

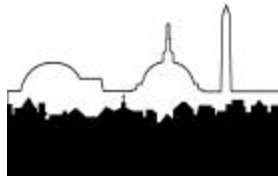
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**DC APPLESEED CENTER REPORT**

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**MANAGING STORMWATER POLLUTION  
IN THE DISTRICT OF COLUMBIA:  
A LASTING APPROACH**

**April 1999**



**DC Appleseed Center**  
733 Fifteenth Street, NW, Suite 330  
Washington, D.C. 20005  
Tel: (202) 393-1158  
Fax: (202) 393-1495  
E-mail: [dcapple@ziplink.net](mailto:dcapple@ziplink.net)

## APPENDIX

### Is the Federal Government Required to Pay the Stormwater Utility Fee?

The states are prohibited under the Supremacy Clause of the Constitution, Article VI, cl.2, from taxing the federal government unless the federal government waives its sovereign immunity.<sup>1</sup> States are permitted, however, to collect fees from the federal government to pay for federal use of specific state services. As the District prepares to set up a stormwater utility, the question is whether the fee to be collected for use of the storm sewers is a permissible “user fee” or really nothing more than a hidden property tax. This question was recently answered for the first time in the case of *Cincinnati v. United States*.<sup>2</sup> As discussed in the main body of this report, the *Cincinnati* case held that Cincinnati’s stormwater utility is a property tax and not a user fee and, therefore, the city could not force a recalcitrant federal agency to pay.

Although the main body of the report provides an overview of the *Cincinnati* case and related issues, this Appendix is intended to provide a more thorough legal discussion of the *Cincinnati* case and the appeal of that case. Also contained in this Appendix is a discussion of the possibility that Section 313 of the Clean Water Act constitutes waiver of sovereign immunity, as well as a summary of other important cases which shed light on this issue and with which the District should be familiar as it formulates a strategy for collecting stormwater fees from the federal government.

#### **A. *Cincinnati v. United States***

Cincinnati imposes a “storm drainage service charge on the owner of each lot and parcel of land within the city.”<sup>3</sup> The city calculates its fee by estimating the stormwater runoff for each property by (1) multiplying an “intensity of development factor,” which is based on land use, by (2) an area range number, which is based on square footage, to arrive at an “equivalent runoff unit” (“ERU”). The ERU is multiplied by the monthly charge per ERU to determine the monthly service charge.<sup>4</sup> Under this calculation, the owner of a larger, more developed piece of property will pay more than the owner of a smaller, less developed piece of property. According to the regulation, the goal of the program is to “establish reasonable storm drainage service charges based on each property’s contribution of stormwater runoff to the system.”<sup>5</sup>

When a federal agency refused to pay the fee for a number of years, Cincinnati sued in the Federal Claims Court to collect the overdue fees. Upon the United States’ motion to dismiss Cincinnati’s claims for payment of the fees, the question for the court was “whether the storm drainage service charges imposed . . . by the City of Cincinnati on the defendant as the property owner are user fees or taxes imposed on the federal government in violation of the Supremacy

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<sup>1</sup> *McCulloch v. Maryland*, 17 U.S. (4 Wheat.) 316 (1819).  
<sup>2</sup> 39 Fed. Cl. 271 (1997).  
<sup>3</sup> *Id.*, at 272.  
<sup>4</sup> *Id.*, at 272 - 3.  
<sup>5</sup> *Id.*, at 272.

Clause of the United States Constitution.”<sup>6</sup> The court held that the storm drainage service charge was a tax and not a user fee.

The court recognized that “[i]t may be permissible for a city to assess the federal government for storm drainage service charges when the charge is based upon the government’s actual use of the services.”<sup>7</sup> For instance, the court noted that the federal government has recognized that it has an obligation to pay water and sewage service fees based on use of water.<sup>8</sup> However, the court held that this case was more analogous to situations where courts had held fees (such as fire and flood protection fees) to be unconstitutional taxes.<sup>9</sup> The main rationale for the court’s decision is as follows:

[T]he City of Cincinnati calculates and levies the storm drainage service charge regardless of the actual amount of runoff from the government’s property. Under the system enacted by the City of Cincinnati, during a month of drought or a month of flooding, the federal government would be assessed the same amount of storm drainage service charges. Although the formula in plaintiff’s Stormwater Management Code for calculating the storm drainage service charge describes the charge as a ‘storm drainage service charge,’ establishes a goal of basing the charges on runoff and usage, and details component charges, ultimately, it is assessed by the City of Cincinnati as a charge estimated on the square footage of the government’s property and on the intensity of the property’s development.<sup>10</sup>

Thus, the *Cincinnati* decision recognizes that a fee based on actual use of the sewers may be acceptable. However, according to the court, an estimate based on land area and intensity of development is not sufficiently based on actual use, and instead is an impermissible property tax that the federal government does not have to pay.

Cincinnati appealed the decision, and the Court of Appeals for the Federal Circuit has recently issued an opinion affirming the lower court’s decision.<sup>11</sup> However, the appellate court did not adopt the lower court’s reasoning that the utility fee was unconstitutional. Instead, the appellate court held that the lower court did not have jurisdiction to decide the case. According to the court, the only possible basis for jurisdiction in the Federal Court of Claims in this case would have been an implied-in-fact contract between the municipality and the agency. Finding that there was no such contract, the court held that the claim must be dismissed for lack of jurisdiction. More important, however, the court noted that the question of whether or not there was a contract was different from the constitutional question addressed by the lower court. As to the constitutional question, the appellate court stated:

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<sup>6</sup> *Id.*  
<sup>7</sup> *Id.*, at 275.  
<sup>8</sup> *Id.*  
<sup>9</sup> *Id.*  
<sup>10</sup> *Id.*, at 276.  
<sup>11</sup> *See Cincinnati v. United States*, 153 F.3d 1375 (Fed. Cir. 1998).

There may be some instances in which a municipal assessment is involuntarily imposed but would nonetheless be considered a permissible fee for services rather than an impermissible tax. Our decision does not answer that question and thus we do not hold that Cincinnati's storm drainage service charge is a tax that cannot constitutionally be imposed on a federal entity.<sup>12</sup>

Thus, according to the appellate court, the lower court should not have reached the constitutional question but should have dismissed the case on jurisdictional grounds. This appellate decision weakens the precedential effect of the lower court's decision, but it does not eliminate the importance of the case.

The case has already created an awareness among some federal agencies that they may not have to pay these charges. For instance, one other agency in Cincinnati refused to pay stormwater utility fees citing the *Cincinnati* case.<sup>13</sup> Moreover, although the case would not be binding on other courts, other courts could look to the logic of this case and the cases cited in it to arrive at the same conclusion.

## **B. Has the Federal Government Waived Sovereign Immunity?**

Another aspect of this issue, not mentioned by the *Cincinnati* court, is a provision in the Clean Water Act providing that the federal government must pay "reasonable service charges." If the District's fee constitutes a "reasonable service charge" under the Act, then the federal government has likely waived any sovereign immunity claim it would have regarding payment of such a charge.

The Clean Water Act § 313 provides in relevant part:

Each department, agency, or instrumentality of the executive, legislative, and judicial branches of the Federal Government (1) having jurisdiction over any property or facility, or (2) engaged in any activity resulting, or which may result, in the discharge or runoff of pollutants . . . shall be subject to, and comply with all Federal, State, interstate, and local requirements, administrative authority, and process and sanctions respecting the control and abatement of water pollution in the same manner, and to the same extent as any nongovernmental entity including the payment of reasonable service charges. . . . This subsection shall apply notwithstanding any immunity of such agencies . . . under any law or rule of law.<sup>14</sup>

There do not appear to be any cases that address the applicability of this language to the imposition of a stormwater utility fee. However, the Supreme Court has analyzed the meaning

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<sup>12</sup> *Id.*, at 1378.

<sup>13</sup> See Phone interview with John Williams, attorney for Cincinnati, November 11, 1998 (indicating Veterans Administration in Cincinnati had recently refused to pay the fee).

<sup>14</sup> 33 U.S.C. § 1323(a).

of the language in a case involving whether states can regulate federal facilities. In response to a state's argument that the term "reasonable service charge" referred to a permit processing fee, the Supreme Court in *EPA v. California ex. rel. State Water Resources Control Board*<sup>15</sup> stated that the language "might as well be taken to refer to recurring charges for performing a service such as treating sewage, as to fees for accepting and processing a permit application. The EPA so reads the statute and it is not an unreasonable construction."<sup>16</sup> EPA's apparent reasoning for the conclusion that it refers to treating sewage was that a similar provision in the Clean Air Act specifically left out the language about "reasonable service charges." As the Court wrote, "EPA explains that the absence of such direction or clarification in the Clean Air Act supports its position, because there are no sewers to carry away air emissions and hence no comparable services for which to make clear that appropriate charges may be levied."<sup>17</sup>

Also relevant is *New York State Department of Environmental Conservation v. United States Department of Energy*, discussed in more detail below, which held that Section 313 of the Clean Water Act, as well as similar language in other federal environmental laws, did not constitute a complete waiver of sovereign immunity for environmental regulatory fees.<sup>18</sup> The District could still argue that the Section 313 language explicitly waives immunity in this exact situation: a "reasonable service charge" to pay for a program to address "runoff of pollutants." However, under the logic of the *Cincinnati* case, a court could easily respond that a fee system based on impervious surface is not actually a "reasonable service charge" and is instead a property tax. In other words, if the fee fails the *Cincinnati* test, it may also fail to constitute a "reasonable service charge" under the statute, and sovereign immunity would not be waived for such a fee.

If enacted, legislation introduced in the Senate in April 1998 to amend Section 313 would define "reasonable service charge" more broadly. The bill, "The Federal Facilities Clean Water Compliance Act of 1998," was introduced by Senator Coverdell (R- GA).<sup>19</sup> It specifically waives the United States' immunity for, among other things, "payment of reasonable service charges." It defines "reasonable service charge" in part as "any . . . nondiscriminatory charge that is assessed in connection with a Federal, State, interstate, or local regulatory program concerning the control and abatement of water pollution."<sup>20</sup> The bill was referred to the Committee on Environment and Public Works. No further legislative action has apparently been taken on this bill. However, Sen. Coverdell apparently plans to re-introduce similar legislation in 1999.<sup>21</sup> Although passage of this language would improve the District's argument that Section 313 waives sovereign immunity for a utility fee based on "impervious surface," it would be preferable to obtain an explicit waiver of immunity specifically referencing the District's stormwater utility fee.

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15 426 U.S. 200 (1976). The actual holding of this case was overturned the next year by Congress.  
16 *Id.*, at 217.  
17 *Id.*  
18 772 F. Supp. 91, 98 (N.D.N.Y. 1991).  
19 S.1923,144 Cong. Rec. S3138 (daily ed. April 2, 1998).  
20 S. 1923, 105th Cong. (1998).  
21 Phone interview with Richard Gupton, legislative assistant to Sen. Coverdell, November 20, 1998.

