

5.0 Permit Requirements

E.4. Illicit Discharge Detection and Elimination

Baltimore County shall maintain its illicit connection detection and elimination program to ensure that all discharges to and from the municipal separate storm sewer system that are not composed entirely of stormwater are either permitted by MDE or eliminated. The County shall follow the minimum requirements listed below or propose alternative methods for MDE approval:

- a. Field screen at least 150 outfalls annually. Each outfall having a discharge or suspected of having an illicit discharge shall be sampled using a chemical test kit;
- b. Conduct routine surveys of commercial and industrial watersheds for discovering and eliminating pollutant sources;
- c. Maintain a program to address illegal dumping and spills;
- d. Use appropriate enforcement procedures for investigating and eliminating illicit discharges, illegal dumping, and spills. Significant discharges shall be reported to MDE for enforcement and/or permitting; and
- e. Report illicit discharge detection and elimination activities as specified in PART IV of this permit. Annual Reports shall include any requests and accompanying justifications for proposed modification to the illicit discharge detection and elimination program.

5.1 Introduction

The NPDES - Municipal Stormwater Discharge Permit program required full implementation of the County's stormwater outfall screening schedule by September 30, 1997. The Standard Operating Procedures for the Illicit Connections Program was revised March 21, 2011. The recent revisions include procedures to review illicit connections found through the process of writing our small watershed action plans. The Watershed Monitoring Section of EPS is currently responsible for performing the outfall screenings, reporting screening data, and coordinating remedial actions. Specific correction measures may be the responsibility of EPS, the Department of Public Works (DPW), or both, depending upon the nature and sources of detected discharges. Certain illicit connections are referred to the Maryland Department of the Environment (MDE) for permitting or enforcement if there are indications that existing permit limits are being exceeded. Water main leaks are referred to Baltimore City Department of Public Works for correction. Because chlorine is extremely toxic to the fauna in a stream, it is of particular concern when leaks or discharges occur from the public distribution system. High volume, chlorinated leaks can go undetected or remain uncorrected for quite some time. This can affect any water quality monitoring projects being conducted downstream.

5.2 Program Status

The results of this reporting period are presented as three separate components: analysis of routine outfall screenings, analysis of illicit connection investigations conducted by WMM staff, and analysis of illicit connection investigations conducted by EPS's Regional Environmental Health Program staff. Although the regional program typically focuses on complaint-driven community hygiene issues, a small percentage of those investigations involve illicit connections.

During the calendar year 2010, the Watershed Monitoring Section of EPS staff conducted 149 routine outfall screenings in which 12 required further investigative or remedial actions. WMM staff investigated 16 citizen complaints and 45 complaints from EPS staff or other agencies. Based on an analyses of complaints investigated by EPS's regional staff from 2005-2009, approximately 13% the complaints usually involve potential illicit connections.

As revealed in the analysis in the following section, routine outfall screenings for detection of illicit connections appear to compliment citizen complaints of problems they observe. The routine outfall screenings catch the chronic problems that may be missed by the public, such as chlorine leaks from the municipal water supply.

Aside from the benefits of greater public involvement and the resolution of complaints, citizens provide surveillance at a level beyond that of the monitoring staff. A majority of the time citizens call while they are actually observing a problem and often can provide immediate local information that increases the chance of eliminating illicit connections. Some of the citizen complaints are a result of the Stream Watch program. This program allows citizens to adopt a stream, which includes tracking the health of the stream and reporting problems or potential projects they observe.

5.3 Analysis of Outfall Screenings

A routine outfall screening consists of:

- (1) A quantitative analysis of the effluent. This includes measuring the effluent flow rate, temperature and pH, and field-testing with the LaMotte NPDES test kit. This includes parts per million tests for copper, chlorine, ammonia and phenol. A qualitative assessment of the effluent, the outfall structure and the receiving channel, noting such conditions as water color, odor, vegetative condition, sedimentation, erosion, damage, etc.
- (2) A visual inspection of each outfall, noting any structural damage.

If the problem is severe enough to warrant immediate correction, then an investigation begins immediately. Some sites are determined to have problems severe enough to warrant immediate investigation and/or corrective action after only one screening.

In Baltimore County, there are approximately 3,550 total outfalls. There are two types of outfalls: major and minor. Major outfalls are >36" and minor outfalls are <36". There are 669 major outfalls in our database and 595 have been prioritized. The minor outfalls are just starting to become prioritized, 151 have been completed so far. There are a greater number of them (2,881), so they will be dealt with in phases. Concentration will be on the small outfalls in the area where the Small Watershed Action Plans (Section 7) are being focused.

Outfalls are chosen by their priority. The prioritization system works as follows: Outfalls that have not yet been screened twice have not been prioritized. Outfalls that have been screened

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three times are assigned one of three priority ratings. Outfalls with major problems that require immediate correction and/or close monitoring, or outfalls with recurrent problems will be assigned a *Priority 1 (Critical)* rating. Outfalls with moderate to minor problems that have the potential to become severe are assigned a *Priority 2 (High)* rating. Outfalls with minor or no problems that do not require close monitoring are given a *Priority 3 (Low)* rating. Outfalls categorized as “Low Priority” are on a ten-year screening cycle, “High Priority” outfalls are screened once each year, and “Critical” outfalls are screened four times each year. This system allows for a more streamlined approach in selecting outfalls to screen, and provides a more efficient use of manpower. Outfall priority may be changed if it improves or degrades. The small outfalls will be prioritized after one screening, due to there being many more of them than the major outfalls.

Table 5-1 lists the number of outfalls by watershed and by the priority classification described above. To date, 74 of the outfalls 36 inches or larger in diameter have not been sampled sufficiently to be prioritized. Additional screening effort will allow the County to assess and prioritize the status of these outfalls. Table 5-2 lists the non-prioritized outfalls by watershed.

