



Spring 2006 Gulf Coast White Paper

Reestablishing Arbitron Surveys in
Biloxi-Gulfport-Pascagoula and New Orleans



Introduction

The Atlantic and Gulf Coasts have always been subjected to major and even catastrophic destruction, based on the twists and turns of hurricanes. However, 2005 will be remembered as the year that the American public saw the destructive potential that looms each time a hurricane forms. As a result, the names Rita, Wilma, and most of all Katrina, will forever be embedded in our memories.

This report recounts the effects of these storms on the Arbitron radio measurement system, and it documents the company's reaction. It reviews the survey metrics from the Spring 2006 surveys in New Orleans and Biloxi-Gulfport-Pascagoula and provides the basis for the decision to publish the surveys.

History

Storms and other natural disasters have affected Arbitron surveys over the company's more than half century of existence. While these events were not as destructive as Hurricane Katrina, all of them affected Arbitron surveys in some way; from short-term suspensions of diary placement calling, to the cancellation of a survey. Some of these events were:

- 9/11/2001 (diary placement calling suspended in New York)
- Hurricane Andrew (calling suspended in Miami-Fort Lauderdale-Hollywood, Summer 1992)
- Hurricane Hugo (Charleston, SC, Fall 1989 survey canceled)
- San Francisco earthquake (suspension of calling in affected markets, Fall 1989)
- Upper Mississippi River flooding (Grand Forks, ND, Spring 1997 survey canceled)

The standard procedure, when the possibility of disruption exists to Arbitron's diary placement calling procedures, is for the interviewing operation to gather as much information as possible about conditions in the market. Short-term decisions regarding suspension of calling are made in consultation with the Operations and Research management teams.

Katrina, Rita and Wilma

In the case of Katrina, meetings were held as the storm hit the South Florida area on Thursday, August 25, 2006. Calling was suspended for a short period of time in South Florida markets. Once the storm cleared the area and it was determined that local telephone and mail systems were not damaged, calling resumed.



When the storm reached the Gulf Coast a few days later, calling was suspended in a number of markets so that we could determine the extent of the damage. New Orleans, Baton Rouge, Mobile, and Jackson, MS, were potentially affected. Markets relatively far from the hurricane, including Birmingham, Memphis, Chattanooga, and Nashville, were also reviewed. These distant markets were quickly cleared and calling continued. Based on the results of calling into the markets and a review of other data sources, we continued survey operations in Jackson, Baton Rouge, and Mobile. The New Orleans survey was suspended.

In the hurricane's aftermath, daily meetings were held through this period, including representatives from Arbitron's Interviewing, Operations, Research, and Product groups. With the Fall survey about to begin, Arbitron was faced with the decision as to whether to suspend markets based on the Katrina aftermath. After reviewing U.S. Postal Service data, Arbitron decided to measure all markets in the Fall except Biloxi-Gulfport-Pascagoula and New Orleans.

Later in September, Hurricane Rita followed a more westerly path to the Gulf Coast. The storm forced the evacuation of much of Houston (including the staff of Arbitron's calling center in that city). Rita's path affected two markets, Beaumont-Port Arthur and Lake Charles. While the damage was not as extensive in either market compared to Katrina's damage, Arbitron decided to suspend the Fall survey for Beaumont-Port Arthur, based on client input. Clients in Lake Charles requested that Arbitron conduct a survey in that market, but the Fall survey was shortened to six weeks using the full 12-week sample for the market.

Finally, in October of last year, Hurricane Wilma caused some disruption in calling throughout Florida for brief periods.

Returning to Full Service

The only affected market scheduled for Winter 2006 measurement was New Orleans. A decision was made early on that the market could not be measured in the Winter and the market remained suspended.

As Spring 2006 approached, Arbitron needed to make a decision for all four markets that had experienced a suspension or a change in measurement. Lake Charles and Beaumont-Port Arthur were relatively easy decisions, considering that the shortened Fall 2005 Lake Charles survey had gone well. Based on client input and independent sources, Beaumont-Port Arthur was determined to have suffered limited damage from Hurricane Rita, and both markets were a "go" for Spring 2006.

The decision regarding New Orleans and Biloxi-Gulfport-Pascagoula revolved around a couple of important variables. First, updated population estimates were required. Claritas had been working on this issue since Katrina struck, and in February 2006 it issued 0+ population estimates by parish/county for January 1, 2006. Claritas held an online "webinar" presentation to discuss its procedures



(this webinar continues to be available at the Claritas website at www.claritas.com).

Arbitron had held extensive discussions with Claritas, mostly between Arbitron's senior demographer, Dan Estersohn, and Claritas's head demographer, Dr. Ken Hodges. Further discussions led to the commitment from Claritas that the company could produce estimates at the parish and county level by demo that would meet the standards for media research population estimates. These population estimates would be delivered in late June, well after the survey was in the field but in time for weighting returned sample.

The other issue surrounded the conduct of the survey in the two markets. In both cases, there was significant damage, and Arbitron personnel had received numerous anecdotal reports of the resulting problems, both from clients and from Arbitron employees who work at our IRS subsidiary in New Orleans.

While there were some clear impediments to resuming the survey, Arbitron made the decision to proceed based on the following factors:

- The telephone system was generally intact and working. While some areas were not in service, these areas were most likely to be areas where few people were currently living.
- Mail service was consistently improving. Although some stories circulated about long delays in receiving mail in New Orleans (this was not the case in Biloxi-Gulfport-Pascagoula), more post offices were opening and mail delivery was returning to normal throughout the market. As it turned out, the situation improved greatly with the reopening of the main New Orleans postal facility, on Loyola Avenue, during the second week of the Spring survey.
- The market needed new data. Arbitron had received reports that, in a few cases, buys were being made from Spring 2005 data. Agencies stated that there was a need to show that New Orleans and Biloxi-Gulfport-Pascagoula were "open for business" and that the marketplace was functioning. The return of syndicated audience data would be a clear sign to buyers and sellers that the markets were functioning.
- A great majority of stations were operating with stable programming and broadcast hours.
- Sample frame coverage was a key issue. The Arbitron sample frame covers nearly all households with a landline telephone number in the market. Some percentage of the market was living in FEMA (Federal Emergency Management Agency) trailers, and all that was required to have a FEMA trailer was water, sewer, and electricity; landline phone service was optional. We also assumed that some additional portion of the markets became cell-phone-only and we would not be able to reach these households. Our



underlying assumption was that these “new, involuntary cell-phone-only” households would not have different listening patterns from landline households. Arbitron’s most recent cell-phone-only study in 2005 showed that persons in cell-phone-only households had different radio listening patterns than landline households. However, the individuals in the 2005 study were cell-phone-only by choice, not by circumstance, and this important difference led us to believe that the bias, if any, from noncoverage of the additional cell-phone-only households would be minimal. It was determined that an important test of sample frame coverage would be final sample proportionality, or how close the resulting in-tab sample matched the population for key demographic characteristics.

Based on this reasoning, Arbitron decided to resume measurement in Biloxi-Gulfport-Pascagoula and New Orleans. We made the announcement and visited the markets for meetings in March 2006. At that time, and during the entire measurement period, we were clear about our intentions, which were that the progress of the surveys would be constantly reviewed and no decision regarding publication of the Local Market Reports would be made until the end of the survey. The decision would be based on research criteria.

Survey Preparation and Early Indicators

When the decision was made to resume surveying Biloxi-Gulfport-Pascagoula and New Orleans, Arbitron’s Sampling and Interviewing groups began their work. While there was a logical expectation that populations of both markets had declined, Arbitron maintained the current overall sample targets for both markets. For New Orleans, this meant a target of 2,810 diaries and Biloxi-Gulfport-Pascagoula maintained its target of 1,220 on a 12+ Metro basis.

