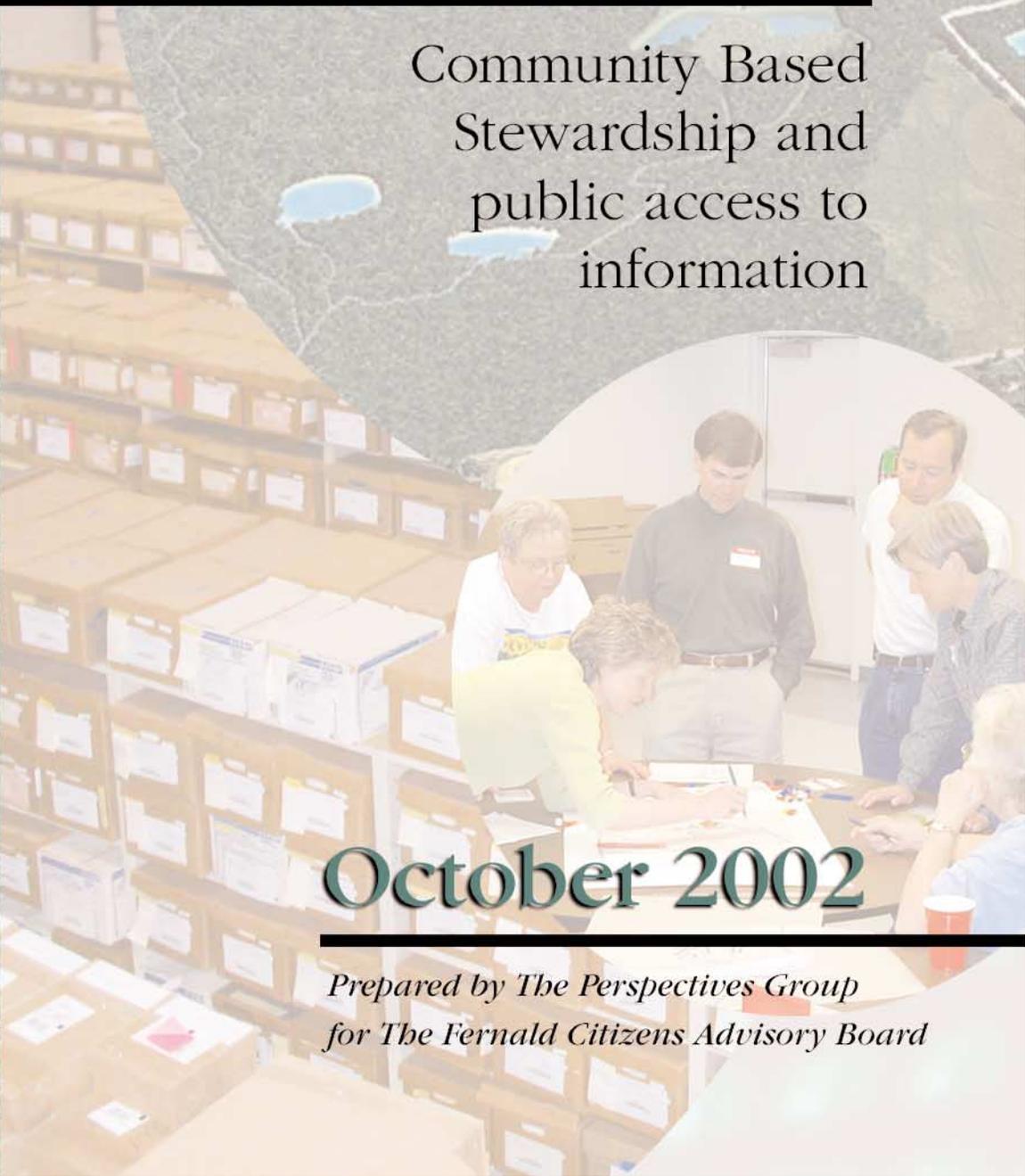


# Telling the story of Fernald

Community Based  
Stewardship and  
public access to  
information



October 2002

*Prepared by The Perspectives Group  
for The Fernald Citizens Advisory Board*



# Table of Contents

## REPORT

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Summary .....	7
Foreword .....	13
<b>I.</b> Introduction .....	17
<b>II.</b> Background .....	19
<b>III.</b> Community-Based Stewardship and The Importance of Information .....	25
<b>IV.</b> What Information Does the Community Need? .....	31
<b>V.</b> Communicating Public Information Effectively .....	41
<b>VI.</b> Information Needs of DOE Closure Sites .....	47
<b>VII.</b> Planning for Information Management at Fernald .....	57
<b>VIII.</b> Key Points and Conclusions .....	67
<b>IX.</b> Recommended Actions .....	71
<b>X.</b> Putting it all Together at Fernald: The Proposed Multi-Use Education Facility .....	75
<b>XI.</b> Conclusion .....	85
References .....	87

## APPENDICES

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<b>Appendix A:</b> Future of Fernald Process .....	91
<b>Appendix B:</b> Stakeholder Vision for the Future of Fernald .....	103
<b>Appendix C:</b> Stakeholder Criteria for the Design and Future Use of an Education Center ....	105
<b>Appendix D:</b> Public Records Questionnaire Results .....	107
<b>Appendix E:</b> Summary and Results of the Public Records Workshop (FOF IV).....	109
<b>Appendix F:</b> Rocky Flats Cold War Museum Fact Sheet .....	119
<b>Appendix G:</b> Key Internet Resources .....	123



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# Summary

The people who live and work near the U.S. Department of Energy site in Fernald, Ohio will need information about the property long after its environmental "cleanup" is completed. This report was prepared by the Fernald Citizens Advisory Board to explain why public access to information is critical at sites like Fernald. Its purpose is to present the specific information needs of the Fernald community and to offer recommendations for how the Department of Energy (DOE) can meet those needs.

From 1952 to 1989, the Fernald site produced uranium metals used in the production of nuclear weapons. Low levels of radioactive contamination blew as far as five miles from the site during production, and a large plume of contaminated groundwater spread away from the site underground. For more than a decade, DOE has conducted an environmental remediation project at the site to address this historical contamination. As part of this project, thousands of tons of highly contaminated materials have been shipped off the Fernald site, while a much greater volume of materials with lower concentrations of contamination have been placed in a specially designed disposal facility located on the site. Meanwhile, groundwater is being pumped to the surface, treated to remove contaminants, and reinjected underground.

The site is scheduled for closure in 2006, meaning that the site will meet agreed upon levels for contaminants and that contaminated groundwater will be contained, with long-term treatment and monitoring in place by the end of 2006. When closure comes and remediation activities end, the site will retain a high volume of contaminated materials in its on-site disposal facility, and site soils will contain radioactive contaminants at levels too high to permit unrestricted property use. Physical barriers and legal restrictions on future use of the site will be required to prevent excessive exposure to these residual contaminants. The ongoing management of the site to protect human health and the environment from these hazards is called long-term stewardship.

## **The Need for Public Access to Information at Closure Sites**

As the environmental remediation of the Fernald site nears completion, the public has become increasingly concerned about the future availability of information during long-term stewardship. This has prompted the Stewardship Committee of the Fernald Citizens Advisory Board, a DOE site-specific advisory board comprised of local community members, to conduct a study of the public information needs at the Fernald site. While the study that led to this report was focused on the Fernald site, the lessons presented here are applicable to the long-term needs of communities at other sites where the approach to remediation includes managing some wastes on site and leaving behind some residual levels of contamination.

The current accepted approach to the "cleanup" of contaminated sites relies heavily on the on-site management of hazardous materials, rather than on their removal.

As such, the term "cleanup" is a misnomer, and throughout this report, the term remediation is used instead. Reduced risk of human and environmental exposure to contaminants left on site is achieved through both physical barriers and limits on the future use of the site. In cases involving nuclear materials, this approach to environmental cleanup places a perpetual burden on communities near the site, since the materials left on site may remain hazardous for tens of thousands of years after the cleanup is completed. The health and safety of the community, and their surrounding environment, can be ensured only through sound management of the site—physical barriers must be monitored and maintained, and land-use controls must be enforced and successfully communicated from generation to generation. This kind of long-term management will be required at the Fernald site.

Because the community will have a continuous presence near the Fernald site, will bear the majority of risk associated with the hazards left on site, and has been effective in prompting the government to address environmental risks, members of the public will be integral to successful oversight of the site's ongoing management. This integrated awareness, education, and acceptance of responsibility for oversight of long-term stewardship is referred to in this report as Community-Based Stewardship.

The two key ingredients to successful Community-Based Stewardship are:

- 1) publicly available information regarding the site, and
- 2) an active community outreach program to sustain awareness of site hazards and the information resources that exist.

Information is key to ongoing protection of human health and the environment. Information will ensure public awareness of the hazards remaining at the site and the controls in place to manage the risks from these hazards. Access to information also provides the public with the tools necessary to play a meaningful role in oversight of the site's management. In addition, the community needs information in order to understand and accept the decisions that were made during the remediation of the site and to trust that their health and the environment have been adequately protected. Finally, information is needed that can communicate the full story of Fernald's history and the important lessons that have been learned at the site and in the community to help prevent future societies from repeating past mistakes.

The public that lives and works near the Fernald site has been an important partner in the remediation of the site for more than a decade. This community recently has provided guidance regarding the types of information that are needed at or near the site after the remediation is completed. These types of information can be divided into three categories:

- 1) information concerning the history and cultural significance of the site,
- 2) background information on environmental conditions at the site and remedies that were put in place during cleanup, and

- 3) up-to-date information generated during long-term stewardship, such as environmental monitoring reports and administration of the site.

The Fernald public also has provided input on how to provide access to that information. In general, the public needs immediate access to technical information that has been summarized in user-friendly, graphics-rich formats. The Fernald community has identified the construction of an education facility at the site as a desirable way to provide this information to the public. The public would also like a clear and reasonable path for identifying and accessing in-depth, technical information that has been archived by DOE.

### **Current Conditions at Fernald and Within DOE**

For closure sites like Fernald, there are overarching information management needs. In addition to providing information resources for the public, these sites must also manage and archive existing records and assemble information that will be critical for the long-term steward of the site to carry out management activities. There is a system in place to manage site records, and recent long-term stewardship guidance has discussed the types of information that must be in place for the transition to long-term stewardship. There is no guidance, however, on how that information can be made accessible to the public or how it should be augmented to meet the public's needs. Furthermore, while there is a growing recognition that ongoing public access to information is an important component of long-term stewardship, there has been little formal discussion of the kinds of information that is needed or how that information should be communicated.

