

Chapter 5

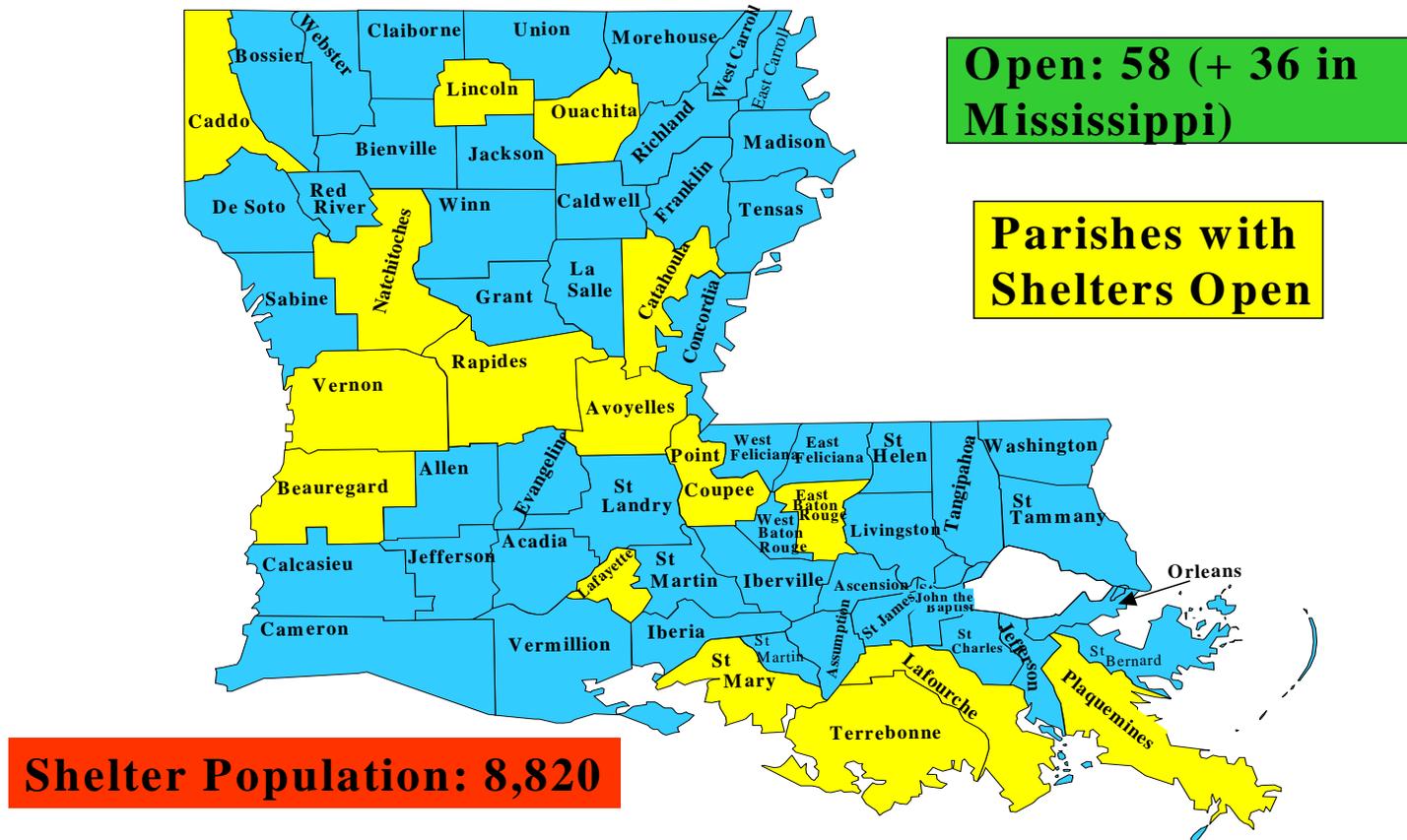
Public Shelter Issues

The primary objectives of shelter analyses prepared for FEMA/USACE comprehensive hurricane evacuation studies are to list public shelter facilities, assess their vulnerability relative to storm surge flooding, and to estimate the number of people who would seek local public shelter for a particular hurricane intensity or threat. An interagency group comprised of FEMA, the USACE, the Environmental Protection Agency, the American Red Cross, and Clemson University, has developed hurricane evacuation shelter selection standards¹. These standards reflect the application of technical data compiled in hurricane evacuation studies, other hazard information, and research findings related to wind loads and structural problems. These standards are supplemental to information contained in ARC 3041, *Mass Care: Preparedness and Operations* concerning shelter selection. Shelter location/capacity data are obtained from state and local emergency management staff working in conjunction with the American Red Cross, school board or other local agencies. Comparisons are then made with SLOSH data to assess flooding potential. The standards include a process so Red Cross can authorize “exception” approval for facilities as hurricane evacuation shelters if the facilities meet selected criteria. State emergency management agencies, with FEMA funding, have developed shelter selection programs to inspect and designate facilities as shelters based on the ARC 4496. Public shelter capacity is usually compared to public shelter demand figures generated in the transportation analysis to determine potential deficits or surpluses in sheltering. The behavioral analysis is important to this process as assumptions