In the Arbitron sampling system, sample is drawn at county or subcounty levels. Historical patterns give an indication of how much sample to draw in order to get a sample proportional to the population by race, ethnicity and geography.

The ability to appropriately represent the black population in both affected markets was a key concern for Arbitron. Both markets qualify for Black Differential Survey Treatments. All black respondents throughout both markets received the higher premiums and additional follow-up calls that are standard in Arbitron’s survey methodology. High-Density Black Areas were maintained using the zip code definitions that were established prior to Katrina (because updated zip code ethnic population data were not available).

Due to the lack of “post-Katrina” population estimates prior to start of the Spring 2006 survey, Arbitron’s Sampling group used “pre-Katrina” (1/1/06) Claritas estimates. Since New Orleans was not evacuated evenly across all of its parishes, we made the assumption that the use of pre-Katrina population estimates could create some disproportionality by geography, but that sample balancing at the end



of the survey would resolve any problems (Arbitron adjusted the sampling plan late in the survey after the arrival of the updated Claritas population estimates).

In Arbitron's calling system, the random digit dial telephone sample is "cleaned" by an outside vendor prior to calling by Arbitron interviewers. This gives us greater efficiency and potentially leads to greater consent rates. Typically, about 40 percent of the starting sample is removed prior to calling. Table 1 shows the trends in Biloxi-Gulfport-Pascagoula and New Orleans.

Table 1: Percent of Starting Sample Cleaned Prior to Calling¹

	Spring 2005	Spring 2006
Biloxi-Gulfport-Pascagoula	35.2%	50.8%
New Orleans	40.4%	63.8%

These results show the obvious effect of the flooding on the New Orleans Metro. Nearly two of every three phone numbers initially chosen for New Orleans were either disconnected or businesses. This was an expected outcome because of the number of homes in the Metro that were evacuated or no longer habitable. While certainly eye-opening, if these numbers had been connected to homes that were no longer habitable, there would be no effect on the survey. In Biloxi-Gulfport-Pascagoula, the effect was less pronounced.

Meanwhile, Arbitron's Interviewing group prepared to handle the two markets. All calling was completed at Arbitron's Columbia, MD, Interviewing Center, and the following special measures were taken:

- Only experienced interviewers were used for the assignment.
- Interviewers were instructed to bring up the hurricane *only* if the potential respondent mentioned it. The interviewers were strongly encouraged to pay special attention to the potential respondents.
- While instructed to go after the "agree" as usual, interviewers were told not to be overly aggressive.
- Any unusual circumstances (businesses moved to homes, multifamily homes due to the hurricane aftermath) were immediately brought to the attention of center management.
- If diaries did not arrive at the home in time for the survey week, interviewers taught the respondents how to record their listening information and noted the www.arbitronratings.com respondent Web site.
- Interviewers noted any unusual comments, and these were reviewed by center management with the interviewers assigned to the markets.

¹A change was made beginning with the Fall 2005 survey in which **all** numbers were screened (prior to Fall 2005, listed numbers were assumed to be usable). Readers should add four to five percentage points to the Spring 2005 results for a comparable percentage.



At the end of the survey, Arbitron Research and Product management conducted a focus group with 10 of the interviewers who had worked on New Orleans and Biloxi-Gulfport-Pascagoula. Some of the points made by the group:

- The word “resilient” came up with respect to the respondents. Life had changed greatly for many of them, but they continued on, most with a positive attitude.
- Even if refusing, people were very polite (this was a universal sentiment from the interviewers).
- A number of households were reached on cell phones. This resulted from forwarding of landline numbers to cell phones by the landline phone company. Any “agrees” reached in this manner were allowed to participate in the survey.
- While not tracked as a statistic, all the interviewers said they had spoken with respondents living in FEMA trailers.
- Interviews generally ran longer than the norm, with respondents talking about the effect the hurricane had had on their lives and families.

Management scrutiny of the interviewing in the markets was tighter than is typical. In addition, personnel from other Arbitron departments spent time monitoring interviews in the markets. Further, daily or semiweekly meetings among staff and management from key Arbitron departments were held to review calling results.

Population Estimates

Claritas’s webinar in February stated the obvious questions involved in trying to develop population estimates for an area that had been devastated. How many people had left the Gulf Coast? Where did they go? How many would return? Who were these people by age, gender, race and ethnicity? How many residents moved from one parish or county to another but stayed in their respective Metros? How would Claritas project these estimates out to January 1, 2007?

Much like survey research, demographic estimation is an imperfect science, but over the years, a large amount of experience has accrued. In the United States, most estimates start with data from the Bureau of the Census, one of the few federal agencies with a constitutionally designated mandate. Since Katrina hit, the topic of how to estimate populations in the affected areas had become question number one among demographers.

The Claritas webinar covered some of the new data sources the company was using to help create its estimates; some from the New Orleans area (Greater New Orleans Data Center), some at the state level in Louisiana and Mississippi, some federal (FEMA and U.S. Postal Service), as well as private data, such as from



newspapers. Claritas also developed plans for handling the inflow and outflow of people, while still using Census 2000 as a basis.

Arbitron's partnership with Claritas and its predecessor companies goes back about 30 years. There is a great respect for the quality of the company's work and the methodological underpinnings that serve as a basis. In the case of the new Gulf Coast estimates, there was regular consultation between Arbitron and Claritas regarding sources and methods to be used. This consultation began immediately after the storm struck and continued through the production of the estimates themselves.

Our respect for Claritas's work was tempered by client concerns. To ease these concerns, Arbitron hired an outside demographer to review Claritas's methods in this unusual situation and lend an independent and experienced view. Our choice was Fred Cavanaugh, who had worked for the Bureau of the Census for 34 years, including 14 years leading the Local Area Populations branch, which creates county-level estimates. Claritas was fully supportive of this external review and, with an appropriate nondisclosure agreement in place, allowed Mr. Cavanaugh access to internal production notes. It also provided time with Ken Hodges to discuss the methods Claritas used to create the estimates. While Cavanaugh's work is covered under the nondisclosure agreement and is subject to limited distribution in the industry, his conclusion was a ringing endorsement of Claritas's methods. The independent review stated that Arbitron should feel comfortable using the estimates for audience projections without concern.

Of course, a concern in the Biloxi-Gulfport-Pascagoula and New Orleans Metro was the final population estimates, or, more specifically, how many people were now living in the markets. The topline estimates are in Table 2:

Table 2: 12+ Population Estimates in Biloxi-Gulfport-Pascagoula and New Orleans Metros²

Metro	January 1, 2005	January 1, 2007
Biloxi-Gulfport-Pascagoula	308,300	303,400
New Orleans	1,079,300	864,100

Of further interest was the change in the black population, as shown in Table 3.

² The relevant comparison is Claritas estimates for January 1, 2005. January 1, 2006, estimates were delivered but never used in Arbitron local market products Biloxi-Gulfport-Pascagoula and New Orleans (first use would have been the Fall 2005 survey, which was canceled in these markets).



Table 3: 12+ Black Population Estimates in Biloxi and New Orleans Metros³

Metro	January 1, 2005	January 1, 2007
Biloxi-Gulfport-Pascagoula	61,400 (20.1%)	59,500 (19.6%)
New Orleans	391,200 (36.1%)	251,900 (29.2%)

Tables 4 and 5 show the population estimates by county and parish.