Because public needs are only just now becoming clear and DOE is accelerating the pace of remediation, conditions at the Fernald site present significant challenges to meeting the public vision for access to information. The Fernald site is coping with the management of tens of thousands of boxes of paper records, hundreds of thousands of photographs and other audiovisual records, and hundreds of Cold War and Native American artifacts. With closure of the site anticipated in the year 2006, it is critical that actions are taken soon at the site and national levels to ensure effective Community-Based Stewardship can be carried out at Fernald.

### **Recommended Actions**

Its exploration of community needs for information after site closure and its review of current information management practices and planning led the Stewardship Committee to four basic conclusions:

- DOE should approach providing public access to information and promoting public awareness of the site as a legally mandated control that must be in place at the time of site closure and maintained throughout long-term stewardship.

- Long-term public information needs are distinct from long-term stewardship information requirements and records management procedures.
- Providing for public information needs requires action at both the site level and by DOE Headquarters.
- It is critical to establish a system that will perpetuate awareness through many generations, which will require that DOE address commitment, funding, and outreach.

Based on these conclusions, the following actions to DOE Headquarters are recommended. These actions focus on providing reasonable public access to site records that have been archived. DOE Headquarters should:

1. Commit to a long-term funding strategy for long-term stewardship activities, including public access to information and outreach to the community regarding those information resources.
2. Develop a searchable, accessible national database of records from closure sites.
3. Correlate NARA retention schedules and guidelines with long-term stewardship needs.
4. Design and implement a system through which the public can obtain copies of archived information.
5. Collaborate directly with sites in long-term stewardship to provide outreach to the public regarding the information resources that are available.

Because current DOE guidance for long-term stewardship relies on site-level planning and implementation, most actions required to ensure public access to information will need to be taken at the site level. These actions will ensure public access to useful information regarding the environmental conditions, stewardship activities and obligations, and the historical legacy of the site. DOE should:

1. Commit to provide local public access to site information on an ongoing basis. One option for making this commitment is in a post-remediation Record of Decision.
2. Manage records in a way that meets the community's need for information. As site staff prepares for the completion of site cleanup and for the archiving of records, they must work with the public to ensure that important information is identified, preserved, and archived.

3. Prepare stewardship information with community needs in mind. As the site prepares information that will be needed for long-term stewardship activities, public needs for up-to-date stewardship information should be considered. The site should also consider how that information will be made available to the public.
4. Develop information resources specific to community needs. Information needed by the public must be framed and converted to formats that will be easily understood by community audiences. It must then be organized and indexed in a manner that will be accessible and understandable to future generations. A searchable database of this information must be developed and public access points must be determined.
5. Establish an outreach program to communicate to the community what information resources are available.
6. Identify a long-term manager of public information and solidify a funding source for information activities. The information manager will be responsible for keeping information up-to-date and for meeting the changing information needs of future generations.

At Fernald, the community has proposed that a multi-use education facility be built at the site to meet the public's ongoing need for information. An education facility would provide a continuous, visible presence in the community and attract the public to a venue where they can receive information that has been tailored to meet community needs. Such a facility needs to provide a wide enough range of uses and activities to create a viable role in long-term community life. Members of the Fernald community recently participated in a design workshop to explore its vision for this education facility. Conceptual plans for a facility at Fernald are included in this report, as are recommended next steps for how the Fernald Citizens Advisory Board can move forward with the planning process for this facility.



# Foreword

Several years ago, community members began to ask serious questions about what will happen to the U.S. Department of Energy (DOE) property in Fernald, Ohio, once environmental remediation of the site is completed. To address these concerns, the Site-Specific Advisory Board for the site, the Fernald Citizens Advisory Board (FCAB), designed and implemented an ongoing process to involve the public in planning for the future use of the site. This process, dubbed The Future of Fernald, has consisted of five public workshops to date, managed by the Stewardship Committee of the FCAB (See Appendix A for a complete description of the Future of Fernald process). One result of these workshops was a consensus vision of Fernald Stakeholders regarding the future uses of the Fernald property (see below, and Appendix B for more information). The consensus vision solidified stakeholders' resolve to ensure that a positive legacy remains at the Fernald site following remediation, and that future uses of the site are focused on community education. Early in 2002, DOE renewed its commitment to complete remediation of Fernald by 2006. This accelerated schedule has heightened the resolve of the FCAB and other stakeholders that post-closure needs must be addressed quickly and serious steps must be taken to prepare for long-term stewardship of the site.



## A Stakeholder Vision for the Future of Fernald

Fernald Stakeholders envision a Future for the Fernald property that creates a federally owned regional destination for educating this and future generations about the rich and varied history of Fernald. We envision a community resource that serves the ongoing information needs of area residents, education needs of local academic institutions, and reinterment of Native American remains. We envision a safe, secure, and partially accessible site, integrated with the surrounding community that effectively protects human health and the environment from all residual contamination and fully maintains all aspects of the ecological restoration.

Another result of the Future of Fernald process has been increasing stakeholder concern about preserving site information and ensuring long-term public access to it. In late 2001, the Stewardship Committee received pilot project funding from the DOE Office of Long-Term Stewardship and asked The Perspectives Group, the primary technical consultant to the FCAB, to study the feasibility of providing public access to site records after the remediation of Fernald is complete.

This study offers a unique opportunity to understand the community perspective on what information will be needed long-term by the public living near a waste

management site and what is required to make that information accessible. The study consisted of three major components:

- An assessment of existing information management procedures
- A review of the information resources maintained at Fernald
- A community dialogue regarding information needs.



***The Future of Fernald process involves community members in planning for the future use of the Fernald site.***

To begin the study, it was important to understand the current conditions of information management at the Fernald site and within the DOE Complex. Researchers talked to staff from the Fernald Environmental Management Project, the DOE Ohio field office, and DOE Headquarters. They also toured the facilities in which site information is currently stored and reviewed public access points to that information. Members of the FCAB Stewardship Committee also visited the Weldon Spring Site Remediation Project in Missouri, to see firsthand how another site has approached the need to inform the public.

Researchers also reviewed relevant reports and other papers produced by DOE, other Fernald agencies, and other organizations, including other stakeholder groups from the DOE complex. Topics included long-term stewardship, records management, and public information needs. An annotated list of key Internet resources is included in Appendix G, and web site addresses for most of the documents cited in this report can be found in the References section.

Most important, the study engaged the public in a dialogue regarding these issues. The dialogue included regular discussions by the Stewardship Committee and the FCAB, a public workshop focussed specifically on public records, and a design

charrette that helped identify public desires for an education facility that would satisfy community needs. A summary of the public workshop is included in Appendix E. The public workshop provided participants with background on the topic, and then asked them to provide input on what information should be available to the public after completion of the environmental remediation and how that information should be presented. The charrette—a hands-on design workshop—was used to develop a conceptual plan for a proposed on-site education facility, a longstanding priority of the Fernald community. The results of the charrette are presented in more detail in Section X of this report.

*If adequate information, and the structures needed to sustain public access to it, are not in place at site closure, local stakeholders believe that an adequate system of long-term stewardship information will never exist at Fernald.*

Already, this dialogue has begun to bear fruit. The involvement of DOE and site contractor staff in Stewardship Committee discussions and in preparations for the public workshop have dramatically increased their awareness of public needs with regard to site information. Site personnel have committed to work with the Stewardship Committee and continue to share information regarding records management and stewardship planning.

The Stewardship Committee and the FCAB recognize that the real value of this study lies in its ability to elicit meaningful action by DOE and other stakeholders. This report seeks to provide an understanding of the issues related to public access to information and explain community needs, but it also provides critical steps that must be followed by DOE and its contractors, as well as Fernald stakeholders.

Without immediate action on these issues, it is highly doubtful that community needs for information will be met by the time remediation of the Fernald site is completed, which is currently anticipated by the end of 2006. If this information and the structures needed to sustain public access to it are not in place at site closure, local stakeholders believe that an adequate system of long-term stewardship information will never exist at Fernald.



# I. Introduction

This study began as an investigation of the public's needs for information following closure of the Fernald site. However, in the course of this investigation, Fernald stakeholders discovered that this simple premise was part of a much more complex

*If long-term stewardship is to succeed, it will rest largely with the knowledge and the efforts of local citizens and local governments.*

reality faced by communities across the nation, who will bear the ongoing risks presented by significant quantities of residual contamination left at remediation sites.

If long-term stewardship is to succeed at these sites, it will rest largely with the knowledge and the efforts of local citizens and local governments to maintain awareness and vigilance of the contaminants remaining at the facility and long-term stewardship requirements for the site.

At Fernald we realize that it is up to us, the local public, to provide essential oversight to ensure that all long-term stewardship activities are conducted in accordance with their design, that all institutional controls are implemented effectively, and that there is continuous education and awareness of the history and reality of the Fernald site. We call this responsibility Community-Based Stewardship.

Community-Based Stewardship is a vision for post-remediation stewardship of a site that assumes that the local community will play a critical, ongoing role. The community cannot play this role unless it has the tools necessary to provide meaningful oversight of site management. Community-Based Stewardship requires an aware, well-informed public, which has access to a rich source of information about the site.

This report will explain why public access to information is critical at sites like Fernald and present the Fernald community's specific needs for information. Providing information to the public is just one of the information needs faced at DOE closure sites; this report will also explore the degree to which DOE is currently prepared to meet each of those needs. Finally, specific recommendations are provided that can help DOE meet the information needs that will make Community-Based Stewardship possible at the Fernald site.

While the study that led to this report was focused on the Fernald site, the lessons presented here are applicable to the long-term needs of communities at other sites where the approach to remediation includes managing wastes on site and leaving behind residual levels of contamination.

