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## SUMMARY

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 started in the mid-1980s. In 1998, Monroe County, the Florida Department of Transportation (FDOT) and the Florida Department of Community Affairs (DCA), (permittees) signed a Memorandum of Agreement in which they committed to develop a Habitat Conservation Plan (HCP) for these two Keys.

The Habitat Conservation Plan (HCP) regulates 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 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 twenty (20) year lifespan running from June 9, 2003 through June 30, 2023. It supports the Applicants' request to the U. S. Fish and Wildlife Service for the incidental take of Key Deer, Lower Keys Marsh Rabbit and Eastern Indigo Snake. The goal of the ITP is that acquisition will exceed development at a 3:1 ratio and habitat of the Key Deer, Lower Keys Marsh Rabbit and the Indigo Snake are kept above quasi-extinction population levels.

This is the 5th Annual Big Pine Key / No Name Key Mitigation Report. Each year Monroe County develops an annual report and presents it to the U.S. Fish and Wildlife Service. This report fulfills the requirements of the ITP, gives a full accounting of development and acquisition activities from March 13, 1995 through December 31, 2010 and it reports on the bank balance of the "H" value debited by development activities and credited by acquisition and conservation activities.

## I. 2010 KEY DEER CENSUS

*For January 1, 2010 to December 31, 2010`*

Average count for full year = 57.1

The Key deer road-count index (referred to as the Key deer “census”) value is the average count from multiple road count surveys throughout the year on Big Pine Key and No Name Key. Key deer census, road count, and count index are hereafter used interchangeably. The road counts are conducted on the USFWS Survey Route, approximately monthly. The 2010 road-count value was derived from 10 standardized count surveys. For the period January through December, 2010, the census value was 57.1. The 2009 value was 63.9. The 13-year average was 43.2 as of 2000, and 57.7 as of 2010. The record high index value for any year since 1975 occurred in 2006 (71.5).

## II. KEY DEER MORTALITY SUMMARY

The other index of Key deer abundance is the mortality index (human-caused deer deaths documented on Big Pine and No Name Keys). In 2010, the total mortality count on Big Pine Key and No Name Key was 144 (all known mortalities; this value was 155 in 2009). The mortality index was 115 (human-caused; this value was 126 in 2009). The 2009 value remains the highest on record since 1966, and the 2010 death count the second highest. Prior to 2009 and 2010, highest mortality index (105) occurred in 2005, and the highest total count (132) occurred in 2003.

Over the long-term, the Big Pine Key-No Name Key mortality index (count of deaths documented on over the year) and the road count index have illustrated a moderately strong direct correlation, with an overall positive trend in each. However, in 2010, the count index was average whereas the mortality index was very high. In 2009, similarly, the count index was roughly average and the mortality index was high. The high mortality index was due to road-kills, with an increase of at least 20 road-kills compared to 2007 or 2008 (Table 1, below). However, mortalities in 2009 exceeded 2007—2008 levels by 30.

	Cmbt	Diseas	<b>Dog</b>	<b>Drown</b>	<b>Entan</b>	<b>Poach</b>	<b>Road</b>	<b>Misc</b>	Unk	Total	Road as % Total
2007	1	7	<b>0</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>83</b>	<b>1</b>	15	113	73%
2008	0	2	<b>0</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>86</b>	<b>2</b>	24	120	72%
2009	0	4	<b>0</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>117</b>	<b>1</b>	25	155	75%
2010	2	7	<b>0</b>	<b>7</b>	<b>1</b>	<b>0</b>	<b>106</b>	<b>1</b>	20	144	74%