Table 5-1: Major and Minor Outfalls by Watershed and Priority Classification

Watershed	Priority 1		Priority 2		Priority 3		Total
Upper Western Shore							
	Minor	Major	Minor	Major	Minor	Major	
Loch Raven Reservoir	0	7	1	39	0	30	77
Lower Gunpowder	0	7	0	23	1	9	40
Gunpowder River	0	0	1	0	0	0	1
Little Gunpowder Falls	0	0	0	2	0	0	2
Bird River	0	2	7	9	3	28	49
Middle River	0	3	0	7	0	5	15
Deer Creek	0	0	4	0	1	0	5
Prettyboy Reservoir	0	0	0	0	1	0	1
Total	0	19	13	80	6	72	90
Patapsco-Back River							
Patapsco River	1	3	13	13	0	63	93
Gwynns Falls	1	19	11	44	2	94	171
Jones Falls	2	5	2	19	5	30	63
Back River	5	16	53	42	34	48	198
Baltimore Harbor	0	10	2	9	0	8	29
Liberty Reservoir	0	0	0	1	1	0	2
Total	9	53	81	128	42	243	556
Grand Total	9	72	94	208	48	315	746

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Table 5-2: Non-prioritized outfalls by Watershed

Watershed			
Upper Western Shore			
	Minor	Major	Total
Loch Raven Reservoir	549	6	555
Lower Gunpowder	303	9	312
Gunpowder River	24	3	27
Little Gunpowder Falls	79	1	80
Bird River	215	5	220
Middle River	71	0	71
Deer Creek	0	0	0
Prettyboy Reservoir	0	0	0
Total	1241	24	1265
Patapsco-Back River			
	Minor	Major	Total
Patapsco River	229	5	234
Gwynns Falls	598	18	616
Jones Falls	366	11	377
Back River	205	7	212
Baltimore Harbor	60	9	69
Liberty Reservoir	31	0	31
Total	1489	50	1539
Grand Total	2730	74	2804

The locations of the prioritized outfalls and those remaining to be prioritized are shown in Figure 5-1. As can be noted from the figure, the majority of the outfalls occur within the Urban-Rural Demarcation Line. There is no consistent pattern of outfall location in relation to the prioritization category.

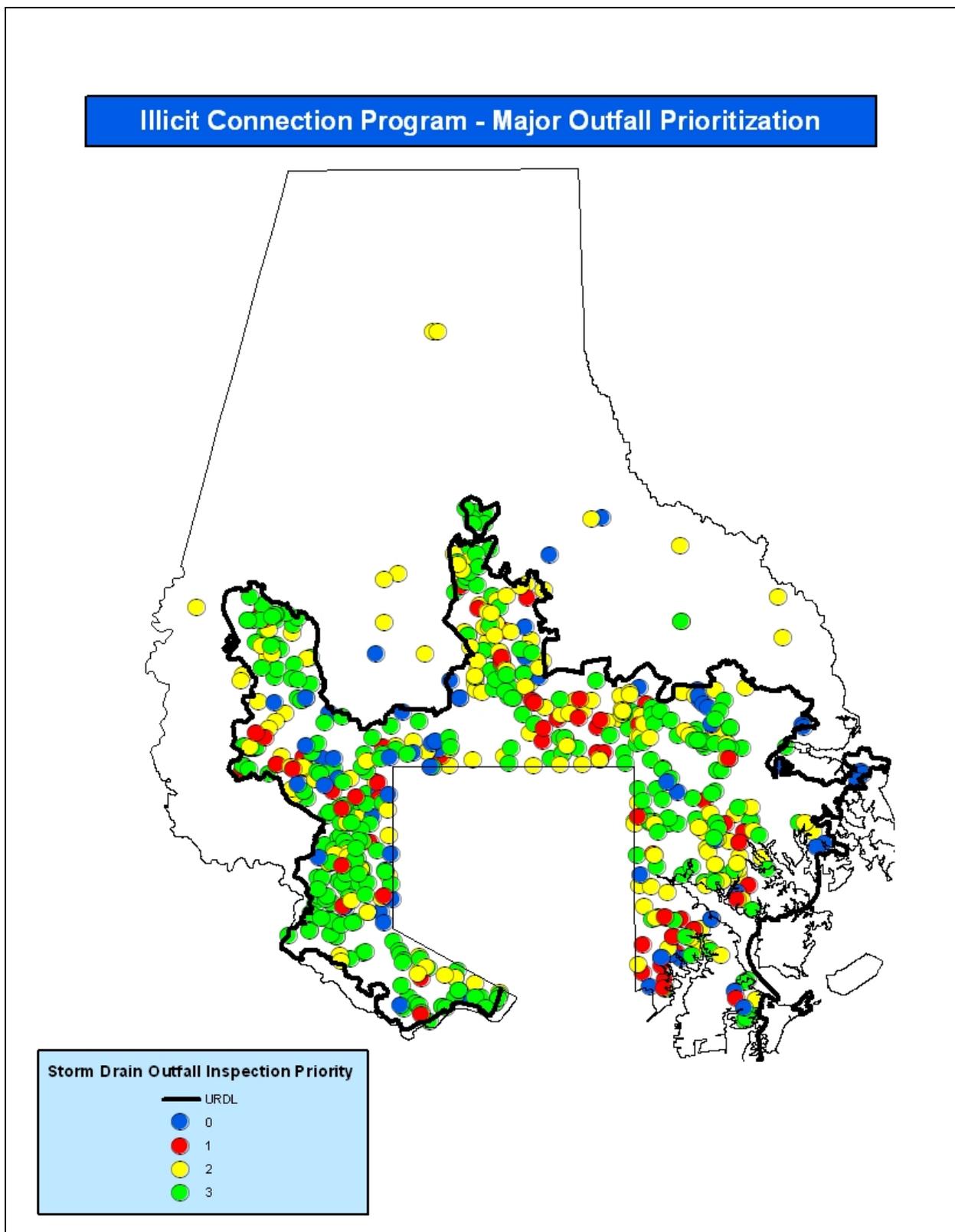


Figure 5-1a. Major Outfall Prioritization. Note most outfalls are inside the Urban-Rural Demarcation Line (URDL).

