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THE BEACH ACT OF 2000

EPA and States Have Made Progress Implementing the Act, but Further Actions Could Increase Public Health Protection

Statement of Anu K. Mittal, Director
Natural Resources and Environment

July 12, 2007

BEACH ACT OF 2000

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Highlights

Highlights of GAO-07-1073T, a testimony before the Subcommittee on Water Resources and Environment, Committee on Transportation and Infrastructure, House of Representatives

Why GAO Did This Study

Waterborne pathogens can contaminate water and sand at beaches and threaten human health. Under the Beaches Environmental Assessment and Coastal Health (BEACH) Act, the Environmental Protection Agency (EPA) provides grants to states to develop water quality monitoring and public notification programs.

This statement summarizes the key findings of GAO's May 2007 report, *Great Lakes: EPA and States Have Made Progress in Implementing the BEACH Act, but Additional Actions Could Improve Public Health Protection.* In this report GAO assessed (1) the extent to which EPA has implemented the Act's provisions, (2) concerns about EPA's BEACH Act grant allocation formula, and (3) described the experiences of the Great Lakes states in developing and implementing beach monitoring and notification programs using their grant funds.

What GAO Recommends

In the May 2007 report, GAO recommended that EPA distribute grant funds to better reflect states' monitoring needs and help states improve the consistency of their monitoring and notification activities; and the Congress consider providing more flexibility to allow states to use some BEACH Act funds to investigate and mitigate contamination sources. GAO is not making any additional recommendations in this statement.

www.gao.gov/cgi-bin/getrpt?GAO-07-1073T.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Anu Mittal at (202) 512-3841or mittala@gao.gov.

What GAO Found

EPA has taken steps to implement most BEACH Act provisions but has missed statutory deadlines for two critical requirements. While EPA has developed a national list of beaches and improved the uniformity of state water quality standards, it has not (1) completed the pathogen and human health studies required by 2003 or (2) published the new or revised water quality criteria for pathogens required by 2005. EPA stated that the required studies are ongoing, and although some studies were initiated in the summer of 2005, the work was interrupted by Hurricane Katrina. EPA subsequently initiated two additional water studies in the summer of 2007. According to EPA, completion of the studies and development of the new criteria may take an additional 4 to 5 years. Further, although EPA has distributed approximately $51 million in BEACH Act grants from 2001-2006, the formula EPA uses to make the grants does not accurately reflect the monitoring needs of the states. This occurs because the formula emphasizes the length of the beach season more than the other factors in the formula—beach miles and beach use. These other factors vary widely among the states, can greatly influence the amount of monitoring a state needs to undertake, and can increase the public health risk.

Thirty-four of the 35 eligible states have used BEACH Act grants to develop beach monitoring and public notification programs. Alaska is still in the process of developing its program. However, because state programs vary they may not provide consistent levels of public health protection nationwide. GAO found that the states' monitoring and notification programs varied considerably in the frequency with which beaches were monitored, the monitoring methods used, and how the public was notified of potential health risks. For example, some Great Lakes states monitor their high-priority beaches as little as one or two times per week, while others monitor their high-priority beaches daily. In addition, when local officials review similar water quality results, some may choose to only issue a health advisory while others may choose to close the beach. According to state and local officials, these inconsistencies are in part due to the lack of adequate funding for their beach monitoring and notification programs.

The frequency of water quality monitoring has increased nationwide since passage of the Act, helping states and localities to identify the scope of contamination. However, in most cases, the underlying causes of contamination remain unknown. Some localities report that they do not have the funds to investigate the source of the contamination or take actions to mitigate the problem, and EPA has concluded that BEACH Act grants generally may not be used for these purposes. For example, local officials at 67 percent of Great Lakes beaches reported that, when results of water quality testing indicated contamination at levels exceeding the applicable standards during the 2006 beach season, they did not know the source of the contamination, and only 14 percent reported that they had taken actions to address the sources of contamination.

