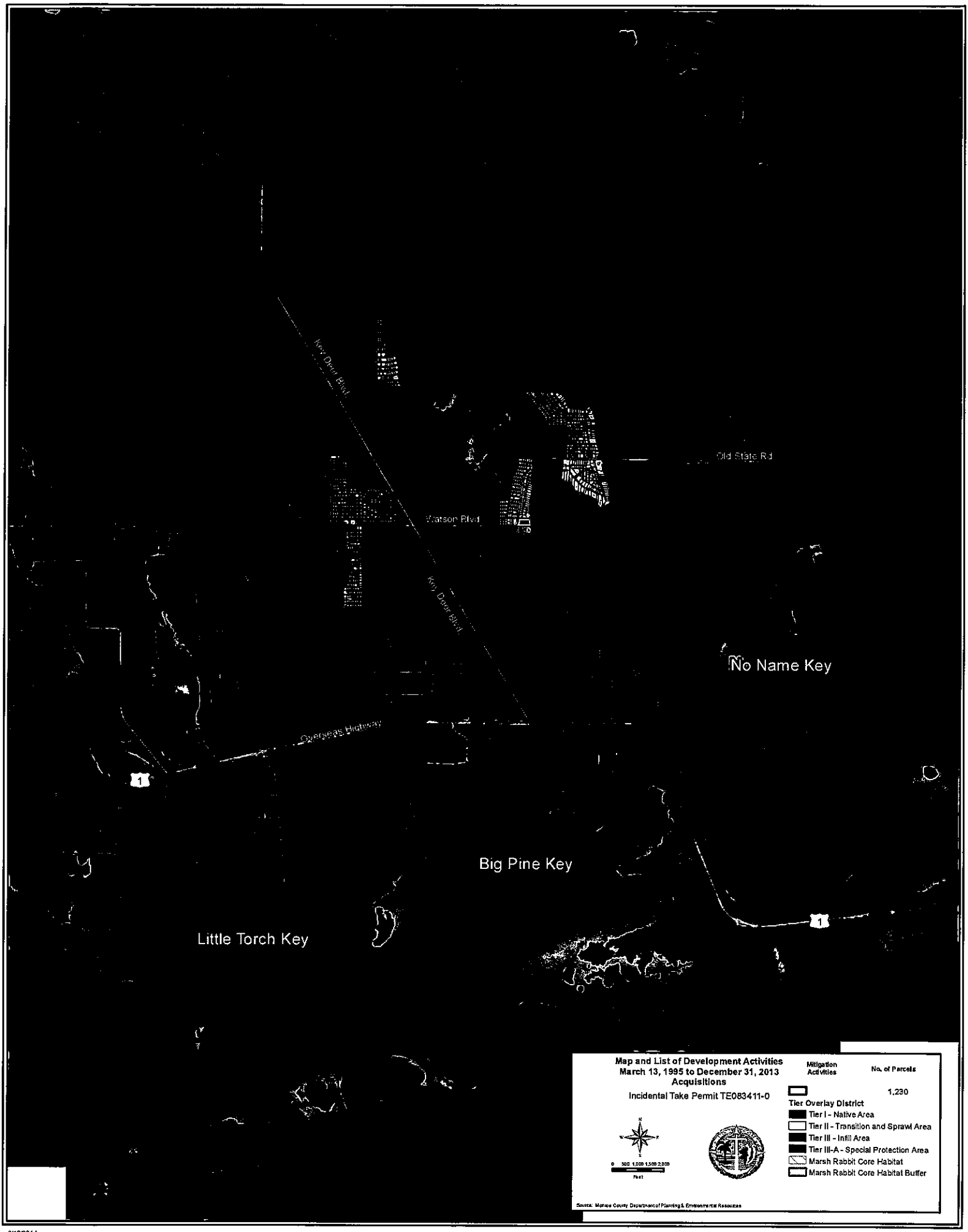
Exhibit 2
Map of Development Activities – 2013