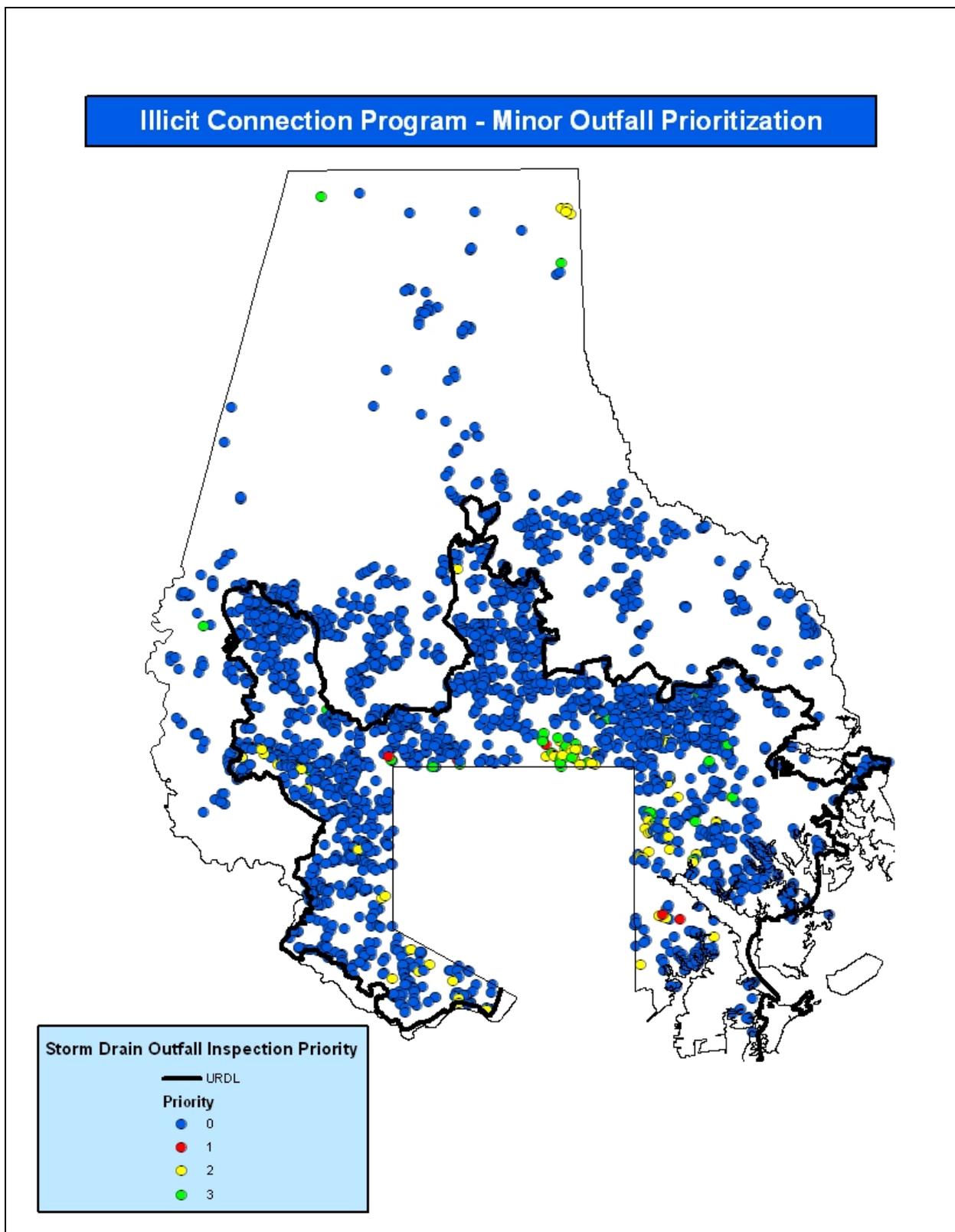


Figure 5-1b. Minor Outfall Prioritization. Note most outfalls are inside the Urban-Rural Demarcation Line (URDL).

The percentages of the 746 outfalls, which have been given a rating, in each category are shown in Figure 5-2.