Madam Chairwoman and Members of the Subcommittee:

We are pleased to be here today to participate in your hearing on the implementation of the Beaches Environmental Assessment and Coastal Health Act, known as the BEACH Act. Congress passed the BEACH Act in 2000, to improve states' beach monitoring programs and processes for notifying the public of potential health risks from beach contamination. As you know, waterborne pathogens such as bacteria, viruses, and parasites can contaminate the water and sand at beaches and threaten human health. Contact with or accidental ingestion of contaminated water can cause vomiting, diarrhea, and other illnesses, and may be life-threatening for susceptible populations such as children, the elderly, and those with impaired immune systems. State and local health officials may issue health advisories or close beaches when they believe levels of waterborne pathogens are high enough to threaten human health. Under the Clean Water Act, the Environmental Protection Agency (EPA) is responsible for publishing water quality criteria that establish thresholds at which contamination—including waterborne pathogens—may threaten human health.

Our testimony is based on GAO's recently issued report[1] on BEACH Act implementation in the eight Great Lakes states and will cover three issues (1) the extent to which EPA has implemented the provisions of the Act, (2) concerns about EPA's formula for allocating BEACH Act grants, and (3) states' experiences in developing and implementing beach monitoring and notification programs using BEACH Act grants. Although, our testimony and recent report addressed the Great Lakes states, published EPA data and information presented at EPA-sponsored BEACH Act conferences suggest that the findings are applicable nationwide. In summary, we found the following:

- EPA has implemented seven of the BEACH Act's nine requirements and provisions, but has missed statutory deadlines for two critical requirements. Among other things, EPA promulgated water quality standards for the 21 states and territories that had not adopted EPA's water quality criteria and developed a national list of beaches. However, EPA has not (1) completed the pathogen and human health studies that were required by 2003 or (2) published new or revised

[1] *Great Lakes: EPA and States Have Made Progress in Implementing the BEACH Act, but Additional Actions Could Improve Public Health Protection*, GAO-07-591 (Washington, D.C.: May 1, 2007).

water quality criteria for pathogens or pathogen indicators that were required by 2005. EPA told us that the required studies are ongoing and that the development of new pathogen indicators would follow completion of the studies, but completing these actions may take an additional 4 to 5 years. We recommended that EPA establish a definitive time line for completing the studies required by the BEACH Act and for publishing new or revised water quality criteria for pathogens and pathogen indicators. EPA concurred with this recommendation.

- Although EPA has distributed approximately $51 million in BEACH Act grants between 2001 and 2006 to the 35 eligible states and territories, EPA's formula for distributing BEACH Act grant funds does not reflect the states' varied monitoring needs. EPA's formula is based on three factors—length of beach season; beach miles, as measured by length of shoreline; and beach use, as measured by coastal population. If the program had received its full funding of $30 million annually that EPA used to develop the formula, each of the formula factors would have had a roughly equal impact on the grant allocations made to states. However, the program has received only about $10 million annually. Consequently, the beach season factor which EPA uses as a baseline for calculating states' grants has had a greater influence (about 82 percent) on the total BEACH Act grants each state received, while beach miles and beach use, which vary widely among the states and can impact the public health risk, have had a significantly smaller impact (about 9 percent each). As a result, states that have greater beach monitoring needs because of their longer coastlines and larger coastal populations, receive almost the same amount of funding as those states with smaller coastlines and coastal populations. We recommended that EPA reevaluate the funding formula it uses to distribute BEACH Act grants. While EPA concurred in the need to reevaluate the formula, it stated that some states were reluctant to make any significant changes to the formula.

- States' use of BEACH Act grant funds to develop and implement beach monitoring and public notification programs has generally increased the extent of beach monitoring. However, states vary considerably in the frequency with which they monitor beaches, the monitoring methods used, and the means by which they notify the public of associated health risks. These differences are due, in part, to the current BEACH Act funding levels, which some state officials said are inadequate for sufficient monitoring. Moreover, while increased frequency of monitoring has helped states and localities identify the scope of contamination, in most cases, the underlying causes of the

contamination remain unknown and unaddressed. Local officials from within the Great Lakes states told us that they generally do not have the funds to investigate and identify sources of contamination or to take actions to mitigate the problem, and EPA has concluded that states can not use BEACH grants for this purpose. To assist states and localities nationwide in identifying and addressing sources of beach contamination, we recommended that the Congress consider allowing states some flexibility to use their BEACH Act grants to undertake limited research to identify specific sources of contamination at monitored beaches and take certain actions to mitigate these problems. In addition, we recommended that EPA provide states and localities with specific guidance on monitoring frequency and public notification.