8/12/2014

Date: 8/12/2014

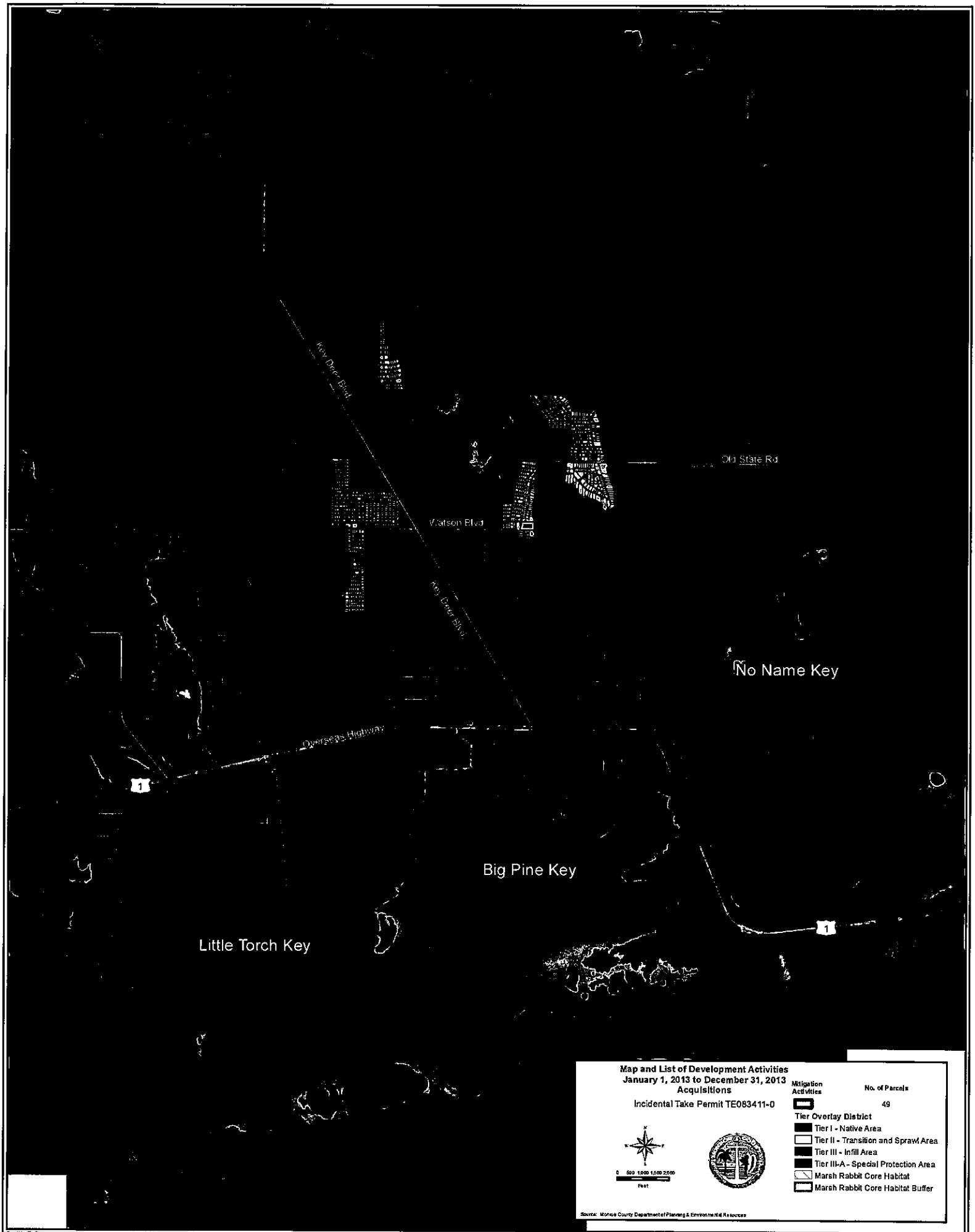
Exhibit 3
Map of Acquired Mitigation Parcels – Cumulative