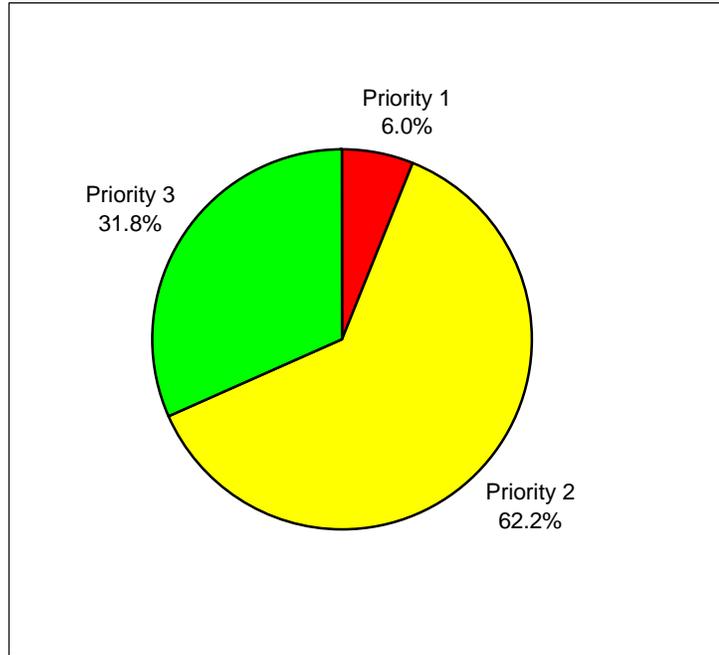


Figure 5-2a: Minor Outfall Screening Priority Distribution

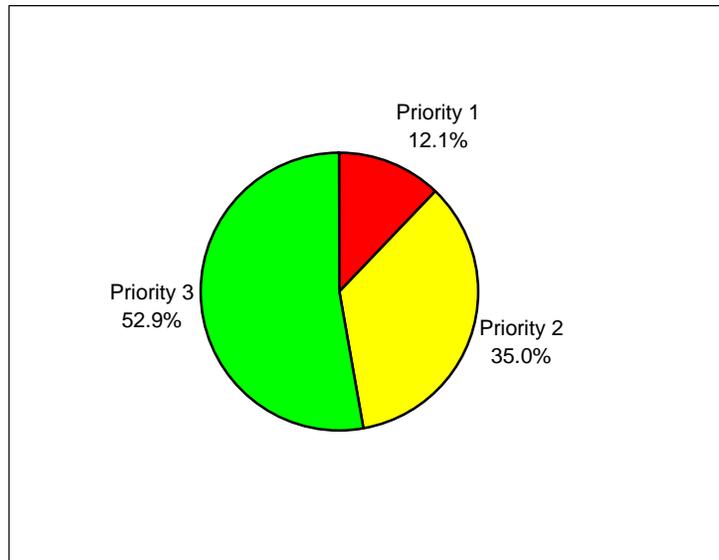


Figure 5-2b: Major Outfall Screening Priority Distribution

Of the 149 outfalls screened during 2010, 91 were major outfalls and 58 were minor outfalls. They were selected from the newly prioritized database based on the following criteria:

- Citizens who called or wrote to express concern about stream water quality, but the indicated conditions did not warrant an immediate investigation; and
- Previous screenings indicated water quality problems might exist.

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Figure 5-3 shows the quantitative problems and Figure 5-4 shows the qualitative problems found. As indicated in Figure 5-3, by the bar labeled “none detected”, 121 out of the 149 routine outfall screenings had no detectable quantitative problems. Phenol, chlorine, and copper are considered as indicators if they are above .17 mg/L, .4 mg/L, and .21mg/L respectively. Temperature is considered a potential problem if it exceeds 75 degrees F (23.9 degrees C), which occurred in 14 outfalls. The criteria used to determine if pH is out of range is if it is under 6.0 or above 9.0, and a problem was detected at six outfalls. Copper was detected at five outfalls and phenol was detected at 15 outfalls. Chlorine was detected at four outfalls. There were a total of 44 quantitative problems.

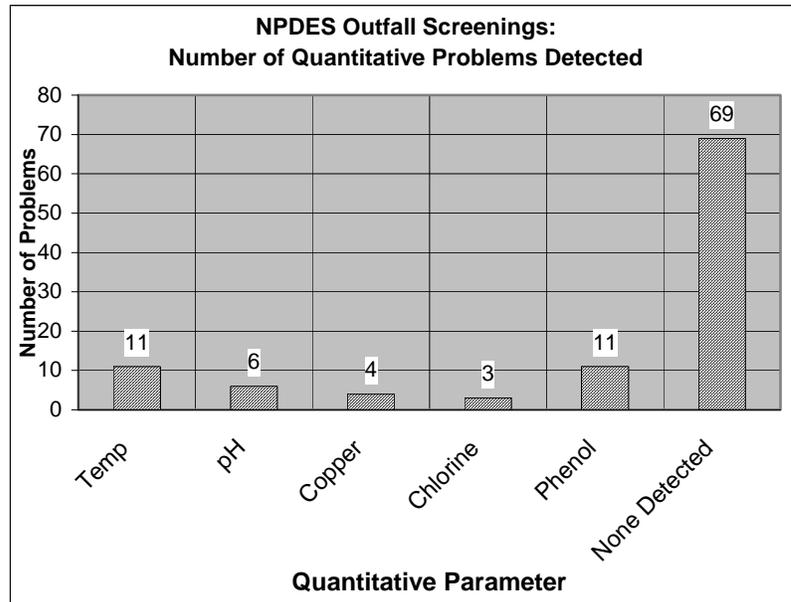


Figure 5-3a. Major Outfalls Number of *quantitative* problems detected.

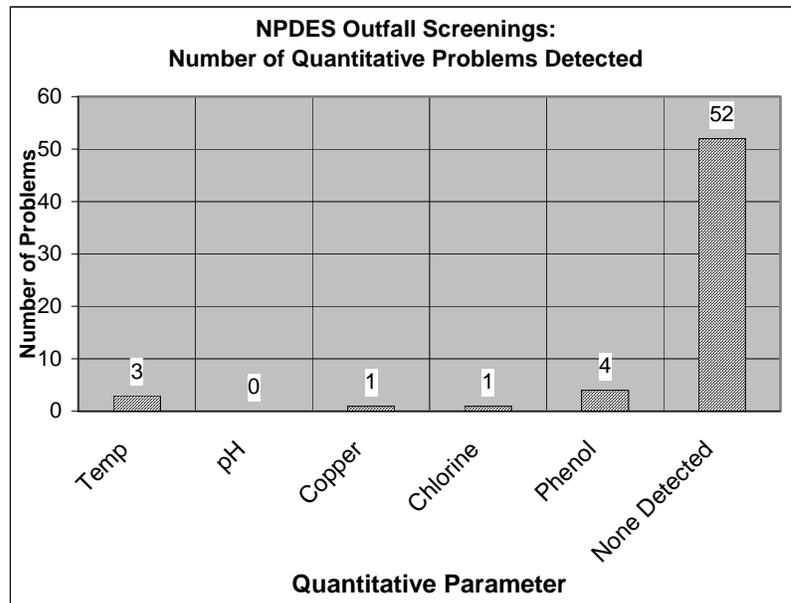


Figure 5-3b. Minor Outfalls Number of *quantitative* problems detected.