Table 4: 12+ Population Estimates in Biloxi-Gulfport-Pascagoula Metro Counties⁴

County	January 1, 2005	January 1, 2007
Hancock	39,000	35,100
Harrison	157,200	157,600
Jackson	112,100	110,700

Table 5: 12+ Population Estimates in New Orleans Metro Counties⁵

Parish	January 1, 2005	January 1, 2007
Jefferson	380,500	340,200
Orleans	384,600	199,800
St. Bernard	55,800	19,100
St. Charles	41,200	49,100
St. John the Baptist	36,800	44,600
St. Tammany	180,400	211,300

Populations by the standard Arbitron demo cells were included in the Arbitron eBookSM reporting tool received by all New Orleans and Biloxi-Gulfport-Pascagoula clients.

Survey Results

Once the survey was complete, Arbitron began the process of evaluating the results of the studies, using a combination of “traditional” metrics and other measures.

First, we needed to determine how well the survey hit the predesignated 12+ sample targets for each market. Tables 6 and 7 show the in-tab for the last five surveys in each market. In both cases, not only did the survey meet the target, it was the largest number of in-tab diaries for each market over the last five surveys.

³ Ibid.

⁴ Ibid.

⁵ Ibid.



Table 6: Biloxi-Gulfport-Pascagoula: Sample Target is 1,220

Spring 2006	Spring 2005	Winter 2005	Fall 2004	Summer 2004
1,365	1,157	1,149	1,230	1,136

Table 7: New Orleans: Sample Target is 2,810

Spring 2006	Spring 2005	Winter 2005	Fall 2004	Summer 2004
2,964	2,892	2,841	2,945	2,696

Perhaps the most traditional metric in evaluating Arbitron surveys is response rate, with the submeasures of consent rate and return rate. Tables 8 and 9 show the Spring 2006 results and a comparison to the previous survey in Spring 2005.

Table 8: New Orleans Survey Metrics

	Spring 2005	Spring 2006
Consent rate	55.2%	49.5%
Return rate	51.0%	52.2%
Response rate	28.3%	26.2%

Table 9: Biloxi-Gulfport-Pascagoula Survey Metrics

	Spring 2005	Spring 2006
Consent rate	59.8%	58.3%
Return rate	49.5%	52.6%
Response rate	29.8%	30.8%

Much as the prescreening of the sample showed many more disconnected numbers in the New Orleans Metro, it is our belief that there was a similar increase in “no-answer” numbers that, while still active, were not ringing at a household. Arbitron’s adjustment factor for no-answer and busy numbers uses one number for all markets. Thus, we believe that the static no-answer adjustment caused a lower adjusted consent rate in New Orleans than would be produced if we were able to know the true number of no-answer phone numbers in the Metro. In the case of Biloxi-Gulfport-Pascagoula, which is further along on its reconstruction, the effect is far less pronounced, and the market’s response rate actually improved over Spring 2005.

As noted earlier, mail delivery was considered to be a key variable in success or failure with the New Orleans survey. Perhaps the most surprising statistic in our evaluation was the “Diary Not Received (DNR)” percentage in the market. DNR is based on presurvey calls conducted in the two days before the start of the survey week. The call is designed to remind diarykeepers that the survey will begin soon and to answer any questions that may arise. During this call, interviewers also ask whether the Arbitron package containing the diaries has arrived, and that answer is tracked. We track all markets and expect a certain percentage of “no” answers. Often, a “no” response has nothing to do with mail delivery, but instead reflects the condition that the person on the phone has not



looked at the mail or is not the original consentor in the household and may not know about the survey. Sudden increases in the DNR rate may cause investigations with postal authorities.

In New Orleans, the overall DNR rate for the Spring 2006 survey was 29.5 percent, which compares to 31.2 percent in the Spring 2005 (pre-Katrina) survey. In other words, a smaller percentage of households reported not receiving their diaries post-Katrina than in the last pre-Katrina survey. These results allayed any concerns we had about diaries reaching the intended households. The DNR rate in Biloxi-Gulfport-Pascagoula was 16.5 percent, compared to 27.1 percent in the Spring 2005 pre-Katrina survey.

We also reviewed statistics that, while important, were not as relevant to the publishing decision. For example, despite all the reports of multiple families living in one dwelling unit, our persons-per-household statistic in New Orleans dropped slightly (from 2.38 to 2.35), although black household persons-per-household increased five percent to 2.60. In Biloxi-Gulfport-Pascagoula, average 12+ household size showed a very slight increase of 0.02 persons to 2.33.

The pattern for blacks diverged between the markets. Due to the sizable decrease in the black population in New Orleans, the number of black consenters in the Spring 2006 survey dropped by approximately 25 percent, compared to Spring 2005, but in Biloxi-Gulfport-Pascagoula, the number of black consenters increased by approximately 15 percent.⁶ The number of Hispanic consenters in New Orleans increased by 20 percent against Spring 2005, while the increase in Biloxi-Gulfport-Pascagoula was over 50 percent (albeit from a small base).

Sample Frame Coverage

One concern was how well the surveys would cover the populations in the respective Metros. Certainly, the population that remains has moved around; in New Orleans, some areas remain nearly uninhabitable at the time this paper was written in July 2006.

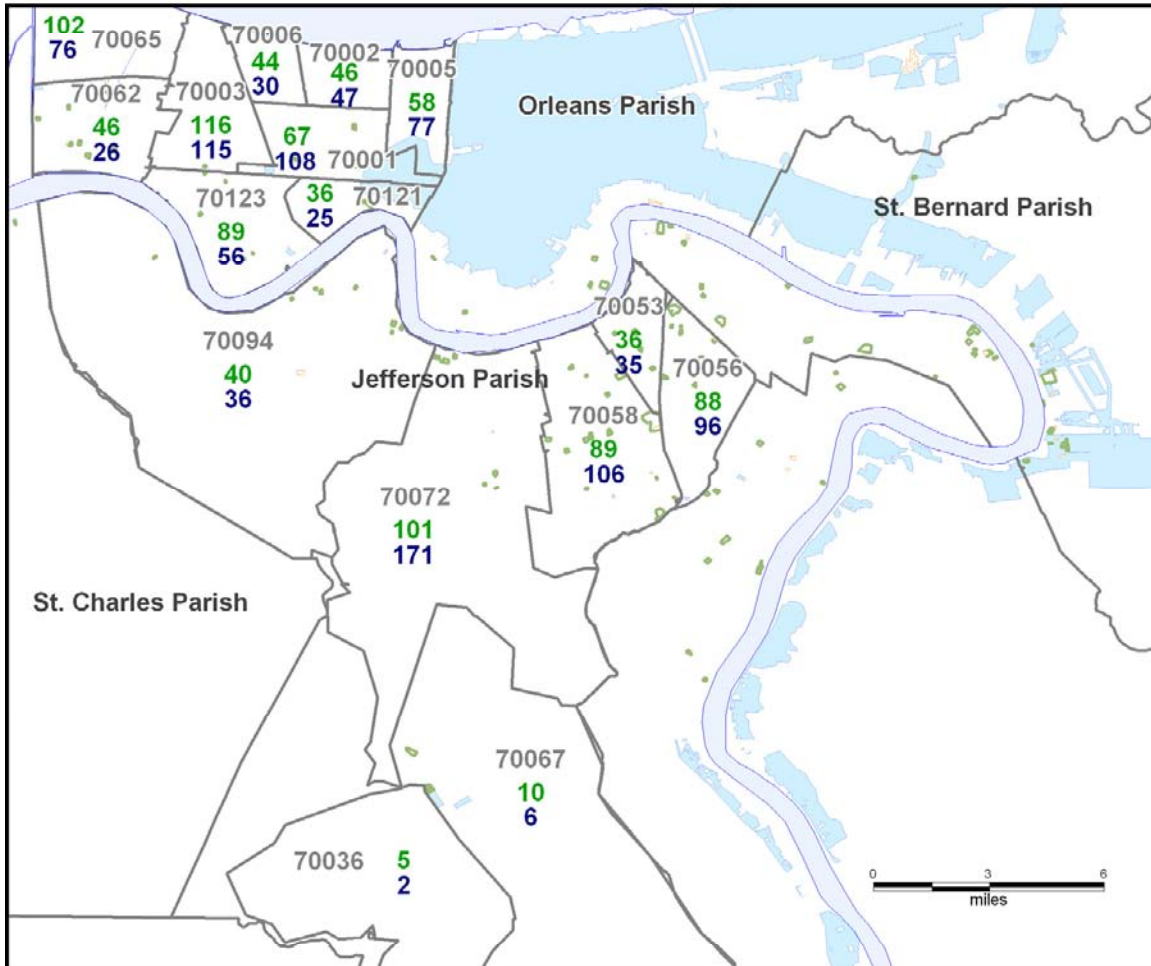
The following maps show three pieces of information at the county and parish level. The first two data points are the number of in-tab diaries received from the zip codes. The third data point is instructive, which is the level of destruction as measured by FEMA. In other words, an area that has been nearly destroyed should have few people living there, and therefore, only a few diaries, if any, in-tab. Areas with less flooding or very little damage should have as many diaries in-tab as in 2005 or perhaps more since the overall targets remained constant. While zip code boundaries do not match up exactly with Katrina's destruction, this is the best method for graphically portraying the coverage of the sample.

