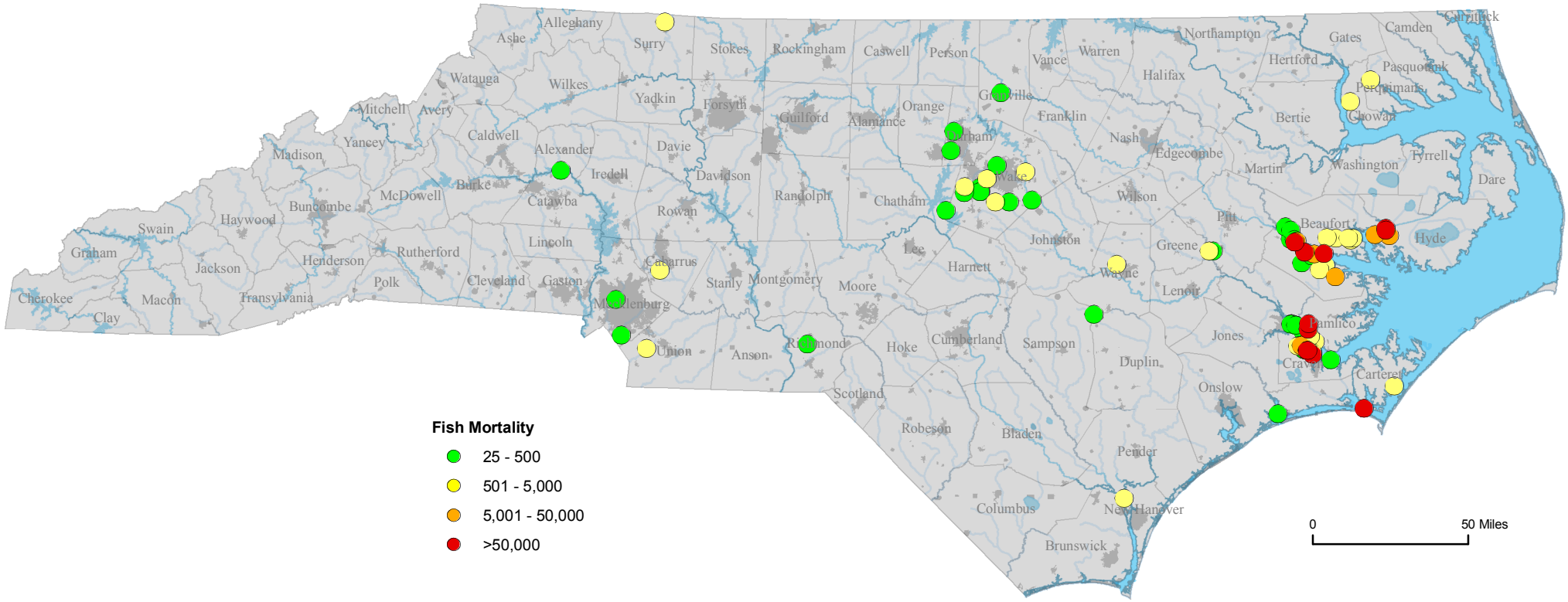
Fish Kill Events Reported to the North Carolina Division of Water Quality - 2001



2001 Fish Kill Events (by County)

Total 2001 Fish Kills: 80

Total 2001 Fish Mortality: 1369692

Date	Kill Number	Waterbody	Location	Mortality	Comments
Beaufort					
6/4/2001	WA01004	Bath Creek	headwaters to Glebe Creek	2594	Heavy rains came through the area Friday, June 1, and Saturday, June 2 dumping approximately 2 inches of precipitation. It is speculated this large amount of rain washed out near by swamps and upper tributaries, creating a large area of annoxic water. Most all fish had cloudy eyes, were bloated, and had paled in color. They are estimated to be about 2 days dead. No fish appeared to have been diseased. Healthy menhaden were caught in the area of the kill. Bath Creek and Glebe Creek water samples both contained high densities of algae (tiny nondescript chrysophyte flagellates, small greens, a couple of cryptomonads) and largeclumps of photosynthetic dinoflagellates No potentially toxic species were observed.
7/3/2001	WA01006	Pamlico River	Crystal Beach	13775	USGS real time monitors at Core Point showed a dissolved oxygen crash on June 2nd. Water quality readings were within the 'normal' range at the time of investiagation. Residents at Billy K's fishing camp said that the fish started to show up the evening of June 2 after the wind changed direction. At the time of investigation fish were washed up on the beach and stuck in the grasses close to shore. Fish species included menhaden with less than 10% lesions. Other fish species dead at kill, bluefish, spot, croaker, silver perch, yellow perch, menhaden, sunfish, flounder, gar.