### C. Related Case Law

Other federal cases, although not directly addressing stormwater fees are also instructive. The Fourth Circuit Court of Appeals in *United States v. Huntington*,<sup>22</sup> for instance, held that city ordinances imposing fees for fire service and flood protection based on the square footage of a building could not be charged to federal agencies. According to the court, the test for determining whether a fee is a permissible user fee or an impermissible tax is to examine “‘the real nature of the tax and its effect upon the federal right asserted.’ . . . The proper analysis to arrive at the real nature of the assessment is to examine ‘all the facts and circumstances . . . and assess them on the basis of economic realities . . . .’”<sup>23</sup> Applying these standards, the court stated:

Fire and flood protection and street maintenance are core government services. . . . User fees are payments given in return for a government provided benefit. Taxes, on the other hand, are “enforced contributions for the support of government.” Liability for the “user fee” charged by the city arises from [the federal agencies’] . . . status as property owners and not from their use of a City service.<sup>24</sup>

In *United States v. Columbia*,<sup>25</sup> the Eighth Circuit held that a federal building could be charged by the City of Columbia, Missouri for water and electricity. The court stated that:

The United States’ obligation to pay the [fee] arises only from its consensual purchase of the City’s property; it does not arise automatically, as does tax liability, from the United States’ status as a property owner, resident, or income earner. When the United States purchases water, electricity, and related services, and then pays the utility bill, it does so as a vendee pursuant to its voluntary, contractual relationship with the City. The City imposes the charge not in its capacity as a sovereign, but as a vendor of goods and services.<sup>26</sup>

This test would be difficult to pass in the context of stormwater fees because, as indicated in the *Cincinnati* appellate decision, there does not appear to be a similar contractual relationship regarding the use of the storm sewers.

Another line of cases, which may prove more helpful to the District, applies a completely different test for determining whether a charge is a “user fee” or a tax. This line of cases cites a Supreme Court decision in which a three-part test was enunciated for determining the constitutional limits on the ability of the federal government to tax the states. Under the test

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<sup>22</sup> 999 F.2d 71 (4th Cir. 1993).

<sup>23</sup> *Id.*, at 73 (citations omitted).

<sup>24</sup> *Id.*, at 74 (citations omitted). *CF.*, *Huntington v. Bacon*, 473 S.E. 2d 743 (W. Va. 1996) (finding that the same fire and flood protection fee was not a tax under state law).

<sup>25</sup> 914 F.2d 151 (8th Cir. 1990).

<sup>26</sup> *Id.*, at 155 - 56.

adopted in *Massachusetts v. United States*,<sup>27</sup> federal taxation of the states is permissible so long as “[(1)] the charges do not discriminate, [(2)] are based on a fair approximation of use of the system, and [(3)] are structured to produce revenues that will not exceed the total cost . . . of the benefits to be supplied . . . .”<sup>28</sup>

Although, the *Massachusetts* case involved federal taxation of the states, some courts have adapted and applied the *Massachusetts* test to determine whether a charge imposed by a state on the federal government is unconstitutional. In *New York State Department of Environmental Conservation v. United States Department of Energy*,<sup>29</sup> the District Court for the Northern District of New York applied the *Massachusetts* test in a situation where New York State was attempting to collect regulatory fees from federal facilities for running the state’s hazardous waste and wastewater programs. These fees were based in part on the size of the facilities. The court held that these fees met the requirements of the *Massachusetts* test and granted partial summary judgment to the state.<sup>30</sup> Most important, the court held that the “fair approximation” prong of the test does not require an exact correlation between actual use and the fee charged. According to the court:

[t]he second prong of the *Massachusetts* test does not require an exact correlation, in terms of dollars and cents, between the costs of the overall services provided and the fees assessed for such services. Nor does it require that a governmental entity adopt a formula that results in a 1:1 relationship between the actual use of the services by a particular entity and the cost of providing those services to that entity. Rather, it requires only a rational relationship between the method used to calculate the fees and the benefits available to those who pay them.<sup>31</sup>

Moreover, according to the court, a fee based on size may be permissible. “[C]harges based on the size or quantity of an entity’s operations may well be valid if there exists a reasonable relationship between the actual cost of rendering the service to such entity and the fee charged.”<sup>32</sup> The court also stated that it is not required that the federal entity even use the services. “In addition, all services which NYDEC provides pursuant to these regulatory programs, whether used or not, are available to the United States should they be needed in the future. The fact that the United States may seldom require such services, or for that matter may never need them, does not render the fees charged for these programs unreasonable.”<sup>33</sup>

This test would seem to be much easier for the District to meet in the context of a storm

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<sup>27</sup> 435 U.S. 444 (1978).

<sup>28</sup> *Id.*, at 466 - 67.

<sup>29</sup> 850 F. Supp. 132 (N.D.N.Y. 1994), 772 F. Supp. 91 (N.D.N.Y. 1991).

<sup>30</sup> 850 F. Supp. 132; *see also Maine v. Department of Navy*, 973 F.2d 1007 (1st Cir. 1992)

(applying the *Massachusetts* test to a similar environmental regulatory fee and holding that there was not sufficient evidence that fees were unreasonable to grant summary judgment to the federal government).

<sup>31</sup> *Id.*, at 142 - 43.

<sup>32</sup> 772 F. Supp. at 102.

<sup>33</sup> 850 F. Supp. at 143.

sewer charge, because it does not require an exact calculation of the use of the system as the *Cincinnati* court seems to require; rather, it only requires a fair approximation. A fee system based on impervious surface would seem to provide such a fair approximation of the use of the system because it fairly estimates the amount of stormwater runoff that will enter the storm sewer from various types of properties. Moreover, this test would seem to overcome the problem of drought situations described in *Cincinnati*, because, although the federal government would not use the sewers in the month of drought, the sewers would be available should they be needed in the future. However, because the *Massachusetts* test arose in the context of the federal government's taxation of a state government, at least one court has refused to apply this test for determining the difference between a user fee and a property tax in the context of state taxing of the federal government.<sup>34</sup>

Another case that provides a useful analogy to the stormwater user fee context is *Detroit v. Michigan*.<sup>35</sup> In that case the question was whether, under state law, a County Road Commission responsible for maintaining county roads would have to pay a fee for stormwater runoff. Under state law the key question was whether the sewer system constituted a "service rendered" to the County Road Commission. The court held that collection of stormwater runoff did constitute a service and did provide a benefit. The court stated:

Plainly, [the Commission] is benefitted by being relieved from the dangers and damages which may be occasioned by flooding from storm waters and which might, in the absence of drainage into the . . . sewer system, result in liability, or at least in damage to [the] roads. Moreover, we find it unimportant that [the Commission] 'does not create this volume of flow and cannot be held directly responsible for it.' Obviously, no one is responsible for this flow. The fact remains, however, that this water has to go somewhere, especially if [the Commission] is to keep its roads in reasonable repair and, for at least some of this water, [the Commission] has obtained drainage by tapping into the . . . sewer system.<sup>36</sup>

Although this case does not address the issue of sovereign immunity and is applying state law, it is useful because it supports the rationale that the federal government would be paying a charge for a service rendered rather than simply a tax for owning land.

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<sup>34</sup> See *United States v. Columbia*, 914 F.2d 151 (8th Cir. 1990).

<sup>35</sup> 803 F.2d 1411 (1986).

<sup>36</sup> *Id.*, at 1420 - 21.



# **MANAGING STORMWATER POLLUTION IN THE DISTRICT OF COLUMBIA: A LASTING APPROACH**

## **INTRODUCTION**

Under the Federal Water Pollution Control Act (the Clean Water Act), the District of Columbia is required to obtain a federal permit that spells out how the District will control pollution that is swept into the sewers by rainfall (known as stormwater runoff). Because the District failed to meet past deadlines for applying for a federal permit, the U.S. Environmental Protection Agency (EPA) has taken a keen interest in the District's future compliance. Over the past year, federal and District officials have been devising a schedule for submission of the District's permit application as well as the substantive requirements that will be included in the permit. And, in November, the District took its latest step toward complying with federal law by filing a partial stormwater permit application.

The DC Applesseed Center has prepared this report to help the District develop a meaningful stormwater program. Two of the issues addressed in this report—how the system will be financed and which government agency (or agencies) will be responsible for the program—appear to be major stumbling blocks preventing the District from completing the stormwater management plan that must be included in a long-term permit. This report is intended to promote resolution of those issues.

Just as important, with this report, DC Applesseed hopes to jump start the District's consideration of how to fulfill the goal that underlies the Clean Water Act's stormwater requirements—improving the quality of rivers, streams, and other waterways. To deal with this issue comprehensively, the District cannot merely follow the letter of federal stormwater law. It must also assess how stormwater management fits into an overall program to improve water quality in all bodies of water, including the neglected Anacostia River.

Part I of the report provides background information on the contribution of stormwater runoff to pollution of the District's waterways, with emphasis on the Anacostia River. Part II examines the District's current stormwater program, and discusses its legal obligations to create a new stormwater management program. Part III recommends that the stormwater program be funded through a user fee and discusses strategies to ensure that all landowners, including the federal government, pay their fair share. Part IV recommends that the D.C. Water and Sewer Authority (AWASA) be given responsibility for managing the stormwater program, and discusses mechanisms to ensure coordination by the multiple agencies with stormwater responsibilities. Part V outlines issues for the District to consider as it devises the substance of its new stormwater program.

## I. POLLUTION OF THE DISTRICT'S WATERWAYS THROUGH STORMWATER AND OTHER SOURCES

Federal stormwater management requirements are geared toward improving water quality. Over the past decade, several documents have identified sources of pollution including stormwater of the District's waterways. This section of the report provides a synthesis of these documents; DC Appleseed has not, however, performed any primary research (e.g. sampling, monitoring) regarding waterway contamination.

### A. Water Quality in the District's Rivers

Water pollution is a problem that affects rivers everywhere, and the District of Columbia's waterways are no exception. While the District's rivers the Anacostia and the Potomac both face pollution problems, each is in a different stage of restoration and clean-up.

At one extreme is the Potomac River. Whereas the Potomac was once among the most polluted rivers in the country, it has undergone substantial improvement. Among other public and private efforts, a \$1.6 billion investment to upgrade the Blue Plains Water Treatment Plant in the 1970s contributed to the River's recovery.<sup>1</sup> Once marked by severe and visible environmental problems, the portion of the Potomac River that runs through the District is now a popular recreational fishing and boating area.<sup>2</sup>

By contrast, the Anacostia River has generally poor water quality. The section of the Anacostia that flows through the District is the most polluted body of water in the National Capital Region; it is a slow-moving tidal river that flushes out sediments slowly, making the River extremely sensitive to pollution.<sup>3</sup> High levels of metals, including lead, nickel, silver, and zinc, as well as organic compounds such as PCBs, are in Anacostia River sediment.<sup>4</sup> The primary environmental problems facing the Anacostia are high fecal coliform bacteria levels, low dissolved oxygen, toxic chemicals in sediment, and contaminated fish tissue.<sup>5</sup>

As required by the Clean Water Act, the District government has designated a series of uses that the Anacostia River is supposed to support: (1) navigation, (2) aquatic life support,

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<sup>1</sup> Resources for the Future, *Environmental Priorities for the District of Columbia: A Report to the Summit Fund*, Discussion Paper 97-04 (1996), at 45 (hereinafter *ADC Environmental Priorities*).

<sup>2</sup> The Potomac River Watershed Visions Project, URL: <http://www.gmu.edu/departments/bios/Potomac/visions/rept/intro.htm#5> (1996).

<sup>3</sup> Interstate Commission on the Potomac River Basin, *Anacostia: The Other River* (Reprinted 1998), at 5 (hereinafter *Anacostia: The Other River*).

<sup>4</sup> Clark, Leo J. and Marilyn Gower, *A Brief Review and Analysis of Recent Heavy Metals and PCB Data: Lower Anacostia River*, U.S. EPA Region III (October 1995), at 12.

<sup>5</sup> Government of the District of Columbia Department of Health, *1998 Water Quality Report to U.S. EPA and Congress Pursuant to Section 305(b) Clean Water Act* (April 1998) (hereinafter *305(b) Report*), at Appendix D, 3-6.