Human-caused shown in **bold**

\*Miscellaneous, known human causes

The proportion of all known Big Pine and No Name Key deaths that were due to road-kills in 2010 (74 percent) was similar to 2007, 2008 and 2009 (73, 72, and 75 percent, respectively). In 2010, 80% of all known Big Pine and No Name Key mortalities were attributed to all human causes combined (81% in 2009). The long-term average proportion (encompassing 1966-2010) is approximately 81%. The 13-year average attributed to human causes (78% in 2010) has risen gradually since 2001 (73%). From 1983 to 2000, the 13-year average attributed to human causes had gradually declined from 91% to 74%. Some of the deaths for which the cause was “undetermined”, and likely even some disease deaths, undoubtedly include a substantial number of cases that may actually be attributable to human causes, particularly road-kills. However, an unknown number of both natural and human-caused deaths go entirely undetected. Of the road mortalities in which sex was determined, approximately 43% were females (57% males) in 2010 (42% female, 58% male in 2009). The 13-year average as of 2010 was similar, about 39 and 61 percent females and males, respectively. Road-kills on U.S. comprised approximately 43 percent of all human-caused mortalities on Big Pine Key. Road-kills on U.S. 1 comprised approximately 34 percent of all mortalities from all sources on Big Pine Key and No Name Key combined. The proportion of all Big Pine Key road-kills that were attributed to on U.S. 1, approximately 49 percent, is similar to the average over the last 13 years (48%, 1998—2010). The proportion of road-kills that were attributed to No Name Key was approximately 2 percent (4%, 1998; 13-year range, approximately 1—7%). The proportion of road-kills that were attributed to Big Pine Key, 98%, was similar to the average over the last 13 years (96%, 1998—2010).

The long-term proportion of Big Pine and No Name Key deaths attributed to disease (13-year average as of 2010, approximately 5%) appears higher in that recent period compared to earlier decades (approximately 1%, 1966—2006). The 2010 value (approximately 5%) was consistent with the more recent average.

### III. KEY DEER MORTALITY DATA

In 2010, as in 2009, the mortality index was significantly higher than other years on record. However, based on available information including the two indices (summarized above), little can be surmised about the cause of the high values in 2009 and 2010. Specifically, road mortalities increased, either commensurate with increased population levels recently (which may or may not be well indicated by the count index on a given year), or mortalities occurred at a higher per capita proportional rate than in previous years (e.g., if population levels are not actually up to the extent indicated by the recent count indices).

In the context of the long term record of population indices, the overall data from recent years may suggest a partial reduction of the population growth rate (i.e., due to increased per capita mortality, or, mortality rates proportional to growth) **as of the late-1990s Key deer have attained or exceeded carrying capacity within the HCP area**, which is the core of the Key deer’s 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 mortality rates, environmental influences, annual productivity of the landscape, and annual variation in female deer productivity.

Road-kills remain the greatest source of mortality to key deer. Roadside feeding may exacerbate threats to a subset of Key deer associated with vehicle collisions. However, we believe that roadside feeding in recent years is somewhat less than in earlier periods, and that roadside feeding only increases the probability of risk within a subset of the overall population. The overall impacts of feeding itself, which may directly or indirectly influence road kills to some degree, likely affects more profound changes in of Key deer social behavior, movement, dispersion, nutrition, and possibly genetic patterns.

#### **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 has conducted numerous invasive exotic plant removal projects, site cleanups and native plantings on County mitigation properties within the Big Pine Key planning area. Work sites included lots within Sands, Kinercha, Linda Loma, Eden Pines, Punta Brisa and Dr’s Arm Subdivisions. Site work was completed by independent contractors and/or Monroe County Public Works working with the Land Steward.

#### **V. KEY DEER MORTALITY RATIO**

$$\begin{array}{l} \text{Ratio} = \frac{\text{human-related deaths}}{\text{average deer seen}} = \frac{115}{57.1} = 2.01 \end{array}$$

*For January 2010 through December 2010*

$$\begin{array}{l} \text{Ratio} = \frac{\text{human-related deaths}}{\text{average deer seen}} = \frac{126}{63.9} = 1.97 \end{array}$$

*For January 2009 through December 2009*

The ratio of human-related deaths (mortality index) to average number of deer seen (count index), 2.01, was well above the upper boundary of the 95% confidence interval (1.53) defined in the HCP. The 13-year average as of 2000 was 1.42 (95% CI=0.15). The 13-year average as of 2009 was 1.62 (95% CI=0.17). Considering any of these multi-year ranges as a baseline, the ratios in both 2009 and 2010 were significantly high and outside the stated confidence limits.

## VI. ANNUAL IMPACTS TO 500-METER WETLAND BUFFERS

### January 1, 2010 – December 31, 2010

For Reporting Year 5, two (2) development permits were issued resulting in 16,000 square feet of land impacting the Marsh Rabbits' 500-meter wetland buffer. No development permits were issued outside the Lower Keys Marsh Rabbit green zone.

