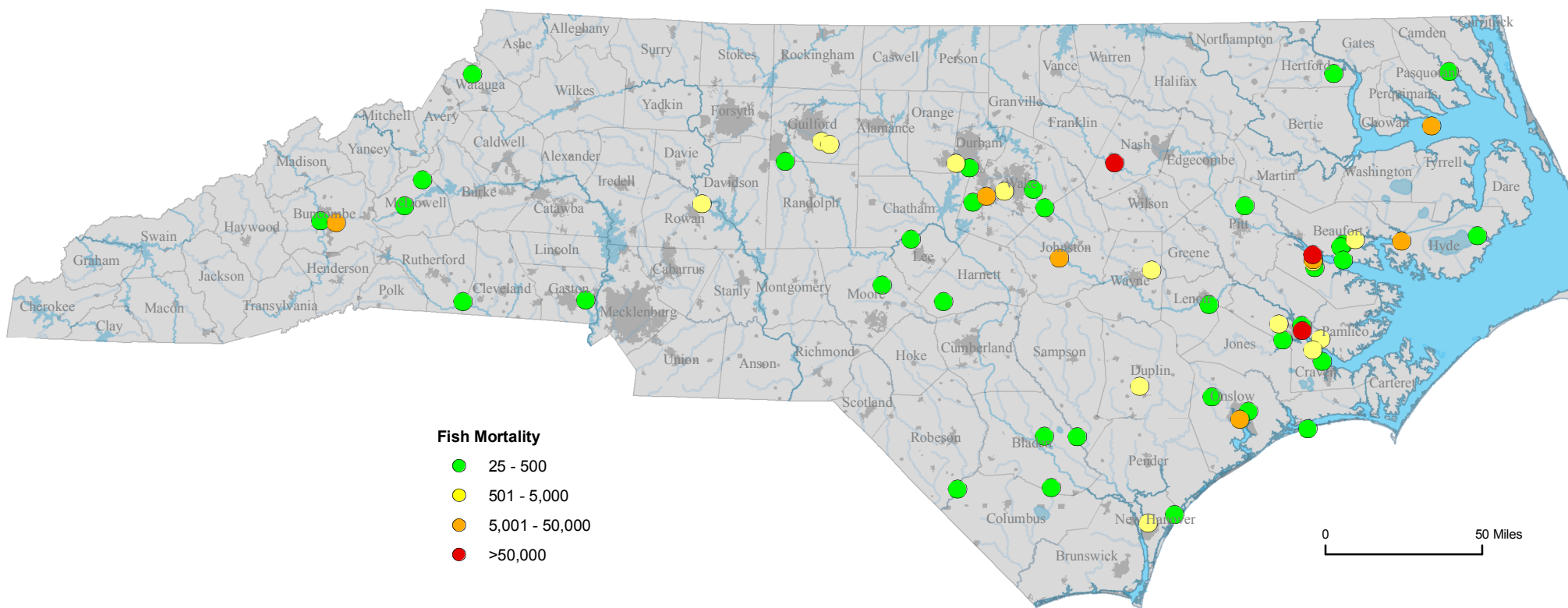


Fish Kill Events Reported to the North Carolina Division of Water Quality - 1999



1999 Fish Kill Events (by County)

Total 1999 Fish Kills: 57

Total 1999 Fish Mortality: 1298472

Date	Kill Number	Waterbody	Location	Mortality	Comments
Beaufort					
5/26/1999	WA99003	Rowland Creek	near mouth	152	Live fish seen in area at time of investigation. No sores or lesions observed. Heavy rains observed 2 days prior to event. ESB staff members found no Pfiesteria-like organisms in phyto samples.
6/13/1999	WA99005	Pungo Creek	drainage canal	2000	Kill attributed to algal bloom and possible low DO. ESB staff identified pfiesteria-like organisms at counts as high as 7500 cells/ml (most appeared autotrophic) in water samples collected from the kill area. Microtox analysis conducted by ESB staff indicated no observable toxicity in water samples. The kill event affected mostly sunfish.
6/17/1999	WA99006	Blounts Creek	Cotton Patch Landing	411	ESB staff reported pfiesteria-like cells in phytoplankton samples taken at the kill site numbering 5500-8900 cells/ml (most appeared autotrophic). Pamlico Response Team investigators suspected possible turnover in water column contributed to event.
6/29/1999	WA99007	Pamlico River	Blounts Bay/ Creek	11000	Event began around 6/28 and continued until 6/30. Most affected fish were menhaden and anchovies. ESB staff identified pfiesteria-like organisms at counts as high as 32000 cells/ml (most appeared autotrophic) in water samples collected from the kill area. Microtox analysis conducted by ESB staff indicated no observable toxicity in water samples. Low dissolved oxygen levels were observed in Blount's Creek and in Blount's Bay below the surface.
7/14/1999	WA99008	Pamlico River	Blounts Creek	765	Low dissolved oxygen levels recorded at time of investigation in Blount's Creek.
7/20/1999	WA99009	Pamlico River	Blounts Bay/ Core Point	86000	Low dissolved oxygen reported below surface (3 m) at time of investigation. Sores reported on 85-90% of menhaden individuals. Sores were 0.5 cm in diameter and were located on the sides of most fish. ESB staff identified pfiesteria-like organisms in water samples collected from the kill area. Counts ranged from 47-431 cells/ml (most appeared autotrophic) . NCSU reported pfiesteria-like cells ranging from 100 to 415 cells/ml.
7/22/1999	WA99010	Pungo River	Dowry Creek to ICW	15800	Low dissolved oxygen reported below surface (3 m) at time of investigation. Sores reported on 90% of menhaden individuals. Sores were 0.5 to 1cm in diameter. Affected fish were 60 to 70 mm and appeared dead for 1 to 2 days. Larger menhaden caught outside kill area on same day showed only 1% with sores. ESB staff identified pfiesteria-like organisms in water samples collected from the kill area. Counts ranged from 565-792 cells/ml. All cells appeared to be obligate autotrophic photosynthetic dinoflagellates.