(3) swimming (known as Aprimary contact@), (4) other recreational uses such as boating (known as Asecondary contact@), and (5) fish consumption.<sup>6</sup> The River supports only one of those usesCnavigationCand partially supports one otherCaquatic life support. The River fails to support any of its other three designated uses.<sup>7</sup> In fact, in 1989, the District issued a public health advisory warning against the consumption of channel catfish, eel, and carp caught in the Anacostia and Potomac Rivers, due to the detection of PCBs and chlordane in the fish. A separate warning was issued in 1994 (and remains in effect) against eating any fish caught in District waters.<sup>8</sup>

## **B. Pollution Sources**

Pollution enters the District's waterways through a variety of conduits, most significantly separate storm sewers, combined sewer overflows, federal facilities, and water flowing into the District from Maryland. Because the relative contribution of each has not been fully assessed, the precise benefit associated with improved stormwater management cannot be determined. Nonetheless, by describing the pollution carried by each conduit to one of the District's riversCthe AnacostiaCthis section illustrates the relative importance (and limitations) of addressing the stormwater problem.

### **1. Stormwater**

A significant cause of pollution to the Anacostia River (as well as the Potomac River and Rock Creek) is stormwater runoff. During rain storms, water carries pollutionCincluding sediments, nutrients, bacteria, oil and grease, heavy metals, toxic chemicals and chloridesCfrom impervious surfacesCsuch as roads, sidewalks, rooftops, and parking lotsCinto sewers and rivers.<sup>9</sup> A frequently cited study from 1989 showed that between January and October 1989, stormwater runoff added (among other pollutants) approximately 400,000 pounds of zinc, 94,000 pounds of copper, and 22,000 pounds of lead into the District's rivers and creeks.<sup>10</sup>

Pollutants carried in urban runoff can kill fish and other aquatic organisms and can threaten human health through the following means:

- sediment increases the turbidity of water, reducing the populations of organisms that rely on direct sunlight;

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<sup>6</sup> 33 U.S.C. ' (c)(2)(A); *305(b) Report* at 1.

<sup>7</sup> *305(b) Report*, at Appendix D, 3-6.

<sup>8</sup> *DC Environmental Priorities*, at 22.

<sup>9</sup> African American Environmentalist Association, et al., *Our Unfair Share: A Survey of Pollution Sources in Our Nation's Capital* (June 1994), at 18 (hereinafter *Our Unfair Share*).

<sup>10</sup> Natural Resources Defense Council, *Poison Runoff: A Guide to State and Local Control of Non-point Source Water Pollution*, Washington DC (1989), cited in *DC Environmental Priorities*, at 18. Also cited in *Our Unfair Share*, at 18.

- nutrients promote excess algal and bacterial growth, depleting light and oxygen needed by fish and other organisms;
- heavy metals (such as lead, cadmium, copper, and zinc) affect the health of aquatic life and can adversely affect the health of people who consume contaminated drinking water or contaminated fish; and,
- toxic chemicals accumulate in fish tissue and can adversely affect the health of people who consume these fish.<sup>11</sup>

Stormwater pollution affects all of the District's rivers and streams. Due to the District's topography, however, the Anacostia receives a greater amount of metals and other contaminants via stormwater than do either the Potomac River or Rock Creek.<sup>12</sup> A recent study of pollution sources in the Anacostia watershed demonstrates that stormwater is a primary source of pollution to the sections of the Anacostia within the District of Columbia. For example, in the highly urban, industrial Hickey Run subwatershed in Northeast Washington, stormwater carried through the separate sewer system carries petroleum hydrocarbons, nitrogen, phosphorus, and other pollutants into the Anacostia and its tributaries.<sup>13</sup>

## 2. Combined Sewer Overflows

Separate storm sewers carry rain from 65% of the District's land area directly into the Anacostia and Potomac Rivers and Rock Creek. The remaining 35% of the land area is served by combined sewers that carry both stormwater and sewage to the Blue Plains Water Treatment plant. Under dry or light rain conditions, Blue Plains is able to treat all of the water that enters the sewers. However, during heavier rains, the combined sewer pipes fill above capacity. At these times, the stormwater runoff and raw sewage overflow directly into District waterways through 60 drains designed specifically for that purpose.<sup>14</sup> These combined sewer overflows (ACSOs) occur approximately 60 times per year, with an average overflow of 40 million gallons per occurrence. Thus, the total annual overflow of stormwater mixed with raw sewage is approximately 2,400 million gallons.<sup>15</sup>

CSOs deposit large amounts of nitrogen, phosphorous, and suspended solids into water bodies in the District.<sup>16</sup> The majority of CSO drains empty into the Anacostia River, and CSOs are the largest source of bacterial pollution of the Anacostia.<sup>17</sup> After rainfall, the Anacostia

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<sup>11</sup> *Our Unfair Share*, at 18-19.

<sup>12</sup> *Id.*, at 17. Interstate Commission on the Potomac River Basin, AICPRB Study Assesses Anacostia Sediment Pollution, *Potomac Basin Reporter*, 49(1) (January 1993), cited in, *DC Environmental Priorities*, at 18.

<sup>13</sup> *Existing Source Assessment*, at 2-64 and 3-32.

<sup>14</sup> *Anacostia: The Other River*, at 6.

<sup>15</sup> National Wildlife Federation, *Combined Sewer Overflow* (1992), at 8, cited in *Our Unfair Share*, at 20.

<sup>16</sup> *DC Environmental Priorities*, at 19.

<sup>17</sup> *Id.*

regularly exceeds public health standards for coliform bacteria, a pollutant typically associated with raw sewage.<sup>18</sup>

### 3. Pollution Caused by Federal Facilities

Federal government facilities also contribute to the degradation of the District's waterways, particularly the Anacostia River. The Bureau of Printing and Engraving, located on the Washington Channel, exceeded the terms of its wastewater discharge permit repeatedly in the early 1990s and had problems with leaking PCB tanks before then. As of 1994, there were also more than two dozen leaking underground storage tanks (LUSTs) on federal land. These tanks slowly leak petroleum and other hazardous substances into the soil, groundwater, and District surface waters. In 1994, the U.S. Naval Observatory (5 LUSTs), Bolling Air Force Base (5 LUSTs), and Fort McNair (3 LUSTs) were among the largest on-site sources of leaking tanks in the District.<sup>19</sup>

The Interstate Commission on the Potomac River Basin found that the most severe degree of biological impairment of the Anacostia River is in the section near the federally-owned Washington Navy Yard.<sup>20</sup> A 1994 evaluation of the potential risks from hazardous substances at the Navy Yard found that surface water flowing from the Navy Yard into the Anacostia River to be a likely source of pollution and a risk to human health and the environment.<sup>21</sup> A recent lawsuit by the Earth Justice Legal Defense Fund alleging that the Navy Yard was discharging pollutants into the Anacostia in violation of the Clean Water Act resulted in a consent decree requiring further study and clean-up of the site.<sup>22</sup> In July 1998, EPA added the Washington Navy Yard to the National Priorities List as a Superfund site. Among the initial clean-up actions to be taken by the federal government are the investigation and removal of contaminated sediments from the stormwater system.<sup>23</sup>

The federal government owns 40% of the land in the District of Columbia, including nearly all the sensitive low-lying, riparian, or shoreline areas of the Potomac River, the Anacostia River, and Rock Creek.<sup>24</sup> Thus, not only do federal facilities such as the Navy Yard contribute

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<sup>18</sup> *Id.*

<sup>19</sup> *Our Unfair Share*, at 42-43.

<sup>20</sup> Interstate Commission on the Potomac River Basin, *Sediment Contamination Studies of the Potomac and Anacostia Rivers around the District of Columbia* (1992), at 131, cited in *Barry Farm Resident Council, Inc., et al. v. United States Department of the Navy et al.*, Plaintiffs' Motion for Summary Judgment, at 28.

<sup>21</sup> PRC Environmental Mgmt., Inc., *Draft Preliminary Assessment Score* (August 1, 1994) exhibit 13; cited in *Barry Farm Resident Council, Inc., et al. v. United States Department of the Navy et al.*, Plaintiffs' Motion for Summary Judgment, at 14-15.

<sup>22</sup> *Barry Farm Resident Council, Inc., et al., v. United States Department of the Navy, et al.*, Nos. 1:96CV01450 HHG and 1:96CV01700 HHG (D.D.C.).

<sup>23</sup> U.S. EPA, Office of Emergency and Remedial Response, *National Priority List Site Narrative at Listing* at <http://www.epa.gov/superfund/oerr/imp.products/npl/nar1503.htm>, August 19, 1998.

<sup>24</sup> Federal Agencies Committee of the Chesapeake Bay Program, *Special Tributary Strategy for*

to the contamination of the Anacostia, but a large amount of the stormwater that enters the Anacostia flows across federal land.

#### 4. Pollution Originating in Maryland

Approximately 83% of the Anacostia Watershed and virtually all of the tributaries that feed the tidal Anacostia River are within Maryland.<sup>25</sup> The water quality in these tributaries varies substantially. The Northeast Branch, which contributes 65% of the flows that reach the tidal Anacostia (most of which is in the District), was rated by the Interstate Commission on the Potomac River Basin in 1994 as having poor water quality, due to its high temperature, nutrient, bacteria, and alkalinity levels.<sup>26</sup> Thus, the Anacostia River is already polluted when it enters the District of Columbia, although the relative amount of pollution originating in Maryland is unclear.

The District should not use the fact that some pollution of the Anacostia originates in Maryland as an excuse not to reduce pollution of the Anacostia that arises in the District. Indeed, until the District improves its own water pollution control program to comply with the terms of the Clean Water Act, the District will lack the credibility to criticize Maryland's pollution of the Anacostia, let alone work with Maryland on regional solutions to water pollution. Accordingly, the District must put its own water pollution control programs in order, including the program required by the Clean Water Act's stormwater provisions.<sup>27</sup>

In discussions with DC Appleseed, both federal and District officials have emphasized that the problem of polluted stormwater runoff in the District requires immediate attention. To assist the District in addressing this issue, DC Appleseed proposed to make recommendations concerning several outstanding issues that have frustrated the District's ability to implement a comprehensive stormwater management program and to meet federal Clean Water Act obligations. The remaining sections of this report address those issues.

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*Federal Lands in the District of Columbia* (March 1996).

<sup>25</sup> *Existing Source Assessment*, at 2-2.

<sup>26</sup> Interstate Commission on the Potomac River Basin, *Restoring the Northeast Branch* (May 1994), at 6.

<sup>27</sup> Of course, the federal government also has an obligation in this regard: to support both state and interstate efforts to clean waterways such as the Anacostia that run through multiple jurisdictions. Specifically, the Clean Water Act provides that the goal of protecting and maintaining the nation's waters through mechanisms such as stormwater management should be carried out, in part, through the provision of federal technical services and financial aid to State and interstate agencies and municipalities in connection with the prevention, reduction, and elimination of pollution. 33 U.S.C. § 1251(b) (1998).

## II. THE DISTRICT'S STORMWATER OBLIGATIONS

### A. The District's Current Stormwater Program

The District's delay in securing a stormwater permit has meant that certain aspects of its stormwater program remain unfulfilled. For example, the District has done little in the areas of public education, inspections, and enforcement of stormwater requirements. However, the District is currently performing some functions related to stormwater management. Responsibility for these various programs—the most important of which are described below—are shared by the Department of Health's Environmental Health Administration (ADOH-EHA<sup>28</sup>), the Department of Public Works (ADPW<sup>29</sup>), and the Water And Sewer Authority (AWASA<sup>30</sup>).