Background

Under the Clean Water Act, EPA is responsible for publishing water quality criteria that establish thresholds at which contamination—including waterborne pathogens—may threaten human health. States are required to develop standards, or legal limits, for these pathogens by either adopting EPA's recommended water quality criteria or other criteria that EPA determines are equally protective of human health. The states then use these pathogen standards to assess water quality at their recreational beaches. The BEACH Act amended the Clean Water Act to require the 35 eligible states and territories to update their recreational water quality standards using EPA's 1986 criteria for pathogen indicators. In addition, the BEACH Act required EPA to (1) complete studies on pathogens in coastal recreational waters and how they affect human health, including developing rapid methods of detecting pathogens by October 2003, and (2) publish new or revised water quality criteria by October 2005, to be reviewed and revised as necessary every 5 years thereafter.

The BEACH Act also authorized EPA to award grants to states, localities, and tribes to develop comprehensive beach monitoring and public notification programs for their recreational beaches. To be eligible for BEACH Act grants, states are required to (1) identify their recreational beaches, (2) prioritize their recreational beaches for monitoring based on their use by the public and the risk to human health, and (3) establish a public notification program. EPA grant criteria give states some flexibility on the frequency of monitoring, methods of monitoring, and processes for notifying the public when pathogen indicators exceed state standards, including whether to issue health advisories or close beaches. Although the BEACH Act authorized EPA to provide $30 million in grants annually

for fiscal years 2001 through 2005,[2] since fiscal year 2001, congressional conference reports accompanying EPA's appropriations acts have directed about $10 million annually for BEACH Act grants and EPA has followed this congressional direction when allocating funds to the program.

EPA Has Implemented Some But Not All of the BEACH Act Provisions

EPA has made progress implementing the BEACH Act's provisions but has missed statutory deadlines for two critical requirements. Of the nine actions required by the BEACH Act, EPA has taken action on the following seven:

Propose water quality standards and criteria—The BEACH Act required each state with coastal recreation waters to incorporate EPA's published criteria for pathogens or pathogen indicators, or criteria EPA considers equally protective of human health, into their state water quality standards by April 10, 2004. The BEACH Act also required EPA to propose regulations setting forth federal water quality standards for those states that did not meet the deadline. On November 16, 2004, EPA published in the *Federal Register* a final rule promulgating its 1986 water quality standards for *E. coli* and enterococci for the 21 states and territories that had not adopted water quality criteria that were as protective of human health as EPA's approved water quality criteria. According to EPA, all 35 states with coastal recreational waters are now using EPA's 1986 criteria, compared with the 11 states that were using these criteria in 2000.

Provide BEACH Act grants—The BEACH Act authorized EPA to distribute annual grants to states, territories, tribes and, in certain situations, local governments to develop and implement beach monitoring and notification programs. Since 2001, EPA has awarded approximately $51 million in development and implementation grants for beach monitoring and notification programs to all 35 states. Alaska is the only eligible state that has not yet received a BEACH Act implementation grant because it is still in the process of developing a monitoring and public notification program consistent with EPA's grant performance criteria. EPA expects to distribute approximately $10 million for the 2007 beach season subject to the availability of funds.

[2] Although the BEACH Act was originally authorized through 2005, Congress continued to fund EPA's efforts under the act in 2006 and 2007.

Publish beach monitoring guidance and performance criteria for grants—The BEACH Act required EPA to develop guidance and performance criteria for beach monitoring and assessment for states receiving BEACH Act grants by April 2002. After a year of consultations with coastal states and organizations, EPA responded to this requirement in 2002 by issuing its *National Beach Guidance and Required Performance Criteria for Grants*. To be eligible for BEACH Act grants, EPA requires recipients to develop (1) a list of beaches evaluated and ranked according to risk, (2) methods for monitoring water quality at their beaches, such as when and where to conduct sampling, and (3) plans for notifying the public of the risk from pathogen contamination at beaches, among other requirements.