Figure 5-4 illustrates incidences of problems observed during *qualitative* assessments such as: visual evidence of sewage, oil, and structural problems. Qualitative and “visual problems” were those most frequently encountered which included observations regarding color, odor, clarity, and receiving water characteristics and sediment deposition immediately at and below each outfall. Trash, erosion, and sediment deposition were observed at 97, 36, and 90 outfalls, respectively. Of the total 149 outfalls screened, there were a total of 259 qualitatively assessed problems, however, 17 had no observed or qualitatively assessed problems. Many of the outfalls screened had more than one problem.

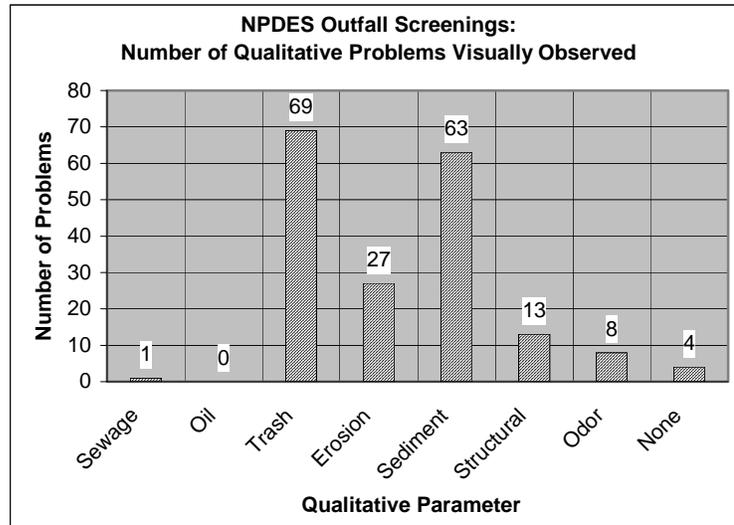


Figure 5-4a. Major Outfalls Number of *qualitative* problems visually observed.

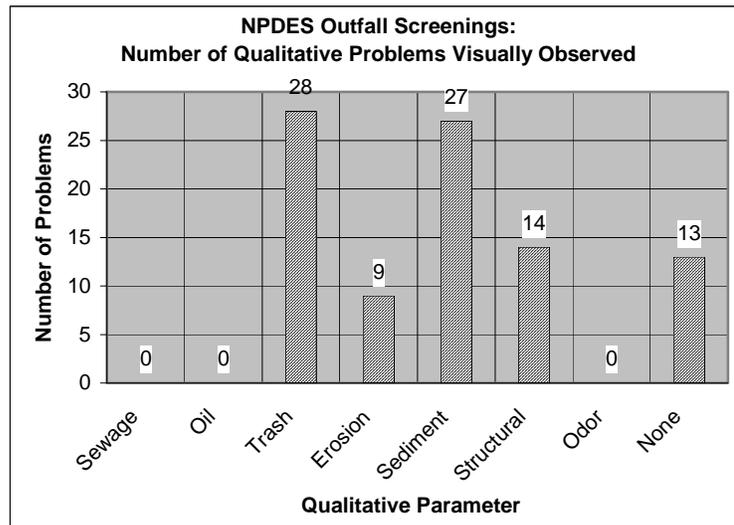


Figure 5-4b. Minor Outfalls Number of *qualitative* problems visually observed.

As described above, routine outfall screenings include a quantitative analysis, a qualitative assessment and a visual inspection. Based on these three procedures, a total of 303 problems

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were encountered during the 149 routine outfall screenings during this reporting period. Many of the outfalls had more than one problem. Observations regarding the receiving channel within the immediate vicinity of the outfall were also included.

During 2010, outfall screening was distributed among seven watersheds as follows: Gwynns Falls (16), Back River (56), Baltimore Harbor (2), Patapsco (9), Loch Raven (31), Lower Gunpowder (7), and Jones Falls (28).

5.4 Illicit Connections Investigations and Corrections

During the calendar year 2010, the Watershed Monitoring section processed seventy-three complaints, of which sixteen were citizen complaints. Forty-one cases were referred to other agencies. Of those forty-one, seven are still ongoing. EPS is handling the remaining thirty-two complaints. Of those, five remain ongoing investigations. These complaints and their status are detailed in Table 5-3.

Two of the investigations resulted as part of the SWAP process. The complaints (10-006 and 10-049) were found during hot spot investigations. Further effort will be placed on following up any potential illicit connections during the SWAP, instead of waiting until the document is finished. Consultants that are conducting SWAP fieldwork have also been informed to bring any potential problems to EPS's attention immediately.

Starting in 2011, EPS will calculate pollutant loadings removed when an illicit connection is corrected. The focus will be on those constituents that have TMDLs. When an illicit connection is discovered, flow will be measured and a water sample will be taken to the DPW lab for further analysis. When the illicit connection is corrected another sample will be taken and the two will be compared.

Table 5-3: Complaints Processed from January 1, 2010 through December 31, 2010

Case No.	COMPLAINT / DATE	ACTION TAKEN	STATUS	LOCATION
10-001	Grease spilled in KFC parking lot. 1/8/10	Referred to Environmental Health.	Parking lot was cleaned and dumpster to hold grease was replaced. Case closed	Kentucky Fried Chicken, 204 York Road. 27 D7
10-002	Water flowing out of cracks in sidewalk. 1/8/10	Tested water, had 0.86 ppm chlorine.	Pipe has been repaired. Case closed	1020 York Road. 27 C4
10-003	Chlorine found at outfall. 1/8/10	Traced to water main leak at nearby intersection.	Leak has been repaired. Case closed	Norwick and Killoran. 19 A10
10-004	Water running in gutter. 1/17/10	Traced water to a crack in the street.	Problem has been repaired by Baltimore City. Case closed	608 Baltimore Avenue. 27 C6
10-005	Water bubbling up from street. 1/20/10		Leak has been repaired. Case closed	10 Madison Mills Court. 32 K12
10-006	Excessive cars, tires, drums stored in grass area at automotive shop. 1/20/10	Inspector cited property for being used as a junkyard.	Property is being cleaned up. Case closed	1947 Greenspring Drive. 18 K13
10-007	Exposed pipe in stream. 1/14/10	Confirmed pipe is not a gas or sewage line.	DPW suspects pipe is a relic from when the area was a farm. Case closed	Next to 1402 Glendale Road. 27 G10
10-008	Exposed sewer pipe in	Referred to DPW Utilities.	DPW said it is better to	Behind 5038