7/10/2001	WA01011	South Creek	Jewell Point	7275	The kill was discovered during routine sampling. It is suspected this kill is related to the low levels of DO and extremely high water temperatures. No schools of menhaden were seen in the 3 mile kill area, however, some schools were observed further downstream at the mouth of the creek. Diseased fish may have not been able to keep up with other schools that traveled to waters with better conditions.
7/11/2001	WA01012	Pamlico River	Whichard's Beach to Core Point	80412	The kill extended for 9 river miles. 90% of the fish were lesioned. Numerous schools were seen in the area. Extremely warm waters (87 degrees) and low dissolved oxygen concentrations are believed to have contributed to the kill. Presumptive Pfiesteria- like cell counts from water samples taken in area by ESB ranged from 93 to 652 cells/ml; Pfiesteria- like cell counts in water samples sent to NCSU numbered 80 cells/ml. None of the Pfiesteria-like cells appeared to be of the toxic form.
7/18/2001	WA01018	Pamlico River	Fork Point to Duck Creek	61350	While out on ambient run PRRT staff found several fish floating on surface, also received several calls from citizens regarding dead fish with sores on water. Investigators found kill area to be from Channel Marker #14 below Fork Point downstream to Duck Creek. Samples for Dr. Burkholder (NCSU), E. Fensin (ESB), and Dr. Rublee (UNC-G) were taken in Blount's Bay just off shore of the Scout Camp where fish were seen dying. As many as 90% of menhaden had lesions which appeared clean as well as containing fungal growth. Overall of the area during the ambient run had low oxygen below 2 meters and a possible algae bloom was occuring at the location where samples were taken. Investigators suspected this kill was ongoing and low DO was a major factor.
7/18/2001	WA01016	Pungo River	near Leechville at end of SR-	87180	Investigators received a report of dead fish in the area the previous day. However, the majority of the fish seen at the time of the investigation were < 5 hr old. All the fish examined closely had lesions. The water in and around the kill zone was well mixed with no apparent hypoxia. Investigators saw scattered freshly dead menhaden for several miles downriver of the kill zone, but no dead menhaden upriver of the kill zone. A check of an automated monitor in the area showed surface DO levels to be adequate for several days prior, however, bottom DO levels were diurnally cyclic.
7/25/2001	WA01020	Pungo River	near Satterthwaite Point	132256	Concerned citizen reported dead menhaden on the Pungo River. 132,256 fish were found over a 4.4 mile stretch from Dowry Cr. to ICW. This kill zone covered the same area as the previous week's kill on 7/18/01. DO levels were 'normal' at time of investigation and 90% of fish had lesions. USGS monitor showed a 5 ppt. shift in salinity on 7/23/01.

Date	Kill Number	Waterbody	Location	Mortality	Comments
8/6/2001	WA01027	Pungo Creek	near NC-99 Bridge	1383	The fish were 12 -24 hr old and only about 10% had lesions. DO in the shallow waters of the kill zone wasn't low and an algae bloom was present. Bottom DO in nearby deeper waters was hypoxic.
8/8/2001	WA01029	Pungo River	near Dowry Creek	20400	Fish were found on way to another investigation. Fish seemed to be contained in slick of brown film, there was no odor from film and samples of film were taken. Menhaden did not have any sores or lesions. Water column was stratified and DO levels at the bottom were less than 1ppm.
8/8/2001	WA01030	Pungo River	near NC-99 Bridge	4590	Schools of live fish were seen swimming into the canals at CB's marina on the evening preceding the kill and were found dead the next morning in the canals and spilling into Pungo creek. DO levels in the canals and in the creek at the time of the investigation appeared normal.
8/9/2001	WA01031	Harvey Creek	near SR 1339	894	Construction workers in the area of the kill reported seeing fish "popping up to the surface" in late morning. Last rain event in the area was at least a week prior to the kill. High water temperatures (greater than 30 C throughout the water column, ~35 C on the surface) combined with hypoxic bottom conditions (DO less than one) are suspected to have trapped and killed the fish in this shallow creek.
8/13/2001	WA01033	Pungo Creek	near Graveyard Point	4000	Due to telecomunication problems this call was not received until 8/13/01. Upon investigation of this kill on 8/13/01 fish had been washed up on to shore, making it difficult to make an accurate count due to an inaccessibility of the shore. Water quality readings were with in 'normal ' ranges, with the exception of the last 0.5m of water where the DO levels were less than 1. High surface temps, and low oxygen levels were suspected as a cause for the event.
