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United States Government Accountability Office  
Washington, DC 20548

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December 17, 2007

Congressional Addressees:

*Subject: Plum Island Animal Disease Center: DHS Has Made Significant Progress Implementing Security Recommendations, but Several Recommendations Remain Open*

For many years, the Department of Agriculture (USDA) owned and operated the Plum Island Animal Disease Center, located on an island in the Long Island Sound off the coast of New York. Scientists at Plum Island, often with the assistance of scientists from other countries, diagnose the pathogens that cause foreign animal diseases and then conduct research to, among other things, develop vaccines to protect against them. Some of the pathogens maintained at Plum Island, such as foot-and-mouth disease, are highly contagious to livestock and could cause catastrophic economic losses in the agricultural sector if they are released outside the facility. Other pathogens known to have been maintained at Plum Island could also cause illness and death in humans. For these reasons, USDA conducts its work on Plum Island within a sealed biocontainment area that has special safety features designed to contain the pathogens.

After the terrorist attacks on the United States, new laws and regulations required officials at the Plum Island Animal Disease Center to further restrict access to the pathogens in order to protect animal health and, thereby, also help reduce the possibility of bioterrorism. In addition, Plum Island and its assets and liabilities were transferred from USDA to the Department of Homeland Security (DHS).<sup>1</sup> Today, USDA continues to conduct its diagnostic and research work on Plum Island, but it now does so in coordination with DHS as part of a broader joint strategy to protect against the intentional or accidental introduction of foreign animal diseases. In 2005, we reported that, as part of that strategy, DHS had started to develop plans to replace the Plum Island Animal Disease Center with a new, modernized facility.<sup>2</sup> Since then, DHS has selected six possible sites for this new facility, including Plum Island. This planned higher-level biosecurity facility will enable the department to expand the

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<sup>1</sup>The Homeland Security Act of 2002 (Pub. L. No. 107-296, §310, 116 Stat. 2135, 2174).

<sup>2</sup>See GAO, *Plum Island Animal Disease Center: DHS and USDA Are Successfully Coordinating Current Work, but Long-Term Plans Are Being Assessed*, [GAO-06-132](#) (Washington, D.C.: Dec. 19, 2005).

research currently conducted on the island to include work on higher-consequence biological threats posed by zoonotic (i.e., transmittable from animals to humans) and foreign animal diseases.<sup>3</sup>

Prior to Plum Island's transfer from USDA to DHS, 71 employees of the contractor USDA had hired to operate and maintain the facility went on strike. This strike, accompanied by sabotage of the island's infrastructure, heightened already existing concerns that someone might try to steal certain pathogens from the facility to conduct terrorist activities. In this context, the Congress asked us to review, among other things, the adequacy of security at Plum Island. In 2003, we reported that although security at Plum Island had improved since the terrorist attacks, the facility was vulnerable to security breaches because physical security arrangements were incomplete and limited, officials had been assuming unnecessary risks by not adequately controlling access to areas where pathogens were located, incident response capability was limited, and the full array of risks and threats to Plum Island were not sufficiently considered.<sup>4</sup> We made 24 recommendations to the Secretary of Homeland Security to help the department overcome these limitations. DHS agreed with the report and its recommendations.

As a part of our routine audit work, we have been tracking the status of the 2003 Plum Island security recommendations. In addition, in May 2007, we received a request from Senator Charles Schumer to report on this matter. On September 28, 2007, we briefed interested congressional staff on the extent to which DHS had implemented the recommendations at that time. Because of broad-based congressional interest, under the Comptroller General's statutory authority to conduct evaluations on his own initiative, we are issuing this report, which summarizes that briefing. (A list of addressees receiving this report appears on the last page of this letter). To evaluate DHS's efforts to implement the Plum Island security recommendations, we reviewed pertinent DHS and USDA documents; interviewed DHS, USDA, and other personnel responsible for Plum Island's security; and, during a visit to Plum Island in 2005, observed improvements in physical security and the procedures securing the biocontainment area as well as the facility's infrastructure. However, we did not conduct a comprehensive audit of all decisions that DHS and USDA have made to improve Plum Island security. We provided DHS and USDA an opportunity to verify facts of this report. Officials from both agencies provided us with additional information, which has been incorporated into this report. We performed our work from February 2004 through December 2007.