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	stream. 1/26/10		let the pipe break and then fix it under emergency conditions, due to the various regulations. Case closed	Whitemarsh Road. 29 B10
10-009	Citizen saw puddle by sewer manhole, may be leaking. 1/27/10	Water was not from sewer. Manhole cover was missing and stack filled with trash.	DPW Utilities reported this was an old well, not sewer. They replaced the cover. Case closed	End of Lakeside Drive. 26 H10
10-010	Discolored sudsy water 3/12/10	Traced to outfall in SWM facility behind 9521A Horn Ave. – referred to MDE	MDE had already received a complaint about Mighty Spray Car Wash at 9523 Bel Air Rd. from an equipment malfunction that lead to stream discharge, which was assumed to have caused the stream pollution although the discharge had stopped. Case closed	Mighty Spray Car Wash 9523 Bel Air Rd.
10-011	Trash dumped in stream. 3/12/10	Items dumped are of a residential nature.	Looked like some items had been cleaned up. Environmental Health found no signs of dumping. Case closed	Woods next to 17 Juliet Lane. 29D5
10-012	Pipe that stream runs through has collapsed. 3/18/10	Stream flow has backed up and is causing flooding.	Referred to CPO. On-going	12124 Harford Road
10-013	Pile of salt left on grass near stream. 4/1/10	Salt is killing all the surrounding grass.	DPW Highways removed salt pile. Case closed	Dead of Woodvalley Drive. 25 G7
10-014	Citizen observed foam in stream. 4/14/10		Observed no foam, illicit kit confirmed absence of any discharge. Case closed	200 Everett Road. 7 C12
10-015	Staff found exposed sewer stack and pipe while doing fieldwork. 4/7/10		DPW Utilities will be repairing. Case closed	Behind 1008 W. Wind Court. 26 J6
10-016	Fish kill in stream. 5/4/10	No evidence to exact cause; could have been cleaning of community pool. Less than .13 ppm ammonia present in stream.	Citizen will report any further occurrences. Case closed	Behind 6756 Glenkirk Road. 27 10
10-017	Outfall drainage causing erosion. 4/10		DPW Highways reports no action needs to be taken at this time. Case closed	9330 Lakeside Boulevard. 24 E6
10-018	Roadside dumping. 4/28/10		DPW Highways removed the debris from the roadside gravel pull off. Case closed	Dolfield Road. 24 B6
10-019	Citizens complained of	Trash is not the dumpsters	PAI spoke to manager.	6223 Baltimore National

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	litter from dumpsters getting into stream. 4/11/10	but the parking lot in general. Getting out of parking lot due to fallen fence.	Fence is not a requirement but if there cannot be falling down. Case closed	Pike. 41 B2
10-020	Trash blowing out of dumpsters. 6/1/10	This is a monthly monitoring site and has been observed to be untidy on several occasions.	PAI issued notice to clean up litter around dumpster and parking area. Case closed	500 Redland Court. 24 C2
10-021	Large spools in stream. 5/21/10	Spools had Tessco shipping label on them, factory is next to stream.	Spools have been removed. Case closed	11126 McCormick Road. 18 F3
10-022	Streamwatcher found debris jam and didymo in stream. 3/31/10	Didymo was not found, the habitat is not preferable for it.	Debris jam not observed. Case closed	Summit Avenue. 28 G6
10-023	Citizen complained of raw sewage being used as fertilizer. 6/10	Tested streams in several places, ammonia was below detection limit.	Case closed	Patterson Road. 20 A2
10-024	Citizen observed soapsuds in stream. 5/12/10	Tested stream in multiple places, ammonia was below detection limit and no foam observed.	Case closed	1213 Hollowbrook Road. 27 J5
10-025	Outfall causing flooding. 6/11/10		DPW Highways reports they do not have the manpower to clear the outfall. Case closed	Behind 601 W. Patapsco Avenue
10-026	Black substance coming from curb. 6/1/10	DPW forwarded this to EPS, as it was not related to utilities.	Did not observe any black substance. Case closed	510 Stevenson Lane.
10-027	Possible gray water discharge. 6/7/10	Stream was running clear, nothing unusual observed in area.	Case closed	East Avenue and Trumps Mill. 36 J2
10-028	Trash/junk in stream buffer. 4/2010	Neighbor approached staff doing fieldwork to point out dumping.	PAI inspector found area to be clean, no dumping occurring. Case closed	5920 Meadow Road. 36 F3
10-029	Uncovered sand pile. 6/2010		Sediment control notified them to limit area of disturbance. Case closed	Crosby Road and King William Drive. 33 A11
10-030	Elevated stream flow. 5/2010	Determined to be a water main break.	Referred to Baltimore City. On-going	8112 Liberty Road. 33 A1
10-031	Several problems with Edmondson Heights Park. 4/5/10	Outfall damaged, concrete channel damaged, downed limbs. Referred to Rec and Parks, CPO, Utilities.	DPW reported concrete channel is not posing flood or safety hazard. They will not be repairing at this time. Outfall damage has been repaired. Case closed	Forest Park and Harwall. 33 G12
10-032	White gunk discharging from pumping station. 7/8/10	County inspector had already visited site and told them to capture discharge in bag.	Discharge was being captured. Case closed	7500 South Bend Road. 45 C5
10-033	Water coming from crack		Baltimore City repaired.	1227 Charmuth. 27 C3