⁶ Readers should note that effective with the Winter 2006 survey, race and ethnicity information is taken from questions in the diary. Thus, numbers for 2006 are based only on the placement call and do not represent the final race disposition for any individual in the survey.



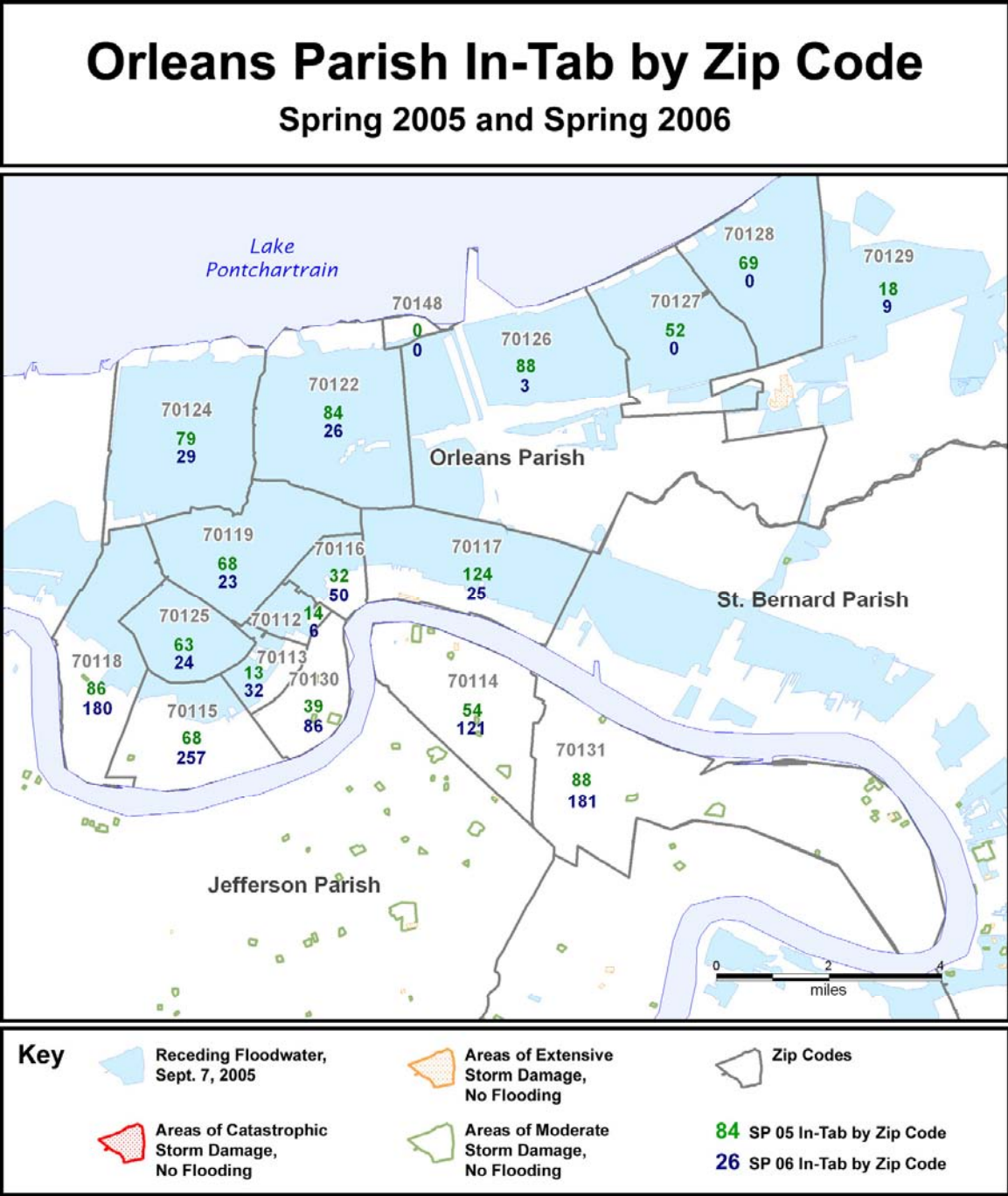
Jefferson Parish In-Tab by Zip Code

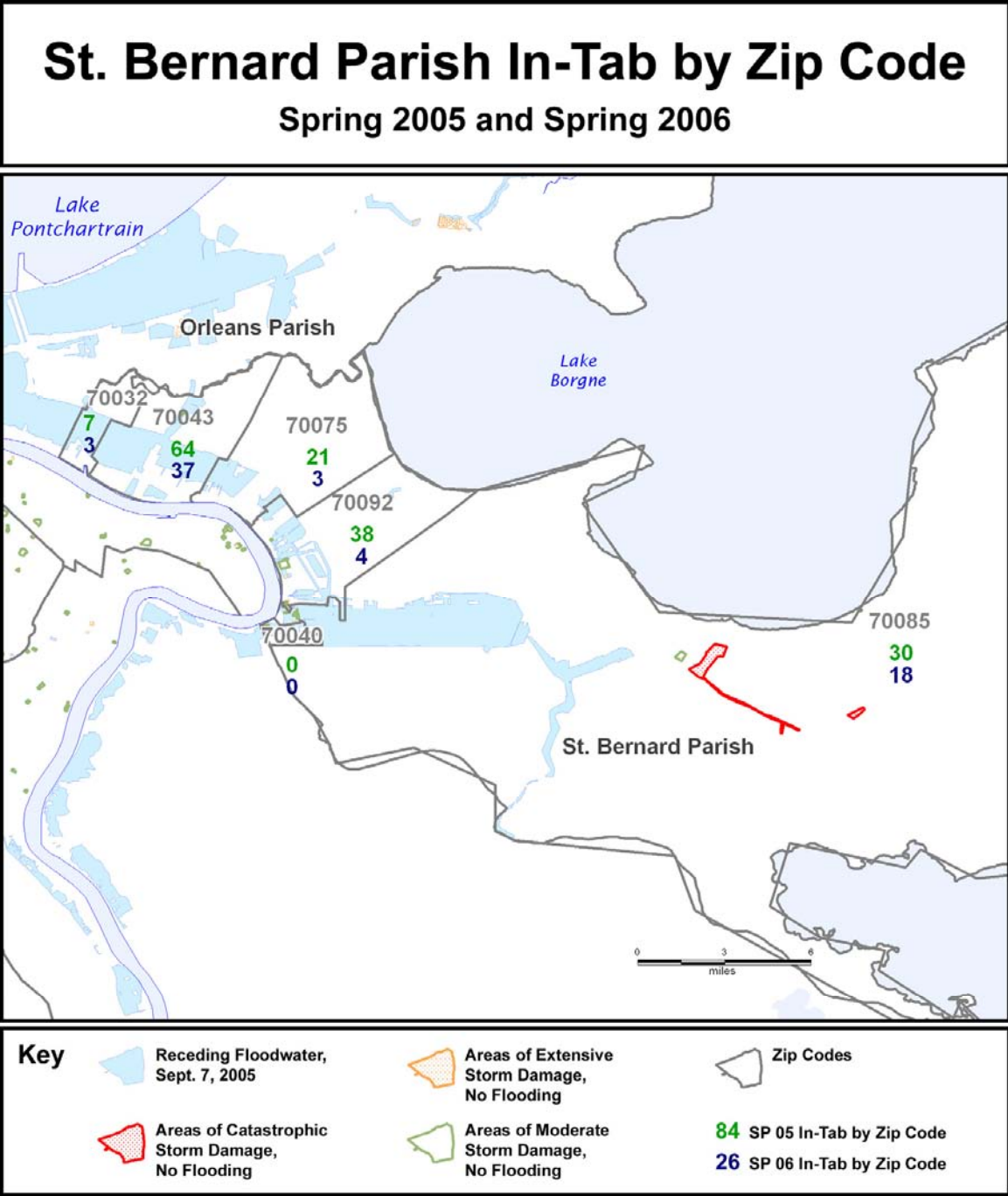
Spring 2005 and Spring 2006



Key

- Receding Floodwater, Sept. 7, 2005
- Areas of Extensive Storm Damage, No Flooding
- Areas of Catastrophic Storm Damage, No Flooding
- Areas of Moderate Storm Damage, No Flooding
- Zip Codes
- 84** SP 05 In-Tab by Zip Code
- 26** SP 06 In-Tab by Zip Code