In summary, DHS has made significant progress and has implemented 18 of the 24 recommendations. However, implementation of the 6 remaining recommendations is still under way. The following highlights DHS actions to address our recommendations and discusses those that remain in progress. Enclosure I lists all 24 recommendations and their status.

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<sup>3</sup>For more information on higher-level biosecurity facilities see GAO, *High-Containment Biosafety Laboratories: Preliminary Observations on the Oversight of the Proliferation of BSL-3 and BSL-4 Laboratories in the United States*, [GAO-08-108T](#) (Washington, D.C.: Oct. 4, 2007).

<sup>4</sup>GAO, *Combating Bioterrorism: Actions Needed to Improve Security at Plum Island Animal Disease Center*, [GAO-03-847](#) (Washington, D.C.: Sept. 19, 2003).

## Addressing Physical Security Deficiencies

In 2003, physical security at Plum Island was deficient in several ways. For example, alarms and door sensors for detecting intruders were not fully operational; controls to account for the keys to the island's facilities were deficient; and USDA was not providing sufficient physical security for certain assets, including those critical to the continued operation of the facility. These vulnerabilities were particularly troubling because a strike was under way, and sabotage of the island's infrastructure had already occurred. DHS has since taken many actions in response to our recommendations. For example, alarms and door sensors are now in use, and DHS has implemented procedures to better control access to keys to facilities. In addition, the department has better secured certain features of the physical infrastructure that supports the continued operation of the Plum Island Animal Disease Center. DHS has also improved the security of North America's only foot-and-mouth disease vaccine bank. This bank represents years of cooperative research performed by Canada, Mexico, and the United States, and the material it contains is considered a critical asset for controlling a large outbreak.

The implementation of two of our recommendations to enhance physical security remains in progress.

- First, we had reported that the island's contracted security force reported to the administrative contract officer rather than to the security director—a situation that could have impeded prompt resolution of security-related issues. DHS agreed that this was problematic and told us the department was initiating changes to the security contract that would allow the security force to report directly to the security director. DHS also told us that changing the contract was dependent on resolution of a contract bid protest of the contract award submitted to GAO. Since our briefing, GAO's General Counsel has issued a decision leaving DHS free to make the necessary contract changes.<sup>5</sup> Subsequently, on November 1, 2007, DHS entered into a new security contract. DHS officials told us that the contract provides for the security force to report directly to the security director effective January 1, 2008.
- Second, we also reported that USDA had no procedure for ensuring that contractors and visitors entering the biocontainment area did not have criminal backgrounds. We recommended that DHS check the backgrounds of these individuals before granting them access, using, for example, the National Crime Information Center (NCIC).<sup>6</sup> According to DHS officials, the department is developing a memorandum of agreement with the Federal Protective Service (FPS)<sup>7</sup> that will provide full-time FPS presence on the island with the

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<sup>5</sup>See M&M Investigations, Inc., B-299369.2, B-299369.3, Oct. 24, 2007, 2007 CPD.

<sup>6</sup>NCIC is operated by the Federal Bureau of Investigation (FBI) and provides federal, state, and local law enforcement and other criminal justice agencies with, among other things, information on criminal history records.

<sup>7</sup>FPS transferred from the General Services Administration to DHS in March 2003 and has responsibility for protecting federal facilities.

capability to verify contractors' and visitors' backgrounds using NCIC before these individuals enter the biocontainment area. However, this agreement has not yet been finalized because DHS has not determined how it will pay for maintaining FPS on the island 24 hours a day, 7 days a week. The expense of this arrangement was not planned for or included in DHS' current budget.

### **Limiting Access to Pathogens**

In 2003, we reported that USDA was not adequately controlling access to the pathogens. For example, we found that 12 Plum Island employees, some with access to pathogens, had not had their background checks updated in more than 10 years, even though USDA had told us that background checks were updated every 5 years. Also, we found that as many as five cleaning, maintenance, and repair staff—who are not required to have background checks but are required to be escorted by an approved individual—were working in the biocontainment area without escorts. DHS has taken several actions in response to our recommendations. For example, DHS has developed a process to update background checks on a regular basis and has developed a line-of-sight escort policy that requires all cleaning, maintenance, and repair staff entering the biocontainment area to be continually monitored by individuals with completed background checks. According to DHS officials, if an escort is not available, unapproved individuals are not permitted access to the area.