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	in sidewalk. 6/28/10		Case closed	
10-034	Outfall with sewage smell. 7/12/10	>2400 mpn E. coli. Stormdrain line has standing water, outfall backed up. The stagnant water may be causing high E. coli levels.	DPW Utilities cleared stormdrain and swale at outfall. Will retest to verify this was the problem. On-going	Virginia and Riverside. 37 B10
10-035	Trash and other problems in the Loch Raven watershed. 4/30/10	Walked several streams and visited businesses.	PAI issued correction notice for trash. MDE working on quarry issues. Erosion given to CPO. On-going	Cockeysville Road. 18 G4
10-036	Pile of tires dumped in woods behind house. 4/2/10	Approx. 20 tires.	PAI could not find any tires present in woods or around lawn. Case closed	36 Cedarmere Rd. 16 D13
10-037	Exposed pipe found while doing stream corridor assessment. 6/9/10	Referred to DPW Utilities.	This was an abandoned pipe that was used to pump water from stream to old farmhouse. Case closed	Behind 6 Trimble Court. 26 G1
10-038	Outfall with oily smell and sheen. 7/28/10	Found car wash that may have a hookup into storm drain, discharge in inlet was pink.	Inspector could not find anything at car wash that would have pink discharge. Case closed	Outfall #038. 44 J3
10-039	Damaged outfalls. 5/13/10	Outfalls coming apart at joints and exposed.	DPW Construction Division will repair when staff and time allow. Case closed	Outfall #so-1105 and so-1106. 26 D10
10-040	Outfall broken at joint and pipe exposed. 5/13/10		Referred to DPW Utilities. On-going	Outfall #so-684. 26 E11
10-041	Pipe discharging from residential yard had high ammonia. 5/27/10	Ammonia discharge was 2.59 mg/L.	Discharge was from sump pump, no violations found. Will investigate other possible causes. On-going	3516 Overbrook Road. 25 H11
10-042	Stream with elevated ammonia. 6/8/10	Returned to site and retested, ammonia levels were within limits.	Case closed	Behind Schering Road alley. 36 E7
10-043	Chicken wire dumped in storm water pond. 7/23/10	The County owns pond.	Debris has been removed. Case closed	Outfall 319. 27 D4
10-044	Water bubbling out of water meter. 8/25/10		Baltimore City repaired water meter. Case closed	262 Ridge Avenue. 27 E7
10-045	High levels of ammonia and phenols found at outfall.	Narrowed down source of problem. DPW confirmed problem is not sanitary sewer cross connection.	Will investigate two local businesses to see if there is a misconnection. On-going	65 th and Biddle. 36 E9
10-046	Sediment fence not installed properly. 8/11/10	Observed sediment getting under fence and washing to stormdrain.	Problem has been corrected. Case closed	11 W. Aylesbury. 18 K13
10-047	Invasive plants in pond.	No evidence that plants are	Determined not to be a	End of Elmont Road. 36

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	8/20/10	spreading from pond to the stream.	problem. Case closed	G2
10-048	Found pvc pipe draining from yard to stream. 7/23/10	Environmental Health inspector did verify pipe is coming from pool house.	Homeowner has removed pipe. Case closed	Outfall 211. 28 F5
10-049	Piles of material mucked out from stalls sitting uncovered at fairgrounds. 9/13/10	This is a recurring problem every year after the state fair.	MDE inspected and will be working with management to address any future problems at this site. Case closed	Timonium State Fairgrounds. 18 K11
10-050	High bacteria and ammonia in stream. 9/16/10	Returned to site five days later and levels were back to normal. Roadwork was no longer occurring.	Will follow up to make sure problem doesn't reoccur. Case closed	Stream Crossing Putty Hill Rd. 28 A8
10-051	Pool company discharging water to street. 9/20/10	They are allowed to discharge as long as the chlorine has dissipated.	Environmental Health inspector contacted company to make sure they were following proper procedures. Case closed	9 Red Maple Court. 16 H10
10-052	Homeowner withdrawing water from stream to water garden.	There is a permanent pump installed to withdraw the water.	Referred to MDE. On-going	3715 Cassen Road. 24 E11
10-053	Open fire hydrant. 9/21/10	Baltimore City unable to send crew because the roads are too new and not in their system.	Fire Department closed hydrant. Case closed	Market Way. 38 B1
10-054	Outfall with chlorine in the discharge. 8/12/10	Murray Corporation thought their permit covered cooling water discharge to the stream.	MDE inspected, discharge to cease immediately, referred for enforcement. Case closed	260 Schilling Circle. 18 E3
10-055	Citizen concerned about milldam affect on stream water quality. 9/22/10	Took samples above and below dam to see differences.	Results were all within limits, except NO3, which was higher above the dam. Case Closed	Bee Tree Road. 3 G5
10-056	Staff observed trash bags of deer parts in stream. 12/2/10	Bags were removed from stream and placed where they could be seen for removal.	No carcasses present on next visit. Case closed	Gunpowder Road. 1 H13
10-057	Muddy water spurting through sediment fence and into storm drain. 12/2/10	Looked like water from sediment pond was going over and around hay bales.	Sediment Control verified they were using approved dewatering methods. Case closed	Painters Mill and McDonough Rd. 24 G8
10-058	Junk in buffer. 11/19/10	Staff found buffer encroachment, debris piles, tires.	Owner is building a storage facility to house materials. Case closed	12230 Eastern Avenue. 38 G1
10-059	Green water in Gwynns Falls. 12/6/10	DPW was conducting dye testing.	Case closed	4900 Wetheredsville Road. 33 J8
10-060	White substance and odor in storm drain inlet. 11/17/10	Referred to us by DPW Utilities.	No odor or substance present except iron flocculent from a groundwater seep. Case closed	7700 Heathers Lane. 28 K13
10-061	Sanitary sewer stack with	Referred to DPW Utilities.	Sewer stacks have been	7501 Park Heights