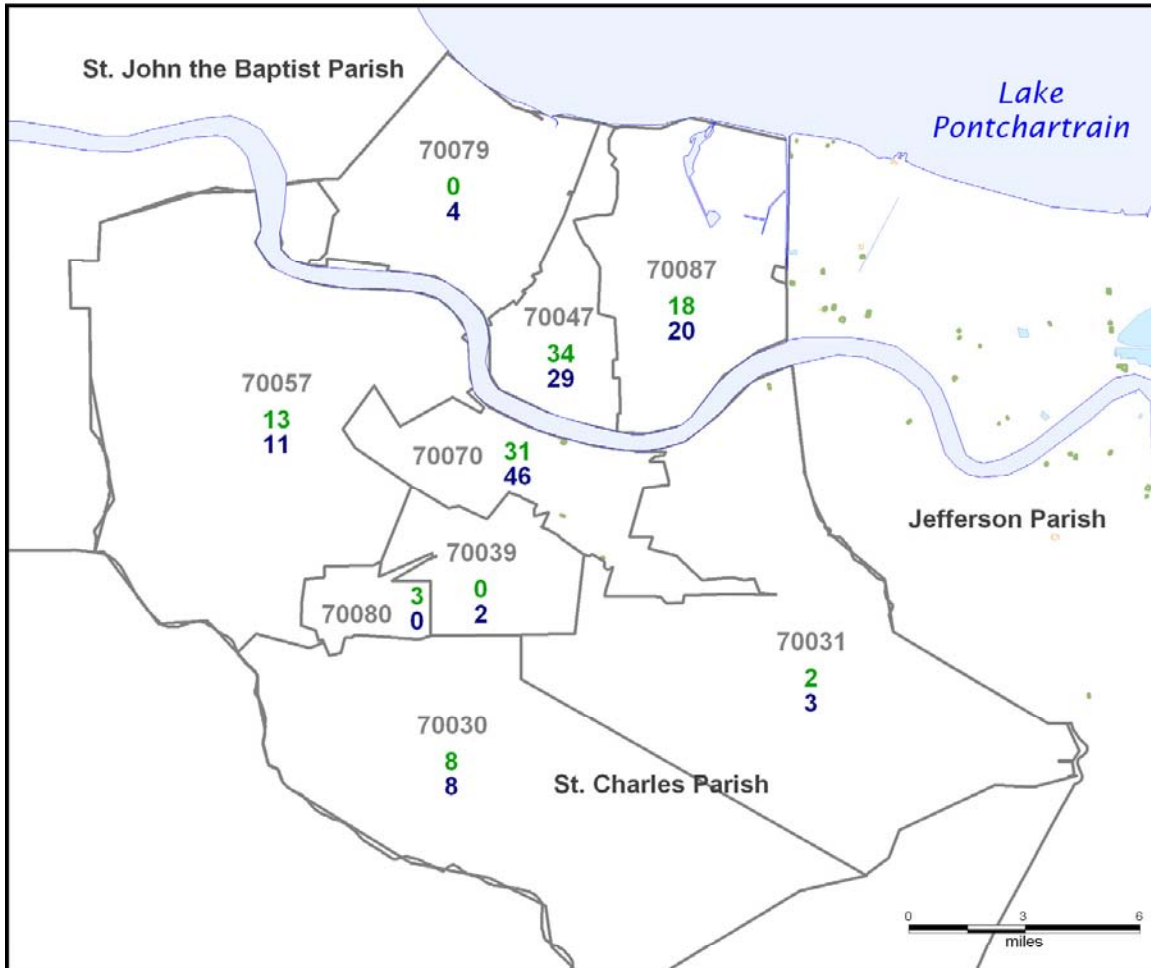






St. Charles Parish In-Tab by Zip Code

Spring 2005 and Spring 2006



Key

Receding Floodwater, Sept. 7, 2005

Areas of Extensive Storm Damage, No Flooding

Zip Codes

Areas of Catastrophic Storm Damage, No Flooding

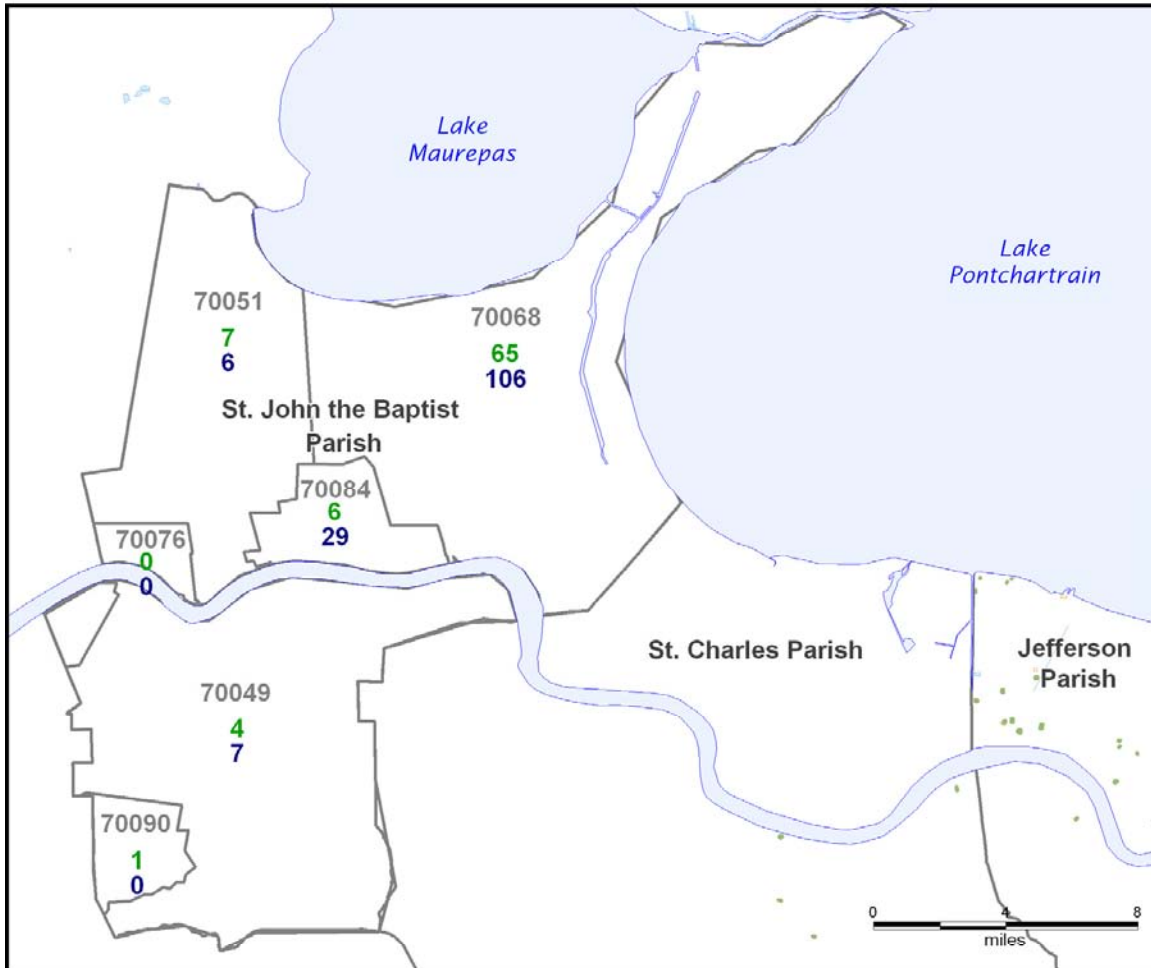
Areas of Moderate Storm Damage, No Flooding