#### 1. Department of Health-Environmental Health Administration

DOH-EHA is responsible for the regulatory aspects of the current program, including (1) reviewing developers' plans to comply with the District's stormwater management and erosion and sediment control regulations, (2) monitoring compliance with management plans through inspections, and (3) investigating illegal connections and illegal discharges to the District's sewers. In practice, the main part of the program involves reviewing stormwater management plans to ensure that new development and re-development in the District does not pollute the District's waterways. The regulatory program requires that, before construction begins, each developer submit a stormwater management plan to DOH-EHA for approval.<sup>28</sup> Specifically, the regulations state that: "[N]o person shall, unless exempt, engage in any earth movement or land change within the District of Columbia without instituting appropriate storm water management measures to control or manage runoff from such developments."<sup>29</sup>

The regulations exempt a variety of activities. Most notably, construction activities that do not disturb more than 5,000 square feet of land area are exempt, as are minor modifications to residential structures, such as the addition of swimming pools and garages.<sup>30</sup> The regulations also allow for waivers and variances in certain situations.

Developers' stormwater management plans must comply with several requirements. Primary among them is that the plans ensure that stormwater flow will not increase after development.<sup>31</sup> Controlling flow allows sufficient time for pollutants to settle before stormwater is swept into the storm sewers, and is therefore an important strategy for reducing polluted runoff.

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<sup>28</sup> Regulations implementing the program are set out in Title 21 of the D.C. Municipal Regulations, §§ 500-599. More detailed information concerning the program's requirements are set out in the District's *Stormwater Management Guidebook*. (District of Columbia, Department of Consumer and Regulatory Affairs, Soil Resources Branch, Stormwater Management Section, *Stormwater Management Guidebook* (Feb. 1988) (hereinafter *AGuidebook*)).

<sup>29</sup> D.C. Mun. Regs. Tit. 21, § 526.1.

<sup>30</sup> D.C. Mun. Regs. Tit 21, § 527.1.

<sup>31</sup> *Id.*, at § 529.2(a).

This requirement can be achieved by implementing what are known as Best management practices (BMPs), ranging from simple landscaping to building structures to retain or detain stormwater. The regulations impose additional requirements on new or re-developed facilities that are potential sources of oil and grease contamination or that are used to confine animals. These requirements are focused on water quality; they state that discharges from such facilities shall not contribute to violations of water quality standards in the District.<sup>32</sup>

Other stormwater activities performed by DOH-EHA include reviewing plans for compliance with the District's erosion and sediment control requirements during construction, conducting inspections for compliance with stormwater plans, and revising stormwater regulations. DOH-EHA is the District agency with primary responsibility for enforcing the District's regulations that prohibit illegal discharges into and illegal connections to the District's sewers. However, the District has no formal inspection program to uncover violations. Rather, DOH-EHA only responds to complaints, and refers serious cases to EPA. DOH-EHA which is currently funded through a combination of appropriated and grant funds has a budget of just under \$1 million for fiscal year 1999 for stormwater related activities.<sup>33</sup> DOH-EHA is also planning to form a new Office of Enforcement and Regulatory Compliance with responsibility for assuring compliance with management plans and combating illegal discharges, but is still seeking funding for such an office.<sup>34</sup>

## 2. Department of Public Works

DPW's primary responsibility under the current stormwater management program is street sweeping.<sup>35</sup> In addition to its public health and aesthetic benefits, street sweeping is designed to remove pollutants which accumulate in the street and which are often washed into waterways via stormwater. The amount of street sweeping performed in the District varies among wards. Some downtown areas are mechanically cleaned nightly or weekly. Many other areas of the District are

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<sup>32</sup> *Id.*, at ' 529.2(d)-(e). The regulations provide significant discretion to DOH-EHA regarding the specific practices that must be instituted. However, as a practical matter, the main control used in the District at this time is the sand filter, a water quality control device which is made up of multiple chambers that contain sand. When it rains, stormwater is routed into the device. If properly designed and maintained (which includes cleaning), the sand filters out many of the pollutants in stormwater, and cleaner water comes out of the filter and is routed into the storm sewers. The sand filter also helps to reduce flow during the "first flush" from rain storms by slowing down entry of stormwater into the sewers as the water is filtered through the device. The sand filter is the preferred control method for development where oil and grease is a significant problem, such as in parking garages. Interview with Tim Karikari, SRMD Engineer, August 19, 1998.

<sup>33</sup> *District of Columbia National Pollutant Discharge Elimination System (NPDES) Part 2- Storm Water Permit Application at 7-2* (Nov. 4, 1998) (hereinafter *Part II Application*).

<sup>34</sup> *Id.*

<sup>35</sup> The Department of Public Works was historically responsible for stormwater. The former Water and Sewer Utility Administration within DPW was responsible for many stormwater management functions including cleaning debris from the Anacostia shoreline; this administration was transferred out of DPW in 1996 and became WASA.



mechanically and/or manually cleaned every four to eight weeks.<sup>36</sup> DPW's fiscal year 1999 budget for street and alley cleaning is \$8.5 million.<sup>37</sup> Other DPW responsibilities that have a potential stormwater impact include hazardous waste collection, litter collection and control, snow and ice removal and control, and road maintenance and repair.

### **3. District of Columbia Water and Sewer Authority**

WASA is responsible for maintaining the District's separate and combined sewers, and has significant responsibility for addressing the District's CSO problem. In addition, WASA is responsible for cleaning catch basins, which involves cleaning trash and debris from the storm drain inlets. Of the 25,000 catch basins that it is responsible for cleaning (two-thirds of which are connected to the separate sewers), WASA currently cleans approximately 16,000 per year.<sup>38</sup> The catch basin program has an annual cost of \$1.9 million and includes 14 full-time equivalent employees.<sup>39</sup> WASA also repairs and maintains sewers that become blocked or otherwise inoperable.

WASA's other stormwater-related responsibilities include monitoring of water quality in the Anacostia and Potomac Rivers, and removing floating debris from the Anacostia. Presently, there is no identified source of funding for WASA's stormwater-related operations. Those costs are currently covered through water and sewer fees.

#### **B. Clean Water Act Stormwater Requirements Applicable to the District**

##### **1. Legal and Regulatory Requirements**

Although the activities described above are important parts of addressing polluted runoff, the federal Clean Water Act requires development of a comprehensive stormwater program, which the District has not done. The Clean Water Act regulates stormwater discharges from industrial and municipal sources.<sup>40</sup> The District, because it serves a population of over 100,000 people, must obtain a Clean Water Act Phase I discharge permit for its municipal separate storm sewer system (MS4). The Clean Water Act mandates that the District create a system to prevent non-stormwater discharges from entering storm sewers and establish practices to reduce discharges of pollutants to waterways through stormwater.<sup>41</sup>

Under EPA promulgated rules, the District was required to submit a Part I permit application by November 18, 1991, including the following:

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<sup>36</sup> *Part II Application*, at 5-9.

<sup>37</sup> *Id.*, at 7-1.

<sup>38</sup> *Id.*, at 5-10.

<sup>39</sup> *Id.*, at 7-1.

<sup>40</sup> 33 U.S.C. ' ' 1251 - 1387 (1994).

<sup>41</sup> 33 U.S.C. ' 1342(p)(3)(B).

- a description of legal authority to control discharges;
- source identification information, such as maps indicating where sewer outfalls are located;
- discharge characterization information, such as quantitative data on the volume and quality of discharges from the MS4;
- a description of the existing stormwater management program; and
- a description of financial resources available to the municipality, including the municipality's budget for stormwater programs.<sup>42</sup>

The District was also required by November 16, 1992 to submit a Part II permit application.<sup>43</sup> The Part II application requires much more detailed information, including:

- a demonstration of *adequate legal authority* to control pollution;
- a description of *major pollution outfalls* not described in the Part I application;
- *characterization data* that quantifies pollutants from representative outfalls and estimates the cumulative amount of pollutants from all identified outfalls, as well as providing a description of a monitoring program for data collection;
- a *management program* that includes a description of measures to reduce pollutants from runoff from commercial and residential areas, an estimate of the expected reduction of pollutants, and a schedule for implementing such controls;<sup>44</sup> and
- a *fiscal analysis* detailing the annual capital and operation and maintenance expenditures that will be needed to accomplish the programs, the source of funds, and legal restrictions on the use of those funds.<sup>45</sup>

## 2. The District's Compliance Record

Despite these legal requirements, the District did not submit a Part II permit application until November 1998, and was apparently the last municipality with a large MS4 system to do so.<sup>46</sup> Thus, for the six years since the 1992 deadline, the District has been subject to an enforcement action by EPA at any time. Federal and District officials agree that there are two issues which have contributed most to the delay in the District's submitting an application and

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<sup>42</sup> 40 C.F.R. ' 122.26 (1998).

<sup>43</sup> 40 C.F.R. ' 122.26(e)(3)(iii).

<sup>44</sup> The most significant requirements for the management plan include descriptions of (1) maintenance activities and a maintenance schedule for structural controls to reduce pollutants, (2) planning procedures to develop, implement, and enforce controls to reduce the discharge of pollutants from sewers that receive discharges from areas of new development and significant redevelopment, (3) practices for operating and maintaining public streets, roads, and highways and procedures for reducing the impact on receiving waters of discharges from sewers, and (4) educational activities.

<sup>45</sup> 40 C.F.R. ' 122.26(d)(2).

<sup>46</sup> Phone interview with Bryan Rittenhouse, Acting Manager, Phase I Stormwater Program, U.S. EPA, November 1998.

implementing a comprehensive program: (1) no lead agency has been placed in charge of the District's stormwater management program; and (2) no government agency has been appropriated sufficient, dedicated funds to undertake the requirements of a full stormwater management program.

The District must resolve these two issues—management and financing—if it is to address adequately the multi-faceted problem of stormwater runoff. Those issues are not resolved in the District's November 1998 Part II application. Instead, DC Appleseed understands, the District's November 1998 application is merely an interim permit application containing details about the District's current activities related to stormwater management. Thus, the application contains few details about the substance of the future program and fails to include a detailed description of the program's management plan. In order to address stormwater runoff comprehensively and comply with federal law, the District must immediately develop a more complete program that addresses the shortcomings of current stormwater-related activities.

The District must make three basic decisions to create a successful stormwater program pursuant to a permit: who will run the program; how the program will be financed; and what the program will substantively do. Those issues are addressed in the final three sections of this report.

### III. FINANCING THE STORMWATER PROGRAM

Stormwater management programs necessitate capital expenditures<sup>47</sup> as well as funding for operations and maintenance.<sup>48</sup> Typically, the costs of municipal stormwater programs are funded through real property taxes, general revenues, or user fees.<sup>49</sup> For the reasons detailed below, DC Appleseed recommends that the District (1) fund its stormwater program through a user fee, and (2) take steps necessary to ensure that the federal government—as the largest property owner in the District—and nonprofit entities pay their fair share of the revenue generated through a user fee.<sup>50</sup>

#### A. The Cost Per Homeowner

The most recent estimate of the District's annual stormwater cost is \$23.2 million both to fund operations and maintenance and to finance capital expenditures.<sup>51</sup> However, that estimate is over two years old, and was not based on the District's programmatic goals or the specific government programs needed to achieve those goals. Thus, DC Appleseed cannot estimate the precise amount the District will charge residential and non-residential property owners for stormwater services. Nonetheless, the range within which a residential user fee might fall can be gleaned from a two-year-old consultant's report to the District and a nationwide survey of stormwater utilities.

A 1996 draft stormwater permit application prepared by PEER Consultants estimates that, if the District charged a user fee, each homeowner would pay \$40 annually for stormwater services.<sup>52</sup> That estimate is generally consistent with the range of fees charged to homeowners by jurisdictions with populations of similar size to the District's (523,000). As detailed in the chart below, the fees charged in jurisdictions serving between 250,000 and 750,000 people ranged from

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<sup>47</sup> Including constructing, repairing, and improving sewer lines, purchasing and installing new technologies (ranging from catch basins to swirl concentrators), and modifying physical structures (such as streets, gutters, and culverts) to redirect stormwater away from sewer lines.