8/21/1999	WA99016	Boyd Creek	near mouth	54	Thunderstorms reported days prior. Possible algae bloom at time of investigation (water had yellow green surface film.)
10/3/1999	WA99021	Pamlico River	near Gar Gut	122	Low dissolved oxygen levels were measured at time of investigation below water surface.

Total Kills for County: 9

Total Mortality for County: 116304

Date	Kill Number	Waterbody	Location	Mortality	Comments
Bladen					
6/14/1999	FA99003	White Lake		200	Investigators observed detritus and fragmented vegetation around shoreline in the area of the kill. Hot and dry conditions preceded the event. Water described as murky and light-green. DO within acceptable range at time of investigation. Cause unknown.
Total Kills for County: 1 Total Mortality for County: 200					
Brunswick					
8/18/1999	WL99007	Atlantic Ocean	Yaupon Beach	1000000	Jule Wheatley of Beaufort Fisheries reported purse boats had too many menhaden in nets, and decided to release some. Those released washed up on shore over about a 4-mile stretch of oak island in Brunswick county.
Total Kills for County: 1 Total Mortality for County: 1000000					
Buncomb					
9/10/1999	AS99004	Swannanoa River	near Oteen	5345	Kill event caused by broken water main and resulting discharge of chlorinated water. Elevated chlorine detected near break at time of investigation.
11/8/1999	AS99005	Smith Mill Creek	unnamed tributary	500	Fingerling sized fish affected. No cause given.
Total Kills for County: 2 Total Mortality for County: 5845					
Camden					
8/17/1999	WA99014	Pasquotank River	near Chantilly	150	Observed temperatures (31.5C) were much higher than avoidance temperatures reported for striped bass (24-26C). Loss of thermal refugia and/or stress reported as possible cause for mortality. Dissolved oxygen reported in acceptable range at time of investigation.
Total Kills for County: 1 Total Mortality for County: 150					
Carteret					
12/2/1999	WL99008	Archer Creek	Emerald Isle	200	Investigators reported low temperatures/temperature change as a possible cause. All affected fish were small (less than 3 inches).
Total Kills for County: 1 Total Mortality for County: 200					
Craven					
5/23/1999	WA99002	Upper Broad Creek		1190	Phytoplankton samples collected during the kill showed presumptive Pfiesteria-like dinoflagellate counts by ESB staff ranging from 210 to 413 cells/ml. Similar counts were observed by NCSU staff. DO readings taken at kill site at time of investigation were within acceptable ranges. Mixing of DO stratified layers at Neuse Marker 11 observed on the eveining of 5/23. NCSU fish bioassay performed with water samples was negative within a 21 day cutoff period.
6/1/1999	WA99004	Neuse River	near Carolina Pines	205	Kill was composed of nearly all crabs. Investigators believe the kill took place 2-3 days earlier. Crabs and fish were severely decayed. Live crabs and fish were observed at the site showing no signs of distress. No lesions were present on dead crabs or fish. Dissolved oxygen was within acceptable range at time of investigation.