84 SP 05 In-Tab by Zip Code

26 SP 06 In-Tab by Zip Code



St. John the Baptist Parish In-Tab by Zip Code Spring 2005 and Spring 2006



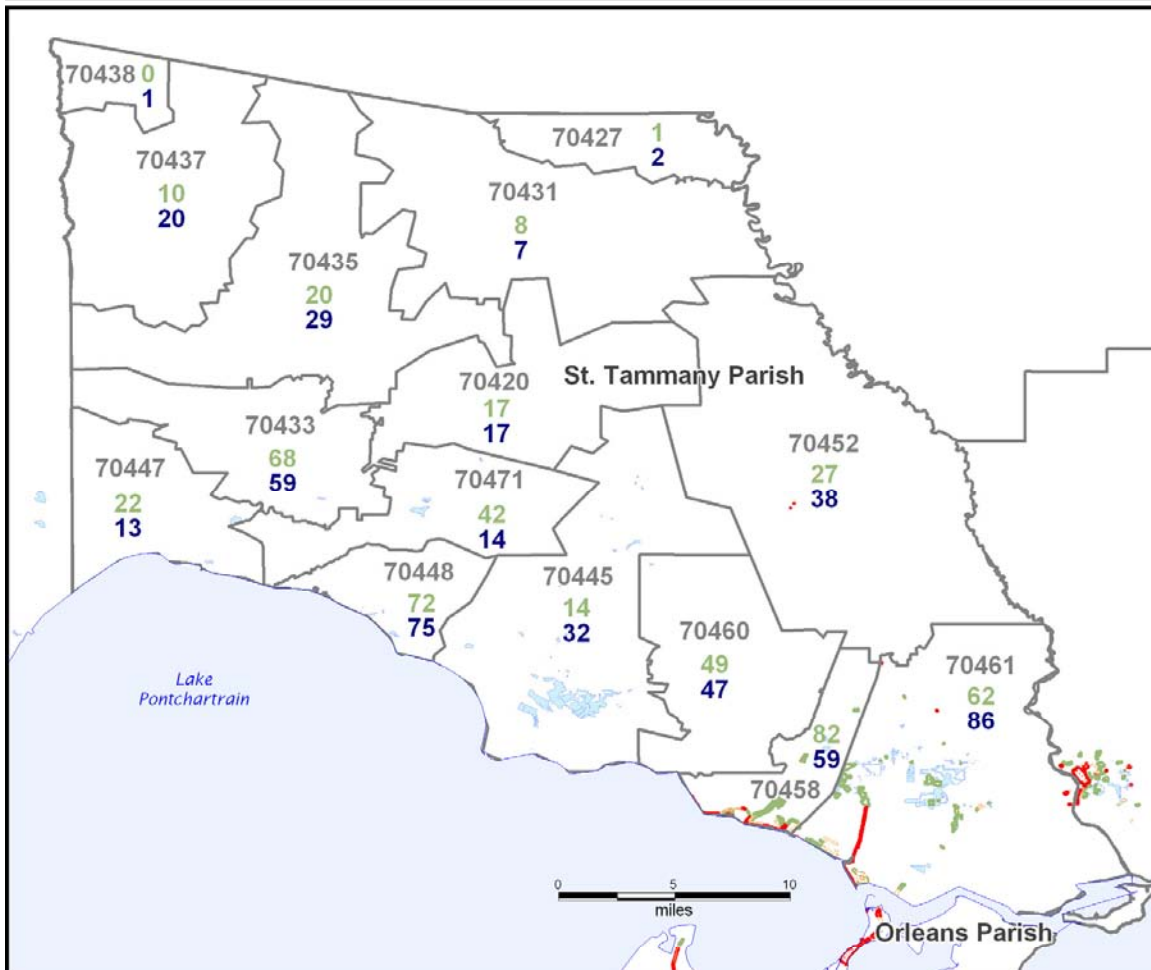
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- Zip Codes
- 84** SP 05 In-Tab by Zip Code
- 26** SP 06 In-Tab by Zip Code