### 2010 ANNUAL DEVELOPMENT IMPACT TO THE 500-METER WETLAND MARSH RABBIT BUFFER AREAS

REAL ESTATE	PERMIT NUMBER	ISSUE DATE	PERMIT TYPE	PARCELS IMPACTED (BY ACREAGE)
00250510-000000	09102323	3/8/2010	SFR	0.172
00313510-000000	05103051	12/1/2010	SFR	0.195
			<b>TOTAL PARCELS IMPACTED (BY ACREAGE)</b>	<b>0.367</b>

## VII. CUMULATIVE IMPACTS TO MARSH RABBIT BUFFERS

Since permit issuance, the cumulative impact of all development projects affecting buffers for the Lower Keys marsh rabbit is 40.707 acres.

## VIII LOWER KEYS MARSH RABBIT ROAD MORTALITY

In both 2006 and 2007, the occurrence of at least one road kill on Big Pine Key was verbally reported by local naturalists, but not otherwise substantiated. In 2008, at least 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 seeing 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 remain a substantial threat. **In 2010, no road mortalities were detected on Big Pine or No Name Keys.**

## IX CUMULATIVE IMPACTS TO PROJECT AREA

REAL ESTATE NUMBER	PERMIT NUMBER	ISSUE DATE	PERMIT TYPE	ACRES
00245720-000000	03103814	1/2/2007	SFR	0.15
00249130-000000	04104077	1/10/2007	SFR	0.17
00248460-000000	4102831	1/17/2007	SFR	0.17
00248980-000000	04101652	1/18/2007	SFR	0.17
00289710-000000	3102303	1/19/2007	SFR	0.12
00249660-000000	6106296	1/19/2007	SFR	0.17
00245880-000000	7100308	1/19/2007	SFR	0.15
00249900-000000	7100309	1/19/2007	SFR	0.17
00249150-000000	03104466	1/24/2007	SFR	0.17
00285290-000000	03102339	1/25/2007	SFR	0.19
00285300-000000	04100750	1/25/2007	SFR	0.12
00248390-000000	05101386	1/25/2007	SFR	0.18
00245860-000000	05106290	1/25/2007	SFR	0.33
00247780-000000	04104936	2/23/2007	SFR	0.17
00248290-000000	05104382	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
00248320-000000	05103466	3/30/2007	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	0.47
00286360-000000	7101477	7/31/2007	Commercial	10.17
00248960-000000	2105130	8/16/2007	SFR	0.17
00247930-000000	5104608	8/24/2007	SFR	0.18
00245900-000000	5106221	8/30/2007	SFR	0.15
00245600-000000	6100466	9/20/2007	SFR	0.14
00109340-000300	99103072	12/21/2007	SFR	0.14
00315970-000000	08100012	1/4/2008	FENCE	0.170
00111420-000100	05105317	2/1/2008	COMMERCIAL	1.02
00111420-000500	05105321	2/1/2008		1.02
00316670-000000	08100610	2/19/2008	FENCE	0.310
00315960-000000	07105122	3/4/2008	FENCE	0.140

00289710-000000	03102303	4/29/2008	SFR	0.12
00249660-000000	06106296	5/13/2008	SFR	0.17
00249900-000000	07100309	6/5/2008	SFR	0.17
00245880-000000	07100308	6/5/2008	SFR	0.15
00249040-000000	07104806	9/16/2008	SFR	0.17
00275620-000000	07105046	11/21/2008	COMMERCIAL - TIB BANK EXPANSION	0.61
00312572-003400	04100574	12/8/2008	SFR	0.14
00266770 & 780-000000	06104582	2/9/2009	SFR	0.35
00248690-000000	08102594	3/12/2009	SFR	0.17
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
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	0.19
			<b>DEVELOPMENT IN ACRES</b>	<b>20.96</b>

## X DEVELOPMENT ACTIVITIES

### a. March 13, 1995 – December 31 2009

The total “H” value of all development activities between March 13, 1995 and December 31, 2009 is 0.3508 "H" value. See Master List (Appendix)

### b. January 1, 2010 – December 31, 2010

The total “H” value for Reporting Year 5 is 0.0055 “H”.