for the transportation analysis (regarding the percent of evacuees going to public shelter) come from the behavioral analysis or behavioral parameters recommended by the local directors. According to the American Red Cross and state emergency management agencies approximately 3,500 people went to 32 evacuation shelters for the threat of Isidore and over 18,000 evacuees went to 83 shelters when Lili threatened the Gulf Coast. This report’s behavioral analysis estimates less than 10% of the evacuees went to public shelters (similar estimates from past hurricane evacuations). Figure 5-1 shows the shelter locations opened in Louisiana during Lili.

¹ Standards for Hurricane Evacuation Shelter Selection, ARC 4496, revised January 2002

Figure 5-1

SHELTERS



Shelter issues related to Tropical Storm Isidore and Hurricane Lili were discussed with local and state officials. Discussions focused on the following topics:

- When were shelters opened?
- When did evacuees arrive and stop arriving?
- How many shelters were opened?
- How many people were sheltered?
- Were any flooding, wind, or loss of power problems encountered with shelters during the storm?

Table 5-1, located at the end of this chapter, summarizes the responses to each of these topics gathered for the parishes and counties interviewed in Louisiana, Alabama, Florida, Mississippi, and Texas. **All data is reflective of Hurricane Lili unless specifically differentiated.**

In general, the number of evacuees going to public shelters was less than what was anticipated even in the hurricane evacuation studies for each area. Since evacuation participation rates of permanent residents from potential storm surge areas were much less than 100%, lower actual public shelter demand figures are to be expected.