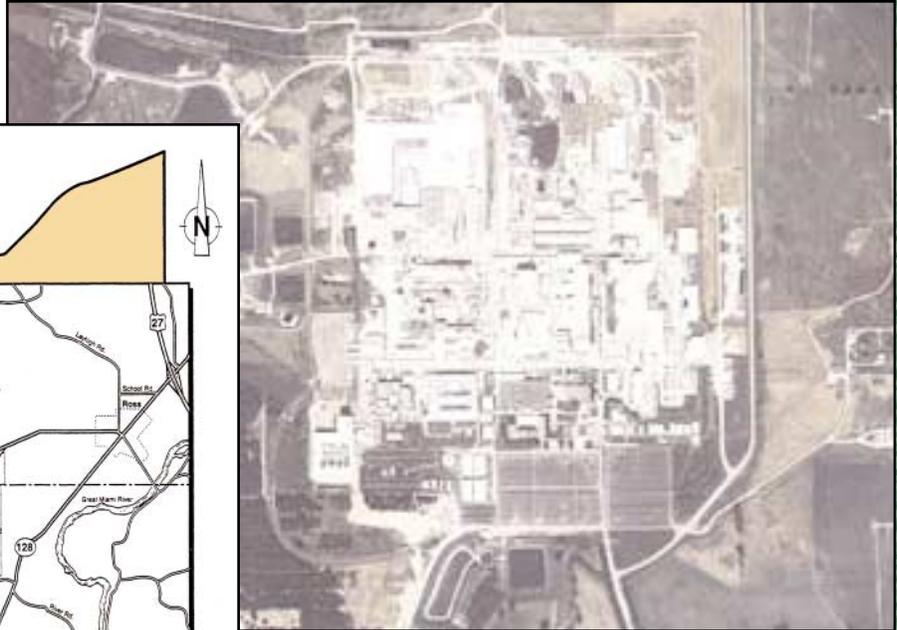
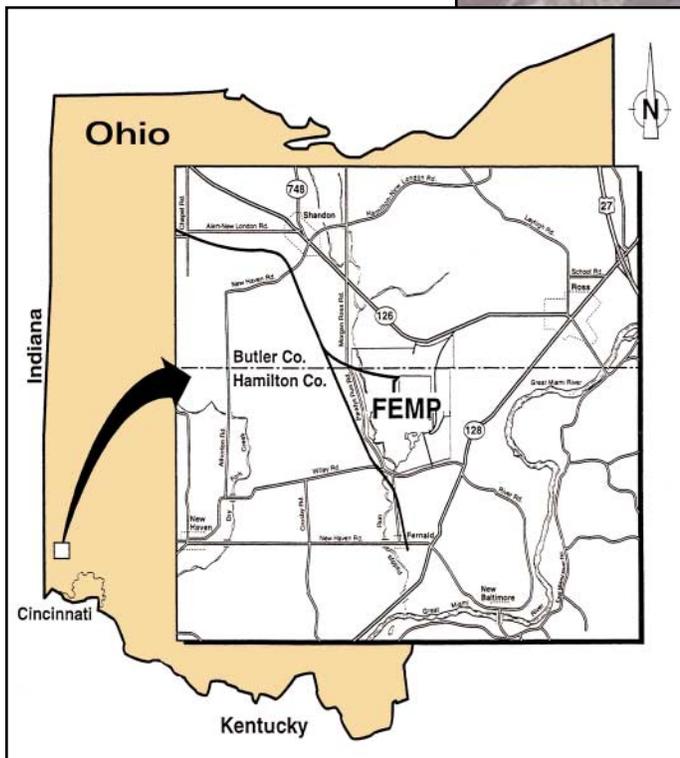


## II. Background

*This section provides background information on how the environmental legacy of nuclear weapons production is being managed at the Fernald site. The cleanup approach used at Fernald and other contaminated sites creates a need for long-term stewardship of residual on-site hazards.*

### Environmental Management

Around the country, the U.S. Department of Energy (DOE) is working to address the environmental legacy of the Nuclear Weapons Complex. From 1951 to 1989, the Fernald site produced uranium metals used in the production of nuclear weapons. At one thousand and fifty acres, the Fernald site is small by DOE standards. It is located squarely in the middle of a residential and agricultural community near Cincinnati, Ohio. There is no buffer between its on-site contamination and its neighbors, many of whom can see on-site waste management structures from their homes. Low levels of contamination spread as far as five miles from the site during production and a large plume of contaminated groundwater spreads southward from the site and is still undergoing removal and treatment. DOE helped fund a public water supply to surrounding communities and has continued to monitor air quality at the site boundaries. The Fernald contamination is not remote and has been at the forefront of community consciousness for almost twenty years.



**Nearly forty years of uranium production at the Fernald site resulted in contaminated soil and water at the 1050-acre property and in the surrounding community, located fewer than twenty miles from Cincinnati, Ohio.**

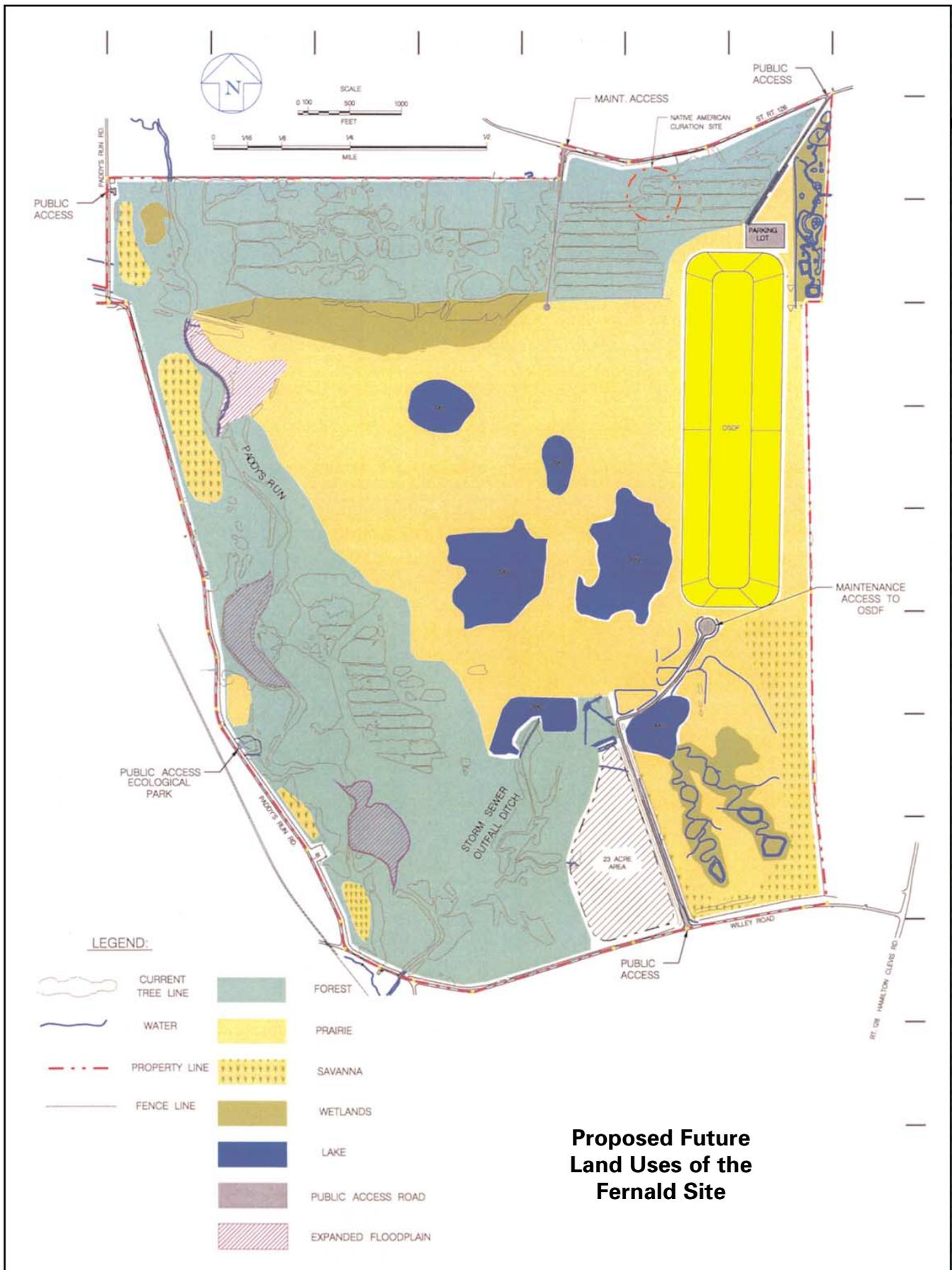
## Cleanup Levels and Land Use at Fernald

In making its sweeping 1995 recommendations for the cleanup of the Fernald site, the FCAB gave considerable thought to land use and residual contamination at the site. Ultimately, the FCAB recommended a recreational land use for all property on the site, outside of the disposal facility, that would allow for non-invasive surface uses such as trails and green space. A much more intensive "residential farmer" land use that would allow for unrestricted use of the soil was recommended for all lands off site.

In the 1980s, the public learned that soil and water at and near the property had been contaminated by high concentrations of uranium and other hazardous substances. For more than a decade, DOE has focused substantial resources on remediation of the site, which it calls the Fernald Environmental Management Project. The site is scheduled for closure in 2006, meaning that the site will meet agreed upon cleanup levels for contaminants in soils and that contaminated groundwater will be contained, with long-term treatment and monitoring in place by December of 2006.

Due to economic and technical constraints, many DOE sites around the country cannot be remediated to levels that allow unrestricted use of the property. "Cleanup" of these sites relies as much on isolating contaminants from the environment and reducing potential human exposure to them as on actual removal of hazardous materials. Contaminants that remain on site are often contained in carefully engineered disposal facilities, access to the site is sometimes restricted, and future use of the property is limited. Limits on use of the property and the associated legal constraints that enforce these limits are called "institutional controls." According to a 1999 report by the Environmental Law Institute, "[Institutional controls] are intended to ensure that the actual use to which a site is put after remediation is compatible with the level of cleanup at the site and to limit exposure pathways to toxins of concern." (*For more information on stewardship in the DOE complex, see Jarvis 2002; DOE Office of Environmental Management 2001; DOE Office of Environmental Management 1999; Environmental Law Institute 1999; and Applegate and Dycus 1998.*)

At Fernald, cleanup levels will not meet standards for residential use. In keeping with the 1995 recommendations of the FCAB, thousands of tons of highly contaminated materials have been shipped off the Fernald site, while a much greater volume of materials with lower concentrations of contamination have been placed in a specially designed on-site disposal facility covering approximately two hundred acres of the Fernald property. The residual concentration of uranium in soils on the remaining eight hundred acres will ensure that groundwater meets federal drinking water standards and allow for recreational use. In the future, public access to the on-site disposal facility will be restricted and future uses of the site will be limited to environmental, educational, and passive recreational uses. To help ensure appropriate future use, the site will remain under federal ownership. Nearly eighty percent of the site will be restored to native wetlands, forest, and prairie, and a network of public walking trails will crisscross these habitats. Some areas of the Fernald site also will be used for the reburial of Native American remains, which have been removed from original burial sites elsewhere.