Develop a list of coastal recreational waters—The BEACH Act required EPA to identify and maintain a publicly available list of coastal recreational waters adjacent to beaches or other publicly accessible areas, with information on whether or not each is subject to monitoring and public notification. In March 2004, EPA published its first comprehensive National List of Beaches based on information that the states had provided as a condition for receiving BEACH Act grants. The list identified 6,099 coastal recreational beaches, of which 3,472, or 57 percent, were being monitored. The BEACH Act also requires EPA to periodically update its initial list and publish revisions in the Federal Register. However, EPA has not yet published a revised list, in part because some states have not provided updated information.

Develop a water pollution database—The BEACH Act required EPA to establish, maintain, and make available to the public an electronic national water pollution database. In May 2005, EPA unveiled "eBeaches," a collection of data pulled from multiple databases on the location of beaches, water quality monitoring, and public notifications of beach closures and advisories. This information has been made available to the public through an online tool called BEACON (Beach Advisory and Closing Online Notification). EPA officials acknowledge that eBeaches has had some implementation problems, including periods of downtime when states were unable to submit their data, and states have had difficulty compiling the data and getting it into EPA's desired format. EPA is working to centralize its databases so that states can more easily submit information and expects the data reporting will become easier for states as they further develop their system.

Provide technical assistance on floatable materials—The BEACH Act required EPA to provide technical assistance to help states, tribes, and

localities develop their own assessment and monitoring procedures for floatable debris in coastal recreational waters. EPA responded by publishing guidance titled *Assessing and Monitoring Floatable Debris* in August 2002. The guidance provided examples of monitoring and assessment programs that have addressed the impact of floatable debris and examples of mitigation activities to address floatable debris.

Provide a report to Congress on status of BEACH Act implementation—The BEACH Act required EPA to report to Congress 4 years after enactment of the act and every 4 years thereafter on the status of implementation. EPA completed its first report for Congress, *Implementing the BEACH Act of 2000: Report to Congress* in October 2006, which was 2 years after the October 2004 deadline. EPA officials noted that they missed the deadline because they needed additional time to include updates on current research and states' BEACH Act implementation activities and to complete both internal and external reviews.

EPA has not yet completed the following two BEACH Act requirements:

Conduct epidemiological studies—The BEACH Act required EPA to publish new epidemiological studies concerning pathogens and the protection of human health for marine and freshwater by April 10, 2002, and to complete the studies by October 10, 2003. The studies were to: (1) assess potential human health risks resulting from exposure to pathogens in coastal waters; (2) identify appropriate and effective pathogen indicator(s) to improve the timely detection of pathogens in coastal waters; (3) identify appropriate, accurate, expeditious, and cost-effective methods for detecting the presence of pathogens; and (4) provide guidance for state application of the criteria. EPA initiated its multiyear *National Epidemiological and Environmental Assessment of Recreational Water Study* in 2001 in collaboration with the Centers for Disease Control and Prevention. The first component of this study was to develop faster pathogen indicator testing procedures. The second component was to further clarify the health risk of swimming in contaminated water, as measured by these faster pathogen indicator testing procedures. While EPA completed these studies for freshwater—showing a promising relationship between a faster pathogen indicator and possible adverse health effects from bacterial contamination—it has not completed the studies for marine water. EPA initiated marine studies in Biloxi, Mississippi, in the summer of 2005, 3 years past the statutory deadline for beginning this work, but the work was interrupted by

Hurricane Katrina. EPA initiated two additional marine water studies in the summer of 2007.

Publish new pathogen criteria—The BEACH Act required EPA to use the results of its epidemiological studies to identify new pathogen indicators with associated criteria, as well as new pathogen testing measures by October 2005. However, since EPA has not completed the studies on which these criteria were to be based, this task has been delayed.

In the absence of new criteria for pathogens and pathogen indicators, states continue to use EPA's 1986 criteria to monitor their beaches. An EPA official told us that EPA has not established a time line for completing these two remaining provisions of the BEACH Act but estimates it may take an additional 4-5 years. One EPA official told us that the initial time frames in the act may not have been realistic. EPA's failure to complete studies on the health effects of pathogens for marine waters and failure to publish revised water quality criteria for pathogens and pathogen indicators prompted the Natural Resources Defense Council to file suit against EPA on August 2, 2006, for failing to comply with the statutory obligations of the BEACH Act.