However, DHS has not fully implemented our recommendation that the department ensure that individuals involved in laboratory activities in the biocontainment area—including students and regardless of citizenship—be approved in accordance with the law. Specifically, in 2003, we reported that USDA did not require background checks on students attending its foreign animal disease diagnostic classes that were regularly held in the biocontainment area. We stated that this practice might not have been consistent with the regulations implementing the Agricultural Bioterrorism Preparedness Act of 2002.<sup>8</sup> According to the regulations, individuals with access to pathogens should undergo background investigations. However, these regulations also allow the Administrator of USDA's Animal and Plant Health Inspection Service to exempt individuals from background investigations if the Administrator determines there is good cause and if doing so is consistent with protecting animal health or animal products.

USDA officials recently told us that it has provided such an exemption for the students attending its foreign animal disease diagnostic classes. USDA's position is that background investigations are not required because the risk of a student removing a pathogen is exceedingly low, largely due to what USDA calls “unique and extraordinary security measures” it has taken for students. According to USDA, these measures include denying students access to areas where pathogens are stored or equipment necessary to extract the pathogen from the tissue of the infected animal; not allowing students to inoculate animals with the pathogens or to analyze animal tissue or to isolate the disease from tissues; requiring students to be escorted at all times by approved individuals while in the biocontainment area; and requiring students to shower twice and completely change clothing between showers while being continuously escorted. Any remaining risk is acceptable, according to USDA,

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<sup>8</sup>See Pub. L. No. 107-188, Tit. II, § 212, 116 Stat. 647.

given the catastrophic risks associated with not having adequately trained professionals who can accurately diagnose and treat foreign animal diseases.

While we recognize the importance of maintaining a cadre of trained animal disease professionals, we continue to find it troubling that students are not subject to any type of background check before handling animals infected with diseases that have been determined to pose a severe threat to animal health and the economy. DHS officials recently told us that they are conducting background checks on international visitors, including those attending the foreign animal disease diagnostic classes. DHS officials also plan to do background checks on all individuals entering the biocontainment area using NCIC, once FPS is on the island full time. However, DHS does not yet have a firm timetable for when this will take place. Until this occurs, DHS continues to follow USDA policy permitting U.S. students to attend the classes without background checks.

### **Enhancing Incident Response Capability**

In 2003, we also found the island's incident response capability to be limited. For example, although the small guard force carried firearms, it was not authorized to do so; and no policy was put in place defining if, when, and how guards should use their weapons. In addition, because no formal arrangements with local law enforcement existed in 2003, Plum Island officials were unable to predict the extent to which surrounding localities would provide backup assistance during an incident. DHS has since taken actions to overcome these response limitations. For example, the guard force on the island is now authorized to carry weapons, in accordance with New York state law, and policies and procedures are in place detailing how guards should deal with intruders. DHS also recently established a memorandum of agreement with the town of Southold, NY, to provide law enforcement backup assistance when necessary. As a result, even though the guards do not yet have arrest authority, they can detain an individual on the island until Southold police arrive and make arrests, if necessary. The agreement with Southold also defines response times according to the type of assistance required—such as marine and canine patrol support—and provides for additional support from the Suffolk County Police Department—such as helicopters, explosive ordinance disposal capability, and other incident response assets—when warranted.

The implementation of two of our recommendations to enhance incident response capability remains in progress.

- First, we recommended that DHS develop an incident response plan that included precise detail about what to do if an incident occurred that exceeded the capability of the security system, such as a terrorist attack. In 2003, the island's incident response plan contained certain elements required under USDA regulation, such as how to respond to a bomb threat, but the plan did not clearly lay out the actions to be taken for incidents exceeding Plum Island's security capabilities. This was critical because at that time, according to DHS officials, the nation faced a significant risk of a terrorist attack. Although, in January 2007, DHS entered into a memorandum of agreement to obtain backup assistance from the town of Southold, DHS has not yet updated

its incident response plan reflecting these new capabilities, but told us it intends to do so.

- Second, we recommended that DHS conduct exercises with local law enforcement to test the efficiency and effectiveness of Plum Island's response capability. DHS agreed that it would be important to conduct such exercises once arrangements with local law enforcement were made. DHS conducted one exercise with the U.S. Coast Guard in 2006 to test response to a simulation involving a suspicious boat approaching the island. In addition, DHS recently informed us that, in November 2007, it conducted a security exercise with more than 40 law enforcement officials. While these exercises are positive developments, further steps are needed, including testing the effectiveness of the response plan once it reflects lessons learned from these exercises and the new arrangements with local law enforcement.