<sup>48</sup> Including street sweeping, cleaning catch basins, public education, and devising and revising regulations.

<sup>49</sup> See, generally, *Survey of Local Stormwater Utilities*, National Association of Flood and Stormwater Management Agencies (2d ed. 1996) (hereinafter *ASurvey*®).

<sup>50</sup> In addition to capital and operations and maintenance costs, there will be a short term cost associated with establishing a comprehensive stormwater program, including the establishment of a long-term funding mechanism such as a user fee system. These short-term costs should be financed through an existing funding mechanism, such as the General Fund.

<sup>51</sup> District of Columbia DCFA #309 WSU NPDES Part 2- Stormwater Permit Application, PEER Consultants, P.C. (April 1996), at 7-6 (hereinafter *PEER Report*®). While preparing this report, DC Appleseed requested a current estimate of the amount of funding that will be required for the stormwater program, and was told that such an estimate has not been developed.

<sup>52</sup> *Id.* The *PEER Report* does not specify whether the \$40/homeowner amount would finance all stormwater-related costs (including, for example, existing street sweeping), or only those new costs that would be incurred by the District under a federal stormwater permit.

\$3 to \$132 per year. The average annual residential fee for all jurisdictions surveyed was approximately \$30, where the average population served was 690,000.<sup>53</sup>

**SURVEY OF AVERAGE STORMWATER FEES PER HOMEOWNER**<sup>54</sup>

<i>Jurisdiction</i>	<i>Population Served</i>	<i>Average Annual Fee</i>
City of Sacramento (CA)	385,000	\$132
Sacramento County (CA)	650,000	\$26
City of Stockton (CA)	250,000	\$25
Louisville & Jefferson County (KY)	685,000	\$34
Charlotte Storm Water Svcs. (NC)	500,000	\$35
Cincinnati Stormwater Mgt. (OH)	358,170	\$25
City of Columbus (OH)	650,000	\$20
City of Tulsa (OK)	375,000	\$33
City of Portland (OR)	460,000	\$63
City of Arlington (TX)	280,000	\$16
City of Austin (TX)	500,000	\$3
Norfolk DPW (VA)	260,000	\$54
City of Seattle (WA)	500,000	\$85

**B. Possible Sources of Revenue**

**1. Real Property Taxes**

One possible source of revenue for the District's stormwater management program is an increased tax on real property. There is some logic to such a revenue source. By developing real estate, property owners cause land to become more impervious, which increases flow to stormwater drains and necessitates governmental investment in stormwater management systems. However, as described below, the District should not use property taxes to fund the stormwater program because of the legal prohibition against the District's taxing federal property located in the District, which amounts to 40% of the total land area, as well as property owned by nonprofit organizations.

Property taxes for stormwater are typically assessed on a tiered, per acre basis, with commercial and residential properties being assessed at different levels. Commercial properties

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<sup>53</sup> The National Association of Flood and Stormwater Management Agencies, *Survey of Local Stormwater Utilities* (2nd Ed.) (1996).

<sup>54</sup> *Id.*

are sometimes divided even further based on types of usage, so that different per acre rates are applied to apartment buildings, light industry, heavy industry, etc. Per acre property taxes are most frequently used to collect stormwater management revenue from residential property owners, and are not as often used to tax commercial properties.

There are several limitations to property tax systems. First, if the rate is flat and fees vary based only on acreage, property taxes fail to take into account the relative demand each parcel places on the stormwater system. Accordingly, more developed parcels of property will be relatively under-taxed, and less developed properties will be over-taxed.<sup>55</sup>

Second, and more important, the District cannot collect property taxes from certain property owners. The largest category of non-taxable property is owned by the federal government and by the many international and diplomatic institutions located in the District.<sup>56</sup> While the rule against taxing such property applies to all municipalities and states, the District bears a uniquely large burden for an urban jurisdiction. Specifically, because it is home to the federal government, 42% of all property (by land area) in the District is owned by the federal and foreign governments (*i.e.*, for use as embassies) and international institutions.<sup>57</sup> Furthermore, the District of Columbia Code exempts from taxation an additional 15% of property (including that held by religious, educational, and charitable institutions).<sup>58</sup> In other words, only 43% of the real property located in the District is taxed.

If funded through a real property tax, 100% of the District's stormwater management program would be paid for by those who own only 43% of property. Accordingly, implementing such an inequitable tax structure would be ill-advised, particularly in light of other available funding mechanisms that are more equitable.

## 2. General Revenues

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<sup>55</sup> To adjust for relative demands on stormwater systems, many cities have established a second system for taxing property, which is generally referred to as a special assessment. These assessments which typically apply to commercial parcels commonly involve calculating the impervious surface area on a land parcel and then applying a fee based on impervious square footage. Because these assessments are often identical to formulas used to calculate user fees, they will be addressed in the user fee section below.

Either flat fees or special assessment property taxes can be targeted to a specific geographic area within a city through a local improvement district. Under this property tax system, only parcels of property that benefit from particular stormwater projects would be assessed to fund the project. While this system more equitably matches costs and benefits, it may be more difficult to administer than a citywide tax.

<sup>56</sup> *McCulloch v. Maryland*, 17 U.S. (4 Wheat) 316 (1819). See also DC Appleseed Center, *The Case for a More Fair and Predictable Federal Payment for the District* (Nov. 2, 1995), at 10-12, 38-39 (hereinafter *ADC Appleseed Federal Payment Report*).

<sup>57</sup> *DC Appleseed Federal Payment Report*, 10-11, Exhibit 3.

<sup>58</sup> 10 DC Code ' 47-1002(11). In addition to general provisions exempting educational, religious, and other nonprofit institutions from real property taxation, D.C. law expressly exempts from taxation the real property owned by 36 named organizations, such as the American Chemical Society and the Brookings Institution. *Id.*

Rather than tying funding to a particular tax (such as that on property), the District could fund its stormwater management program through its general revenue, known as the General Fund. Using that revenue is also inadvisable. Some of the revenue in the General Fund is derived from property taxes, and, as noted above, there is an important equitable argument against raising property taxes for stormwater management.

Moreover, because there are so many other government programs competing for General Fund revenues, the stormwater program's funding would be less secure if financed through this mechanism. Indeed, the District's inadequate attention to federal stormwater requirements over the past several years indicates that stormwater management is not high on the District's policy agenda. Accordingly, we recommend that the District not finance its stormwater management program with General Fund revenues.

### 3. User Fees

A third option for funding stormwater management would be through a user fee, which has the best chance of any funding mechanism to avoid the pitfalls associated with funding the stormwater program through real property taxes or General Fund revenue. Unlike property taxes, user fees can be assessed against a broad base of payors, including the federal government, embassies, and other nonprofit organizations. For example, water and sewer fees are charged to tax exempt property owners in the District (including the federal government) based on the amount of services those institutions use.

Users of stormwater services are typically defined as property owners, whose developed land (and the streets granting access to that land) causes stormwater to flow into sewers, thereby creating the governmental expense necessary to manage stormwater. While there is some uncertainty as to whether a stormwater user fee will legally be considered a tax, it is likely that the District (particularly if it follows the recommendations outlined below<sup>59</sup>) can collect revenue from the federal government and nonprofit institutions by establishing a user fee. Moreover, a user fee has the advantage of allowing for the creation of a dedicated source of revenue, thereby reducing the likelihood that stormwater management will be under-funded. For these reasons, a well-designed user fee is the best mechanism for the District to employ to fund stormwater management.

Legally, a revenue source is not a user fee simply because it is charged to those who use the stormwater sewers. In some cases, for example, municipalities have added a fee to water and sewer bills to pay for stormwater management, and have assessed it at a flat rate per user or based the fee on the amount of water utilized. Such fees are not truly user fees, as they bear little to no relationship to the use of stormwater management services, but instead are based on use of water and sewer services. Indeed, such fees are simply taxes on those who use water and sewer

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<sup>59</sup> See Recommendation to the District section at pages 18-20.

services. Some have suggested that stormwater user fees too are really just hidden property taxes. While no definitive answer is available, recent court decisions lend some guidance.

### C. The Federal Government's Contribution<sup>60</sup>

While immune from taxes imposed by states and the District of Columbia, the federal government can be required to pay for stormwater services under two circumstances. First, as noted above, the federal government can be charged a user fee for services it receives.<sup>61</sup> In addition, the federal government can waive its sovereign immunity and consent to payment if it does so clearly and unambiguously.<sup>62</sup>

A recent federal court decision, *Cincinnati v. United States*,<sup>63</sup> illustrates the significant difficulties the District may have in constructing a utility fee which would be considered a user fee rather than a tax by the courts. *Cincinnati* imposes a storm drainage service charge on the owner of each lot and parcel of land in the city, and calculates the fee by estimating the stormwater runoff from each property based on intensity of development and square footage. The case arose when *Cincinnati* brought a claim against the United States, seeking payment of over \$61,000 for past due storm drainage service charges from property owned and occupied by the National Institute of Occupational Safety and Health.

The Federal Court of Claims granted the United States' motion to dismiss *Cincinnati's* claim, holding that the storm drainage service charge was an impermissible property tax rather than a permissible user fee. Although the court recognized that a city could assess charges for the actual use of services by the federal government, the court found that *Cincinnati's* fee was not sufficiently based on actual use. The court reasoned that in a month of drought or flood, the estimate would not accurately reflect the actual use of the sewers, and, therefore, the charge resembled a property tax more than a user fee.

This decision was subsequently affirmed by the Court of Appeals for the Federal Circuit.<sup>64</sup> However, the Federal Circuit did not reach the question of whether the utility charge was a user fee or a tax. Instead, it held that the Federal Court of Claims, which has limited jurisdiction, did not have jurisdiction to decide this case. Therefore, the constitutional issue did not need to be reached. As a result, *Cincinnati* expects to refile the case in the near future in a federal district court that would have jurisdiction.<sup>65</sup>

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<sup>60</sup> For a more detailed legal discussion of this issue see Appendix I.

<sup>61</sup> *United States v. Columbia*, 914 F.2d 151 (8th Cir. 1990).

<sup>62</sup> *Hancock v. Train*, 426 U.S. 167 (1976).

<sup>63</sup> 39 Fed. Cl. 271 (1997).

<sup>64</sup> *Cincinnati v. United States*, 153 F.3d 1375 (Fed. Cir. 1998).

<sup>65</sup> See Phone interview with John Williams, attorney for *Cincinnati*, November 11, 1998.



What, then, is the practical effect of the *Cincinnati* case? Although the case would not be binding on any subsequent court, it is important in at least two respects. First, it illustrates that federal agencies may resist paying stormwater user fees. In fact, at least one other agency in *Cincinnati* has declined to pay a similar fee, citing the *Cincinnati* case.<sup>66</sup> Second, the case shows that the law is unclear in this area, and the District cannot be confident that a utility fee would be upheld in court if challenged by a federal agency in the District.

#### **D. Nonprofit Organizations= Contributions**

In addition to being challenged by federal agencies under the constitutional property tax exemption, a stormwater user fee could be challenged by nonprofit entities including embassies, churches, and charitable organizations that are exempted from property taxes by District law.<sup>67</sup> Those organizations too could refuse to pay a stormwater user fee assessed by the District, making the same general argument that federal agencies might make: the fee is merely a hidden property tax from which these entities are exempt. However, the disputes would be resolved under District law rather than federal constitutional law.