St. Tammany Parish In-Tab by Zip Code

Spring 2005 and Spring 2006



Key

Receding Floodwater, Sept. 7, 2005

Areas of Extensive Storm Damage, No Flooding

Zip Codes

Areas of Catastrophic Storm Damage, No Flooding

Areas of Moderate Storm Damage, No Flooding

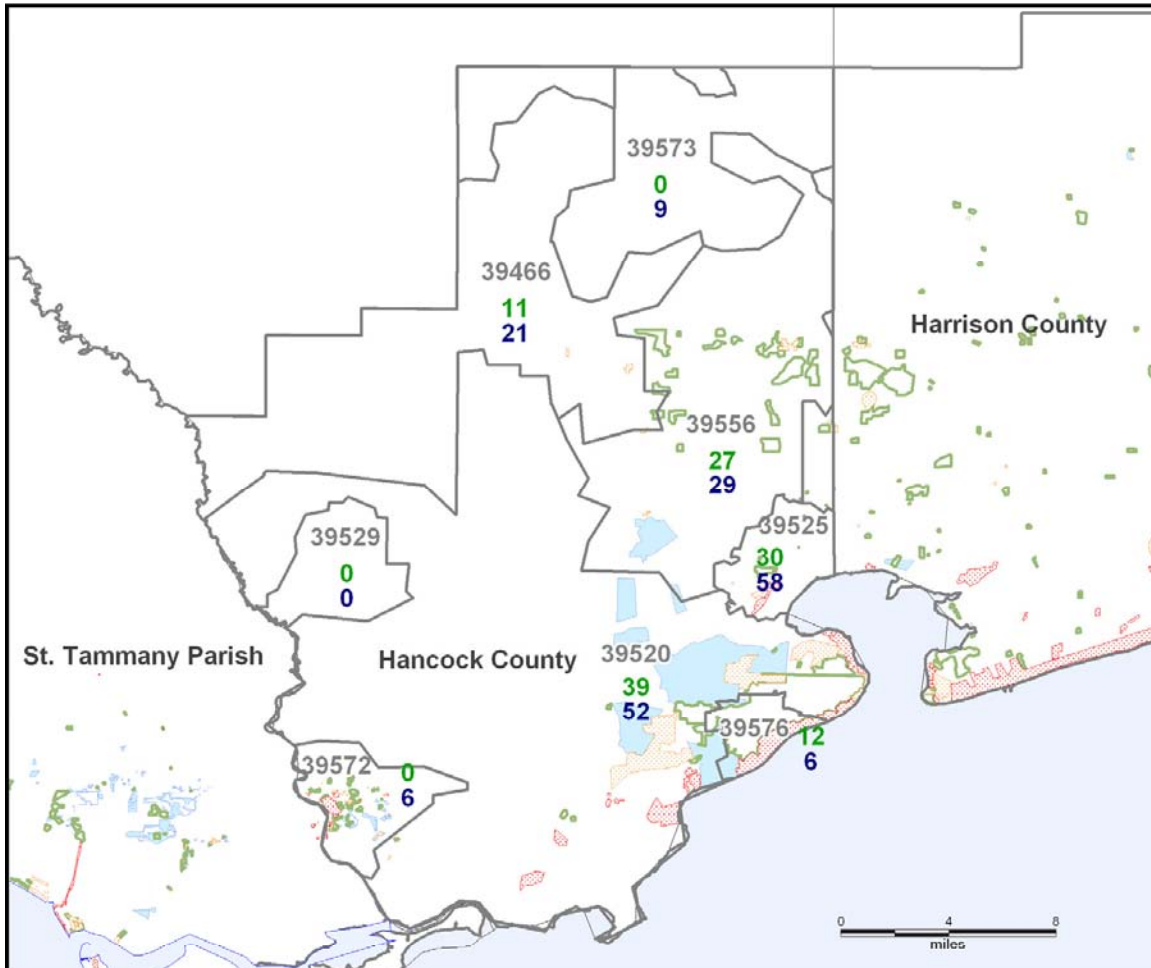
84 SP 05 In-Tab by Zip Code

26 SP 06 In-Tab by Zip Code



Hancock County In-Tab by Zip Code

Spring 2005 and Spring 2006



Key

Receding Floodwater, Sept. 7, 2005

Areas of Extensive Storm Damage, No Flooding

Zip Codes

Areas of Catastrophic Storm Damage, No Flooding

Areas of Moderate Storm Damage, No Flooding

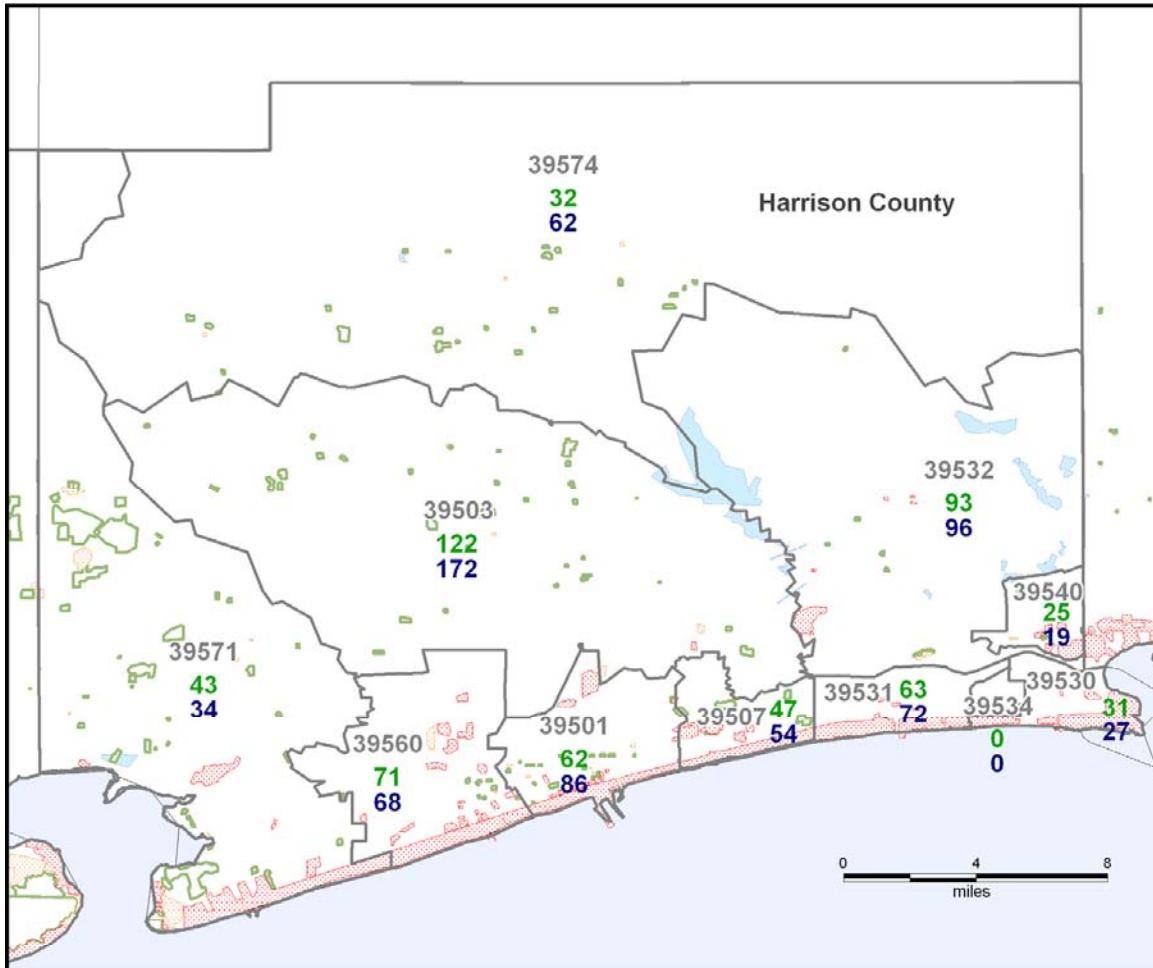
84 SP 05 In-Tab by Zip Code

26 SP 06 In-Tab by Zip Code



Harrison County In-Tab by Zip Code

Spring 2005 and Spring 2006



Key

Receding Floodwater, Sept. 7, 2005

Areas of Catastrophic Storm Damage, No Flooding

Areas of Extensive Storm Damage, No Flooding

Areas of Moderate Storm Damage, No Flooding

Zip Codes

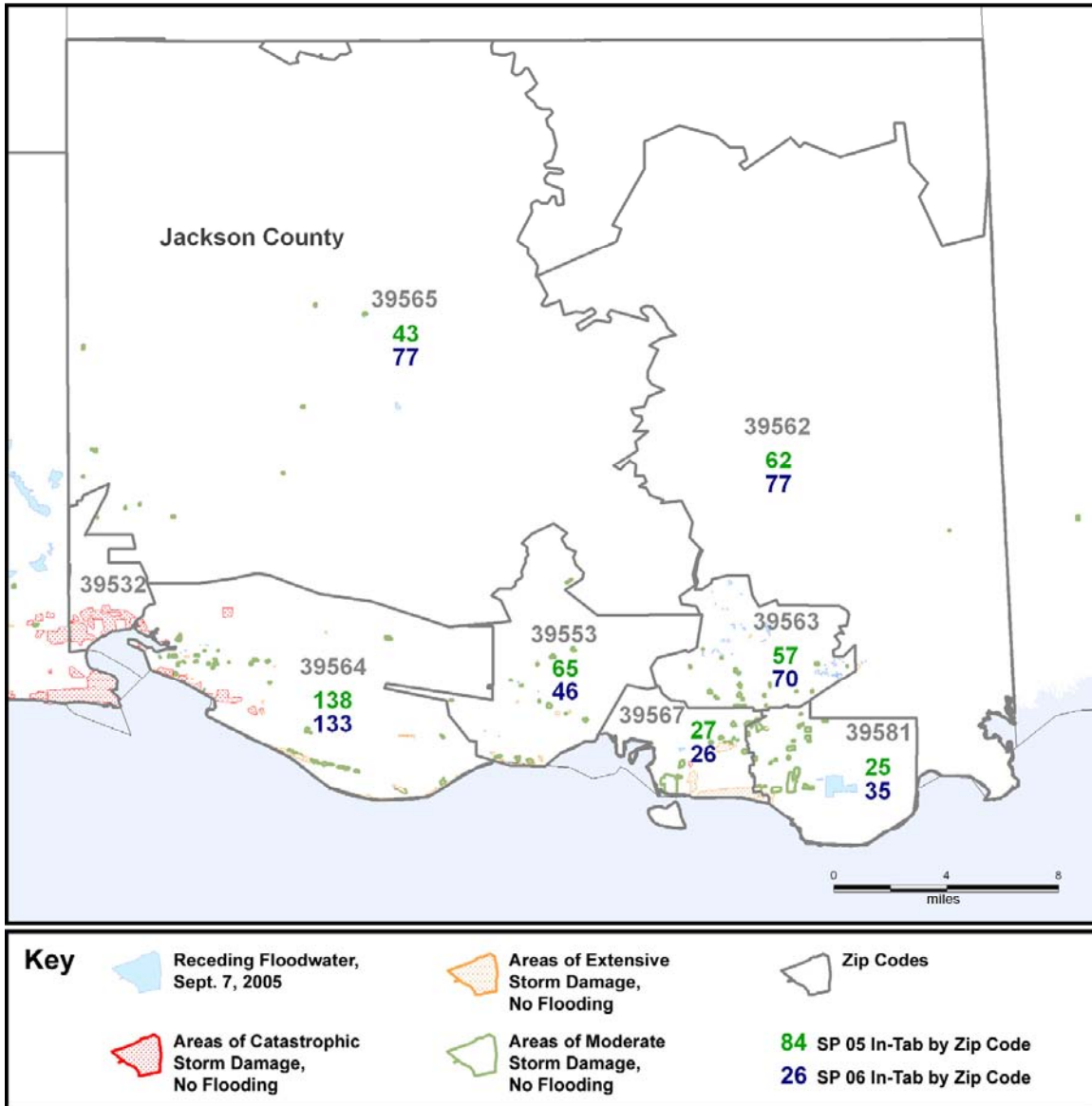
84 SP 05 In-Tab by Zip Code

26 SP 06 In-Tab by Zip Code



Jackson County In-Tab by Zip Code

Spring 2005 and Spring 2006



Other Survey Metrics

Many users of Arbitron data use proportionality (the ratio of sample percent to population percent by demographic) as another important measure of survey quality. Table 10 shows the proportionality for black sample in each market compared to Spring 2005.

Table 10: Black Proportionality 12+ Index

	Spring 2005	Spring 2006
Biloxi-Gulfport-Pascagoula	89	82
New Orleans	99	84

Tables 11 and 12 give the county and parish proportionality at a 12+ level for each Metro.

Table 11: Biloxi-Gulfport-Pascagoula 12+ Proportionality by County

County	Spring 2005	Spring 2006
Hancock	87	117
Harrison	99	95
Jackson	106	101

Table 12: New Orleans 12+ Proportionality by Parish

Parish	Spring 2005	Spring 2006
Jefferson	97	90
Orleans	102	156
St. Bernard	106	104
St. Charles	104	75
St. John the Baptist	84	98
St. Tammany	103	70

Tables 13 and 14 disclose proportionality indexes for some selected demo groups.

Table 13: Biloxi-Gulfport-Pascagoula Proportionality for Selected Demos

Demo	Spring 2005	Spring 2006
Men 18-34	65	68
Women 18-34	78	77
Men 25-54	78	81
Women 25-54	107	97
Men 35-64	93	97
Women 35-64	129	124



Table 14: New Orleans Proportionality for Selected Demos

Demo	Spring 2005	Spring 2006
Men 18-34	91	73
Women 18-34	90	79
Men 25-54	91	89
Women 25-54	105	103
Men 35-64	94	103
Women 35-64	117	120

Arbitron does not use strict standards for proportionality in any market, but instead has guidelines that trigger further review of the results. In this case, while some of the Spring 2006 proportionality indexes did not perform as well as in Spring 2005, no one measure stands out as being unacceptable. Beyond that, the purpose of sample balancing is to account for the imperfections in the variables that may have an effect on radio listening and reported audiences. It is Arbitron's view that the sample balancing algorithm will control for these results.