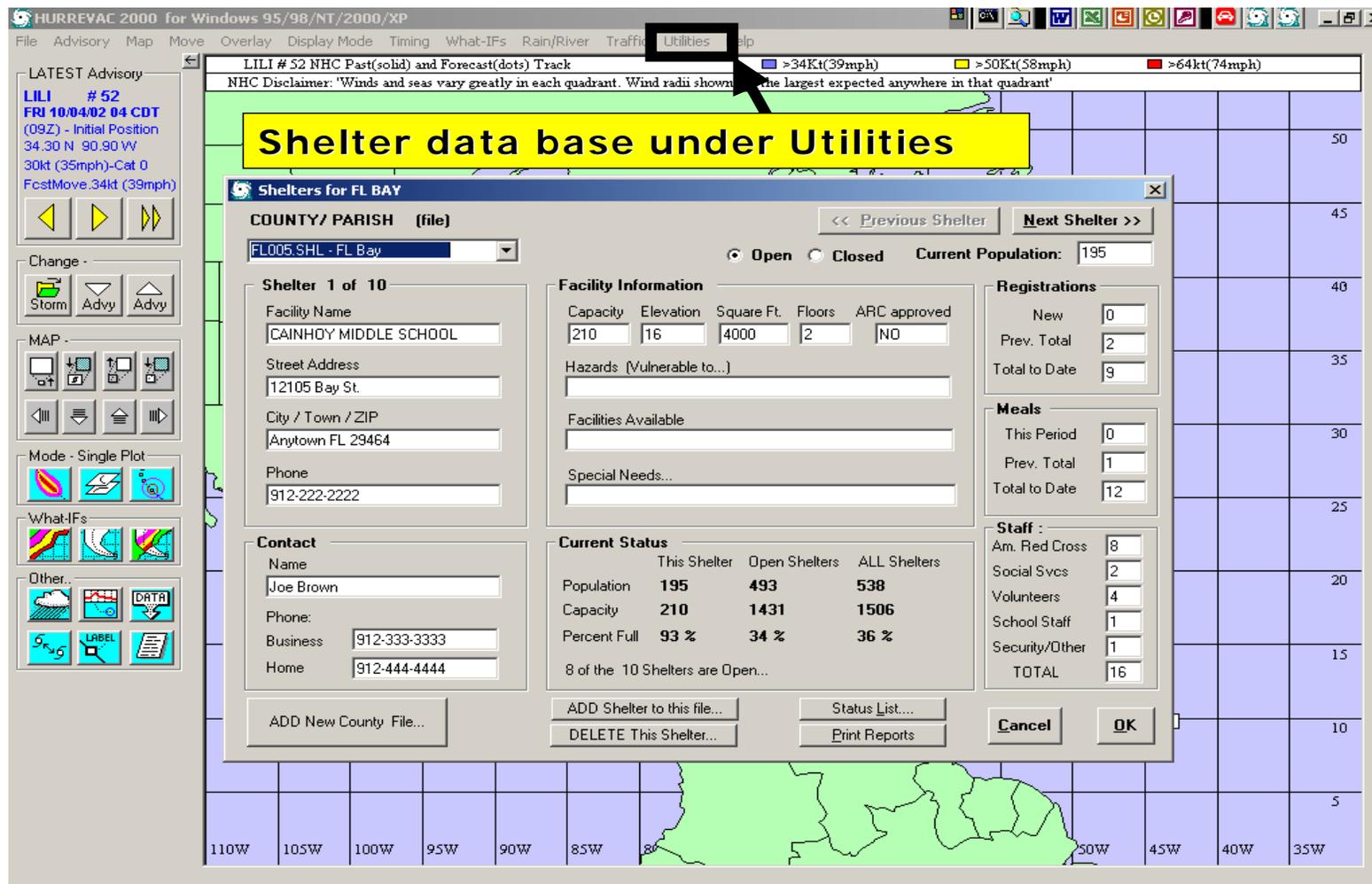
For most jurisdictions the evacuees were mainly local residents seeking shelter. The exception to this was in Texas where residents from Louisiana were sheltered, and after the storm made landfall, were unable to return home. Alabama opened no shelters statewide for either storm event. Mississippi had available 43,000 spaces statewide for Hurricane Lili, but reported only 300 used. Florida did open one host shelter but reported most evacuees coming into the state were utilizing the hotels and motels located in the panhandle counties. Some local emergency managers of inland communities in Louisiana, Texas, and Mississippi expressed concern about coastal evacuees seeking hotel and motel lodging as well as shelters in their locales. They had the perception that an influx of out-of-towners would create a negative reduction of available spaces for local residents. Past experiences indicate however, that shelter demand has been low for most events and very few inland residents go to local lodging or public shelters, even when local shelters were open to them and had not reached their capacity levels. Shelter information in future studies should document historical data to address this issue.

Some shelter locations experienced a lack of supplies and staff. Another common issue mentioned was incoming evacuees came without provisions for themselves. Minor power outages, wind damage, and flooding were also mentioned during the interviews. Again the low use of public shelters made it very difficult to gauge if public shelter capacity meets the needs of the evacuees seeking refuge in them.

The Figure 5-2 is provided to show the shelter information that the HURREVAC program can display.