Of course, because the District does not charge a stormwater utility fee, D.C. case law does not specifically answer the question of whether such a fee can be charged to entities exempted from property taxes by District law. Moreover, DC Applesseed found no reported D.C. Court case that considers the question of whether other user fees (such as water and sewer charges) should be considered impermissible property taxes. And, while courts in several other states have directly addressed the issue of whether a stormwater utility is a user fee or property tax under state constitutional or statutory law provisions that limit property taxation, these decisions merely reflect the unsettled nature of the law. While several courts have found that a stormwater utility fee is not a property tax and can, therefore, be assessed against organizations that are exempt from property taxes under state law,<sup>68</sup> others have reached the opposite conclusion when faced with similar facts.<sup>69</sup>

There is, unfortunately, little consistency among state courts, or between federal and state courts, regarding what constitutes a user fee as opposed to a property tax. The uncertain nature of the law is highlighted by two relatively recent court decisions that applied different legal standards to the same set of facts and drew opposite conclusions. In *United States v. Huntington*,

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<sup>66</sup> See *id.* (indicating that the Veterans Administration in *Cincinnati* had recently refused to pay the fee).

<sup>67</sup> 10 D.C. Code 47-1002.

<sup>68</sup> See, e.g., *Roseburg School District v. Roseburg*, 851 P.2d 595 (Or. 1993) (holding that stormwater service fee is not a property tax in part because it can be imposed on occupants of property who are not owners); *Long Run Baptist Ass'n. v. Louisville and Jefferson County Metropolitan Sewer District*, 775 S.W.2d 520 (Ky. App. 1989) (holding that stormwater drainage fee is not a tax); see also *Twietmeyer v. Hampton*, 497 S.E.2d 858 (Va. 1998) (finding that Hampton's stormwater management fee was sufficiently based on amount of contribution to stormwater runoff to meet enabling statute's requirements); *Smith Chapel Baptist Church v. Durham*, 502 S.E.2d 364 (N.C. 1998) (upholding Durham's stormwater management program against variety of state and federal statutory and constitutional challenges).

<sup>69</sup> See, e.g. *Bolt v. Lansing*, 1998 WL 898854 (Mich. Dec. 28, 1998) (applying three-part test and holding that a municipality's stormwater utility fee is a property tax under state constitution).

a federal Court of Appeals held that city ordinances imposing fees for fire services and flood protection based on the square footage of a building could not be charged to federal agencies because, the court held, the fees were really taxes and not user fees under federal constitutional law.<sup>70</sup> Yet, just three years later, the West Virginia Supreme Court of Appeals found that it was not bound by this federal decision, and held that the same fees for fire services and flood protection were user fees and not taxes under state law.<sup>71</sup>

#### **E. Recommendation to the District**

Because there is a risk that a federal agency or nonprofit organization could at any time decline to pay a user fee and it is unclear whether a court faced with such facts would rule for the District, it is important for the District to minimize the risk that it will be unable to collect stormwater fees from federal agencies and nonprofit organizations. The District should take two separate approaches to reduce that risk: (1) design a stormwater user fee that both is feasible and has the best chance to meet the *Cincinnati* test, and (2) find a political solution to the issue.

The District should finance its stormwater costs through a user fee that, at the very least, attempts to estimate contribution to runoff based on impervious surface. If such a fee structure were similar to that used by *Cincinnati*, it would subject the District to some risk that the federal government or nonprofit entities will refuse to pay. If challenged in court, the District would argue that the utility fee is a user fee and not a tax, and that the *Cincinnati* case was wrongly decided. This strategy would involve substantial uncertainty because, as stated above, the case law is not clear in this area, and a court could adopt the logic of the *Cincinnati* case and refuse to force federal agencies or nonprofit entities to pay. However, even a user fee like that employed by *Cincinnati* would be far better than a tax, which could not be legally charged to the federal government or any nonprofit organization absent their consent.

The District could try to refine the user fee in order to address the issues raised by the *Cincinnati* court. For example, the District could vary the utility fee quarterly based on actual rainfall (perhaps during the prior year) in order to respond to one of the main reasons for the *Cincinnati* decision—that the *Cincinnati* fee was not based on actual usage, as proven by the fact that, under the *Cincinnati* fee structure, fees were charged for periods of time when no rain fell. As long as the per user costs were calculated to yield the aggregate annual revenue needed to pay for the stormwater program, such a system would serve the purpose of funding stormwater management while adding a measure of protection against nonpayment by the federal government and nonprofit entities.<sup>72</sup>

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<sup>70</sup> 999 F.2d 71 (4th Cir. 1993).

<sup>71</sup> *Huntington v. Bacon*, 473 S.E. 2d 743 (W. Va. 1996).

<sup>72</sup> Such a system could account for lost revenue in extended periods of low rainfall or drought through several possible mechanisms, including the creation of a reserve fund through the assessment of slightly higher fees during non-drought periods.

However, designing such a system may prove difficult for the District, particularly in the short term. Creating such a system would require that the District develop a uniquely sophisticated user fee model, which the District may not have the capacity to do in the near future. Moreover, substantial variations in the revenue collected quarterly might make administration of the program difficult, particularly because the revenue would have to be distributed to a number of agencies with stormwater responsibilities. Substantial variations in the fee from quarter to quarter might also confuse the public, and could lead to diminished public support for the stormwater program. Finally, while this system would improve the legal defensibility of the user fee, there is no guarantee that such a system would meet the test set forth in the *Cincinnati* case. Because the user fee would be based on a rough estimate of actual use of the system, it is possible that a court applying the *Cincinnati* test would categorize the fee as an impermissible tax.

Regardless of how the user fee is structured, there is some chance that a court will uphold a challenge of the user fee by the federal government or a nonprofit entity. Accordingly, in addition to implementing a well constructed user fee system, the District should reduce the risk that a legal challenge will be brought by attempting to gain commitments from the federal government and nonprofit organizations that they will pay the stormwater user fee. Because of its large land holdings in the District, negotiations with the federal government should be a priority.

A commitment by the federal government could take a number of forms. One possibility would be for Congress to pass legislation specifically waiving immunity for such a stormwater user fee in the District. This would be the surest way to avoid the *Cincinnati* problem. Another possibility would be for the President to issue an executive order directing all federal agencies in the District to pay the fee, or for the executive branch to sign a memorandum of understanding with the District stating that federal agencies will pay. The least predictable (and therefore least desirable) solution would be to convince Congress to appropriate funds annually to the District for stormwater management.

An additional issue that the District will have to address is how much of the stormwater program to fund through the user fee. While DC Appleseed recommends that all *new* costs incurred under a federal stormwater permit be funded with user fee revenues, the District will have to decide how much (if any) of the costs for *existing* stormwater-related programs will be paid for through user fee revenues. For example, the District's street-sweeping program is a central element of most stormwater management plans and serves a variety of purposes, including pest control and beautification. The question for the District is whether some portion of its existing street sweeping (and other stormwater-related program) costs should be funded through a user fee, or, alternatively, the District should spend user fee revenues only on those street sweeping (and other stormwater-related program) costs newly required under the stormwater permit.

Several factors are relevant to making such a judgment. As noted above, equity favors funding all stormwater-related costs through a user fee because any other funding mechanism

would exempt the federal government and nonprofit organizations from paying their fair share. However, it may be practically difficult for the District to allocate only part of the cost of existing programs to stormwater management. For example, what portion of the street sweeping program is designed to keep trash from flowing through storm sewers, and what portion to prevent rodents from infesting city streets? The practical difficulties associated with allocating those costs may have legal implications as well. Specifically, if the District allocates stormwater user fee revenues to non-stormwater-related programs, the user fee will be an impermissible tax subject to challenge by the federal government and nonprofit organizations.

Political considerations are also germane to this decision. The larger the fee charged to each user, the more difficult it may be to garner the political support needed to establish and maintain a stormwater user fee. Thus, increasing the components of the program funded through the user fee (at least at the program's inception) may jeopardize the District's ability to establish a stable revenue source for the new stormwater program. For this reason, national stormwater experts with whom DC Appleseed spoke recommend that user fee revenues be used to fund only new (as opposed to existing) components of a stormwater program.<sup>73</sup>

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<sup>73</sup> See, e.g., comments of Douglas Harrison, Fresno Metropolitan Flood Control District, in meeting with D.C. government officials (January 19, 1999).

#### IV. MANAGING THE STORMWATER PROGRAM

There are two major questions that the District must answer relating to management of its MS4 program: (1) which entity will be in charge, and (2) what mechanisms will be put in place to ensure that the various agencies with stormwater functions act in a coordinated and responsible manner? In response to the first question, DC Appleseed recommends that WASA run the stormwater program because WASA is independent and because it is the only District agency that currently manages programs that are similar to those required for stormwater management (*i.e.*, operating combined sewers, billing individual users). There are three answers to the second question. First, a budget process should be established among all agencies with stormwater responsibilities to ensure that the stormwater program is rational and coordinated. Second, WASA and the D.C. government should be joint permit holders to ensure accountability by all agencies with stormwater responsibilities. Third, those agencies should enter into a memorandum of understanding detailing each agency's obligations under the program.

##### A. WASA as the Lead Agency

EPA guidance for developing stormwater programs makes clear that an essential element to a successful program is the creation of a single management agency charged with overall responsibility to plan and coordinate implementation and conduct and/or monitor operations and maintenance activities.<sup>74</sup> Indeed, the District's failure to identify a lead agency appears to be a major reason for its inability to comply with federal stormwater law over the past six years. Accordingly, the District should identify a lead agency and endow it with the necessary authority and resources to implement a successful stormwater program.

WASA is the clearest choice to run the stormwater program. First and foremost, WASA is independent from the rest of the District's government. WASA was separated from the rest of District government in order to prevent the District from continuing the practice of shifting funds collected for the purpose of maintaining the water and sewer system into the General Fund.<sup>75</sup> The separate stormwater program could also benefit from such independence. As described above, the District should fund the stormwater program through a dedicated user fee. Unless those funds are separated from other government assets, the serious, long-term environmental problems caused by polluted runoff may be ignored when more visible problems such as education and

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<sup>74</sup> U.S. EPA, Office of Water, "Developing Successful Runoff Control Programs for Urbanized Areas," August 1994 (EPA 841-K-94-003).

<sup>75</sup> Three major events in the mid-90s triggered the creation of an independent authority to manage the District's water and sewer facilities: deferred capital improvements and periodic shortages of chemicals at the Blue Plains wastewater treatment plant; an audit that revealed that the District had transferred almost \$100 million out of dedicated water and sewer funds to cover citywide budget shortfalls; and high bacterial levels in the drinking water system. After EPA and the surrounding suburban jurisdictions placed pressure on the District through enforcement and legal actions, WASA was created as a new, independent water and sewer agency. *See* District of Columbia Water and Sewer Authority Act of 1996, H.R. Rep. No. 104-635, 104th Congress, 2d Sess. (June 25, 1996).

crime prevention need additional funding. Placing this program in the control of an independent agency would avoid this danger.<sup>76</sup>

Second, WASA is already responsible for three functions central to administration of a stormwater system: maintaining sewer lines, addressing pollution that flows through combined sewers, and operating a billing system to collect user fees. The fact that WASA maintains sewer lines does not, in and of itself, favor WASA's establishment as the lead stormwater agency. Nonetheless, WASA's experience in this regard makes clear that it is familiar with an important component of stormwater management. Moreover, WASA's experience stemming combined sewer pollution supports WASA's being in control of the program. Specifically, strategies that reduce pollution and other ill effects caused by CSOs would also be helpful in reducing the amount of pollutants discharged through separate sewers. In addition, WASA currently bills customers throughout the Washington area for water and sewer fees. Rather than create an entirely new billing system, it makes sense to adapt the current WASA system to enable the collection of a stormwater fee as another category on the quarterly water/sewer bill. This presumably would be less of a shock to residents, who would simply see a small increase in an existing bill, than would the receipt of an entirely new bill each quarter. Although there will be some properties that are not currently billed for water/sewer services that would have to pay the stormwater fee (such as most parking lots), it will be far easier to update the WASA billing system than to create an entirely new system.<sup>77</sup>

Third, while there are other District agencies with major stormwater responsibilities, DOH and DPW's mission is focused on water. Both DOH and DPW have significant responsibilities in other areas, and focus on stormwater-related issues as a small part of their programs. Although DOH has a division which focuses on stormwater management, it is only one division among many and is by no means among the highest priorities for DOH.<sup>78</sup> Similarly, DPW has many disparate responsibilities, including physical infrastructure (*i.e.*, road/highway construction and maintenance), mass transit, snow removal, and solid waste collection and disposal. In fact, the District has begun to redistribute DPW's functions by removing the

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<sup>76</sup> Of course, having different government functions carried out by separate government entities funded with dedicated sources of revenue is not beneficial in all circumstances. The need to prioritize expenditures among governmental objectives favors centralizing decision making for programs as well as the revenue needed to fund them. Nonetheless, establishing a separate fund for the stormwater program is warranted due to the District's historical failure both to address stormwater management and to fund critical needs of the wastewater treatment system.