8/13/2001	WA01034	Durham Creek	near Bogus Point	2410	Fish had died by time they were seen by caller on Sunday around 5:00 pm. The fish floated into patches of grass along shore. Prior weather conditions were hot, humid and dry which caused the water temperatures on the surface of much of the Pamlico river, and it s tributaries to rise +30°C, and DO levels at the bottom of the water colum were low. Investigators believe that these conditions caused the kill.
9/24/2001	WA01037	Pamlico River	Canal near Wichard's Beach	500	Fish w/lesions, actively dying and dead within the last 8 hours, were observed in canals between Fork Point and Whichard Beach. Only a few fish were found at mouth of canals and in the river. Bioassays conducted by NCSU indicate that samples were negative for toxic Pfiesteria.
9/26/2001	WA01039	Unamed Tributary	Near Minuteman Road,	54	Fish died from an apparent lack of DO and appeared to be 1-2 days old. A city worker reported the kill and said the manhole near the ditch had overflowed a few weeks prior. No overflow spill had been reported to the regional office however.
9/27/2001	WA01040	Pamlico River	Blounts Bay	4245	Fish were seen struggling at the surface and others had been dead for 24 hr. Approximately 60 % of dead fish had lesions. Plenty of healthy fish seen schooling in the area and cast-netting showed 10 % with lesions. DO levels were normal. Algal samples were analyzed by DWQ under fluorescence and all Pfiesteria-like dinoflagellates observed glowed as autotrophs and not as toxic Pfiesteria.
9/28/2001	WA01043	Blounts Creek	near Elizabeth Chapel	470	Caller reported seeing lots of fish rafted up around his bulkhead around 11:00 am. At time of investigation DO was low on surface and the bottom at some stations. Fish were dead and dying at the time of investigation. About 60 % of fish were observed with lesions. Algal samples were analyzed by DWQ under fluorescence and all Pfiesteria-like dinoflagellates observed glowed as autotrophs and not as actual Pfiesteria. A few of the samples split with Parke Rublee turned out to be positive for Pfiesteria shumwayae. All of these samples had very low concentrations of Pfiesteria-like cells and didn't pass the NCSU lab's presumptive count tests. Preliminary analyses conducted by NCSU indicate that samples were negative for toxic Pfiesteria.
10/4/2001	WA01045	Pamlico River	near Runyon Creek	119000	Lesioned menhaden were found in dead, dying, and swimming in schools. DO at the time of investigation was within "normal" range. Algal samples were analyzed by DWQ under fluorescence and almost all Pfiesteria-like dinoflagellates observed glowed as autotrophs and not as toxic Pfiesteria. Preliminary analyses conducted by NCSU indicate that samples were negative for toxic Pfiesteria.

Date	Kill Number	Waterbody	Location	Mortality	Comments
10/24/2001	WA01048	Pamlico River	near Shady Banks	6500	Menhaden reported washed up on residents shore on North side of River. Fish found dying in main body of river and SW wind had pushed them on to shore on north side. Most fish had lesions. White fungal growth reported on some lesions. Water conditions at time of investigation were "normal". Algal samples were analyzed by DWQ under fluorescence and all Pfiesteria-like dinoflagellates observed glowed as autotrophs and not as toxic Pfiesteria. Preliminary analyses conducted by NCSU indicate that samples were negative for toxic Pfiesteria.
12/6/2001	WA01049	Runyon Creek	Washington	150	Salinity levels in the creek were extremely elevated due to the lack of rain the past few months. Most all species affected prefer more freshwater conditions.
12/8/2001	WA01050	Durham Creek	Bonnerton	736	Due to the lack of recent rains, salinity levels in the uppermost reaches of the creek are extremely elevated. Apparently freshwater species are becoming stressed and dying in these conditions.
12/11/2001	WA01052	Chocowinity Bay	Cypress Landing Marina	83	Salt was believed to have killed these freshwater fish. Samples for a possible winter bloom were taken and awaiting results. ESB staff confirmed a large bloom of Karlodinium micrum (Gyrodinium galatheanum) in water samples from the vicinity of the event.
12/31/2001	WA01054	Nevil Creek		444	Salinity levels were extremely high in the usually freshwater creek due to recent lack of rains. These levels are thought to be the reason for the kill of mostly freshwater fish.
					Total Kills for County: 23 Total Mortality for County: 550701
Cabarrus					
6/19/2001	MO01002	Frank Liske Park Lake		700	Marla Chambers with NCWRC informed The Mooresville Regional Office (MRO) June 19, 2001 of the fish kill at Frank Liske Park in Concord, NC. Chambers suspected an algal bloom as being the cause. (MRO) did not investigate the fish kill.
