

## North Carolina Division of Water Quality Annual Report of Fish Kill Events 2008



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## Fish Kills in North Carolina - 2008

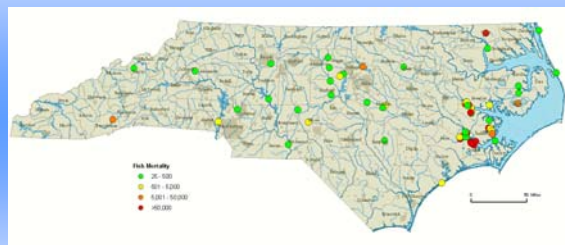
<b>Total Kill Events for 2008</b>	<b>61</b>
Freshwater Kills	29
Estuarine Kills	30
Ocean Kills	2

<b>Cumulative Mortality</b>	<b>7,554,458</b>
Estuarine Mortality	7,380,580
Freshwater Mortality	173,678
Report Mortality Range	25 to 3,969,520

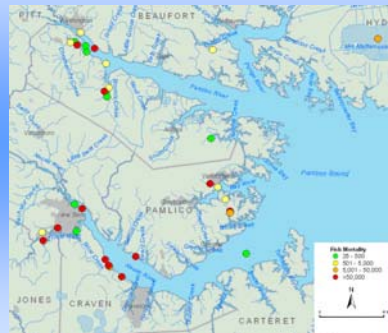
**Basins with Kill Activity** 8 (of 17)



## Fish Kills Reported to DWQ - 2008



## Fish Kills Reported to DWQ - 2008 Tar/Pamlico and Neuse River Detail



## Fish Kill Activity by River Basin – 1996 to 2008

Year	Roanoke	Cape Fear	Catawba	Cheroke	French Broad	Neuse	Lumber	Pamlico	Roanoke	Tar/Pamlico	New/Watauga	White Oak	York/John	Annual Totals
1996	None	21	None	2	None	14	4	10	2	5	None	3	1	60
1997	None	16	3	2	2	12	3	2	None	6	None	3	10	59
1998	None	22	1	1	3	8	5	8	1	5	None	1	2	58
1999	None	14	1	1	1	16	None	2	None	11	1	3	1	54
2000	None	12	2	None	None	23	2	None	None	14	None	3	2	58
2001	None	8	4	1	None	17	None	1	None	23	None	3	3	77
2002	None	8	1	2	1	9	None	6	None	8	None	3	8	66
2003	None	3	None	2	1	21	2	2	2	6	2	None	2	43
2004	None	1	None	1	None	8	1	None	1	2	None	None	3	17
2005	None	2	None	1	None	9	1	2	1	1	None	1	1	19
2006	1	5	2	None	None	10	2	None	3	2	None	None	1	28
2007	1	1	2	1	1	10	None	1	1	5	None	2	2	27
2008	None	10	2	2	2	21	None	4	None	16	None	4	1	61
Total	3	121	20	16	13	198	20	38	10	102	3	20	40	604

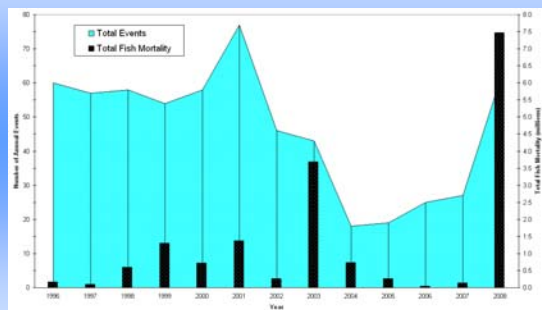
\* No fish kill reports have been received from the Hiwassee, Little Tennessee, and Savannah basins since 1996.

## 2008 Reported Fish Kill Causes

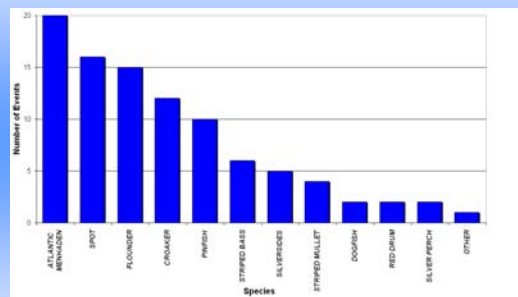
Reported Cause	Events	Mortality
Dissolved Oxygen Depletion	28	6,951,349
Unknown*	14	438,520
Spills	6	25,111
Algal/Phyto Blooms	6	132,554
Bycatch	5	1,494
Other*	2	5,430

\* "Unknown" causes were reported for those events where no specific causes could be determined  
\* "Other" fish kills included temperature and disease induced events

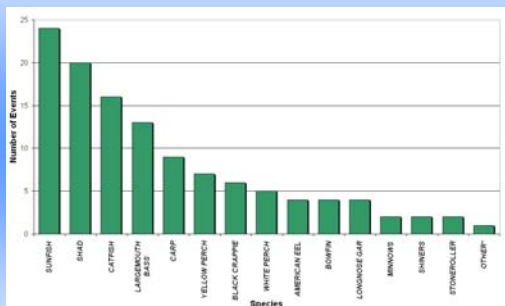
Total Annual Events and Fish Mortality



Species Reported - Estuarine



Species Reported - Freshwater



Largest Fish Kills – 2008  
(13 events where mortality > 50,000 fish)

Date	Waterbody	Location	Fish Mortality	Cause
8/6/08	Pamlico River	Swan Point	3,969,520	DO depletion
10/1/08	Brown Creek	near Whortonsville	1,125,800	DO depletion
9/30/08	Smith Creek	near Vandemere	650,000	DO depletion
8/5/08	Neuse River	Flannery Beach	531,500	DO depletion
9/9/08	Neuse River	near Fisher Landing Point	274,000	Unknown
8/8/08	Neuse River	New Bern	164,200	DO depletion
6/8/08	Neuse River	Near Fisher Landing Point	161,500	DO depletion
9/9/08	Neuse River	Kennels Beach	129,000	Unknown
8/12/08	Merchants Millpond	Entire pond	125,000	DO depletion
8/1/08	Blounts Creek	Cotton Patch Landing	83,900	DO depletion
8/2/08	Chocowinity Bay	Cypress Landing Docks	77,500	DO depletion
9/22/08	Cypress Lake	near Wilson Creek	75,000	Bloom
9/6/08	Trent River	near Island Creek/River Bend	53,130	DO depletion

### Why so much kill activity in 2008 ?

- Drought conditions (saltwater intrusion) continued from 2007
  - No hydrologic "reset" prior to the 2008 season
- Localized meteorological events (wind, heavy precipitation, high temps) played greater role
- Calm weather and elevated temperatures - allowed greater stratification and DO depletion



<http://www.esb.enr.state.nc.us/Fishkill/fishkillmain.htm>

**Interactive Fish Kill Map Using Google Earth**  
<http://www.esb.enr.state.nc.us/Fishkill/fishkillmain.htm>



**Questions or Information**



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