### **Reevaluating Risks and Threats**

Finally, in 2003, USDA had not sufficiently reevaluated the extent of the risks and threats to the security of Plum Island. For example, USDA had identified a list of threats that applied to all of its laboratories, but it had not reviewed these threats with the intelligence community and local law enforcement officials to ensure that threats particular to Plum Island and its vicinity were taken into consideration. The FBI, Suffolk County officials, and others told us at the time that they considered this step to be very important. DHS has since taken actions to respond to our recommendations to reconsider risks and threats to the security of Plum Island. For example, DHS officials told us they consult regularly with appropriate local law enforcement and intelligence agencies—including the U.S. Coast Guard, the FBI, FPS, and the Southold Police Department—to reconsider and update threats specific to Plum Island.

Implementation of one of our recommendations to reevaluate the risks and threats to Plum Island remains in progress. Specifically, we recommended that DHS revise, as necessary, security and incident response plans to reflect any redefined risks, threats, and assets. Although we have asked DHS officials to provide us with an updated security plan, we have not seen evidence that the security plan has been reviewed since 2004.

### **Concluding Observations**

DHS has made significant progress in the years since 2003, implementing most of our recommendations. Whether Plum Island continues to operate in its current capacity or as a higher level biosecurity facility, it is important that DHS fully implement the

remaining recommendations to reduce the risk of pathogen theft and to enhance response capabilities at Plum Island.

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We are sending copies of this report to the appropriate congressional committees, the Secretaries of Agriculture and Homeland Security, and other interested parties. We will also make copies available to others upon request. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staff have any questions about this report or need additional information, please contact me at (202) 512-3841 or [shamesl@gao.gov](mailto:shamesl@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in enclosure II.



Lisa Shames  
Director, Natural Resources  
and Environment

Enclosures

*List of Congressional Addresses*

The Honorable Tom Harkin  
Chairman  
The Honorable Saxby Chambliss  
Ranking Member  
Committee on Agriculture, Nutrition and Forestry  
United States Senate

The Honorable Joseph Lieberman  
Chairman  
The Honorable Susan M. Collins  
Ranking Member  
Committee on Homeland Security and Governmental Affairs  
United States Senate

The Honorable Collin C. Peterson  
Chairman  
The Honorable Bob Goodlatte  
Ranking Member  
Committee on Agriculture  
House of Representatives

The Honorable John D. Dingell, Jr.  
Chairman  
The Honorable Joe Barton  
Ranking Member  
Committee on Energy and Commerce  
House of Representatives

The Honorable Bennie G. Thompson  
Chairman  
The Honorable Peter T. King  
Ranking Member  
Committee on Homeland Security  
House of Representatives

The Honorable Tom Davis  
Ranking Member  
Committee on Oversight and Government Reform  
House of Representatives

The Honorable Herb Kohl  
Chairman  
The Honorable Robert Bennett  
Ranking Member  
Subcommittee on Agriculture, Rural Development, Food and Drug Administration,  
and Related Agencies  
Committee on Appropriations  
United States Senate

The Honorable Robert C. Byrd  
Chairman  
The Honorable Thad Cochran  
Ranking Member  
Subcommittee on Homeland Security  
Committee on Appropriations  
United States Senate

The Honorable Rosa L. DeLauro  
Chairman  
The Honorable Jack Kingston  
Ranking Member  
Subcommittee on Agriculture, Rural Development, FDA and Related Agencies  
Committee on Appropriations  
House of Representatives

The Honorable Jim Langevin  
Chairman  
The Honorable Michael T. McCaul  
Ranking Member  
Subcommittee on Emerging Threats, Cybersecurity,  
and Science and Technology  
Committee on Homeland Security  
House of Representatives

The Honorable Bart Stupak  
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The Honorable John M. Shimkus  
Ranking Member  
Subcommittee on Oversight and Investigations  
Committee on Energy and Commerce  
House of Representatives

The Honorable Harold Rogers  
Ranking Member  
Subcommittee on Homeland Security  
Committee on Appropriations  
House of Representatives