*Following remediation, nearly eighty percent of the Fernald site will be restored to native habitats and contain public walking trails. Access to the on-site disposal facility (OSDF), which will cover approximately two hundred acres, will be restricted.*

## Long-term Stewardship

Because radioactive materials remain hazardous for countless generations, protecting human health requires that managers of sites like Fernald consider how physical barriers will be monitored and maintained over centuries and millennia and how rules limiting the use of the site will be sustained and enforced for generations to come. In *From Cleanup to Stewardship* (1999), DOE designates "all activities required to protect human health and the environment from hazards remaining after remediation is completed" as long-term stewardship.

*DOE designates "all activities required to protect human health and the environment from hazards remaining after remediation is completed" as long-term stewardship.*

Long-term stewardship at Fernald will consist primarily of monitoring and maintenance of the on-site disposal facility in order to ensure that human health and the environment are protected. It will also include maintaining institutional controls, which will ensure that residential or agricultural uses do not occur at the property. In addition to these environmental controls, remediation at the Fernald site includes restoration of natural habitats as part of the Natural Resources Restoration Plan. Meeting the site's restoration goals likely will require active natural resources management for many years. These ecological restoration projects will be monitored and maintained as a part of long-term stewardship, and any trails or other public use amenities will be maintained to a safe condition.

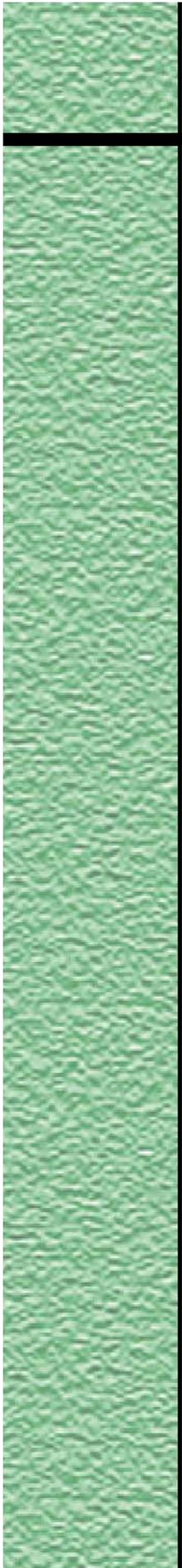


*An artist's rendering of what the Fernald site will look like following remediation.*

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## **Conclusion**

Remediation of the Fernald site will dramatically reduce the potential that the community and environment will be exposed to dangerous levels of radioactive contaminants. However, not all hazards will be removed. Likewise, natural conditions at the site will be restored, but the ultimate success of those restoration projects is currently unknown. Continuous long-term stewardship of the site will be required to assure ongoing protection of human health and environmental integrity.



# III. Community Based Stewardship and The Importance of Information

*The duration of long-term stewardship obligations at sites like Fernald presents serious challenges that can be addressed by Community-Based Stewardship. This section describes those potential challenges and discusses the multiple ways in which public access to information is critical to meeting these challenges.*

*The passage of time may result in a loss of local memory regarding a site and a decline in concern about the hazards that are present.*

## **The Challenge of Long-term Stewardship**

Planning for long-term stewardship poses a number of challenges, mostly related to the length of time that long-term stewardship must be sustained—in fact, the duration for which radioactive contaminants require stewardship eclipses the life span of current and past governments and all other human institutions (Tonn 2001). DOE's draft *Long-Term Stewardship Strategic Plan* (2002) acknowledges,

*"Successful implementation of long-term stewardship will require the flexibility to react to the inevitable changes that will occur over decades or centuries. Although the Department may be able to anticipate and influence some changes (e.g., that the physical integrity or effectiveness of markers or other physical controls like fences may be reduced over time and therefore need monitoring and replacement), other factors may be outside the control of the Department."*

These factors could include natural and human disasters, advances in cleanup and risk assessment technologies, changes in the political climate, and changes in public values and scientific understanding. In general, the passage of time may result in a loss of local memory regarding a site and, subsequently, a decline in concern about the hazards that are present.

## **The Need for Community-Based Stewardship**

In the year 2000, DOE produced *A Report to Congress Detailing DOE's Existing and Anticipated Long-Term Stewardship Obligations*. This report provides detailed information regarding DOE managed sites that will require long-term stewardship and defines roles in stewardship for several interests. Ironically, the report does not specify a role for the public in implementing long-term stewardship beyond urging

involvement of local interests in planning for long-term stewardship. It does not address how local interests should be involved or what tools DOE should provide to aid in their meaningful participation in oversight. The local community, however, is the best instrument with which to address the challenges of stewardship and maximize the assurance that long-term stewardship obligations will not be forgotten.

"The population residing or working near a site in long-term stewardship is a primary audience for long-term stewardship information. The specific information needs of the local population should drive the types of information that are provided on the local level. First, it is reasonable to assume that a local population will have a direct vested interest in the activities and status of a nearby site in long-term stewardship. Second, the proximity of nearby residents to the site means that the local population is more likely than other groups to encounter engineered and institutional controls, such as a fence or a deed restriction. Although controls will be designed to prevent or manage such encounters, as a safety measure the local population should understand supportive actions and procedures. Third, members of the local community are the most likely persons to be put at risk should long-term stewardship controls lapse or fail."

—*Hegner and Shull 2001*

The local community is the best source of ongoing oversight of long-term stewardship activities because:

- 1) The local community is the only entity that is guaranteed to have a continuous presence at or near the site,
- 2) Community members living or working at or near the site are shouldering the most substantial risks if stewardship should fail, and
- 3) Vocal concerns of an aware and informed public are the most likely mechanism to spur needed actions should components of long-term stewardship fail.

The concept of Community-Based Stewardship is to involve citizens directly and functionally as formal oversight to all long-term stewardship activities. In order to sustain Community-Based Stewardship over countless generations, local memory about the site must first be established and then sustained, and the capacity of community members to participate in stewardship activities must be continuously reinforced.

The key ingredients of Community-Based Stewardship are publicly available information regarding the site and an active program to sustain community awareness that those information resources are available. Providing information to the public contributes constructively to the long-term stewardship of the site in three important ways:

- 1) Assuring long-term protection of human health and the environment,
- 2) Sustaining community support for the remedies and controls that are in place at the site, and
- 3) Preserving the historical and cultural legacy of a site.

*The key ingredient of successful long-term Community-Based Stewardship is information.*

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## 1. Information Protects Human Health and the Environment

Public access to information protects human health and the environment by:

- Raising public awareness of the site and its potential hazards
- Raising public awareness of the access and institutional controls that must be maintained to control those hazards
- Creating greater public accountability for oversight and monitoring of long-term stewardship activities.

Among eight major stewardship challenges identified by the DOE *Long-Term Stewardship Study* (2001) is "Ensuring long-term public access to information and outreach efforts about residual risks to continue protection of human health and the environment." The role of information in reducing risks to health and the environment is noted in several reports and papers that endorse providing public access to site information (*see Environmental Law Institute 2001; Bauer and Probst 2000; Environmental Law Institute 1999; Oak Ridge Reservation, Stewardship Working Group 1999; Probst and McGovern 1998*).

### **Information Promotes Public Awareness, an Important Institutional Control**

A paper prepared for DOE in 2001 explains, "An important component of institutional controls is public understanding of why they are necessary, and conversely, what activities can be safely conducted on the land. This is a challenge in the near term, and because long-term stewardship obligations will be passed from generation to generation, it becomes one of the most critical challenges to sustainability" (*Hegner and Shull 2001*).

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*Public awareness should, in itself, be considered an institutional control.*

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Public awareness should, in itself, be considered an institutional control. A 1999 report by the Environmental Law Institute highlights the use of institutional controls at three environmental cleanup projects and cites several instances where these controls have failed. It concludes, "Institutional controls rely heavily on humans to implement, oversee, and administer them. It is human nature to ignore tasks that no one else seems to care about or where the purpose is not readily apparent. Residual hazardous substances are a classic example of a problem that is not readily apparent." It is not difficult to imagine an influx of new residents or subsequent generations lacking awareness and detailed knowledge of the potential risks presented by a site like Fernald, if there is no system in place to inform them of remaining hazards and

"A fundamental element of the success of institutional controls is that community members to whom the controls apply understand their terms and the importance of compliance. Public education is often prescribed as a method of accomplishing this purpose, but research indicated that, in practice, education may be overlooked. But without adequate education efforts, residents are less likely to know about or understand the residual risks at a site and are not empowered to protect themselves or their community."

– *Environmental Law Institute 1999*

how exposure to those hazards has been controlled. The consequences could include a breach of physical barriers or the improper use of the property. With full-information, local residents and municipalities can better plan for residential development, utilities, recreation, transportation, and growth management.

An Environmental Law Institute report (2001) notes that, "The better educated the affected public is about these restrictions and the need for them, the more likely they are to avoid the risk." If the purpose of institutional controls is to protect human health and the environment by reducing exposure to hazards, then making information accessible and promoting its use is a critical institutional control at a site like Fernald. DOE's *From Cleanup to Stewardship* (1999) states that public records and archives are considered an institutional control under U.S. Environmental Protection Agency regulation.

### **Information Underpins Public Oversight of Stewardship**

At Fernald and similar sites, the use of physical and institutional controls, and their upkeep, have been included in legal documents and agreements, such as Records of Decision. However, the Environmental Law Institute's 1999 report warns that there is a high probability that due to several factors, including the loss of local memory, management of long-term stewardship will break down over time.

*The Environmental Law Institute's 1999 report warns that, due to the loss of local memory, there is a high probability that management of long-term stewardship will break down over time.*

One solution is to encourage public oversight of site stewardship by increasing information that is available regarding controls that are in place. If the public knows what to expect from long-term management and is able to monitor what is happening at a site, site managers can be held accountable for results (Bauer and Probst 2000). In addition, if members of the public have information regarding the agencies that have regulatory obligations for long-term stewardship activities and understand how to contact those agencies, they can become a valuable link in enforcement of stewardship obligations.