<sup>77</sup> Care should be taken not to impose requirements on WASA without providing necessary funding to fulfill those requirements. Indeed, stormwater responsibilities that would be given to WASA under the recommendations made in this report should not have the effect of diverting existing water and sewer revenues from being used to fund WASA's existing programs.

<sup>78</sup> DOH was established by the control board in late 1996 to serve as a central organization responsible for public health programs and health care financing operations. Most of its programs formerly resided in the vast Department of Human Services. Managing the Medicaid program takes up the bulk of the agency's resources. See District of Columbia Chief Financial Officer, FY1999 Operating Budget and Financial Plan, Prepared for Congress (June 1, 1998).

Department of Motor Vehicles and establishing it as a stand-alone agency. Adding new functions to DPW would not make sense at this time.

WASA, on the other hand, focuses on water issues. Specifically, WASA provides all water distribution services and sewage collection, treatment, and disposal for the District.<sup>79</sup> Although there may be tangible differences between WASA's current operations and those required for management of the stormwater programs, there will also be common issues and resource needs among different aspects of the water program. Thus, it would be useful to have one agency in charge of the programs related to sewers and water.

One final alternative to giving responsibility for the stormwater program to WASA is for the District to create a new stormwater utility. Because such a utility is unnecessary, the time and cost needed to create it should be avoided. As noted above, WASA already has numerous systems in place that overlap with those needed to operate a stormwater program. Accordingly, adapting WASA to handle the stormwater program would be more efficient than creating an entirely new organization with management, personnel, administrative, and support functions that overlap with WASA's. Additionally, creating a new agency would presumably take more time than adapting WASA. While the extra time alone is not a reason to avoid creating a new utility, time must be considered because the District is already six years overdue in designing its stormwater management program.

Moreover, the reason many jurisdictions create a separate stormwater utility is to establish an independent agency that will focus on a program that might otherwise not receive adequate attention. The District already has such an independent agency—WASAC—that was created precisely because of a similar concern about a similar program: wastewater treatment was viewed as not receiving needed attention. The District should not spend the time and money to reinvent the wheel<sup>80</sup> for the stormwater program.

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<sup>79</sup> WASA's Blue Plains wastewater treatment plant also serves portions of the Maryland and Virginia suburbs.

<sup>80</sup> To the extent WASA deems it advisable to separate out the stormwater program from its other functions, a sub-agency can be created within WASA. Indeed, decisions for the District's stormwater program would have to be made by only part of WASA's Board, because some WASA Board members represent Maryland and Virginia. However, there are already provisions in WASA's organic statute providing that decisions affecting only the District be made only by the District's representatives on the WASA board.

The regional composition of WASA's Board has a possible future benefit. Stormwater is a regional problem, and, cooperation between Maryland, the District, and Virginia may be appropriate for future improvements in stormwater management. WASA will be well-positioned to take advantage of its stormwater experience and regional composition.

## **B. Mechanics of Coordinating the Stormwater Program**

Assuming a single agency will be chosen to run the stormwater program, a multitude of questions arise as to the mechanics of coordinating the various aspects of the stormwater program. It seems unlikely that any one agency will assume responsibility for actually operating every element of the District's stormwater program, including promulgating regulations, sweeping streets, inspecting facilities, enforcing against violators, collecting fees, and maintaining sewer lines. Thus, if WASA is chosen as the lead agency, WASA itself will not perform all of these functions, but will rely on other agencies to carry them out under WASA's leadership.<sup>81</sup>

It is not unusual for the entities responsible for stormwater functions in a jurisdiction to report to different authorities. For example, the Fresno, California stormwater program requires action by each of the following: an independent county agency, the County of Fresno, two cities located within the County, and a branch of the State University.<sup>82</sup> Under such circumstances, the lead agency must be provided the tools to coordinate the stormwater program, and mechanisms must be put in place to ensure accountability. DC Appleseed recommends three such mechanisms that the District should consider adopting.

### **1. Establishing a Mechanism for Allocating Responsibilities and Revenue**

In order for the stormwater program to be successful, a process must exist to foster a rational allocation of responsibilities and revenue among the agencies involved. While the mechanics of such a process must be devised by the District, a general idea of how such a process might work is described below. Once WASA decides on the elements of the stormwater program needed to meet environmental goals, WASA would lead annual budget and programmatic discussions among the various agencies.<sup>83</sup> For example, based on preliminary benchmarks provided by WASA, each agency would submit a proposed program and an accompanying budget request. WASA would then analyze the requests, and convene meetings with the agencies to negotiate an appropriate allocation based on the goals of the program. While some negotiations would need to occur each year based on changes in costs and program priorities, the first year of such negotiations would require the most work.<sup>84</sup>

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<sup>81</sup> It is possible, of course, that WASA could be allowed to Acontract® with a private entity to perform some functions (such as street sweeping), rather than relying on a District agency (such as DPW) to carry out those functions. However, privatization may not be appropriate for certain functions (such as enforcement), and, therefore, certain stormwater-related functions will likely be operated by District agencies other than WASA, at least in the near future.

<sup>82</sup> See Memorandum of Understanding between Fresno Metropolitan Flood Control District and the County of Fresno, NPDES Municipal Stormwater Permit Implementation (July 28, 1998).

<sup>83</sup> We assume that, to the extent the Mayor wishes, he or his designees will help set the priorities and benchmarks for the stormwater program.

<sup>84</sup> Moreover, WASA might be given some discretion over how to allocate some of the revenue collected. One example would be to distribute 80-90% of the money for stormwater programs through a mandatory formula,



## **2. Creating Incentives through Joint Legal Responsibility**

There are two separate entities, CWASA and the District government, to which the various agencies with stormwater responsibilities in the District report. As noted above, WASA is governed by a board of directors that is independent from the rest of the District government, of which both DPW and DOH are part. Both the WASA board of directors and the District government must have some incentive to carry out their responsibilities under the stormwater program. One way to create that incentive is to assign the entities joint legal responsibility for complying with the stormwater permit's terms.

Without joint legal responsibility, the burden of defending legal action for non-compliance with the federal stormwater permit would fall disproportionately on either the District or WASA. For example, if WASA alone held the permit and the federal government deemed the District out of compliance due to a failure by DOH to promulgate adequate regulations, WASA would have to respond to any federal enforcement action alone even though it may have done everything within its power to ensure DOH's compliance. Alternatively, if the District jointly held the permit and DOH failed to comply, the District would automatically share responsibility for any consequences resulting from non-compliance. For this reason, assigning joint legal responsibility would establish an incentive for all agencies to comply with the permit's terms. Accordingly, DC Appleseed recommends that WASA and the District of Columbia jointly hold the stormwater permit.<sup>85</sup>

## **3. Detailing Relative Responsibilities in a Memorandum of Understanding**

Establishing joint legal liability for permit holders is not enough to ensure that the agencies carry out the routine responsibilities needed to make the stormwater program function well. The system of implementing the stormwater program must also include basic understandings between the different agencies regarding their responsibilities. This can be accomplished by creating an additional mechanism to ensure accountability: a Memorandum of Understanding between the agencies involved that details their relative responsibilities.

As a jurisdiction where responsibility for many functions is divided among different authorities, the District has significant experience in creating MOUs, but has not created one that comprehensively addresses stormwater management. An examination of MOUs currently in use in

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providing a dedicated source of funding to the agencies. The other 10%-20% could then be controlled by WASA, or perhaps a board consisting of members from each of the agencies and possibly others. The board would have flexibility to distribute the money depending on the particular needs agreed upon by, for example, two-thirds of the board. If the board could not agree, the money would be disbursed entirely in accordance with a pre-determined formula.

<sup>85</sup> Joint legal responsibility is used in other jurisdictions. *See, e.g.*, Fresno Stormwater Permit, NPDES Permit No. CA0083500 (assigning joint responsibility under the permit to an independent county agency, the County of Fresno, two cities located within the County, and a branch of the State University).

other jurisdictions responsible for implementing multi-agency stormwater programs indicates that the District may want to include provisions in its MOU detailing which agency (or agencies) will:

- fund, manage, and staff various operational aspects of the program;
- evaluate effectiveness of the agencies= programs, including conducting inspections;
- investigate advances in stormwater management elsewhere and the practicability of instituting new programs in the District;
- set the program budget and disburse revenue;
- respond to citizen complaints;
- bring enforcement actions against violators of the program;
- compile information and submit timely reports regarding the implementation of each aspect of the stormwater program; and
- assist other departments with expertise needed to plan and implement their responsibilities under the program.

## V. THE SUBSTANCE OF THE NEW STORMWATER PROGRAM

DC Appleseed's recommendations regarding the substance of the District's new stormwater program are necessarily incomplete. Decisions regarding what to do to improve stormwater management (*i.e.*, educating the public, increasing street sweeping, enforcing new construction requirements) depend upon a number of judgments, including the current level of public awareness regarding the stormwater problem, the particular activities that cause stormwater to be polluted, and the cost-effectiveness of inspection and enforcement activities. Those judgments have not yet been made by the District, and DC Appleseed has not performed the assessments (including monitoring water quality, polling the public, and inspecting facilities) needed to identify the specific actions that the District should take to abate stormwater pollution.

DC Appleseed nonetheless offers the District some observations which may help the process of making programmatic decisions. Specifically, based on DC Appleseed's review of stormwater management programs in other jurisdictions, the final section of this report outlines the basic issues that the District should consider as it devises its new stormwater program. In addition, DC Appleseed arranged a January 1999 meeting between District officials and an expert who has run a successful stormwater program for many years—Douglas Harrison from the Fresno (California) Metropolitan Flood Control District—who provided the District with technical advice regarding the establishment of a stormwater program.

### A. The Difficulties of Assessing Water Quality

In the best of scenarios, the District would design its stormwater program by first conducting a baseline water quality assessment in its rivers and other waterways to determine pollutants that are contributing to violations of water quality standards. The District would then determine which stormwater-borne pollutants are negatively impacting the designated uses of the rivers and other waterways and would implement those best management practices (BMPs) that have been proven to reduce those pollutants.<sup>86</sup> Under this scenario, improvements in water quality would be regularly assessed, and stormwater BMPs would be adjusted accordingly. In addition, the District would assess water quality across the watershed, determine relative contributions by source (e.g., stormwater, CSOs, federal facilities), and use the results to focus resources on abating the problems of greatest concern.