					Total Kills for County: 1 Total Mortality for County: 700
Carteret					
6/22/2001	WL01003	UT to Core Sound	near Davis	1000	Water reported as turbid with suspended particles, possibly associated with adjacent fish packing operation. A dark surface film was also reported. Many dead fish appear to have been scavenged by seagulls by the time of the investigation. Elevated dissolved oxygen levels were observed by investigators. ESB staff identified an algal bloom of Chattonella in water samples at 3.37million cells/L.
12/8/2001	WA01051	Taylors Creek	Beaufort	161780	Investigators observed dead and dying fish in the creek around the 1600 block in Beaufort. The majority of the fish were juvenile pinfish with a few juvenile flounder and mullet. Dead and dying juvenile spot, mullet, and flounder were also observed at the public boat ramp by Beaufort Fisheries. Investigators reported an obvious oil sheen on the surface along with globs of organic material. Beaufort Fisheries was investigated for unpermitted discharge. Upon investigation of the plant there were many leaks coming from the Menhaden holding vats. The leaking material which consisted of fish oil, fats, and blood emitted a large ploom into Taylors Creek. Investigators took a range of samples (BOD, TSS, Nutrients, and Oil and Grease) from the dock and one other point where the vats were leaking directly into the creek. Water samples were taken from one point above and one point below Beaufort Fisheries. After counts were made it is estimated that 161783 fish were killed.
					Total Kills for County: 2 Total Mortality for County: 162780

Date	Kill Number	Waterbody	Location	Mortality	Comments
Catawba					
7/11/2001	MO01003	Lake Hickory	near dam	250	Fish kill was limited mainly to yellow perch. No evidence of algal bloom was present at time of investigation. Most dead fish seen around dam area.
					Total Kills for County: 1 Total Mortality for County: 250
Chatham					
6/18/2001	RA01009	Rush Pond	near Bonsal	160	Pond located near mulching operation. Investigators reported leachate discharge and irrigation system problems associated with the operation. Lemna sp. reported covering the pond surface.
					Total Kills for County: 1 Total Mortality for County: 160
Chowan					
7/3/2001	WA01008	Rockyhock Creek	SR - 1222	3000	Creek was reported as being very stagnant with two thirds of the surface covered in duckweed. Low dissolved oxygen was measured at time of investigation.
					Total Kills for County: 1 Total Mortality for County: 3000
Craven					
5/26/2001	WA01003	Duck Creek		68	Fish were estimated 4 days old. Mainly catfish found with only two individuals of other species. An investigation several days after the initial investigation showed a mild algae bloom in the same area. Algal bloom samples were taken, and dissolved oxygen levels on the bottom of the basin were around 1.0 . The area where the fish were found was a proposed marina that was never developed off of the main creek with one connection to the creek (low flushing capabilities). Dissolved oxygen was possible cause of the fishkill, but investigation was too long after the actual kill to truly determine the cause.
6/13/2001	WA01005	Neuse River	Flanner Beach to Carolina Pines	150000	Dead fish (mixed species) were found along the beach in a 7 mile stretch from the Otter creek area to the Slocum creek area. Dead fish were also found in the water around the Carolina Pines area and in an area located in the middle of the Neuse River halfway between Carolina Pines and Kennels Beach. No lesions were found on any of the dead fish observed. Estimates made of dead fish in the water were difficult due to windy conditions which contunually moved fish which were being counted. Most fish appear to have died on the southern shore around the Carolina Pines/Slocum Creek area and were blown upstream and across the Neuse River by southeasterly winds. NRRT monitored stratified conditions exhibiting low dissolved oxygen levels close to the bottom layer of the water column for approximately two weeks prior to the event. Low dissolved oxygen levels throughout the water column caused by mixing is the suspected cause of this fishkill.
7/7/2001	WA01009	Neuse River	Neuse Harbor	72	Neuse River ResponseTeam members received a call reporting approximately 100 menhaden dead on the beach at the Neuse Harbor subdivision. At the time of the invetigation 72 fish were found and 40 crabs. Based on the appearance and decomposition of the fish it is likely that the fish kill occurred late in the evening on 7/4 or early 7/5. Given the approximate age of the fish no samples were collected and no physical measurements made as they would not have been relevent to the condtions during the kill.
7/8/2001	WA01010	Neuse River	Fisher's Landing Point	1440	Neuse Riverkeeper Tom Jones notified NRRT of dead fish at Fisher Pt Landing. The upstream end of the fishkill was determined to be at SR 1112, total distance included in the kill was 1 mile. Menhaden observed dead were greater than 48 hours old, and predation had occurred. No physical measurements were taken due to the age of the kill.