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## **2. Information Helps Future Generations Accept Past Decisions**

Newcomers to a community and future generations living near a site will not have first-hand knowledge of how decisions were made for remediation or the cultural and scientific contexts in which those decisions were made.

Access to information can maintain public trust that the environment and their health are being protected. This will be particularly important as future generations and new residents confront the environmental risks remaining on and near the Fernald site.

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*It is difficult to know what the future reputation of the Fernald site will be in the community.*

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At Fernald, the community was an important partner in arriving at remediation decisions, as well as decisions regarding future use of the site and controls that will be put in place. The remedy that is being implemented at Fernald is the result of a complex and diverse dialogue among the many stakeholders present at the site. The resulting "balanced approach" recognized the need for the Fernald community to do its share in shouldering the burden of long-term waste management. This rationale and the activities that went into the decision will be critical information if future generations are to be expected to also accept this ongoing burden.

It is difficult to know what the future reputation of the Fernald site will be in the community. Due to its radiological contamination, the site has carried a negative stigma for many members of the public. The availability of information is a key to providing community members clarity regarding risk and conditions at the Fernald site. Without clarity regarding the environmental conditions at Fernald, it will be difficult for some members of the public to feel confident that their health is protected. Fear of the unknown could result in unwarranted calls for the reassessment of risks and additional remediation.

## **3. Information is Necessary to Sustain the Cultural and Historical Legacy of the Site**

The history of the site, as well as the processes used to make decisions regarding remediation and future use of the site, hold a number of valuable lessons that can deepen the knowledge of communities beyond Fernald and inform future decision making.

Access to information can also reduce the risk that the public will neglect the historical and cultural legacy of the site. Sites like Fernald provide important lessons concerning local impacts of the global Cold War, environmental contamination and its remediation, the history of the U.S. Nuclear Weapons Complex, regional Native American cultures, and the empowerment of the grassroots environmental movement.

*In the future, it is highly likely that community members will have questions regarding the Fernald site.*

On a national level, the Fernald experience provides many important lessons that can help to guide future generations. These lessons include the importance of environmental management and the appropriate role of the community in environmental decision making. The learning of those lessons at Fernald were an expensive endeavor and should be communicated to other sites and future generations. The local community is proud of its contributions to the remediation of Fernald and believe that this history will be critical to future generations.

In the future, it is highly likely that community members will have questions regarding the Fernald site, its history, and its current risk to human health and the environment. Answering the questions will require that information regarding the site be accessible to the community. If information is not available, members of the public are likely to generate it anew or call for the federal government to generate the missing information. Generating information as an afterthought can be an expensive and time-consuming endeavor. A front-end investment in making information available to the public will reduce the chances that the public will need to research and produce its own resources in the future.

### **Conclusions**

If the challenges of long-term stewardship are to be met at sites like Fernald, it is critical to provide a variety of information to the public. An active program that communicates information to future generations and new residents will ensure community awareness of hazards at the site, provide tools needed for oversight of long-term stewardship, foster community acceptance of the remedies used at the site, and sustain the historical legacy of the site.

## IV. What Information Does the Community Need?

*In a report produced for DOE in 2001, Hegner and Shull state, "It is important to note that the information requirements for effective public awareness will differ from site to site." This section discusses the needs of the community living and working near the Fernald site.*

In March 2002, the Stewardship Committee of the Fernald Citizens Advisory Board held a public workshop to discuss public access to information after remediation of the Fernald site is completed (see the workshop summary, Appendix E). As part of the planning for the workshop, questionnaires were distributed to members of the Fernald community (see Appendix D). The workshop participants met in breakout groups to discuss different kinds of information and what the public needs and expects to have available throughout long-term stewardship.

*The Fernald community has noted that future generations are going to need the information necessary to "tell the story" of Fernald.*

In general, the community recognized that the information that they need must provide sufficient detail to "tell the story" of Fernald. That is, information has to be available to help this and future generations to understand what happened at Fernald and why, as well as what was left behind and its significance to the community. Like any story, information also is needed to provide background and context.

***At the March 2002 Future of Fernald Workshop, community members were able to learn about information available at the site.***



The Miamisburg Environmental Management Project has nearly completed remediation of DOE's "Mound Site" in Miamisburg, Ohio. In April 2002, DOE finalized the Mound Site Assessment of Post-Closure Data Needs. This assessment was based on interviews with a variety of stakeholders, conducted in 2000 and 2001. The intent of the assessment was "to document what is known about future information needs, what decisions will need to be made relative to the availability and transfer of that information, and the viability of Internet-based technologies as a mechanism to deliver and maintain this information." While the assessment includes the data and information needs of all stakeholders, it also acknowledges community desires to have access to site information during long-term stewardship of the site. According to the assessment, the general public "has an interest in learning about Mound's role in U.S. history; the programs, processes, and operations performed onsite; as well as the releases that occurred from these processes and operations and their impacts on human health and the environment." The Mound assessment found that "All current and future data users require a summarized level of information."

Three major categories of information were identified during the workshop:

- 1) Information on the history and cultural significance of the site,
- 2) Information regarding the history of contamination at Fernald, the environmental conditions at the site and the environmental remedies that were put in place, and
- 3) Up-to-date information generated during long-term stewardship, including management of the site and environmental monitoring.

### **The Cultural and Historical Story of Fernald**

The Fernald community expressed a strong interest in preserving and communicating the human story of Fernald to future generations. This story contains four major chapters:

- 1) Fernald's role in the Cold War as a facility in the U.S. Nuclear Weapons Complex,
- 2) The impact of the production and cleanup eras on the lives of Fernald workers and community members,
- 3) The grassroots movement to clean up Fernald, and
- 4) The historical and current role of the site in Native American cultures.



*Community members met in small groups to discuss issues related to post-closure public access to information.*

**Table 2: Key Public Information Needed on Cultural Topics and Site History**

<b>Cultural and Historical Topic</b>	<b>Examples of Information Resources</b>
Fernald’s role in the Cold War	<ul style="list-style-type: none"> <li>• Atomic Energy Commission documents</li> <li>• Newspaper clips</li> <li>• Photographs of production and construction of site facilities</li> <li>• Artifacts from production</li> <li>• Models of facilities</li> </ul>
Impact of production and remediation on workers and the community	<ul style="list-style-type: none"> <li>• Photographs of workers and local communities</li> <li>• Worker newsletters</li> <li>• Worker health data</li> <li>• Living history videos</li> </ul>
Grassroots environmental movement and its impact on site remediation	<ul style="list-style-type: none"> <li>• Newspaper clips and news video</li> <li>• FRESH newsletters</li> <li>• Records of lawsuits</li> <li>• FCAB reports and recommendations</li> </ul>
Role in Native American cultures in the history and future of the Fernald area	<ul style="list-style-type: none"> <li>• Artifacts excavated at site</li> <li>• Letters from Tribes</li> <li>• Photographs and video of reinterment ceremonies</li> </ul>

The Cold War shaped global politics in the latter half of the Twentieth Century. The U.S. Atomic Energy Commission, which later became the U.S. Department of Energy, played major roles in the Cold War, producing materials for the Nuclear Weapons Complex. Members of the community have stressed the importance of locating and preserving historical documents and photographs related to the creation and operation of the Fernald facility, which could portray its role in the Cold War.

As much as the Cold War shaped politics around the world, the creation, operation, and cleanup of the Fernald site has shaped the lives of Fernald community members. The Atomic Energy Commission disturbed a sleepy rural area when they arrived to construct the Fernald facility in 1951. For most of its forty-year production history, the workers were expected to work in secrecy. Community members believe that it is important to capture what life was like for the employees and their families and to acknowledge their contribution to U.S. history. They have suggested using artifacts and photos to preserve the "human story" of the site. Aerial pictures of the site are needed to communicate how the site has changed over time. Photographs of site workers also could be important to genealogical researchers.

In particular, the videotaped interviews collected as part of the Fernald Living History Project preserve the memories of people who worked at and lived near the site and provide one of the most important sources of site cultural history. Fernald Living History, Inc. is dedicated to preserving and communicating the history and significance of the Fernald site. The main project of this organization was to work with Fernald staff to video record and transcribe interviews with current and former site employees and other community members.

In 1986, when the community realized the extent of contamination that had been released to the soil and groundwater, a forceful grassroots movement arose to shut-down and cleanup the site. Efforts of these community activists made national headlines and the covers of national news magazines. As the Cold War ended, legal pressure and negative publicity contributed to an end of production and the transition to environmental remediation. The public outcry over Fernald soon spread to other DOE sites. For many members of the Fernald community, this era of Fernald history is important because it shows how ordinary citizens can create substantial change in their communities and around the nation.

Community members have also discussed the need for the community to be aware of the Native American history of the site, including what Tribes lived at the site and what artifacts have been discovered there. Education about the current cultural significance of the reinterment of Native American remains at the site is also important. Information should convey the sacred nature of these burial sites and why they are significant to the Tribes. Community members believe that it is important that this information be communicated from a Native American point of view.

### **Contamination and the Environment**

Members of the Fernald community have a keen interest in what happened at the Fernald site during production and during the environmental remediation. Information regarding the activities at Fernald over the past fifty years are contained in the extensive records generated by the site. There are three main categories of records that are of interest to the public:

- 1) Information on uranium production and the resulting contamination,
- 2) Impacts of these contaminants on the health of workers, community members, and the environment, and
- 3) Information on how the environmental cleanup was planned and implemented.

The Fernald community would like to retain access to information on the production process at Fernald, how it fit into the overall Weapons Complex, and the resulting contamination of the environment at and near the site. This information could

include histories of how the site was selected and activities that took place during production. This information should provide insights regarding how the site became contaminated, the kinds of contaminants that were released into the environment, and the movement of those contaminants on site and beyond the fence line (e.g., groundwater plumes).

The release of contaminants at Fernald resulted in the exposure of workers, community members, and the environment. The community should have access to epidemiological studies and other environmental data that show the levels of exposure to the people working and living near the site, as well as potential and documented impacts on human health. In addition, the public should have information on potential and documented impacts on the environment.

The community also should have access to information about the risk-based decision-making process and the Comprehensive Environmental Response and Compensation Liability Act (CERCLA) process for environmental remediation. Fernald stakeholders are concerned about the history of environmental remediation and about what will remain at the site when remediation is completed. This information, contained predominantly in the CERCLA Administrative Record, includes the methods used to reduce levels of contaminants and the target risk levels that were agreed upon at specific locations on and off the site.