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	bricks falling off. 5/27/10		repaired. Case closed	Avenue. 25 H11
10-062	Exposed pipe, broken concrete channel. 9/21/10		CPO will be completing a restoration project in this location. Case closed	so-1024. 27 G9
10-063	Trash dumping, outfall coming apart at joint.	Damaged outfall is on repair list. Trash has been removed.	Case closed	so-1045. 27 H9
10-064	Sewage smell in area. 12/15/10	Tested streams, no sewage found.	Will return to area to see if we can trace smell. On-going	7428 Old Battle Grove Road. 45 C3
10-065	Water bubbling out of water meter manhole. 12/17/10	Referred to Baltimore City.	New water meter has been installed. Case closed	7829 St. Claire Lane. 45 C4
10-066	Erosion threatening fence and concrete foundation. 9/15/10	Isolated spot, rest of stream seems fine.	Referred to CPO. On-going	Woodlawn Drive. 41 F2
10-067	Exposed pipe in stream. 9/16/10		DPW Utilities is waiting to see if a stream restoration is going to occur here, for now they will just wait and see. Case closed	6802 Glenkirk Rd. 27 F10
10-068	Shopping Center is a source of trash in stream. 8/31/10		PAI issued correction notice. Case closed	5101 East Drive. 42 A7
10-069	Stormwater pond appears unfinished.	Inlets have not been connected, temporary fence still up.	Pond is as it should be while project is ongoing, will be converted later. Case closed	Creek Stone Court. 26 B8
10-070	Sewer stack has been damaged.	During high flows stream flows into stack.	DPW Utilities has repaired. Case closed	Neighbors and Woodhaven. 36 H6
10-071	Erosion and dumping at outfall.	Gas station has dumped tires into stream.	Referred to CPO and Environmental Health. On-going	14226 Jarrettsville Pike. 13 K11
10-072	Outfall filled 75% full with sediment. 12/8/10	This is a state maintained outfall.	State Highways cleaned outfall. Case closed	so-163. 42 A7
10-073	Trash dumped at edge of park property. 9/14/10	Trash is located at the end of dead end street.	Referred to DPW Highways. On-going	End of Southall Road. 24 C9

5.5 Regional Illicit Connections Investigations and Complaint Database

For many decades, Baltimore County health inspectors have investigated complaints that are now categorized as potential illicit connections. These complaints include septic systems, leaky refuse and grease containers, the dumping of used motor oil, leaky engines, and industrial maintenance activities among others. Because these investigations are only a small percentage of the thousands of complaints received each year by the regional programs, it was difficult to separate complaints with a potential illicit connection from the rest of the caseload. These thousands of complaints were analyzed and broken down into the categories seen in Figure 5-5. After looking at the data from 2005-2009, it was determined that the breakdown into categories is approximately the same each year and we can assume these numbers will continue to be the same in the future.

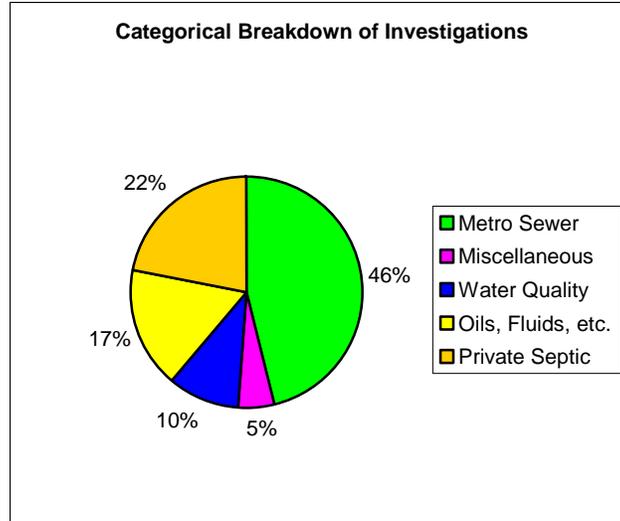


Figure 5-5. Involvement of the Regional Programs in the Investigation of Illicit Connections. This is the approximate breakdown of cases based on past data.

5.6 Cooperative Projective with the Center For Watershed Protection

Baltimore County participated in the Illicit Discharge Detection and Elimination in Baltimore Project organized by The Center For Watershed Protection (CWP). This was a one-year grant project that looked at both major and minor outfalls and investigated illicit connections on a subwatershed scale in Baltimore County and City. The two Baltimore County subwatersheds examined were Western Run and Moores Run, both in the Jones Falls watershed. One aspect of the study was to compare NPDES illicit connection parameters (chlorine, copper, phenols, pH and temperature) and compare them to parameters used by CWP. While the standard NPDES parameters were found to be good at detecting most illicit discharges except sewage. Baltimore County had added ammonia to the standard NPDES parameters used for outfall screenings, starting in 2010.

CWP found fluoride four times not in the presence of chlorine; they recommend fluoride as an indicator of potable water instead of chlorine. Baltimore County does not use fluoride as an indicator because it is too sensitive to discharges that are not regulated under the NPDES permit, such as residential car washing. Baltimore County has found that using chlorine instead of fluoride saves time and effort expended on investigations where no illicit discharges are occurring.

Results from the study found minor outfalls (<36”) to be a significant contributor to pollutant loadings. While Baltimore County has not found this to be the case, a continued effort will be placed on prioritizing all the minor outfalls. Many of the minor outfalls are dry and the CWP study only drew conclusions from outfalls with dry weather flow. When all the outfalls (both dry and flowing) are examined the numbers that have potential illicit discharges is much less.

5.6 Summary

The Outfall Prioritization Program has increased efficiency in detecting pollutants. A database is used to assign a priority rating for each outfall based on past screening data and the potential for having illicit connections. Outfalls are screened periodically based on their priority rating, which is assigned or appropriately changed when information is entered. The type and severity of

pollution determines the outfall's position in the queue. The combination of citizen involvement, routine outfall screenings and the regional staff complaint investigations is working well to our continuing goal of preventing and eliminating illicit connections.