Sean Fontenot from Louisiana's State Office of Emergency Preparedness provides the following narrative in regards to special needs shelters. "Special needs' sheltering is becoming a critical issue as the age of our population increases. Too often people with special needs are unable to travel great distances and require very special care and attention when they do leave their homes. This segment of the population must be given special care and cannot function in a general shelter environment. Louisiana Office of Emergency Preparedness has worked very diligently over the past several years, in coordination with their sister state agencies of Department of Health and Hospitals and Department of Social Services, to set up a regional special needs shelter concept. These Nine Regional State Special Needs Shelters are the only shelters in Louisiana that are run completely by a state agency and not by the American Red Cross or a particular Parish. Tropical Storm Isidore and Hurricane Lili were the first storms that could test Louisiana's new special needs shelter concept. For Tropical Storm Isidore, Louisiana opened two of its nine regional shelters and sheltered 27 people with special needs. This turned out to be what many in Louisiana called a good dry run in preparation for Hurricane Lili. Hurricane Lili the very next week gave Louisiana the opportunity to further test this new Special Needs Shelter plan, opening five of its Special Needs Shelters and providing care for 260 special needs persons. Many in Louisiana have considered this new Special Needs sheltering plan a success, however, many lessons were learned from this experience and a foundation was laid for a great special needs program."

Figure 5-2: Provided to show the shelter information that the HURREVAC program can display.



Recommendations

1. Emergency Support Function (ESF) 6 MASS CARE agencies should enhance annual preparations for proper inventory of shelters equipment and staffing levels.
2. ESF 6 agencies with local emergency management agencies (and support from the state) should annually review the structural integrity and location of current hurricane evacuation facilities and determine availability for new ones. This process should apply the ARC 4496 standards and determine if more facilities could be approved through “exception” applications.
3. State emergency management agencies should develop maps to display shelter locations relative to evacuation routes.
4. ESF 6 agencies end emergency management should use HURREVAC and other programs to monitor (and map) shelter operations for planning purposes and in operations for state and local Emergency Operation Centers (EOCs)
5. ESF 6 agencies should assure shelter supplies are replenished after each shelter activation
6. ESF 6 agencies, with state and local emergency management agencies, should increase public education about hurricane evacuation shelter locations and what personal (comfort and hygiene) supplies an evacuee should bring.
7. Inter-state coordination among state emergency management agencies should include information about availability and location of hurricane evacuation shelters.
8. Encourage local and state agencies to apply for federal and state mitigation funds to retrofit critical facilities (including public buildings as shelters) for elevation and wind resistance of hurricane hazards.

NOTE Discussion on Page 3-2 applies to the following table and data contained within.

Table 5-1 Public Shelter Data Summary

Location	Number of Shelters Opened	Number of People Sheltered	Technical Data Report Shelter Capacity	Time Opened/Duration	Problems Encountered
Louisiana					
Acadia	5 – shelters of last resort	1,500	7,060 people	10/2/02 8pm	Wind damage Loss of utilities
Ascension	3	399	No study available	10/2/02 9pm	Shortage of staff, food and security
Assumption	Isidore – 1 Lili – 2	Isidore – 10 Lili – 250	1,200 people	Not provided	Not available
Calcasieau	2	None	2,350 people	Not provided	Not available
Iberia	None	N/A	N/A	N/A	N/A

Table 5-1 Public Shelter Data Summary

Location	Number of Shelters Opened	Number of People Sheltered	Technical Data Report Shelter Capacity	Time Opened/Duration	Problems Encountered
Jefferson	Isidore – 2 Lili – 1	Isidore – 30 Lili – 78	15,187 people	Lili – 10/2/02 – 4 pm	Not provided
Jefferson Davis	1 shelter of last resort	25 – 30	2,375 people	10/3/02 – 4 am	Unruly guests, lack of security
Lafayette	1 special needs	134	5,183 people	10/2/02 – 1 pm	Wind damage, public unaware shelter was special needs, loss of utilities
Lafourche	Isidore – 1 Lili – 3	Isidore – 200 Lili – 1,700 +/- (36 in special needs shelter)	5,100 people	Not provided	Not available
Orleans	3	25	25,100 people	10/2/02 – noon	None