**Table 3: Key Public Information Needed on Contamination and the Environment**

Environmental Topic	Examples of Information
Production and Resulting Contamination	<ul style="list-style-type: none"> <li>• Types of contaminants</li> <li>• Concentrations of contaminants</li> <li>• Movement of contaminants on- and off-site</li> </ul>
Exposure of Workers, Community and Environment	<ul style="list-style-type: none"> <li>• Levels of exposure</li> <li>• Potential impacts of each contaminants</li> <li>• Documented impacts of contaminants</li> </ul>
Environmental Remediation Process	<ul style="list-style-type: none"> <li>• Overview of the CERCLA process</li> <li>• CERCLA Administrative Record</li> <li>• Remediation processes used</li> <li>• Target risk levels</li> <li>• Exact site conditions at time of site closure</li> <li>• Physical and Institutional Controls in place at the time of site closure</li> </ul>

### **Long-Term Stewardship Information**

The community is very concerned with the availability of information relevant to long-term stewardship of the site. Although the cleanup will be completed, the site

will remain a centerpiece to the community and community members will want to know how risk is being managed on an ongoing basis. Key long-term stewardship information that the community must understand includes the following:

- The actual environmental conditions that exist at the site and the risks associated with those conditions
- Controls that are in place to reduce exposure to hazardous materials
- Measures required to maintain those controls and contingencies in place in case of their failure
- Monitoring that is conducted and the meaning of those monitoring results
- Entities responsible for all aspects of long-term stewardship
- Opportunities to further reduce risks at the site.

The community desires ongoing, immediate access to general information about environmental conditions at the site during stewardship. This includes the exact location and nature of residual contamination at the site, in the surrounding community, and in the groundwater, as well as how those contaminants move in the environment. In order to understand the critical aspects of long-term stewardship and better participate in future decision making, the public also needs information regarding the risks associated with residual contamination at the site. In addition, the community would like information regarding the ecological restoration projects, which were implemented to address natural resource damages associated with the operation and remediation of the site.

*In particular, the community needs to be informed of any conditions at the site that are not consistent with the Records of Decision (RODs) for site remediation.*

Information regarding the environmental controls that are in place is also needed by the public. In particular, the community has expressed a need for information showing the exact perimeter of each cell in the on-site disposal facility, specific contents of each cell, and where those materials are located within each cell. Information regarding requirements for maintaining controls that are in place at the site is also needed, if the public is to play an important oversight role in management of the site. Meaningful oversight will also require that the public have information regarding institutional controls—exactly what kinds of land uses and activities are permitted at the site and what controls are in place to assure this.

The public also needs updates regarding conditions at the site. This includes regular reports of environmental monitoring and any inconsistencies with the agreed upon remedies. In particular, the community needs to be informed of any conditions at the site that are not consistent with the Records of Decision (RODs) for site remediation. Community members require information on the levels of remaining contaminants

above background levels and any health risks associated with those contaminants. Likewise, the public needs information that confirms that controls at the site are effectively protecting the health of nearby communities and the environment. As with the technical remedies employed, the community needs information about ecological restoration projects at the site. The restoration of natural communities is an important component of the cleanup, and the community wants to be able to monitor progress at the site and oversee the integrity of the restoration and how it compares to the desired outcome. In addition, information regarding plants and animals could be an important indicator of the environmental health of the site.

The community must have a clear understanding of how the site is being managed and who is responsible for any problems. In particular, the community needs to know to whom questions regarding the site should be directed. This contact must be immediately available and be knowledgeable about the site. It is also important that the community understand which agencies have responsibility for the site and the kinds of information being provided to those agencies. The community also desires to retain access to details regarding budget development and funding processes for management of the site.

Because advancements in environmental cleanup technology may lead to opportunities to further reduce risks at sites like Fernald, the community needs information regarding these advancements. Likewise, the community needs to be aware of new funding opportunities that could help them reduce risks to the community and the environment.

**Table 4: Key Public Information Needed regarding Long-Term Stewardship**

<b>Type of Information about Stewardship</b>	<b>Examples of Information</b>
Environmental Conditions	<ul style="list-style-type: none"> <li>• Location and nature of residual contaminants</li> <li>• Nature and degree of health risks associated with residual contaminants</li> <li>• Parameters of ecological restoration projects</li> </ul>
Controls in Place	<ul style="list-style-type: none"> <li>• Nature and design of physical barriers</li> <li>• Controls on land use</li> </ul>
Measures Required to Maintain Controls	<ul style="list-style-type: none"> <li>• Regular maintenance schedule</li> <li>• Actions required to maintain controls</li> <li>• Potential risks to integrity of controls (e.g. natural disasters)</li> </ul>
Monitoring Reports	<ul style="list-style-type: none"> <li>• Monitoring data</li> <li>• Changes in levels of risk</li> <li>• Inconsistencies with remedies or controls specified in RODs</li> <li>• Status of ecological restoration projects</li> </ul>
Entities Responsible for Stewardship	<ul style="list-style-type: none"> <li>• Entities responsible for specific controls at the site</li> <li>• Entities responsible for maintaining ecological conditions at the site</li> <li>• Contact names and information</li> </ul>
Opportunities to Further Reduce Risk	<ul style="list-style-type: none"> <li>• New cleanup technologies</li> <li>• New funding opportunities for risk reduction</li> </ul>

## Other Research on Community Information Needs

Fernald stakeholders are not alone in the recognition of the need to provide a comprehensive information resource available to local communities as part of long term stewardship. Other reports have provided lists of the kinds of information that the public needs during long-term stewardship. Some of these are presented in the table below.

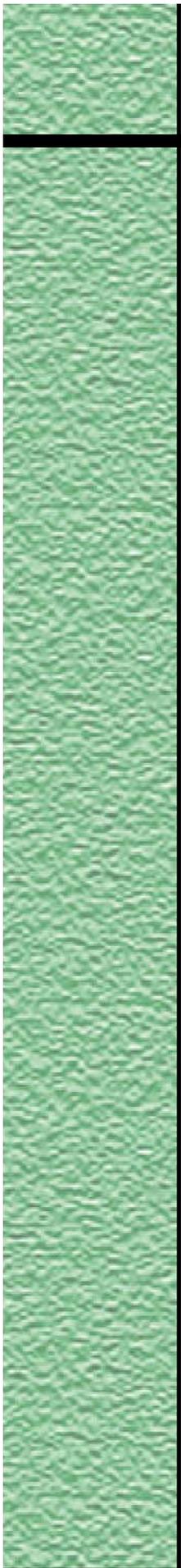
**Table 5: Public Information Needs Listed in Other Reports**

Report	Public Information Needs Listed
Long-term Stewardship of Contaminated Sites: Trust funds as mechanisms for financing and oversight <i>(Bauer and Probst 2000)</i>	<ul style="list-style-type: none"> <li>• long-term stewardship activities</li> <li>• how funds are being used</li> <li>• changes in the nature of contamination and risks</li> </ul>
Long-Term Stewardship Study, Final Study <i>(DOE, Office of Environmental Management 2001)</i>	<ul style="list-style-type: none"> <li>• residual hazards</li> <li>• how they were generated</li> <li>• what DOE has done to reduce or mitigate risks</li> <li>• what ongoing measures are needed</li> <li>• how long such measures are needed</li> </ul>
The Role of Local Governments in Long-Term Stewardship <i>(Environmental Law Institute 2001)</i>	<ul style="list-style-type: none"> <li>• risks</li> <li>• residual contamination</li> <li>• engineering and institutional controls</li> <li>• Site characteristics</li> <li>• site assessments</li> <li>• cleanup standards</li> <li>• completion reports</li> </ul>
Stakeholder Report on Stewardship <i>(Oak Ridge Reservation, End Use Working Group 1998)</i>	<ul style="list-style-type: none"> <li>• physical features of the site</li> <li>• contaminant sources and nature of materials</li> <li>• details on physical and institutional controls</li> <li>• expectations for migration and attenuation of contaminants</li> <li>• trends in monitoring results</li> <li>• other data needed for future risk assessment</li> </ul>
Evaluation of Alternative Methods to Provide DOE Stewardship Information to Local Affected Parties <i>(Hegner and Shull 2001)</i>	<ul style="list-style-type: none"> <li>• general characteristics of the site: size, bodies of water, structures, location</li> <li>• the nature, extent, and location of residual hazards</li> <li>• what stewardship activities protect the public from the hazards, and how</li> <li>• who is responsible for monitoring, maintenance, and oversight of the stewardship activities, how to contact them</li> <li>• how the public can help protect itself (e.g. notify steward of breaches, don't intrude into restricted areas)</li> <li>• what cultural and natural resources are on the site, and who is managing them</li> <li>• some historical, cultural, and national context, insofar as it supports understanding and transmission of stewardship information</li> </ul>

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## **Conclusion**

The Fernald public desires a rich set of information that will communicate the complete story of the Fernald site. This story includes the site's history, details regarding contamination that resulted from production, information about how the site was remediated and post-remediation environmental conditions, and up-to-date information regarding long-term stewardship of the site.



# V. Communicating Public Information Effectively

*Information must be communicated to the public during long-term stewardship in ways that are specific to the needs of the community. Its format, content, level of detail, and other factors must be considered specifically in light of the public's post-closure needs. This section provides an overview of how these issues should be addressed.*

*Information must be communicated to the public during long-term stewardship in ways that are specific to the needs of the community.*

In its 1998 report, the Oak Ridge Reservation End Use Working Group stated, "Data are meaningless to their user if they are not organized in an understandable and relevant format." Because the purpose of providing public access to information after closure of a site is to sustain awareness and interest of the community regarding the site, simply compiling technical reports and historical accounts will not be enough. This will likely require that DOE adopt approaches that are novel to its current information management processes.

At the March 2002 workshop, Fernald community members provided input regarding four important factors concerning the development and communication of public information:

- 1) The level of access to the information,
- 2) Formats and media in which information should be presented,
- 3) Outreach to raise community awareness that information is available, and
- 4) Who should be responsible for maintaining and managing the public's access to information.

Each of these critical areas is discussed below.

## **Level of Access**

Community members need to be able to access basic information, at no cost, at a time and place convenient to them. This may require a variety of access points for the public, a concept that becomes increasingly simple with the growth of the Internet.

