

## **Hurricane Katrina's Impact on Low Income Housing Units Estimated 302,000 units lost or damaged, 71% Low Income**

An Assessment from the 2000 Census

NLIHC Research Note #05-02



### **Introduction**

This research note looks at the number of housing units within Census block groups affected by Hurricane Katrina according to the most recent information from the National Geospatial-Intelligence Agency (NGA) made public by the Federal Emergency Management Agency (FEMA). The housing data is from special tabulations of the 2000 Census from the US Department of Housing and Urban Development. The impact on housing within a block group is determined according to the *proportion* of the block group's area that FEMA maps indicate was damaged during and in the aftermath of the storm.

Sixty-nine percent of the area described here suffered *at least* moderate damage (e.g. solid structures sustain exterior damage such as missing roofs and many are damaged or displaced) due to Hurricane Katrina. The majority of the units in New Orleans and coastal areas must be considered lost due to flooding. The definition and geographic extent of the damage categories considered here can be seen in Appendix 2.

### **An Estimate of the Impact**

According to this estimate, in all Katrina affected areas of the Gulf Coast 302,000 housing units were destroyed or damaged in the storm. Of these units, 216,000 were affordable to low income households, earning 80% of the Area Median Income (AMI) or less, and 92,000 were affordable to very low income households earning less than 50% of AMI. Thus, 71% of the housing stock destroyed or damaged by Hurricane Katrina was affordable to low income households and 30% were affordable to very low income households.

In New Orleans, an estimated 142,000 units were damaged and most likely lost due to flooding. Over 112,000 of these units were affordable to low income households. Thus, fully 79% of the housing in the affected areas of the city was affordable to low income households. Over 57,000 units or 40% of the housing stock estimated to be damaged or destroyed was affordable to very low income households.

Forty-seven percent of the housing units in the entire Katrina affected area were rental units. In New Orleans, 55% were rental units. Fully 20% of the rental units lost in New Orleans were affordable to extremely low income households, i.e. households earning 30% of AMI or less, amounting to 16,000 units. This percentage was 16%, 22,000 units, for all Katrina affected areas. Thus, 73% of all the rental units affordable to extremely low income households in the Katrina affected areas were in New Orleans and likely destroyed. (HUD does not report data on extremely low income homeownership units.)

While, these estimates are based on Census 2000 numbers and do not reflect any changes in the housing stock since 1999, the proportions and numbers of units affected are not expected to have changed dramatically, particularly in older and densely developed areas such as New Orleans.

The maps used to determine the extent of the damage from Hurricane Katrina are based on comparisons of NGA "remote sensing data" before and after the storm. Indications of damage such as changes in water boundaries, foliage, and the location, density and size of human structures are used to map of the extent of the storm's impact.

Appendix 1 Data Tables

Breakdown of Units Destroyed or Damaged by Affordability Category in Katrina Affected Areas

Table 1

ALL KATRINA AFFECTED AREAS												
NUMBER OF UNITS ESTIMATED BY PROPORTION OF BLOCK GROUP AREA DAMAGED												
Housing Units by Affordability Category	OWNERSHIP UNITS				RENTER UNITS				ALL UNITS			
	Occupied	Vacant	Total	Percent	Occupied	Vacant	Total	Percent	Occupied	Vacant	Total	Percent
Extremely Low Income(=<30% AMI)*	---	---	---	---	20,162	1,987	22,149	16%	---	---	---	---
Very Low Income (=< 50% AMI)	31,773	1,384	33,157	21%	52,279	6,741	59,020	42%	84,052	8,125	92,177	30%
Low Income (51-80% AMI)	57,403	916	58,319	36%	61,659	3,587	65,246	46%	119,062	4,502	123,565	41%
Upper Income (> 80% AMI)	68,782	1,239	70,021	43%	15,491	1,152	16,643	12%	84,273	2,391	86,664	29%
All Units	157,958	3,538	161,496	100%	129,430	11,480	140,910	100%	287,387	15,018	302,405	100%
<b>All Low Income (&lt;=80% AMI)</b>	<b>89,176</b>	<b>2,299</b>	<b>91,475</b>	<b>57%</b>	<b>113,939</b>	<b>10,328</b>	<b>124,267</b>	<b>88%</b>	<b>203,115</b>	<b>12,627</b>	<b>215,742</b>	<b>71%</b>

Table 2

NEW ORLEANS												
NUMBER OF UNITS ESTIMATED BY PROPORTION OF BLOCK GROUP AREA DAMAGED												
Housing Units by Affordability Category	OWNERSHIP UNITS				RENTER UNITS				ALL UNITS			
	Occupied	Vacant	Total	Percent	Occupied	Vacant	Total	Percent	Occupied	Vacant	Total	Percent
Extremely Low Income(=<30% AMI)*	---	---	---	---	14,519	1,575	16,094	20%	---	---	---	---
Very Low Income (=< 50% AMI)	15,599	856	16,455	26%	36,456	4,499	40,955	52%	52,055	5,355	57,410	40%
Low Income (51-80% AMI)	24,757	394	25,152	39%	28,439	1,021	29,459	37%	53,196	1,415	54,611	38%
Upper Income (> 80% AMI)	21,799	531	22,330	35%	7,942	396	8,338	11%	29,741	928	30,668	21%
All Units	62,155	1,782	63,937	100%	72,837	5,916	78,753	100%	134,992	7,698	142,690	100%
<b>All Low Income (&lt;=80% AMI)</b>	<b>40,356</b>	<b>1,251</b>	<b>41,607</b>	<b>65%</b>	<b>64,895</b>	<b>5,520</b>	<b>70,415</b>	<b>89%</b>	<b>105,251</b>	<b>6,770</b>	<b>112,021</b>	<b>79%</b>

\*HUD does not provide data in this dataset on extremely low income homeownership units

Source: Unit data from special tabulations of the 2000 Census, HUD, CHAS Data retrieved 9/8/05 from

[www.huduser.org/datasets/cp.html](http://www.huduser.org/datasets/cp.html). Katrina Affected Areas data from FEMA flood map:

<http://www.gismaps.fema.gov/2005pages/rsdrkatrina.shtm> (September 10, 2005, 10:00).

Appendix 2: The Definition and Spatial Distribution of the Damage Categories

The breakdown of affected areas is as follows:

**LIMITED DAMAGE:** Generally superficial damage to solid structures (e.g. loss of tiles or roof shingles); some mobile homes and light structures are damaged or displaced.

**MODERATE DAMAGE:** Solid structures sustain exterior damage (e.g., missing roofs or roof segments); some mobile homes and light structures are destroyed, many are damaged or displaced.

**EXTENSIVE DAMAGE:** Some solid structures are destroyed; most sustain exterior and interior damage (e.g., roofs are missing, interior walls exposed), most mobile homes and light structures are destroyed.

**CATASTROPHIC DAMAGE:** Most solid and all light or mobile structures are destroyed.

**FLOOD:** Indicates a separate severe damage category related to the specific affects of flooding.

**SATURATED AREA:** Indicates the possibility of water damage due to saturated soil.

	Square Meters (mil.)	Percent of Total
Flood	461.2	52%
Saturation	1.2	0%
Catastrophic	63.5	7%
Extensive	29.2	3%
Moderate	64.7	7%
Limited	260.5	30%
	880.3	100%