Table 5-1 Public Shelter Data Summary

Location	Number of Shelters Opened	Number of People Sheltered	Technical Data Report Shelter Capacity	Time Opened/Duration	Problems Encountered
Plaquemines	Isidore – 1 Lili – 4	Isidore – 875 Lili – 1175	2,725 people	Lili – 10/2/02 – 8 am	None
St. Bernard	Isidore and Lili – 1 special needs each	Isidore – 300 Lili – 400	5,676 people	Lili – 10/1/02	None
St. Charles	Isidore – 2 Lili – 2	Isidore – 80 Lili – 200	1,700 people	Not provided	Not available
St. James	Isidore – 2 Lili – 2	Isidore – less than 600 Lili – 600	4,050 people	Not provided	None
St. John the Baptist	2 – shelters of last resort	200	4,075 people	6 am, closed the next morning	None

Table 5-1 Public Shelter Data Summary

Location	Number of Shelters Opened	Number of People Sheltered	Technical Data Report Shelter Capacity	Time Opened/Duration	Problems Encountered
St. Martin	5	1009	1,872 people	10/2/02 – 4 pm, open 25 hours	None
St. Mary	2 – shelters of last resort	190	6,200 people	Not provided	Not available
St. Tammany	6 – one was special needs shelter	600 regular, 20/30 special needs	23,100 people	10/3/02	None
Tangipahoa	3	196	No study available	10/3/02	None
Terrebonne	Isidore - 1 Lili – 1	Isidore – 150 Lili – 1400	3,500 people	Not provided	Not available

Table 5-1 Public Shelter Data Summary

Location	Number of Shelters Opened	Number of People Sheltered	Technical Data Report Shelter Capacity	Time Opened/Duration	Problems Encountered
Vermilion	5 – one shelter of last resort	280 regular, 35 in shelter of last resort	4,105 people	10/4/02 – 6 pm	Loss of power
Alabama					
Baldwin	Isidore – 3, one was special needs Lili – 1	Isidore – 87 Lili – none	8,000 people	Isidore – opened 2 days Lili – 1 day	No real problems, but security always an issue
Mobile	Isidore – 4 Lili – 1	Isidore – 356 Lili – none	24,350 people	Isidore – 30 hours Lili – 8 hours	No real problems but special needs must be addressed
Florida					
Escambia, Santa Rosa, Okaloosa	Lili – 1 host shelter	35		2 days	Did not realize impact from Louisiana and Alabama evacuees would have on hotel/motel space

Table 5-1 Public Shelter Data Summary

Location	Number of Shelters Opened	Number of People Sheltered	Technical Data Report Shelter Capacity	Time Opened/Duration	Problems Encountered
Mississippi					
Hancock	Isidore – 2 Lili – 1	Isidore – 227, 25 were special needs Lili – 79, 22 were special needs	1,750 people	Isidore – 6 am, open 2 days Lili – 6 pm, open 1 day	None
Harrison	Isidore – 10, one was special needs Lili – 2	Isidore – 459, no special needs Lili – very few	10,590 people	Isidore – 9/25/02 1 pm Lili – 10/2/02 – 8 pm	None
Jackson	Isidore – 4 Lili – 2	Isidore – 200 Lili – 30	3,050 people	Not provided	Need for generators, ventilation issues
Texas (see note below table on next page)					
Angelina - (City of Lufkin) Nacogdoches (City of Nacogdoches)	26	5,000 – 8,000	No USACE studies done for Texas yet	Not available	Lack of supplies, staff; too many people coming at one time via buses; prisoners in shelters; security; people coming w/o medicines; out of state evacuees

Table 5-1 Public Shelter Data Summary

Location	Number of Shelters Opened	Number of People Sheltered	Technical Data Report Shelter Capacity	Time Opened/Duration	Problems Encountered
Chambers	2	231	No USACE studies done for Texas yet.	1 day	None
Galveston		4,165	No USACE studies done for Texas yet		
Jefferson	1 – Salvation Army shelter	3,094 80% were from homeless population	No USACE studies done for Texas yet		County is in risk area, public unaware shelter was for last resort only
Orange		1,188	No USACE studies done for Texas yet		

Note: Texas evacuating counties (Chambers, Jefferson, Orange and Galveston) do not shelter evacuees within their boundaries. Evacuees are instructed to move inland away from the coast, to safer locations before stopping at shelters or hotels. Angelina and Nacogdoches Counties are primary shelter locations for the Sabine Study Area (Jefferson, Orange and Chambers Counties).