Fernald stakeholders are not asking that official DOE archives be established locally. Nor do they desire or require that extensive technical documents, beyond what is required to meet long-term stewardship obligations, be part of a local repository. In general, community members have stressed that information available at or near the site should be mostly interpretive. It is believed that serious researchers and the public would be willing to go elsewhere to access in-depth information. However,

the public also felt that those who are interested in more in-depth information regarding the site and its management must be provided a clear path for obtaining copies of site records in a reasonable amount of time. This is not possible without

*In general, community members have stressed that information available at or near the site should be mostly interpretive. It is believed that serious researchers and the public would be willing to go elsewhere to access in-depth information.*

access to a searchable, indexed database of in-depth information that is available. Achieving access to these records will require appropriate information management and cooperation at the site, field office, and headquarters levels.

### **Formats and Media**

No single format or media is appropriate for all audiences or all types of information. Because the public has prioritized access to more general and interpretive information at or near the site, they have emphasized that information should be available in user-friendly, graphic-rich formats and media. For some kinds of information, community members have suggested a large computer database that would allow people to "go as far as they like" in learning about the Fernald site. The public is aware that transferring information to electronic media will be limited by current technology and cost.

Fernald stakeholders ultimately believe that a variety of formats will be required to provide for the wide variety of information and audiences.

**Table 5: Formats in Which Particular Types of Information Should be Presented to the Public**

<b>Format or Media</b>	<b>Type of Information</b>
Text/Hard Copy	Administrative Record Technical Reports
Pictures/Videos	Day-to-Day Life Living History Interviews
Internet/Computer	Technical Information
Displays	Technical Processes Legal Processes Timelines
Models	History Virtual Tours
Artifacts	History Cultural Information
Maps	Stages of Cleanup Location of Contaminants

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## **Public Awareness of Information Resources**

One of the major unknowns for long-term stewardship is how well the awareness of site conditions will be passed from generation to generation or communicated to new residents. Community members are concerned that future residents of the area will be unaware that information is available to them regarding the site and its potential health risks. Current members of the Fernald community believe that it is vital that awareness of the site is maintained in perpetuity, and the first step in achieving awareness of the site is for the community to be aware that information about the site exists.

*One of the major unknowns for long-term stewardship is how well the awareness of site conditions will be passed from generation to generation or communicated to new residents.*

Community members have suggested the integration of information about the site and its informational resources into local school curricula. New residents to the area could be made aware of the site through public events, deed notification, realtors, and the Chamber of Commerce.

Overall, the group felt that constructing a multi-use education facility at the site would be key to maintaining community awareness of the site and the kinds of information that are available regarding the site. A more in-depth discussion of the proposed education facility can be found in Section X (see page 75).

## **Management of Accessible Information**

Access to site information does not have to be maintained by the same entity or entities that will manage the technological remedies, institutional controls, or ecological restoration. Ensuring access to information and updating information regarding stewardship could require an entirely separate set of skills and priorities. Community members have suggested that libraries, community-based organizations, regulatory agencies, universities, or a partnership of organizations could be designated to maintain publicly available information for the site. Of these, the public has indicated a non-profit organization or university may hold the greatest expertise for managing information and conducting appropriate outreach consistent to the site's future use. However, the public also desires some level of community oversight for the decisions that will be made regarding accessibility to information.

Regardless of who manages the site, the public realizes that a long-term funding source is the most important element for ensuring continued post-closure access to site information.

*...a non-profit organization or university may hold the greatest expertise for managing information and conducting appropriate outreach consistent to the site's future use.*

### **Related research**

While several authors have addressed what types of information should be available to the public, few have explored how that information should be provided to the public.

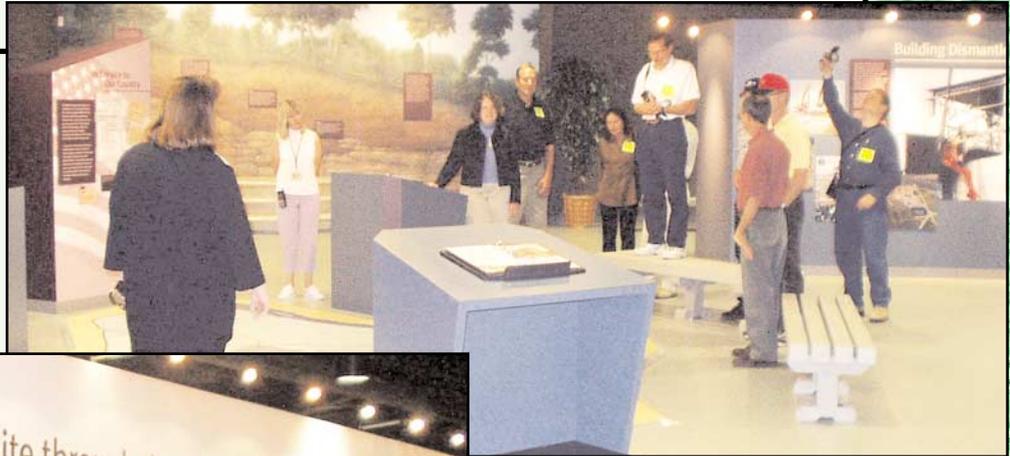
*The Mound Site Assessment of Post-Closure Data Needs* (DOE, Miamisburg Closure Project 2002) found that all site stakeholders need summarized information and are interested in having information presented through maps or other geographical-based formats. The Mound assessment found that the general public would prefer having paper-based resources in a public reading room located on or near the site. The public also suggested that general information and information on current activities be posted on the Internet, but that any "Mound-related library" should contain at least one computer with Internet access.

*Evaluation of Alternative Methods to Provide DOE Stewardship Information to Local Affected Parties*, produced for DOE in 2001 by Hegner and Shull, evaluates several potential methods for transmitting information to local communities: museums, visitor centers, public reading rooms, Internet websites, national database, traveling exhibits, publications, and signs and site markers. The DOE Long-term Stewardship Study (2001) also advocates the use of historic sites and museums to provide information to the public.

### **Weldon Spring Site Remedial Action Project**

In August 2002, the Weldon Spring Site Remedial Action Project (WSSRAP) opened its new Interpretive Center. In September, a group of Fernald staff and FCAB members visited the site and toured the center. The Interpretive Center includes a large display space and meeting room, filling approximately 6500 square feet of a renovated building on site. The displays, which were developed in cooperation with the County-appointed Weldon Spring Citizens Committee, cover topics including the history of the site, community involvement, history of communities that were displaced to construct the site, and the construction of the on-site disposal facility. The site hopes to attract visitors through a connector trail to a bike trail that runs through adjoining state conservation lands. Visitors are able to climb the disposal facility, and there are four interpretive signs at the top of the cell. However, the interpretive center does not offer detailed information regarding environmental conditions at the site or provide opportunities for the public to access more in-depth information.

**The Weldon Spring Site Interpretive Center provides many displays regarding the history and remediation of the site.**



**The history of the site is a major focus of the exhibits at the The Weldon Spring Site Interpretive Center.**

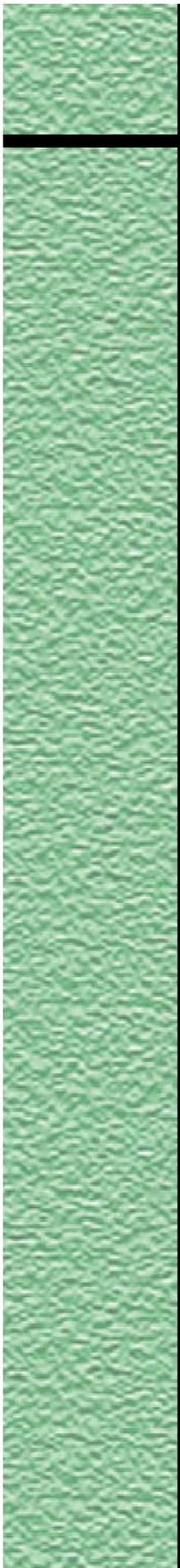
**The public can read about the Weldon Spring site atop the disposal cell, which is adjacent to the Interpretive Center.**



In its 2001 report *The Role of Local Governments in Long-Term Stewardship*, the Environmental Law Institute notes that local governments are willing to manage information for a post-closure site, if they are provided with coordination, training, and funding.

## **Conclusions**

The development of public information at Fernald is not intended to replace official government requirements for records management. Instead, it requires a somewhat new and much more useful approach to capturing site-specific information. Although the public wants access to some of the basic technical documentation for the site, the Fernald community has emphasized user-friendly, graphics-rich formats that summarize information. The community has also emphasized that there must be active communication of this information to the public.



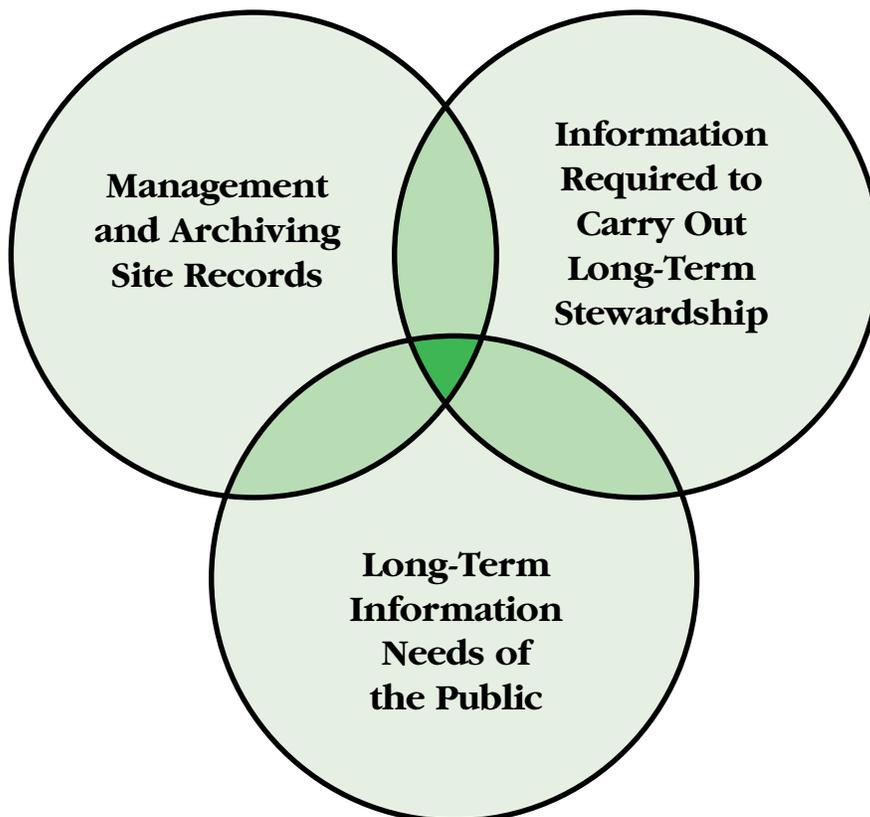
# VI. Information Needs of DOE Closure Sites

*At remediation sites like Fernald, DOE must meet three distinct needs for the management of information prior to site closure. This section will explore the degree to which each of these needs has been recognized and addressed by DOE, as well as to identify how aspects of these needs overlap.*

Providing information to the public is a critical component of effective long-term stewardship, but it is just one piece of the larger DOE obligation for managing information at closure sites. There are three distinct pieces to information management at sites like Fernald:

- 1) Management and archiving of site records,
- 2) Information resources required to carry out long-term, stewardship activities, and
- 3) Long-term information needed by the public.