SFR							
RE	Permit	Permit Issue Date	Parcel H	H Impact	H Credit	Tier	Permit type
00250510-000000	09102323	3/8/2010	0.0008	0.0008		3	SFR
00248640-000000	09102011	5/20/2010	0.0004	0.0004		3	SFR
00313510-000000	05103051	12/1/2010	0.0013	0.0013		2	SFR
<b>TOTAL 'H' IMPACT SFR</b>				<b>0.0025</b>			

Fences							
RE	Permit	Permit Issue Date	Parcel H	H Impact	H Credit	Tier	Permit type
00316470-000000	10107247	12/21/2010	0.0014	0.00028		2	new fence
00311460-000000	10104540	8/20/2010	0.0007	0.00014		2	new fence
00315830-000000	10101164	4/5/2010	0.0016	0.00032		1	new fence
00250591-006600	10107012	11/22/2010	0.0011			1	extension to existing fence
00250500-000000	9104839	1/5/2010	0.0008	0.00016		3	new fence
00309260-000000	10106218	10/14/2010	0.005	0		2	add gate to existing fence
00244290-000000	10100735	2/12/2010	0.0009	0.00018		3	new fence
00309010-000000	10104311	8/4/2010	0.0019	0.00038		2	new fence
00246600-000000	10103870	8/5/2010	0.0055	0		1	replace existing fence
00308850-000000	10106447	11/8/2010	0.0053	0		2	replace gates
00111070-007000	10105978	11/19/2010	0.0076	0		1	gate on existing fence
00111690-000900	10104988	1/4/2010	0.0253	0		3	walgreens replace existing fence
00247670-000000	10103034	6/17/2010	0.0009	0.00018		3	new fence
<b>TOTAL 'H' IMPACT FENCES</b>				<b>0.00164</b>			

Land Clear							
RE	Permit	Permit Issue Date	Parcel H	H Impact	H Credit	Tier	Permit type
00111150-000000	10107151			0			LC - Exotics
00248390-000000	10106804			0			LC - Exotics
00247810-000000	10106421			0			LC - Exotics
00247820-000000	10106420			0			LC - Exotics
00111070-015000	10106302			0			LC - Exotics
00246221-005300	10105429			0			LC - Exotics
00256540-000000	10104180			0			hazard tree

00111072-027000	10103535			0			LC - Exotics
00250591-017300	10102324			0			ATF Native Pruning
00296290-000000	10106173			0			LC - Exotics
00248970-000000	10103355			0			hazard tree
<b>TOTAL 'H' IMPACT LAND CLEAR</b>				<b>0</b>			

Commercial Development							
RE	Permit	Permit Issue Date	Parcel H	H Impact	H Credit	Tier	Permit type
00111690-000900	08103853		0.0253			3	Walgreen Redevelopment
00111690-000400	09105095		0.0159	0.00131		3	1,000 SF storage
<b>TOTAL 'H' IMPACT COMMERCIAL</b>				<b>0.00131</b>			
<b>TOTAL 'H' IMPACTS</b>				<b>0.00550</b>			

## XI H VALUE ASSOCIATED WITH DEVELOPMENT JANUARY 1, 2010 THROUGH DECEMBER 31, 2010

	Period	Himpact <sup>1</sup>	Hmitigation <sup>1</sup>	No. of Residential <sup>2</sup>	No. Tier 1 <sup>3</sup>	Tier I H <sup>3</sup>	Native Habitat (acres) <sup>2</sup>	Rabbit Buffer (acres) <sup>1</sup>
Reporting Year 5	1/1/2010 - 12/31/2010	.0055	.0756	3	0	0	0.00	.367

## XII CUMULATIVE H VALUE FOR ALL DEVELOPMENT

Total "H" impact for both time periods is 0.3563 "H". See Appendix 3 for master list of all activity.

Summary of "H" Impact for Big Pine Key and No Name Key<sup>1</sup>

	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
SFR	0.0525	0.0341	0.0204	0.0058	0.0049	0.0025	0.1189
Fence	0.0201	0.0166	0.0001	0.0016		0.00164	0.0400
Commercial	.0590	0.0211	.089	.0255	0	0.00136	0.1960
Public				0.0012			0.0012
Accessory	0.0002						0.0002
<b>TOTAL</b>	<b>.1306</b>	<b>.0718</b>	<b>.1094</b>	<b>.0341</b>	<b>.0049</b>	<b>.0055</b>	<b>.3563</b>

<sup>1</sup> Values reflect revisions following reconciliation of development permits and land acquisition activity

### **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, 2010**

There are a total of 1057 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 113 parcels are located on No Name Key and the remaining 944 parcels are on Big Pine Key. Acquired parcels are summarized below:

#### **March 13, 1995 – December 31, 2009**

For the reporting period of March 13, 1995 through December 31, 2007, Monroe County acquired parcels with a total “H” value of 1.961 “H”.