To ensure that EPA complies with the requirements laid out in the BEACH Act, we recommended that it establish a definitive time line for completing the studies on pathogens and their effects on human health, and for publishing new or revised water quality criteria for pathogens and pathogen indicators.

EPA's BEACH Act Grant Formula Does Not Adequately Reflect States' Monitoring Needs

While EPA distributed approximately $51 million in BEACH Act grants between 2001 and 2006 to the 35 eligible states and territories, its grant distribution formula does not adequately account for states' widely varied beach monitoring needs. When Congress passed the BEACH Act in 2000, it authorized $30 million in grants annually, but the act did not specify how EPA should distribute grants to eligible states. EPA determined that initially $2 million would be distributed equally to all eligible states to cover the base cost of developing water quality monitoring and notification programs. EPA then developed a distribution formula for future annual grants that reflected the BEACH Act's emphasis on beach use and risk to human health. EPA's funding formula includes the following three factors:

- *Length of beach season*—EPA selected beach season length as a factor because states with longer beach seasons would require more monitoring.

- *Beach use*—EPA selected beach use as a factor because more heavily used beaches would expose a larger number of people to pathogens, increasing the public health risk and thus requiring more monitoring. EPA used coastal population as a proxy for beach use because information on the number of beach visitors was not consistently available across all the states.

- *Beach miles*—EPA selected beach miles because states with longer shorelines would require more monitoring. EPA used shoreline miles, which may include industrial and other nonpublicly accessible areas, as a proxy for beach miles because verifiable data for beach miles was not available.

Once EPA determined which funding formula factors to use, EPA officials weighted the factors. EPA intended that the beach season factor would provide the base funding and would be augmented by the beach use and beach mile factors. EPA established a series of fixed amounts that correspond to states' varying lengths of beach seasons to cover the general expenses associated with a beach monitoring program. For example, EPA estimated that a beach season of 3 or fewer months would require approximately two full-time employees costing $150,000, while states with beach seasons greater than 6 months would require $300,000. Once the allotments for beach season length were distributed, EPA determined that 50 percent of the remaining funds would be distributed according to states' beach use, and the other 50 percent would be distributed according to states' beach miles, as shown in table 1.

Table 1: BEACH Act Grant Distribution Formula

Formula factor	Amount of grant
Beach season length	Less than 3 months: $150,000[a]
	3-4 months: $200,000
	5-6 months: $250,000
	Greater than 6 months: $300,000
Beach use	50% of funds remaining after allotment of beach season length funding.
Beach miles	50% of funds remaining after allotment of beach season length funding.

Source: EPA.

[a]States with less than a 3-month beach season only receive the $150,000 in beach season length funding.

EPA officials told us that, using the distribution formula above and assuming a $30 million authorization, the factors were to have received relatively equal weight in calculating states' grants and would have resulted in the following allocation: beach season—27 percent (about $8 million); beach use—37 percent (about $11 million); and beach miles—37 percent (about $11 million). However, because funding levels for BEACH Act grants have been about $10 million each year, once the approximately $8 million, of the total available for grants, was allotted for beach season length, this left only $2 million, instead of nearly $22 million, to be distributed equally between the beach use and beach miles factors. This resulted in the following allocation: beach season—82 percent (about $8 million); beach use—9 percent (about $1 million); and beach miles—9 percent (about $1 million).

Because beach use and beach miles vary widely among the states, but account for a much smaller portion of the distribution formula, BEACH Act grant amounts may vary little between states that have significantly different shorelines or coastal populations. For example, across the Great Lakes, there is significant variation in coastal populations and in miles of shoreline, but current BEACH Act grant allocations are relatively flat. As a result, Indiana, which has 45 miles of shoreline and a coastal population of 741,468, received about $205,800 in 2006, while Michigan, which has 3,224 miles of shoreline and a coastal population of 4,842,023, received about $278,450 in 2006. Similarly, the current formula gives localities that have a longer beach season and significantly smaller coastal populations an advantage over localities that have a shorter beach season but significantly greater population. For example, Guam and American Samoa with 12 month beach seasons and coastal populations of less than 200,000 each receive larger grants than Maryland and Virginia, with 4 month beach seasons and coastal populations of 3.6 and 4.4 million, respectively.