Date	Kill Number	Waterbody	Location	Mortality	Comments
7/12/2001	WA01013	Neuse River	SR1112 to Fisher's Landing Point	2280	At the time of the investigation the fish appeared to be around 12 hours old. Water temperatures have been in the high 80s to low 90s in the shallows for the past several days. Menhaden caught by castnetting in the area looked good showing about 10% lesions. The prime factors for this event seem to be unfavorable environmental conditions (high temp and low DO the past few days) and compromised fish. Presumptive Pfiesteria- like cell counts from water samples taken in area by ESB numbered 140 cells/ml. None of the Pfiesteria-like cells appeared to be of the toxic form.
7/16/2001	WA01014	Goose Creek	near mouth	2900	High surface temperature probably played a role in the death of the fish. The fish that were present in that area were subjected to water temperature over 30 degrees centigrade. Schools that were sampled in that area showed about 15 percent with lesions.
7/17/2001	WA01015	Neuse River	Flanner's Beach	50	Fish were found along the shoreline at Flanners beach and had been out of the water for several hours. They appeared to be at least 24 hours old and were beginning to decay. Exact cause of death is unknown. High water temperatures were measured in vicinity of the dead fish.
7/18/2001	WA01019	Neuse River	near Carolina Pines	510	Dead fish were found along a windrow, which had collected the fish as well as dead plant material. Prevailing southerly winds for the days leading up to the investigation could have blown the fish away from the shoreline. The fish were at least 36 hours old and were severely decayed. All menhaden had lesions. Over 95 percent of the fish observed were juvenile, and the few menhaden that were found all showed lesions. Due to the age of the fish found, exact cause of death is not known although high water temperatures were suspected to have played a role.
7/19/2001	WA01017	Neuse River	River Bluffs	22000	High water temperatures were measured in the areas close to shore where juvenile crabs were found. All of the crabs found at River Bluffs were juveniles. On 7/19 after a report of dead menhaden at the Flanner Beach area, investigations were made along the southern shore of the Neuse River. In a 3 mile area along the shoreline, 4 areas were visited and transects were made to estimate the number of dead menhaden. Along with menhaden, additional blue crabs were also counted and added to the estimates made on 7/18. All menhaden and crabs observed were juveniles. High water temperatures along with low dissolved oxygen levels were suspected as factors in the event.
8/6/2001	WA01026	Neuse River	River Bluffs	220	At the time of investigation the crabs ranged in age from about 24 hours old to several days old. Data from the USGS platform in the vicinity showed that bottom DO dropped out on Saturday night into Sunday morning. Due to the age of the event no samples or physical readings were taken. Fish and crabs were seen behaving normally at the time of investigation.
8/6/2001	WA01025	Neuse River	Flanners Beach	136	At the time of investigation the crabs involved in this kill range in age from 24 hours to several days old. Based on data from the USGS platform in the vicinity there was a loss of bottom DO that occurred Saturday night into Sunday. Due to the age of the crabs no samples or physical readings were taken.
8/6/2001	WA01024	Neuse River	Fisher Landing Point	60	The crabs seemed to range in age from about 24 hours to several days or more. Data collected in the vicinity by the USGS platform indicates that there was a loss of bottom DO Saturday night into Sunday. Due to the age of the event no samples or physical readings were taken. At the time of investigation fish and crabs were seen acting normally in the area.
8/8/2001	WA01028	Neuse River	near Carolina Pines	146000	All dead fish were found either washed up along shoreline, or close to shore. Most of the fish found were juveniles. Data from nearby platforms showed a total loss of oxygen during the previous night. Extremely high water temperatures at the surface, combined with hypoxic conditions close to the bottom are the suspected cause of this fishkill which contained over eight different species.

Date	Kill Number	Waterbody	Location	Mortality	Comments
8/10/2001	WA01032	Neuse River	Flanners Beach/ Carolina Pines	99285	A mixed species fishkill resulting from high water temps and chronic hypoxic conditions. During certain weather patterns, the southern shore (Flanners Beach and Carolina Pines areas) are in the lee side of the prevailing winds from the southwest. This, combined with shallow water, allows for little or no circulation in these areas. High water temperatures result from daytime heating, and already low oxygen levels are further worsened by high water temperatures. The juvenile fish found schooling in these shallow water areas were extremely stressed during hot conditions. Total number of fish was obtained by counting fish along 1.4 miles of shoreline, and transects made through the open water fishkill area.