Date	Kill Number	Waterbody	Location	Mortality	Comments
7/23/1999	WA99011	Neuse River	Neuse Harbor	3100	Low dissolved oxygen reported around Neuse Harbor area. Greatest concentration of dead fish was observed in Neuse Harbor area. Most flounder were seen around Johnson Point. 400 blue crab affected in addition to fish.
8/3/1999	WA99012	Tributary to Trent River	Lochbridge Pond	190	Algal bloom associated with kill. Water reported as discolored with a surface film. Low dissolved oxygen measured in pond. Hot,dry weather prior to event.ESB staff identified an extremely dense bloom of the green alga Chlorella vulgaris which tends to be found in small lakes and ponds-especially common when organic matter is present (decaying fish).
8/4/1999	WA99019	Neuse River	Neuse River Campground	300	Low dissolved oxygen reported as cause. Fish were observed gasping at the surface and crabs were trying to leave the water.
8/5/1999	WA99017	Neuse River	New Bern (R.R. Trestle)	114000	Low dissolved oxygen suspected as factor. Phytoplankton samples examined by ESB revealed a dense bloom of photosynthetic dinoflagellates (Gymnodinium nelsonii, Glenodinium, Gyrodinium, Peridinium) and euglenoids. NRRT reported that they did not find lesioned fish and that dissolved oxygen levels were measured at 200% saturation at time of investigation. ESB identified Pfiesteria-like dinoflagellates in the preservedsample totaling 873 cells/mL. None of the Pfiesteria-like cells appeared to be of the toxic form.
8/7/1999	WA99018	Bachelor Creek	near Hymans	550	Fish were reported as being a couple of days old. Fish seen in distress at the surface at time of investigation.

Total Kills for County: 7 Total Mortality for County: 119535

Duplin

6/11/1999	WL99002	Elders Creek	Keanansville	950	Kill caused by leaking waste from hog farm sprayfield. Spill was reported at 5000 gallons or more. Dissolved Oxygen observed to be very low at time of investigation.
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Total Kills for County: 1 Total Mortality for County: 950

Durham

5/3/1999	RA99002	Falcon Ridge Lake	Durham	1000	Water was described as very green and contained flecks of algae. A very dense bloom of non-toxic blue-green alga Coelosphaerium naegelianum was identified by ESB staff. Most affected fish were bluegill.
6/11/1999	RA99005	Parkwood Lake	near Durham	75	Kill apparently the result of low dissolved oxygen . Low dissolved oxygen observed at the site at time of investigation. Sunny hot conditions with no rain prior to kill.

Total Kills for County: 2 Total Mortality for County: 1075

Gaston

4/16/1999	MO99001	McAdenville Lake		90	Investigators suspected typical spring shad kill or a result of pond turnover. Heavy rain observed on day before kill.
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Total Kills for County: 1 Total Mortality for County: 90

Date	Kill Number	Waterbody	Location	Mortality	Comments
Guilford					
7/1/1999	WS99002	UT to Little Alamance Creek	Private Pond	800	Low dissolved oxygen below the surface at time of investigation. Water reported as dark and stagnant with a secchi depth around 0.1 M.
9/28/1999	WS99004	UT to Beaver Creek	Private Pond at Forest Oaks C.C.	2000	Kill was confined to only one pond. Golf course superintendent said drainage area to pond was treated with Dursban days prior to the event.
Total Kills for County: 2 Total Mortality for County: 2800					
Harnett					
5/18/1999	FA99002	Crystal Lake	Carolina Lakes	150	Rain event occurred days prior. Cause unknown.
Total Kills for County: 1 Total Mortality for County: 150					
Hertford					
10/6/1999	WA99022	Wiccacon River	Hwy 45	27	Previous water levels had been 4-5 ft higher than normal, inundating adjacent swamp waters. Mortalities were apparently caused by low dissolved oxygen levels as the waters receded. The entire Wiccacon River from headwaters to the mouth had similar dissolved oxygen readings, but most dead fish observed were located in the vicinity of HWY 45.
Total Kills for County: 1 Total Mortality for County: 27					
Hyde					
9/10/1999	WA99020	Canal near Lake Mattamuskeet	off Great Ditch Road	380	Low dissolved oxygen levels were measured at time of investigation. Event occurred after tropical storm Dennis. Some fish could not be identified.
Total Kills for County: 1 Total Mortality for County: 380					
Johnston					
6/7/1999	RA99004	Black Creek	Holts Lake	6000	Fish kill occurred in the spillway of Holt's Lake on Black Creek. Investigators attributed kill to low dissolved oxygen levels in the kill area. Kill event followed a period of heat and no rainfall. Water in Holt's Lake was too low to flow over spillway. The kill affected mostly gizzard shad.
7/29/1999	RA99009	UT to Hannah Creek	Private Pond	400	Low dissolved oxygen observed at time of investigation. Hot, dry conditions prior to event.
Total Kills for County: 2 Total Mortality for County: 6400					
Lee					
3/2/1999	RA99001	Deep River	near Cumnock	250	Ammonia spill reported in area days prior. All sunfish affected were very small. Cause unknown.
Total Kills for County: 1 Total Mortality for County: 250					