If EPA reweighted the factors so that they were still roughly equal given the $10 million allocation, we believe that BEACH Act grants to the states would better reflect their needs. Consequently, we recommended that if current funding levels remain the same, that the agency should revise the formula for distributing BEACH Act grants to better reflect the states' varied monitoring needs by reevaluating the formula factors to determine if the weight of the beach season factor should be reduced and if the weight of the other factors, such as beach use and beach miles should be increased.

Experiences of the Great Lakes and Other Eligible States in Implementing BEACH Act Grants

States' use of BEACH Act grants to develop and implement beach monitoring and public notification programs has increased the number of beaches being monitored and the frequency of monitoring. However, states vary considerably in the frequency in which they monitor beaches, the monitoring methods used, and the means by which they notify the public of health risks. Specifically, 34 of the 35 eligible states have used BEACH Act grants to develop beach monitoring and public notification programs; and the remaining state, Alaska, is in the process of setting up its program. However, these programs have been implemented somewhat inconsistently by the states which could lead to inconsistent levels of public health protection at beaches in the United States. In addition, while the Great Lakes and other eligible states have been able to increase their understanding of the scope of contamination as a result of BEACH Act grants, the underlying causes of this contamination usually remain unresolved, primarily due to a lack of funding. For example, EPA reports that nationwide when beaches are found to have high levels of contamination, the most frequent source of contamination listed as the cause is "unknown".

BEACH Act officials from six of the eight Great Lakes states that we reviewed—Illinois, Michigan, Minnesota, New York, Ohio, and Wisconsin—reported that the number of beaches being monitored in their state has increased since the passage of the BEACH Act in 2000. For example, in Minnesota, state officials reported that only one beach was being monitored prior to the BEACH Act, and there are now 39 beaches being monitored in three counties. In addition, EPA data show that, in 1999, the number of beaches identified in the Great Lakes was about 330, with about 250 being monitored. In 2005, the most recent year for which data are available, the Great Lakes states identified almost 900 beaches of which about 550 were being monitored.

In addition to an increase in the number of beaches being monitored, the frequency of monitoring at many of the beaches in the Great Lakes has increased. We estimated that 45 percent of Great Lakes beaches increased the frequency of their monitoring since the passage of the BEACH Act. For example, Indiana officials told us that prior to the BEACH Act, monitoring was done a few times per week at their beaches but now monitoring is done 5-7 days per week. Similarly, local officials in one Ohio county reported that they used to test some beaches along Lake Erie twice a month prior to the BEACH Act but now they test these beaches once a week. States outside of the Great Lakes region have reported similar benefits of receiving BEACH Act grants. For example, state officials from

Connecticut, Florida, and Washington reported increases in the number of beaches they are now able to monitor or the frequency of the monitoring they are now able to conduct.

Because of the information available from BEACH Act monitoring activities, state and local beach officials are now better able to determine which of their beaches are more likely to be contaminated, which are relatively clean, and which may require additional monitoring resources to help them better understand the levels of contamination that may be present. For example, state BEACH Act officials reported that they now know which beaches are regularly contaminated or are being regularly tested for elevated levels of contamination. We determined that officials at 54 percent of Great Lakes beaches we surveyed believe that their ability to make advisory and closure decisions has increased or greatly increased since they initiated BEACH Act water quality monitoring programs.

However, because EPA's grant criteria and the BEACH Act give states and localities some flexibility in implementing their programs we also identified significant variability among the Great Lakes states beach monitoring and notification programs. We believe that this variability is most likely also occurring in other states as well because of the lack of specificity in EPA's guidance. Specifically, we identified the following differences in how the Great Lake states have implemented their programs.