8/12/2001	WA01035	Neuse River	Cherry Branch Ferry Dock	51	NRRT received a call from Cherry Branch ferry that flounder had died in the basin. Ferry dock employees noticed flounder on the surface several days prior to notifying NRRT. The flounder that were found in the basin were about 1-2 days old and had started to decay. About 150 blue crabs were found along the shoreline adjacent to the ferry basin, and they also appeared to be about 1-2 days old. Hot water temperatures and low dissolved oxygen levels had been detected by USGS monitors at channel marker #9 (just outside the ferry basin) during the previous week.
9/17/2001	WA01041	Upper Broad Creek	near mouth	175	Very large schools of Atlantic Menhaden seen congregating along the banks of Upper Broad Creek off the Neuse River. Low dissolved oxygen levels were measured by investigators in the vicinity of the schools. The menhaden that were observed dead or dying were found in areas adjacent to large schools. All other areas away from schooling fish within Broad Creek, showed significantly higher dissolved oxygen levels, and non stratified salinity levels. 5 to 10% of fish were observed with lesions.
9/21/2001	WA01036	Neuse River	New Bern	175	Investigators found 150 to 175 dead Striped Bass with gill net marks around their heads. One Chain Pickerel was also found. The fish were determined to be dead approx. 12 to 24 hours. No other water quality problems were found in the area. This kill appears to be bycatch resulting from gill netting activity in the area. No responsible party was identified.
9/25/2001	WA01038	Upper Broad Creek	near mouth	78	Upon investigation approximately 70 dead Atlantic Menhaden were counted in and around the docks and bulkhead of the Blackbeard Sailing Club. 90-95 percent of fish counted showed lesions which were in late stages. Dissolved oxygen was in the normal range, as were salinity and Ph. Schools of menhaden were observed in the vicinity of the marina.
9/28/2001	WA01042	Upper Broad Creek		78000	Neuse team discovered the fish kill during a routine fish sampling trip. The fish kill covered a distance of 3.2 miles. Fish were observed in dying, dead, and decaying stages and probably up to 48 hours old. The older dead fish have been moved around by wind and stream current and deposited in large numbers along the shoreline for the entire length of the kill. In one location fish were congregating in very high densities and hypoxic conditions occured below 2 meters. Fish may have been in such high densities that they were depleteing the oxygen. The Neuse Team has been observing high numbers of menhaden in this area for a couple of weeks.
10/3/2001	WA01044	Neuse River	Faifield Harbor Canal	309	An apparent bacteria bloom in the head or end of a a canal at Fairfield Harbor, which was stirred to the surface by strong winds, caused a net loss of oxygen throughout the water column. This mixing event distributed the bacteria from lower in the water column to the surface, which in turn created hypoxic conditions. This event lasted for approximately 24 hours and is believed to be the cause of the localized fishkill in that area. All fish appeared to have died about 48 hours before they were investigated, which coincides with the bloom event.

Date	Kill Number	Waterbody	Location	Mortality	Comments
10/5/2001	WA01046	Upper Broad Creek	near Lees Landing	123650	Upon arival at Upper Broad Creek investigators found dead Menhaden about half way between Blackbeards Marina and Lee's Landing. Investigation showed that the kill spanned for 2.8 miles, with dead fish ranging from 24-48hrs old in the lower section to currently dying fish in the upper portion. Very large congregations of menhaden could be seen on the depth finder in schools 17 ft. deep and 50 ft. long. In the areas where the fish were dying, fish were observed hemorrhaging from the eyes to the point that their eyes came out of their sockets. In this area fish were in distress and swimming irratically at the surface. Fish were found piled on both sides of the creek and out in the waterway for the entire length of the kill area. Very low disolved oxygen readings, (2.9mg/l at the surface to o.4mg/l at the bottom) in the areas of the high concentrations of fish. Outside of these areas normal disolved oxygen readings (6.0mg/l at the surface to 1.0mg/l at the bottom) were recorded. Less than 5% of fish were observed with lesions. Algal samples were analyzed by DWQ under fluorescence and all Pfiesteria-like dinoflagellates observed glowed as autotrophs and not as toxic Pfiesteria. Preliminary analyses conducted by NCSU indicate that samples were negative for toxic Pfiesteria.
10/6/2001	WA01047	Neuse River	near old 17 Bridge	31	At the time of investigation on 31 fish were found which ranged in age from 12 to 48 hours old. Based on the observations made no samples or hydrolab data were collected. Very large numbers of menhaden were seen in this area earlier that week.
12/30/2001	WA01053	Duck Creek	Duck Creek Basin	34	Mixed species kill which included non juvenile fish. Low temperatures slowed decay, kill was estimated at two days old. No evidence of net marks could be found. All physical water data appeared normal at time of investigation. Temperature shock could have resulted in the kill due to the area where the kill was. The kill occured in a deep basin which may have been stratified (temperature), and due to a drop in temperature and increased wind, the water column mixed, stressing the fish.