8/12/2014

Date: 8/12/2014

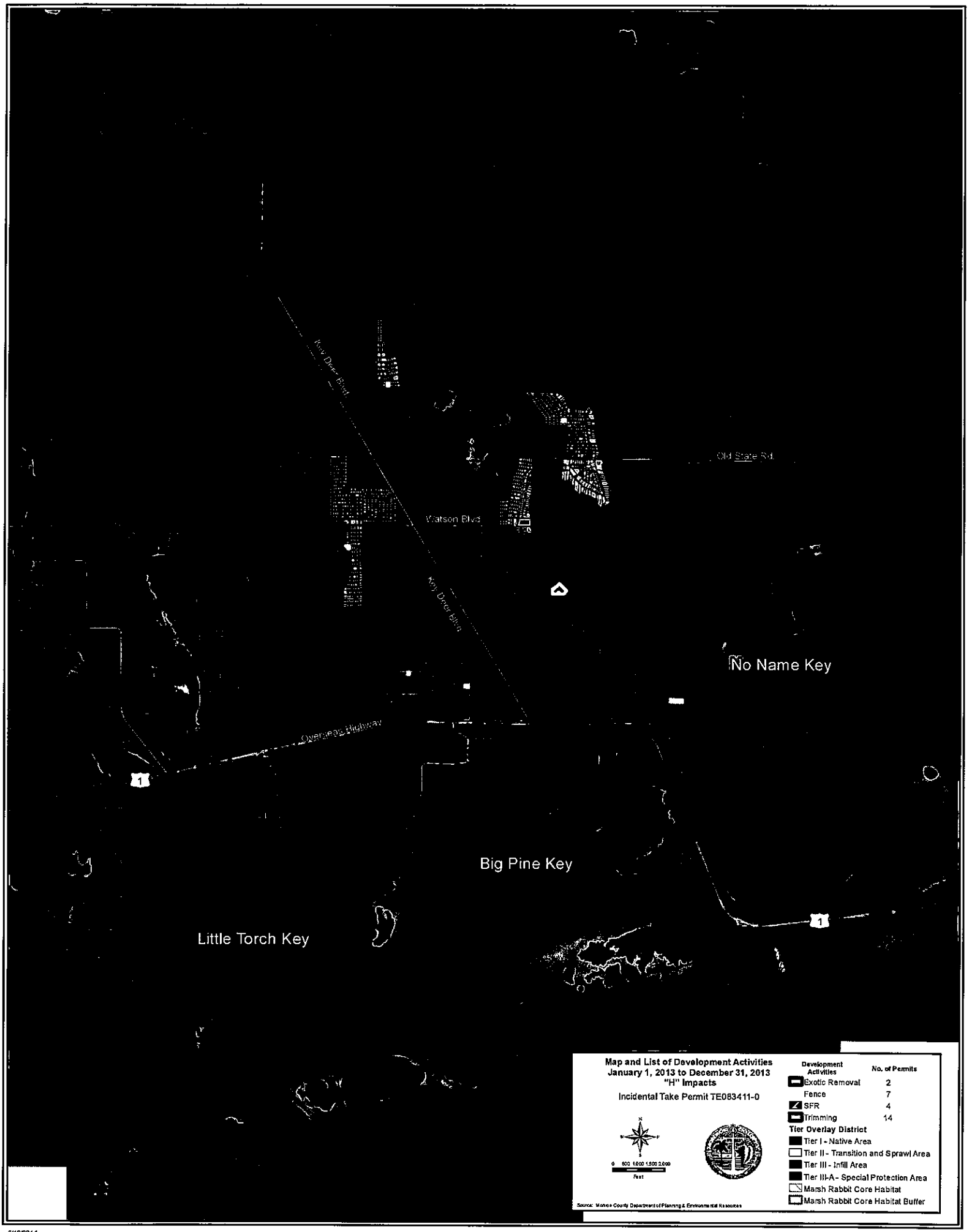
Exhibit 4
Map of Acquired Mitigation Parcels - 2013



8/12/2014

Date: 8/12/2014

Exhibit 5
Map of H Impact in LKMR Habitat - 2013



8/13/2014

Date: 8/13/2014

Appendices

Appendix I
Monroe County Land Steward Report

Monroe County
Mitigation Lands
Invasive Exotic Vegetation Status Report

March 2014

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 Incidental Take Permit (ITP) # TE083411-0 which 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 1,236 parcels that comprise the mitigation lands under the Monroe County's Habitat Conservation Plan (HCP). These lands are managed by the Monroe County Land Steward and, in some instances, the US Fish and Wildlife Service Key Deer Refuge staff. A total of 125 parcels are located on No Name Key and the remaining 1,111 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	No Name	30
No Name	Ocean Heights	27
No Name	Tuxedo Park	54
No Name	Other	5
Big Pine	Cahill Pines & Palms	15
Big Pine	Doctor's Arm	28
Big Pine	Eden Pines	127
Big Pine	Kinercha	75
Big Pine	Koehns	9
Big Pine	Long Beach Estates	18
Big Pine	Palm Villa	186
Big Pine	Pine Crest	33
Big Pine	Pine Grove	26
Big Pine	Pine Heights	126
Big Pine	Port Pine Heights	47
Big Pine	Sands	136
Big Pine	Sea View Estates	29
Big Pine	Silas Knowles	49
Big Pine	Tropical Park	34
Big Pine	Wickfield Acres	18
Big Pine	Other	155
	TOTAL	1,236

As illustrated in the table above, a large majority of the mitigation parcels are located in residential developments with the greatest number of properties situated in Palm Villa, Sands, and Eden Pines Subdivisions, respectively. The typical subdivision lot measures approximately 50ft x 100ft. The size and the location of these lots create unique land management challenges, including increased edge effect and potential for encroachment from neighboring residences.

Site visits were conducted and aerial photo interpretation was used to determine the level of infestation of invasive exotic vegetation. For the purposes of this report, an "invasive exotic plant" is one that is listed on the Exotic Pest Plant Council's list as either a Category I or a Category II species (list attached). The percent cover of invasive exotics was 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 complete parcel-by-parcel results of the survey may be found in the attached spreadsheet titled "Monroe County Mitigation Lands". The results may be summarized as follows:

Level of Infestation	Number of Parcels
0	995
1	180
2	16
3	15
4	14
5	16

A total of 61 parcels were found to have invasive exotic infestation level greater than 10 percent. These parcels comprise approximately 4.9 percent of the total number of parcels (1,236). Some of the parcels containing invasive exotic infestations are recent purchases by the County. Therefore, the County has not yet had an opportunity to restore the parcels. New acquisitions are highlighted in blue on the attached spreadsheet.

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 Invasive Exotic Technicians continue to monitor and treat invasive exotic plant species on Monroe County Mitigation Lands.

Appendix II
Master List