Several factors make implementation of this ideal program difficult. These include the fact that the causes and degrees of stormwater pollution vary with each rainfall, the practical difficulty of treating stormwater due to the short duration and high volume of rain events, and the inability of most known BMPs to cause predictable improvements.<sup>87</sup> As a

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<sup>86</sup> BMPs are schedules of activities, prohibitions of practices, maintenance procedures, pollution control devices, and other management practices which aim to prevent or reduce pollution through stormwater runoff.

<sup>87</sup> Although communities across the country have been under Phase I permits for a number of years, most are still within their first permit term, limiting the amount of data available. Even in those communities where

result, attributing specific short-term changes in water quality and pollutant levels to stormwater BMPs as opposed to other variables is extraordinarily difficult. Experts believe it would take hundreds of samples over many years to determine the effects of BMPs on water quality in any one body of water. And, over the long term, the costs that would be incurred by a single community (such as the District) to conduct this kind of research would be prohibitive.<sup>88</sup>

Clearly, the District can neither count on nor wait for Aperfect® analytical data on its rivers and other waterways or its stormwater runoff before selecting and implementing BMPs. Neither can it promise that the BMPs it selects will produce a direct and predictable improvement in the water quality of its rivers and other waterways. What the District can and must do is select cost-effective BMPs using the best available data and consistently implement those BMPs until further data and technology suggest appropriate changes.

## **B. Implementing Best Management Practices**

Because water quality data are currently unavailable, the District should rely on common-sense strategies to reduce the amount and improve the quality of stormwater flowing to its rivers and other waterways. The District can make some decisions by examining stormwater pollution sources in other municipalities. For example, it is known that used motor oil, restaurant grease, and raw sewage cause serious water quality problems in municipal areas. Therefore, the District should consider implementing public education programs to encourage and facilitate recycling (rather than dumping) of motor oil, as well as strategies (e.g., inspections, enforcement) to limit illicit connections and discharges of grease and sewage to storm sewers.

Moreover, because the District is an extremely developed area, strategies that focus only on new (as opposed to existing) developments will cure only a very small portion of the problem. Accordingly, some emphasis should be placed on decreasing the negative impact of existing development. In addition, the District must also be mindful of its limitations when formulating a stormwater program. As a highly urbanized area, for example, the District has little available land to implement large-scale structural BMPs, such as retention ponds.

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stormwater monitoring has been conducted for more than five years, there are significant continual variations in monitoring results, even with the best of location and event controls. This is because stormwater conveys pollutants created by a variety of activities in the watershed, many of which are driven by factors that cannot be controlled, such as weather (i.e., when it last rained, duration of the storm, intensity of the storm); daily variations in land use activity within a watershed; the air quality prior to the rainfall; and other factors. These variations make it difficult to collect and analyze data.

<sup>88</sup> The American Society of Civil Engineers, under a grant from EPA, is working to create a database of individual BMPs= effectiveness. To date, its efforts have focused on literature reviews of numerous, disparate site-specific studies. Physical testing of BMPs in demonstration settings will follow, but it is expected to take years to produce meaningful, useful results.

While this report does not recommend the precise BMPs that the District should use for its stormwater program, a basic description of a few commonly employed BMPs follows. Many of these are already part of the District's existing stormwater program, described in Section II of this report. However, as part of its revised program, the District must re-evaluate these BMPs and determine which practices (and how much of each) should be included in its future program.

### **1. Street Sweeping**

Street sweeping is part of many stormwater programs, including the District's. Studies show that streets are covered by debris, heavy metals, and organic constituents. The purpose of sweeping streets as part of a stormwater program is to remove these constituents from streets before rainwater runoff conveys them into storm drains. The effectiveness of street sweeping varies by type of sweeper and timing of the sweeping.

### **2. Construction/Post-Construction Site Controls**

Another important component of most stormwater programs, again including the District's, is controlling stormwater runoff from construction sites. Examples of construction site controls are construction sequencing, limiting the amount of area disturbed at one time, stabilizing denuded areas, and installing silt fences, diversions, sediment traps, and basins. Examples of post-construction site controls include installing riparian buffers and vegetated drainage ways, and improving designs for solid waste collection and vehicle washing and service areas.

### **3. Detention Ponds**

Detention ponds are used to store stormwater until pollutants settle. Sedimentation and filtration devices can be added to improve the water quality exiting the pond. However, detention ponds require land, which is limited in highly urban areas such as the District. Moreover, detention ponds require significant maintenance, as the pollutants that settle to the bottom must periodically be cleaned out.

### **4. Public Education**

Informing the public of the need for and value of the stormwater management program before it is launched has proven to be a key to success in many communities, especially in those that collect user fees. Public education is particularly useful in reducing the amount of trash and other pollutants that reach the storm drains because of actions taken by individuals. Public education can include fliers in water and sewer bills, public service announcements, storm drain stenciling, and programs in public schools and businesses.

### **5. Detection & Elimination of Illicit Connections & Discharges**

In order to prevent anyone from purposely or inadvertently connecting other types of discharges to the storm sewer system, some communities have a city inspector observe the connection of new sources to the sanitary, combined, or separate system. This reduces the likelihood of cross connections. Regular surveys of municipal rights of way and inspecting or repairing a specific number of drain inlets per year can help determine whether such illegal connections have been made. The effectiveness of this BMP depends, in part, on adequate staffing.

## **6. A Good Housekeeping®**

A municipality can take steps to minimize the impact that its own operations have on stormwater quality. Examples include pollution prevention practices in fleet and facilities maintenance, parks and golf course maintenance (use of herbicide, fertilizers, etc.), as well as waste management (e.g., not spraying down trucks next to a storm drain). Relevant training of municipal employees is the primary focus of this BMP.

## **7. Storm Drain Maintenance**

Cleaning catch basins is very effective in keeping water from flooding streets. It is less clear whether removing trapped debris is effective in preventing that debris from eventually making its way to rivers and other receiving waters.

### **C. Innovative Practices**

In addition to the basic stormwater management options outlined above, there are two notable, innovative methods of addressing stormwater runoff: retrofit and incentive programs. While there are questions as to the feasibility of retrofit and the effectiveness of incentive programs, these innovative practices have been widely discussed by stormwater regulators. Accordingly, even if the District decides not to implement such programs at this time, it should be aware of their existence and monitor their development in other jurisdictions.

#### **1. Retrofit of Existing Developments**

Compared to the large amount of existing development in the District, the new development and redevelopment of property that occurs annually has a relatively small impact on stormwater runoff. Therefore, if feasible, a program to reduce runoff from existing development would be a key component of a strategy to limit the negative effects of development on stormwater. Unfortunately, there is little precedent for such a program.

EPA regulations for stormwater management plans do not require municipalities to regulate already developed land, but instead require only that a program to manage stormwater

runoff address new development and significant redevelopment.<sup>89</sup> And there are currently no regulations in the District requiring that existing developments be retrofitted to control stormwater runoff. This appears to be consistent with other municipalities across the country; DC Appleaseed did not locate programs in other cities that regulate developed property in this way. Reasons for this may be that (1) it is technically difficult and expensive to add retrofit to existing structures, (2) it is politically difficult to impose such a cost on property owners when they would not otherwise be expending money on construction, and (3) it is administratively difficult to manage a program that would involve a significant portion of existing properties.

Nevertheless, there may be ways around such problems. For instance, the District could implement targeted retrofit for categories of buildings and businesses that are identified as the biggest contributors to polluted runoff. For example, if the District finds that oil and chemicals from auto mechanic shops are significant contributors to polluted runoff, it may require such shops to implement retrofit. Moreover, the District may identify retrofit options for which the cost can be shared by many existing property owners. For instance, a sand filter may be able to filter runoff from a large number of properties. Also, the District could require re-developers of existing property to implement controls, not only to ensure that there is no increase in post-development runoff, but also to decrease runoff by a certain percentage. In any event, given the large impact of existing developments on the stormwater problem, the District should look for opportunities to perform retrofit projects on property it owns, and should encourage the federal government to do the same.

## **2. Providing Incentives to Property Owners to Install BMPs**

A relatively easier means of encouraging owners of developed property to implement BMPs is through a second innovative practiceCan incentive program that would provide financial or other benefits to property owners who implemented BMPs that would otherwise not be required. Incentive programs are typically established in conjunction with the creation of a stormwater utility fee. The specific incentives available to homeowners vary by jurisdiction.

In Charlotte, North Carolina, for example, residential and commercial property owners pay a stormwater service fee based in substantial part on the amount of impervious surface on their property. A stormwater service charge credit is given to any property owner who takes steps to mitigate the amount of runoff that flows to the stormwater system by, for example, creating detention ponds or rerouting stormwater that flows through storm gutters away from storm sewers onto green space.<sup>90</sup>

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<sup>89</sup> 40 C.F.R. ' 122.26(d)(2).

<sup>90</sup> Credit is proportional to the extent those measures address the impacts of peak discharge (50% credit), total runoff volume (25% credit), and annual pollutant loading (25% credit). In order to obtain credit, each customer must fill out a credit application which is reviewed by the City for approval. Each credit is conditioned on continued compliance with performance standards and may be rescinded. Moreover, larger customers who have their own, separate federal or state stormwater permits receive additional credits related to water quality.

Lynchburg, Virginia, uses a similar incentive program that is not tied directly to the stormwater utility. Faced with a significant CSO problem and pressure from regulators to reduce flow into the sewers, Lynchburg established a program that provides \$150 to residents who voluntarily reroute drainage systems away from the storm sewers. While the City estimated at the outset of the program that 10% of the population would participate, it has seen 90% participation in some parts of the city, with some homeowners digging trenches and filling them with gravel to allow water to soak into the ground.<sup>91</sup>

The effectiveness of incentive programs is unknown. As a practical matter, many stormwater user fees may be too low to provide a significant enough return to potential participants in an incentive program. For instance, in Charlotte, where average residential charges are about \$35 per year, there is little incentive to implement costly or inconvenient BMPs as reflected in the lack of homeowner interest in the incentive program. In such cases, the cost of administering such a program may outweigh the benefits.<sup>92</sup>

Incentive programs have a better chance of succeeding if they (1) include low cost BMPs that require minimal amounts of work, such as simple landscaping techniques, and (2) promote public participation through cost-effective public education campaigns that emphasize the link between individual actions and pollution of rivers and other waterways. Even if the direct effects on stormwater runoff are minimal, these programs may be beneficial over the long-term by increasing public consciousness regarding the effect that individual activities have on water quality.

Although each of the BMPs and programs discussed above should be considered by the lead agency chosen by the District, these decisions will never be made unless a specific agency is put in charge of the stormwater program and given a dedicated source of funding to run the program. Accordingly, the District must resolve those fundamental issues immediately.

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<sup>91</sup> Joshua Dean, ARain, Rain Go Another Way, @ *Congressional Quarterly DBA Governing Magazine* (March 1997), at 49.

<sup>92</sup> Some of the costs would include, for example, devising a system for reviewing applications for credits, including either inspections or review of engineering schematics, and incorporating the credits into the billing system.



## **CONCLUSION**

Despite recent efforts by the District's leadership to solve the long-standing problem of stormwater management, much work remains for the District to comply with federal law and establish an effective stormwater program. In addition to establishing environmental goals and choosing stormwater practices designed to achieve those goals, the District must set up systems that will facilitate sound management and a reliable and equitable funding source. The District can take the first step towards creating such systems by heeding the recommendations in this report.

Moreover, the District should not view its stormwater program in a vacuum. While federal law is clearly driving the District's present efforts to solve the stormwater problem, that effort should be seen as only one element of an effort to clean up the District's waterways, including the Anacostia River. DC Appleseed hopes that this report contributes to that process.