					Total Kills for County: 23 Total Mortality for County: 627524
Duplin					
1/2/2001	WL04001	Farm Pond	near Goshen Swamp	65	Multiple species and sizes of fish killed. No apparent lesions or evidence of parasites. Cotton defoliant sprayed during September and roundup sprayed to control alligatorweed during summer, but probably not related this fish kill as dead fish appeared to be in good condition indicating the kill was recent and probably ongoing given observations of live but stressed fish. Below the dam there was evidence of some type of oily sheen/film on top of the water.
					Total Kills for County: 1 Total Mortality for County: 65
Durham					
3/12/2001	RA01001	Ellerbee Creek	near Hillandale Golf Course	50	No comments submitted.
4/3/2001	RA01002	Matthews Lake	near Durham	110	Water quality measurements within acceptable ranges at time of investigation. Stormwater input reported from surrounding subdivision. Cause unknown.
					Total Kills for County: 2 Total Mortality for County: 160
Granville					
4/9/2001	RA01004	Private Pond	near Stem ,NC	200	Water quality parameters within acceptable range at time of investigation. Investigator reported slimy green algal mats floating on pond. Pond was also reported turbid.

Date	Kill Number	Waterbody	Location	Mortality	Comments
					Total Kills for County: 1 Total Mortality for County: 200
Greene					
7/24/2001	WA01021	Bowen Sandpit Pond	near Scuffleton	1550	Pond had low DO readings at the time of investigation. Pond was only 5 ft deep at max with dry and hot conditions. Fish were dead and decaying believed to be at least 2-3 days old.
					Total Kills for County: 1 Total Mortality for County: 1550
Hyde					
8/5/2001	WA01023	Pungo River	Scranton Creek	8150	The kill in Smith and Scranton creeks appeared to be caused by low DO. Fish in these creeks were seen struggling at the surface and DO levels < 1 mg/l was present. It's possible that a sudden wind shift from the N to the S could have inundated the creeks with swamp water causing the drop in DO levels. The S wind could have also pushed fish from the creeks into the river where more fish were seen, but where DO levels were normal.
					Total Kills for County: 1 Total Mortality for County: 8150
Mecklenburg					
5/3/2001	MO01004	Subdivision Pond	Thornhill Subdivision	400	There was a reported sewage overflow at Sallantyne Commons Parkway. The sewage discharged into a stream which feeds the pond. Charlotte -Mecklinburg Utilities agreed to restock pond.
8/17/2001	MO01005	Irwin Creek	Freedom Drive, Charlotte	300	Kill was caused by a spill of 500 gal of sodium hypochlorite at the intersection of Freedom Drive nad Morehead Roads in Charlotte. The spill site was flushed with 50,000 gallons of water by the fire department which caused runoff into Irwin Creek. Investigators reported chlorine in the creek had dissipated by 8/21.
					Total Kills for County: 2 Total Mortality for County: 700
New Hanover					
6/5/2001	WL01002	Sutton Lake		1000	Shad first observed dead at Sutton Lake boat ramp. Investigators attributed kill to rising water temperatures from the power plant start up. Lake was also at lower than normal level due to hot dry conditions.
					Total Kills for County: 1 Total Mortality for County: 1000
Onslow					
1/10/2001	WL01001	UT to White Oak River	near Swansboro	150	Tide reported extremely low at time of kill. Tidal creek reported to have dried up then iced over. Temperature measured in creek was 0.8 degrees Celsius. Fish seen resting on bottom.
					Total Kills for County: 1 Total Mortality for County: 150
Pamlico					
7/3/2001	WA01007	Neuse River	near Kennels Beach	700	Upon arrival NRRT found a mixed species fish kill spanning over a 0.2 mile stretch of Kennels Beach. Seven species of finfish and blue crabs were observed and none were observed with lesions. The total number of fish were estimated due to a large number of scavengers. Kill was attributed to low disolved oxygen levels caused by a mixing event during a change in wind direction on the afternoon of 7-02-01. Residents of Kennels Beach informed the NRRT during the investigation that fish and blue crabs were in distress around 4:00 pm. on 07-03-01.

Date	Kill Number	Waterbody	Location	Mortality	Comments
					Total Kills for County: 1 Total Mortality for County: 700
Perquimans					
4/11/2001	WA01001	Goodwin Creek	SR 1111	2000	Herring were reported 'running' 4 days previous, but the day before they slowed down considerably. Dull surface film reported on the water where fish were located. Low dissolved oxygen (DO) levels were measured below the surface. Investigators suspected swamp water draining into creek caused low DO.