One point that is relevant to sample balancing is the absence of High-Density Black Area (HDBA) weighting. It was noted earlier that because no population estimates were made at the zip code level, it was impossible to create estimates for HDBAs or balances. Therefore, all weighting was done at the county/parish level. However, separate models were maintained for Black and "Other." In one case (St. Bernard with Orleans), the Black model was collapsed across two parishes. This is of very limited concern, considering the very small population currently in St. Bernard parish.

With respect to sample balancing, another measure used is called statistical efficiency—a measure of how reliable estimates based on a weighted sample are relative to those based on an unweighted sample. Arbitron requires a minimum statistical efficiency of 75 in Metros. In the case of the New Orleans and Biloxi-Gulfport-Pascagoula Spring 2006 surveys, no model performed at lower than an 84.

Summary

The Spring 2006 surveys for New Orleans and Biloxi-Gulfport-Pascagoula presented unique challenges for Arbitron's survey system. Intensive efforts by Arbitron Survey Operations and Research staff resulted in a survey that meets our standards for publication.

Our decision process regarding publication revolved around the information presented in this paper. When management met to make the decision, the following points stood out:

- Population estimates were available, and both internal and external review of the process showed best practices were used. In addition, the estimates



appeared consistent with other estimates produced for the geographies. Further, Arbitron did not believe that waiting to begin the survey at some future point would improve the quality of the estimates to any degree. We do not see any additional authoritative data that would substantially change these estimates becoming available for use in the near term. Our interpretation was that we had a choice between using population estimates available now or waiting as long as five years (the 2010 Census) to have access to better population estimates for the area.

- Spring 2006 survey metrics were similar to pre-Katrina levels. For example, response rates were similar to those of the previous survey. Proportionality, while not ideal, was comparable to what the company has seen in other markets and well within the ability of our sample balancing algorithm to adjust.
- No “showstoppers” appeared during the survey regarding telephony or mail service in the market. There was no time when our interviewing staff felt that the survey was not being conducted to Arbitron’s standards.
- While we did not examine individual station audience estimates, a review of Persons Using Radio (PUR) levels showed consistency with pre-Katrina surveys. While we had no way to be sure that these estimates truly reflected the market, there was greater assurance that the survey results were reasonable.

Based on all the available information, Arbitron made the decision to publish the Spring 2006 reports for Biloxi-Gulfport-Pascagoula and New Orleans. The New Orleans Summer 2006 survey is in the field now, and our expectation is that the study will be released on schedule.



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