

# Unusual Mortality Events (UMEs) Involving Bottlenose Dolphins in the Gulf of Mexico

The National Oceanic and Atmospheric Administration (NOAA) did not start declaring UMEs until 1991, one year after 367 dolphins stranding in the northern Gulf of Mexico.<sup>1</sup> Since 1991, 15 of the 53 UMEs it has designated have occurred in the Gulf. Eleven of these events involved cetaceans, while four were specific to manatees only. Gulf UMEs have most often been attributed to biotoxins (53 percent) and infectious diseases (7 percent); for 40 percent, however, the cause remains unknown.

Year	Species	Location	Duration	Explanation	Number
1990	Bottlenose dolphins	Northern Gulf	January – May	Undetermined	367
1991	Bottlenose dolphins	Florida (Sarasota)		Undetermined	
1992	Bottlenose dolphins	Texas	March – April	Undetermined (maybe mercury or morbillivirus)	110 <sup>2</sup>
1994	Bottlenose dolphins	Texas	February – April	Infectious disease (morbillivirus) <sup>3</sup>	220 <sup>4</sup>
1996	Bottlenose dolphins	Mississippi	November – December	Undetermined (maybe brevetoxins caused by <i>Karenia brevis</i> )	27 <sup>5</sup>
1999 – 2000	Bottlenose dolphins	Florida (Panhandle) <sup>6</sup>	August 5 1999 – May 20 2000	Biotoxins (brevetoxins caused by <i>Karenia brevis</i> ) <sup>7</sup>	152 bottlenose + 8 misc dolphins <sup>8</sup>
2004	Bottlenose dolphins	Florida (Panhandle)	March 10 – April 13	Biotoxins ( <i>Karenia brevis</i> ) <sup>9</sup>	106 + 1 misc dolphin <sup>10</sup>
2005 – 2006	Bottlenose dolphins and manatees	Florida (west coast)	July 2005 – November 2006	Biotoxins ( <i>Karenia brevis</i> )	190 + 24 misc dolphins <sup>11</sup>
2005 – 2006	Bottlenose dolphins	Florida (Panhandle)	Sep. 2005 – April 2006	Biotoxin ( <i>Karenia brevis</i> )	89 <sup>12</sup>
2007	Bottlenose dolphins	Texas and Louisiana	February – March	Undetermined (too much decomposition)	66 <sup>13</sup>
2008	Bottlenose dolphins	Texas	February – April	Undetermined (but exposure to brevetoxins, okadaic acid, domoic acid found) <sup>14</sup>	113 <sup>15</sup>
2010 – Present	Cetaceans	Northern Gulf of Mexico	February 1 – April 29	Undetermined	114 <sup>16</sup>
			April 30 – November 2	Undetermined	122 <sup>17</sup>
			November 3, 2010 – Present	Undetermined	478 <sup>18</sup>

<sup>1</sup> <http://www.nmfs.noaa.gov/pr/pdfs/sars/ao2010dobn-gmxwco.pdf>

<sup>2</sup> <http://www.nmfs.noaa.gov/pr/pdfs/sars/ao2010dobn-gmxwco.pdf>, “about nine times the average number”

<sup>3</sup> <http://vdi.sagepub.com/content/8/3/283.full.pdf>

<sup>4</sup> <http://www.nmfs.noaa.gov/pr/pdfs/sars/ao2010dobn-gmxwco.pdf>

<sup>5</sup> Ibid.

<sup>6</sup> The historical average of bottlenose dolphin strandings for the seven Panhandle counties (Bay, Escambia, Franklin, Gulf, Okaloosa, Santa Rosa, and Walton) over the last 10 years (1995-2005) is 21.4 animals per year excluding 1999, 2000, 2004, and 2005 during which UMEs occurred (NOAA, Unpublished data [http://www.nmfs.noaa.gov/pr/pdfs/health/bottlenose\\_brevetoxins.pdf](http://www.nmfs.noaa.gov/pr/pdfs/health/bottlenose_brevetoxins.pdf))

<sup>7</sup> <http://www.nmfs.noaa.gov/pr/health/mmume/event2004.htm>

<sup>8</sup> <http://www.seadocsociety.org/files/pdfs/IAAAM-2010-Brevetoxin-Epizootiology-Gaydos-et-al..pdf>

<sup>9</sup> <http://www.nmfs.noaa.gov/pr/health/mmume/event2004.htm>

<sup>10</sup> <http://www.seadocsociety.org/files/pdfs/IAAAM-2010-Brevetoxin-Epizootiology-Gaydos-et-al..pdf> see also <http://www.nmfs.noaa.gov/pr/pdfs/sars/ao2010dobn-gmxwco.pdf>

<sup>11</sup> <http://www.nmfs.noaa.gov/pr/pdfs/sars/ao2010dobn-gmxwco.pdf>

<sup>12</sup> <http://www.seadocsociety.org/files/pdfs/IAAAM-2010-Brevetoxin-Epizootiology-Gaydos-et-al..pdf>

<sup>13</sup> <http://www.nmfs.noaa.gov/pr/pdfs/sars/ao2010dobn-gmxwco.pdf> see also <http://www.tmmsn.org/news/texasume.htm>

<sup>14</sup> <http://www.sciencedirect.com/science/article/pii/S1568988310001277>

<sup>15</sup> <http://www.nmfs.noaa.gov/pr/pdfs/sars/ao2010dobn-gmxwco.pdf>

<sup>16</sup> [http://www.nmfs.noaa.gov/pr/health/mmume/cetacean\\_gulfofmexico2010.htm](http://www.nmfs.noaa.gov/pr/health/mmume/cetacean_gulfofmexico2010.htm)

<sup>17</sup> Ibid.

<sup>18</sup> Ibid.