The Honorable Hillary Rodham Clinton  
The Honorable Charles E. Schumer  
United States Senate

The Honorable Tim Bishop  
The Honorable Steve Israel  
House of Representatives

**Status of GAO Recommendations on Plum Island Physical Security as of December 2007**

<b>Recommendation</b>	<b>Status</b>
<b>Addressing physical security deficiencies</b>	
1. Fully implement the physical security measures.	Implemented
Address the specific security shortcomings identified by our Office of Special Investigations.	
2. The security force reports directly to the Administrative Contract Officer and not to the Security Director—it is important for the security force to report directly to the Security Director of Plum Island to ensure that security-related issues are handled promptly.	In progress
3. There are no name or record checks given to contractors and visitors going into the biocontainment area. Contractors and visitors entering the biocontainment area could be checked for criminal charges (through the National Crime Information Center) before they are granted access.	In progress
4. The area outside of the biocontainment and administrative building is surveilled by stationary closed-circuit television cameras, which are insufficient. Installing pan, tilt, and zoom closed-circuit television cameras in certain areas would enhance surveillance capabilities.	Implemented
5. The island is easily accessible to the general public by boat, and there are limited “no trespassing” signs present on the island to advise the public that it is a government facility—more “no trespassing” signs in those areas of the island that are easily accessible to the public by boat would address this condition.	Implemented
6. In the event of a fire, Plum Island is not always able to respond appropriately because the fire brigade has limited hours of operation. The security force could be cross-trained for fire rescues and therefore provide 24-hour coverage.	Implemented
7. The building used for overnight accommodations lacks panic alarms for emergency response. Panic alarms could be installed in the building and, when visitors are present, security guards could drive by on a regular basis.	Implemented
8. Control for keys and master keys of the facility are deficient. The security department could be assigned the responsibility for all keys and master keys. A key log could be created to better track possession of keys.	Implemented
9. Better secure certain features of the physical infrastructure that supports the continued operation of the Plum Island Animal Disease Center.	Implemented
10. Better secure the foot-and-mouth disease vaccine bank.	Implemented
<b>Limiting access to pathogens</b>	
11. Ensure that all individuals involved in laboratory activities in the biocontainment area—including students and regardless of citizenship—have been approved in accordance with the law.	In progress
12. Ensure that background checks of individuals involved in laboratory activities in biocontainment are updated regularly.	Implemented
13. Ensure that cleaning, maintenance, and repair staff entering the biocontainment area are escorted at all times by individuals with completed background checks.	Implemented
14. Consult with other laboratories to identify ways to mitigate the inherent difficulty of securing pathogens.	Implemented
<b>Enhancing incident response capability</b>	
15. Resolve the issue of the guards’ authority to carry firearms and make arrests.	Implemented
16. Develop and implement a policy on how guards should deal with intruders and use weapons.	Implemented
17. Increase the size of the guard force.	Implemented
18. Complete an agreement with local law enforcement agencies to ensure backup assistance when needed.	Implemented
19. Define an adequate response time for law enforcement to respond to incidents.	Implemented

Recommendation	Status
20. Develop an incident response plan that includes precise detail about what to do in the event an incident occurs that exceeds the capability of the security system, such as a terrorist attack.	In progress
21. Conduct exercises with local law enforcement to test the efficiency and effectiveness of Plum Island's response capability.	In progress
<b>Reevaluating risks and threats</b>	
22. Reconsider the security risks at Plum Island, taking into account recent acts of disgruntled employees.	Implemented
23. Consult with appropriate state and local law enforcement and intelligence agencies to revisit the threats specific to the Plum Island Animal Disease Center.	Implemented
24. Revise, as necessary, security and incident response plans to reflect any redefined risks, threats, and assets.	In progress

Source: GAO.

Note: The recommendations listed in this table were made in GAO-03-847.

Enclosure II

## **GAO Contact and Staff Acknowledgments**

### **GAO Contact**

Lisa Shames, (202) 512-3841, or [shamesl@gao.gov](mailto:shamesl@gao.gov)

### **Staff Acknowledgments**

In addition to the individual named above, Charles Adams, Assistant Director, and Mary Denigan-Macauley made key contributions to this report. Kevin Bray, Nancy Crothers, Jennifer Gregory, Barbara Patterson, and Raymond Rodriguez also made important contributions.

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