Date	Kill Number	Waterbody	Location	Mortality	Comments
Lenoir					
2/26/1999	WA99001	Neuse River	Peachtree Swamp Area near Kinston	60	Dense eutrophic pond bloom reported from analysis of algal samples. Nothing found that might be toxic. Bloom may have contributed to kill.
Total Kills for County: 1 Total Mortality for County: 60					
Mcdowell					
4/6/1999	AS99001	Mackey Creek	Below US-70 Bridge	125	Fish kill occurred from Hwy 70 Bridge at Metals Industries discharge downstream to confluence with the Catawba River. Some fish seen floating in the Catawba R. Only silver redhorse found dying. Effluent seen flowing from PVC pipe to creek. Investigators suspected toxic event.
8/18/1999	AS99002	North Fork Catawba River	below Limekiln Creek	100	Fish reported as acting erratic and lethargic. Discolored water reported below American Coats outfall on Limekiln Creek.
Total Kills for County: 2 Total Mortality for County: 225					
Moore					
5/19/1999	FA99001	Lake Luke Marion	Moore Co. Govt. Complex	300	Fish kill reported in conjunction with algal bloom. Algal analysis revealed a dense bloom of the blue-green alga Aphanizomenon flos-aquae (78% of sample density). This species has been known to include toxic strains. Bacterial toxicity assays (Microtox™) were run on this algal sample on May 21st and again on May 25th. The tests revealed that some toxicity was present in the sample and that toxicity in the sample was reduced on May 25th. No disease observed on fish. Elevated pH and surface DO observed at time of investigation. Green-yellow color observed throughout water column.
Total Kills for County: 1 Total Mortality for County: 300					
New Hanover					
3/12/1999	WL99001	Burnt Mill Creek	Wilmington	2000	All fish observed on the bottom at time of investigation, none in distress. Water quality readings appeared normal at time of investigation. Follow up inspections on 3/13 showed live fish in affected part of stream. Some chlorine detected in stream on 3/13 but not reported as cause. Possible one-time discharge of a toxicant was suspected.
12/3/1999	WL99009	Pages Creek	near Porter's Neck	175	Investigators reported low temperatures/temperature change as a possible cause. All affected fish were small (less than 3 inches) and located on the bottom. They could not be retrieved for inspection.
Total Kills for County: 2 Total Mortality for County: 2175					
Onslow					
7/26/1999	WL99004	New River	Morgan Bay	8000	Kill appeared initially related to algal bloom event, however fish mortality continued to occur from 7/26 to 7/30 for unknown reasons. Net marks were reported on as much as 10% of the affected fish suggesting released bycatch may have been involved. Most affected fish were Pinfish. ESB identified Pfiesteria-like cells in water samples and when viewed under fluorescence they glowed as obligate photosynthetic autotrophs (no toxic forms of Pfiesteria). The ESB presumptive counts for Pfiesteria-like dinoflagellates in the preserved samples were as high as 1887 cells/mL.
8/2/1999	WL99005	Springs Lake	near Catherine Lake	250	Pond almost dry at time of investigation. DLR requiring study to determine effects from nearby Martin Marietta quarry on pond levels.