					Total Kills for County: 1 Total Mortality for County: 2000
Pitt					
8/2/2001	WA01022	Private Pond	near Ayden	35	NRRT received the call on the night of 8/1/01. At the time of the investigation the kill appeared to be complete. Based on the percent saturation (125%) and the extremely discolored water it is most likely that this kill was related to low dissolved oxygen associated with an algal bloom.
					Total Kills for County: 1 Total Mortality for County: 35
Richmond					
6/11/2001	FA01001	Private Pond	near Ellerbee	75	Low dissolved oxygen observed at time of investigation. Scum layer with noticable odor observed in one corner of pond. Owner suspected foul play (dumping) but investigators suspected spring turnover.
					Total Kills for County: 1 Total Mortality for County: 75
Surry					
7/18/2001	WS01001	Lovills Creek	Mount Airy	1000	Kill was reported adjacent to a golf course but no obvious cause was determined. Healthy fish seen in area at time of investigation. Dissolved oxygen and pH readings were within normal limits.
					Total Kills for County: 1 Total Mortality for County: 1000
Union					
5/14/2001	MO01001	Private Pond	near Union	1000	Low dissolved oxygen observed at time of investigation. Pond was a turbid brownish color.
					Total Kills for County: 1 Total Mortality for County: 1000
Wake					
3/14/2001	RA01003	Kildare Farm Lake	Cary	200	Kill was caused by the lake being drained to repair an overflow valve. Dead fish were observed a week prior to the investigation.
5/29/2001	RA01006	Private pond	Riverbend Subdivision	1000	Residents report fish dying as early as 05/24/01. Fish were badly discolored and beginning to decay at time of investigation. Stomach contents of fish samples showed the presence of Dursban (chlorpyrifos) at 2.7 ppm. Investigators suspected Dursban runoff from surrounding residential construction may have caused event.

Date	Kill Number	Waterbody	Location	Mortality	Comments
6/6/2001	RA01005	Private pond	near Apex	1000	Investigatorsreported low dissolved oxygen and elevated chlorine levels at time of investigation.Water was very turbid from runoff following a recent heavy rain event. The dissolved oxygen ranged from 0.01 mg/l to 1.8 mg/l - chlorine ranged from 0.1 mg/l to 0.2 mg/l. Chlorinated drinking water was released from the Cary-Apex treatment plant after a malfunction. It is unclear which factor(s) resulted in the fish kill.
7/3/2001	RA01010	Swift Creek	McGregor Downs Lake	500	Investigators reported fish were washed over spillway and became trapped in a small pool below the lake. Low dissolved oxygen was measured in the pool at time of investigation.
7/17/2001	RA01007	Lake Wheeler		1000	Investigators suspected recent heavy rains as factor in fish kill. Area received 12" rain in 14 days.
7/20/2001	RA01011	Reedy Creek	near Cary	2000	The town of Cary reported flushing fire hydrants during the week for 20 min. The discharge may have reached Reedy Creek through the storm drain system.
7/22/2001	RA01008	Tributary to Lake Benson	off SR-2713	150	Fish were dead and decaying at time of investigation. No suspected causes were reported.
7/23/2001	RA01012	Swift Creek	Mcgregor Downs Lake	400	Swimming pool discharged 150,000 gallons of chlorinated water into the lake days prior to the event. Elevated water temperatures were observed at time of investigation. Fish were actively dying at time of investigation, but none had sores or lesions.
7/30/2001	RA01014	Private Pond	near Apex	100	Manure washed into pond following a heavy rain. Low dissolved oxygen was measured at time of investigation.
8/22/2001	RA01013	Private Pond	NE of Clayton	50	Investigators suspect kill was related to turnover in the pond after a heavy rain event. Green discolored water with surface clumps of algae were also reported.
10/23/2001	RA01015	UT to Hare Snipe Creek	Raleigh	90	A 40,000 gal sewage spill was reported upstream on 10/17. Pool backwash pipes with chlorinated discharges were also located upstream.
					Total Kills for County: 11 Total Mortality for County: 6490
Wayne					
4/20/2001	WA01002	Private Pond	Goldsboro	1302	Investigators observed severely decayed, colorless fish, that were extremly bloated. Fish had been dead approximately 1 week. Water was very tubid, there was dead algae along banks, as well as, duckweed. Wind had blown fish toward northwest banks. There appeared to have been a drop in water level over the past few days due to many fish being as far as 10 feet from the waters edge, and appearent low water. Dissolved oxygen levels were extremly low at the time of investigation and is believed to be the major cause of the kill event.
					Total Kills for County: 1 Total Mortality for County: 1302