Frequency of monitoring. Some Great Lakes states are monitoring their high-priority beaches almost daily, while other states monitor their high-priority beaches as little as one to two times per week. The variation in monitoring frequency in the Great Lakes states is due in part to the availability of funding. For example, state officials in Michigan and Wisconsin reported insufficient funding for monitoring.

Methods of sampling. Most of the Great Lakes states and localities use similar sampling methods to monitor water quality at local beaches. For example, officials at 79 percent of the beaches we surveyed reported that they collected water samples during the morning, and 78 percent reported that they always collected water samples from the same location. Collecting data at the same time of day and from the same site ensures more consistent water quality data. However, we found significant variations in the depth at which local officials in the Great Lakes states were taking water samples. According to EPA, depth is a key determinant of microbial indicator levels. EPA's guidance recommends that beach officials sample at the same depth—knee depth, or approximately 3-feet

deep—for all beaches to ensure consistency and comparability among samples. Great Lakes states varied considerably in the depths at which they sampled water, with some sampling occurring at 1-6 inches and other sampling at 37-48 inches.

Public notification. Local officials in the Great Lakes differ in the information they use to decide whether to issue health advisories or close beaches when water contamination exceeds EPA criteria and in how to notify the public of their decision. These differences reflect states' varied standards for triggering an advisory, closure, or both. Also, we found that states' and localities' means of notifying the public of health advisories or beach closures vary across the Great Lakes. Some states post water quality monitoring results on signs at beaches; some provide results on the Internet or on telephone hotlines; and some distribute the information to local media.

To address this variability in how the states are implementing their BEACH Act grant funded monitoring and notification programs, we recommended that EPA provide states and localities with specific guidance on monitoring frequency and methods and public notification.

Further, even though BEACH Act funds have increased the level of monitoring being undertaken by the states, the specific sources of contamination at most beaches are not known. For example, we determined that local officials at 67 percent of Great Lakes' beaches did not know the sources of bacterial contamination causing water quality standards to be exceeded during the 2006 beach season and EPA officials confirmed that the primary source of contamination at beaches nationwide is reported by state officials as "unknown." For example, because state and local officials in the Great Lakes states do not have enough information on the specific sources of contamination and generally lack funds for remediation, most of the sources of contamination at beaches have not been addressed. Local officials from these states indicated that they had taken actions to address the sources of contamination at an estimated 14 percent of the monitored beaches.

EPA has concluded that BEACH Act grant funds generally may be used only for monitoring and notification purposes. While none of the eight Great Lakes state officials suggested that the BEACH Act was intended to help remediate the sources of contamination, several state officials believe that it may be more beneficial to use BEACH Act grants to identify and remediate sources of contamination rather than just continue to monitor water quality at beaches and notify the public when contamination occurs.

Local officials also reported a need for funding to identify and address sources of contamination. Furthermore, at EPA's National Beaches Conference in October 2006, a panel of federal and academic researchers recommended that EPA provide the states with more freedom on how they spend their BEACH Act funding.

To address this issue, we recommended that as the Congress considers reauthorization of the BEACH Act, that it should consider providing EPA some flexibility in awarding BEACH Act grants to allow states to undertake limited research to identify specific sources of contamination at monitored beaches and certain actions to mitigate these problems, as specified by EPA.

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In conclusion, Madam Chairwoman, EPA has made progress in implementing many of the BEACH Act's requirements but it may still be several years before EPA completes the pathogen studies and develops the new water quality criteria required by the act. Until these actions are completed, states will have to continue to use existing outdated methods. In addition, the formula EPA developed to distribute BEACH Act grants to the states was based on the assumption that the program would receive its fully authorized allocation of $30 million. Because the program has not received full funding and EPA has not adjusted the formula to reflect reduced funding levels, the current distribution of grants fails to adequately take into account the varied monitoring needs of the states. Finally, as evidenced by the experience of the Great Lakes states, the BEACH Act has helped states increase their level of monitoring and their knowledge about the scope of contamination at area beaches. However, the variability in how the states are conducting their monitoring, how they are notifying the public, and their lack of funding to address the source of contamination continues to raise concerns about the adequacy of protection that is being provided to beachgoers. This concludes our prepared statement, we would be happy to respond to any questions you may have.

GAO Contacts

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