### **XV ACQUISITIONS FOR 2010**

#### **January 1, 2010 – December 31, 2010**

During Reporting Year 5, Monroe County acquired parcels with a total “H” of .0756 “H”.

#### **2010 ACQUISITIONS**

<b>REAL ESTATE NUMBER</b>	<b>ISSUE DATE / DATE LAND ACQUIRED</b>	<b>H VALUE OF PROPERTY</b>	<b>CREDITS TO H BANK</b>	<b>DEVELOPMENT / ACQUISITION</b>
00275910-000000	1/11/2010	0.0006	0.0006	ACQUISITION
00309020-000000	2/23/2010	0.0014	0.0014	ACQUISITION
00267440-000100	3/5/2010	0.0006	0.0006	ACQUISITION
00306730-000000	3/9/2010	0.0006	0.0006	ACQUISITION
00268610-000000	4/5/2010	0.0016	0.0016	ACQUISITION
00110610-000000	5/18/2010	0.0491	0.0491	ACQUISITION
00110841-000000	9/13/2010	0.003	0.003	ACQUISITION

00306130-000000	10/19/2010	0.0010	0.0010	ACQUISITION
00306140-000000	10/19/2010	0.0005	0.0005	ACQUISITION
00319030-000000	10/19/2010	0.0015	0.0015	ACQUISITION
00319040-000000	10/19/2010	0.0007	0.0007	ACQUISITION
00319050-000000	10/19/2010	0.0014	0.0014	ACQUISITION
00319170-000000	10/19/2010	0.0009	0.0009	ACQUISITION
00292300-000000	10/29/2010	0.0009	0.0009	ACQUISITION
00292310-000000	10/29/2010	0.0005	0.0005	ACQUISITION
00303180-000000	12/2/2010	0.0010	0.0010	ACQUISITION
00111610-000000	12/6/2010	0.0103	0.0103	ACQUISITION
	<b>H acquired</b>		<b>0.0756</b>	

## **XVI CUMULATIVE “H” ACQUIRED**

Total cumulative “H” acquired is 2.0366 “H”.

## **XVII MANAGEMENT ACTIVITIES CONDUCTED DURING JANUARY 1, 2010 – DECEMBER 31, 2010**

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 has conducted numerous invasive exotic plant removal projects, site cleanups and native planting projects on County mitigation properties on Big Pine Key. Work sites included lots within Sands, Kinercha, Linda Loma, Eden Pines, Punta Brisa and Dr’s Arm Subdivisions. Site work was done by independent contractors and/or Monroe County Public Works. Additionally, the Monroe County Invasive Exotic Plant Technicians continue to monitor these and other mitigation properties to ensure that the sites remain free of invasive exotic plant species.

## **XVIII ASSESSMENT OF ALL MITIGATION PARCELS**

There are 1057 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 removal projects, notifying residents of encroachment issues and working with Monroe County Public Works to clean up dumping. 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.

## **IXX 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 (list attached). A total of 65 parcels were found to have invasive exotic infestation level greater than 10 percent. These parcels comprise approximately 7.0 percent of the total number of parcels (930).

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 and other subdivisions on Big Pine Key. 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 Invasive Exotic 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.

## **XX MITIGATION CONFIRMATION STATEMENT**

*3H:1H 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, 2010 is 2.0366 H.

The cumulative H value of parcels impacted by development activities, at the 3:1 ratio, since March 13, 1995 through the end of the reporting period, December 31, 2010 is 0.3535 H.

The ratio of mitigation H (acquired lands) to H impact (from development activities) is: 2.0377 H / 0.3535 H = 5.76:1H.

5% lag in meeting mitigation requirements

H<sub>impact</sub>: = 0.3563  
Mitigation required (H<sub>impact</sub> X 3): = 1.069  
Mitigation Provided: = 2.0366  
**% of required mitigation provided: = 191%**

The permittees are not lagging behind in the 3H:1H mitigation requirement by more than 5%.