Date	Kill Number	Waterbody	Location	Mortality	Comments
8/5/1999	WL99006	Little Northeast Creek	above NC-24 bridge	200	Low dissolved oxygen observed at time of investigation. Water described as having a brown color. Phytoplankton samples examined by ESB revealed a dense bloom of dinoflagellates and chrysophytes, and all Pfiesteria-like cells viewed under fluorescence glowed as obligate photosynthetic autotrophs (no toxic forms of Pfiesteria). The ESB presumptive counts for Pfiesteria-like dinoflagellates in the preserved samples were 402-559 cells/mL.
Total Kills for County: 3 Total Mortality for County: 8450					
Pender					
6/21/1999	WL99003	Trib to Long Creek	Harrell Pond	200	Low dissolved oxygen observed in pond at time of investigation. Dissolved oxygen levels in normal range in pond tributaries. Some small minnows observed alive and swimming normally. No spills observed or reported.
Total Kills for County: 1 Total Mortality for County: 200					
Perquimans					
8/20/1999	WA99015	Albemarle Sound	32 bridge to Wade Point	21000	Reports of dead striped bass reported 1 week before investigation. Fish at time of investigation appeared to be 1-4 days old. Dissolved oxygen in acceptable range at time of investigation. Observed temperatures were much higher than avoidance temperatures reported for striped bass (24-26C). See report WA99014. Algal blooms identifies at two stations with dead fish. ESB identified no Pfiesteria organisms in samples.
Total Kills for County: 1 Total Mortality for County: 21000					
Pitt					
8/8/1999	WA99013	Grindle Creek	Staton	86	Low dissolved oxygen reported at kill site at time of investigation. Fish first found on 8/2, and looked to be 3-4 days old. Heavy rain event prior to kill. Bank vegetation clearing occurring in area.
Total Kills for County: 1 Total Mortality for County: 86					
Randolph					
6/29/1999	WS99003	Muddy Creek	near Archdale	200	Sewer overflow reported in area. Most affected fish were sunfish and chubs. Cause not specified.
Total Kills for County: 1 Total Mortality for County: 200					
Rowan					
8/2/1999	MO99002	Grants Creek	Ponds near Spencer WWTP	2000	Fish found in two lakes. Both were shallow impoundments with littleflow in or out. Elevated dissolved oxygen levels measured at time of investigation. Fish appeared dead at least 2 days. Investigators suspected algal bloom caused kill event.
Total Kills for County: 1 Total Mortality for County: 2000					
Rutherford					
7/28/1999	AS99003	Second Broad River	near Cliffside	100	Hot, dry conditions prior to kill.
Total Kills for County: 1 Total Mortality for County: 100					

Date	Kill Number	Waterbody	Location	Mortality	Comments
Sampson					
8/7/1999	FA99004	South River	Ennis's Bridge near Kerr	50	Low dissolved oxygen reported in some areas at time of investigation. Hot dry conditions prior to event.
Total Kills for County: 1 Total Mortality for County: 50					
Wake					
4/5/1999	RA99006	Simmons Branch	White Oak Pond	1000	Most affected fish were sunfish. Fish samples showed no evidence of bacterial, protozoan, or fungal etiology. Fish suspected of dying from some disturbance in water quality. Chloropyrifos and 2,4D were detected in water samples from the kill site. Chloropyrifos was detected near toxic levels for bluegill sunfish (2.6 ug/L).
4/25/1999	RA99003	Williams Creek	Detention Pond	6000	Kill caused by the replacement of most of detention pond water with potable Cary city water released from a water main break. Investigators attribute fish death to high concentrations of chloramine in the potable water.
5/20/1999	RA99007	UT to Crabtree Creek		350	Water quality measurements were within acceptable limits during the investigation. Fish appeared to have been dead for sometime. Some fish displayed lesions in the pectoral and caudal regions (0.5 - 1.0 cm). Cause unknown.
7/14/1999	RA99008	UT to Beaver Creek	Private Pond	200	Low dissolved oxygen measured in pond at time of investigation. Pond was over enriched from recent fertilization by owner. Duckweed covered entire surface.
8/17/1999	RA99010	UT to Neuse River	Private Pond near Auburn	100	Kill event was reported as being the result of high water temperatures and low dissolved oxygen. Hot dry conditions reported prior to kill. Low dissolved oxygen was measured at time of investigation.
Total Kills for County: 5 Total Mortality for County: 7650					
Watauga					
3/31/1999	WS99001	Sharp Creek	near Amantha	120	Kill was reported caused from the washing out of three 55-gallon drums of Percol by private party.
Total Kills for County: 1 Total Mortality for County: 120					
Wayne					
10/19/1999	WA99023	Bear Creek	Private Pond	1500	Fish seen gasping at surface the day before kill. Low dissolved oxygen was suspected as cause.
Total Kills for County: 1 Total Mortality for County: 1500					