Statement of confirmation

The permittees confirm that mitigation has occurred as to maintain a 3H:1H ratio with respect to development activities and demonstrates by the calculations above that the cumulative H value of lands acquired as mitigation does not lag by more than 5 percent allowed to fully mitigate the cumulative H value of impacts authorized through the reporting period.

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Townsley Schwab, Sr. Director of Planning & Environmental Resources

## **XXI OTHER PERTINENT INFORMATION**

The Master List of All Development (Appendix II) has been updated to correct data errors, remove duplicate entries and to remove from the list parcels that were permitted for development but was not developed and the building permit subsequently expired. Significant revisions include the deletion of the Mariners Park development in 2006, as this development was also counted in 2007. This resulted in a decrease in 'H' impact of 0.089 'H'. In addition, parcels 00248290-000000 & 00248320-000000 were removed from the Year 2 (2007) impacts as the building permits expired without construction occurring.

In addition to the above, some parcels had entries for single family residential construction in multiple years and thus the 'H' impact for the lot was counted more than once. In these instances, all but the entry for the most current building permit were removed from the master list.

The Key Deer mortality data continues to be a concern. As reported, 144 Key Deer were killed in 2010, with 115 of these being credited as human related mortality. This, in conjunction with the census count, yields a mortality index of 2.01.

The HCP states a presumption that the mortality index reflects herd dynamics and increases in the index can be attributed to development. However, the actual traffic counts on U.S. 1 on Big Pine Key have decreased over the last four years. Likewise, development pressure has also decreased, with only 15 residential building permits being issued since 2008. For the reporting period 1995 through present, Monroe County has issued 110 permits for new single family residences. However, 39 of these permits are on hold either due to the FEMA injunction or through legislative extensions. The presumed correlation of development resulting in increased deer mortality does not appear to be reflected in this data. In fact, in 2007 Monroe County issued 27 new building permits, traffic count on US 1 was 20,215 AADT and the deer mortality ratio was at the predicted average of 1.5. However in 2010 traffic counts were 17,842 AADT (11% lower than 2007) and only 3 new building permits were issued.

	<i>AADT</i>	<i>BLDG PERMITS</i>	<i>KEY DEER CENSUS</i>	<i>KEY DEER MORTALITY</i>	<i>MORTALITY RATIO</i>
<b>1992</b>	17,568		43.1	36	0.84
<b>1993</b>	19,738		41.7	52	1.25
<b>1994</b>	17,743		52.6	50	0.95
<b>1995</b>	22,688	21	46.2	67	1.45
<b>1996</b>	21,186	0	47.8	67	1.40
<b>1997</b>	21,496	2	60.7	95	1.57
<b>1998</b>	19,866	8	51.8	89	1.72
<b>1999</b>	20,843	0	50	80	1.60
<b>2000</b>	21,774	0	47.1	83	1.76
<b>2001</b>	19,991	4	43.7	76	1.74
<b>2002</b>	19,364	1	48.4	75	1.55
<b>2003</b>	20,115	4	56.6	102	1.80
<b>2004</b>	19,894	9	64.3	86	1.34
<b>2005</b>	19,844	5	69.5	105	1.51
<b>2006</b>	18,095	14	71.5	103	1.44
<b>2007</b>	20,215	27	59.9	90	1.50
<b>2008</b>	16,308	7	66.4	94	1.42
<b>2009</b>	16,680	5	63.9	126	1.97
<b>2010</b>	17,842	3	57.1	113	1.98
		110			

## **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 III. Florida has a 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. All reports and corresponding data will be published to the Monroe County web site: <http://monroecofl.virtualtownhall.net>.

The H balance reflected in this 5th Annual Report covers all occurrences of impacts dated from March 13, 1995 to December 31, 2010. The H value remaining for impacts:

Total H value allowed for impacts	1.100 H
Running total of cumulative H value <u>for each permit approval since March 13, 1995</u> <u>through December 31, 2010</u>	<u>- (0.3563H)</u>
Remaining H value available for development impacts	0.7437 H

Monroe County is allowed 1.1 “H” for development and 3.3 “H” for acquisitions. The mitigation required for the current level of development is 1.07 “H” ( $0.3563 \times 3 = 1.07$  “H”). Currently, there is 0.7437 “H” remaining for development and 1.263 “H” remaining for acquisition.

Monroe County has demonstrated 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.