**Figure 1: The Three Information Management Needs of a Closure Site Overlap.**



DOE has shown varying degrees of progress towards meeting each of these three needs. A system is in place for records management. DOE reports and guidance for closure sites has begun to outline the kinds of information that will be required

for long-term stewardship. Most critical for communities, however, is that DOE has only recently begun to recognize the importance of providing for the specific long-term information needs of the public.

**Table 6: DOE Progress Towards Meeting the Three Information Needs of Closure Sites, as of 2002.**

<b>Information Need</b>	<b>Description</b>	<b>Need Recognized by DOE</b>	<b>Process Developed</b>	<b>Process Implemented</b>
Management and Archiving of Site Records	Per Federal regulations, site records must be properly dispositioned and archived.	Yes	Yes	In Process
Information Resources Required to Carry Out Long-Term Stewardship	Information must be developed and accessible for use in long-term management of the site and controls at the site.	Yes	In Process	No
Long-Term Information Needs of the Public	Information about the site history, environmental conditions, and long-term stewardship must be accessible to the public in user-friendly, useful formats.	In Process	No	No

Although each of these information needs is distinct, they share some common elements and should not be approached as completely separate systems. There are overlaps among them—particularly with regard to public access.

### **Management and Archiving of Site Records**

The National Archives and Records Administration (NARA) regulates the record keeping of Federal agencies. According to NARA, records are materials made or received by a Federal agency to comply with a law or conduct public business. Records document an agency’s activities or organization and should be preserved because they may be needed as evidence or contain valuable information. There are many forms of records, including documents, computer files, photographs, film, and other media. Operation of and remediation of a site like Fernald generates a large volume of these materials, and they must be managed or archived prior to site closure.

As a Federal entity, DOE is obligated to follow NARA policy and regulation, which it achieves on a largely site-by-site basis. NARA develops "records retention schedules" that describe the length of time each type of record must be retained by an agency and at what point they are eligible for destruction or transfer. The retention for a record can range from the end of its active use to permanency. Most records have retention schedules somewhere between those extremes.

Currently, there are several moratoria on the destruction of certain kinds of records. For DOE sites, the most significant of the moratoria restricts the destruction of information that could be part of epidemiological, or health, studies. These include worker health records and community exposure data.

For the most part, records are stored at or near a site, unless they have a lengthy retention schedule or are permanent records. In those cases, records are transferred to a Federal Records Center for long-term storage. Materials in a Federal Records Center remain the property of the generating agency. Permanent records are eventually transferred to the National Archives. At this point, the records become the property of NARA and are no longer controlled by the agency from which they originated. There are specific regulations for how records are transferred from one facility to the next.

Currently, each site develops its own database to manage its records. This could prove problematic in the future, and make it difficult for the public to determine where site records are housed. It is not clear who will assume the leadership or provide the funding necessary to develop a comprehensive records management system for closure sites.

### **Information Resources Required to Carry Out Long-Term Stewardship**

Although records for closure sites are likely to be sent to off-site archives, the stewards of these sites will need a collection of information related to stewardship activities. Many authors have cited information management as a major and critical component of effective long-term stewardship (*See DOE, Office of Environmental Management 2001; Bauer and Probst 2000; State and Tribal Governments Working Group 1999; ICF Kaiser 1998; and Probst and McGovern 1998*). In this context, information management consists of preserving, organizing, and storing information that will be needed by the site stewards to maintain the site and make decisions regarding management.

### **Sample NARA Schedules for Destruction of Records**

- Photographs of Routine Awards Ceremonies—1 year
- Hazardous Substance Transfer Files—3 years after shipment
- DOE Safety Reports—25 years
- CERCLA Administrative Records—75 years after Consent Order
- NEPA Environmental Impact Statements—Permanent
- Photos Related to Site Mission—Permanent

## **An Accessible Database for Closure Sites?**

The DOE Grand Junction Office manages the Long-Term Surveillance and Maintenance (LTSM) Program, which oversees stewardship of twenty-nine DOE disposal sites and properties that contain residual radioactive contamination. The Program operates a publicly accessible, searchable database of records for these sites. When a document of interest is identified, a copy of the document may be requested via the Website. DOE has indicated that the Grand Junction Office may assume stewardship responsibilities for other post-remediation sites, including Fernald. If so, this database may become a valuable asset for community members to access in-depth information about the site.

To access the LTSM records database, go to <http://www.doegjpo.com/> and follow the link to "Projects and Programs," and then "Long-Term Surveillance and Maintenance Program." The site also includes an interactive mapping system for accessing geographic information regarding some LTSM sites.

### **Other databases that may be of interest are listed below:**

The Closeout Records Transfer and Storage Database was created for records generated by the DOE Superconducting Super Collider project in Texas, which was shut down in 1993. The database is searchable, but in order to perform a search, a user must have a good working knowledge of DOE jargon and its records retention system:

<http://iaem.osti.gov/recmgt/dbhome.htm>

The Central Information Database was established by DOE to fulfill part of its legal settlement with the Natural Resources Defense Council. It is intended to provide information about DOE's cleanup sites, but it provides only very general information:

<http://cid.em.doe.gov/>

LandTrek was developed as an information resource focused on DOE and Department of Defense transfer sites. The site-specific information provided is inconsistent, but it provides links to important documents. You must register to use this site.

<http://www.LandTrek.org/LandTrek/default.cfm>

The Decision Mapping System developed at the University of Washington, with support from the Consortium for Risk Evaluation with Stakeholder Participation and DOE, demonstrates how a geographic-based Internet site could be used to provide site-specific information.

<http://nalu.geog.washington.edu/dms/tour.html>

DOE Digital Archives is a database of more than five hundred images (i.e., photographs, posters, and technical drawings) submitted by DOE sites. The database is searchable, but the information provided about each photograph is very general.

<http://www.doedigitalarchive.doe.gov/>

The Human Radiation Experiments Internet site is an interesting example of how DOE has distilled substantial amounts of information into a user-friendly format. The site includes a searchable archive of documents, as well as photographs and video clips.

<http://tis.ch.doe.gov/ohre/>

This information must be immediately available to the steward, in case rapid response is needed to protect human health and the environment. Clearly, in order for information to be useful to site stewards, they must be able to identify what information is available and locate the information in which they are interested. For a full explanation and discussion of information management for long-term stewardship, see the ICF Kaiser study, *Managing Data for Long-Term Stewardship*.

*Currently, each site develops its own database to manage its records. This could prove problematic in the future, and make it difficult for the public to determine where site records are housed.*

DOE has shown a growing awareness over the past several years that information management at closure sites needs to be addressed. DOE's 2001 *Response to Congress on Long-Term Stewardship* calls for guidance and policy that provide templates for the types of information that will be needed. Other recent guidance and planning documents have also listed information management as a critical component of stewardship and have even provided some details regarding the types of information that need to be preserved.

In August 2002, DOE released its *Long-Term Stewardship Planning Guidance for Closure Sites*, which includes a section on information and records management. This guidance refers to two types of site-related information:

- 1) Records that document past activities at the site, and
- 2) Monitoring data produced during long-term stewardship.

For records that will be archived in a permanent repository, the guidance outlines the following steps:

- Identify types of records and data critical to implementing long-term stewardship at the site, and describe how these records and data will be identified as long-term stewardship-critical
- Identify the methods and means by which information will be preserved. Includes all types of data deemed necessary (e.g., maps, photos, documents, electronic files and databases, etc.)
- Describe how and where records will be stored, the length of time they will be stored, and for what purpose the records are being maintained

- Describe how record access will be enabled and the measures necessary to ensure compatibility with information hardware and software at future dates in light of continual technological advances in information management. Discussion should include location of records index or taxonomy so stewards can easily identify and locate archived records or data.

**Table 7: Selected DOE Long-Term Stewardship Reports and Guidance**

<b>Document</b>	<b>Date</b>	<b>Purpose</b>
<i>From Cleanup to Stewardship</i>	October 1999	Introduces the concept of long-term stewardship and the extent of DOE sites that will require stewardship.
<i>A Report to Congress Detailing DOE's Existing and Anticipated Long-Term Stewardship Obligations</i>	January 2001	Provides detailed information on the scope of DOE stewardship obligations and outlines responsibilities.
<i>Long-Term Stewardship Study</i>	October 2001	In response to a settlement with the Natural Resources Defense Council, outlines DOE stewardship obligations and key aspects of long-term stewardship.
<i>Department of Energy's Long-Term Stewardship Strategic Plan</i>	Version 2.0, June 2002	Provides general goals and objectives for DOE at sites requiring long-term stewardship.
<i>Site Transition Framework for Long-Term Stewardship</i>	Revision 1, July 2002	Provides DOE closure sites with a checklist of issues to be addressed prior to long-term stewardship.
<i>Long-term Stewardship Planning Guidance for Closure Sites</i>	2002	Provides DOE closure sites guidance on what must be covered by site-specific long-term stewardship plans.

### **Long-Term Information Needs of the Public**

Within the DOE documents listed above, there is a growing recognition that ensuring public access to information is also a critical component of preparing for site closure and long-term stewardship.

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Among the eight major challenges identified by the DOE *Long-term Stewardship Study*, finalized in October 2001, is "Ensuring long-term public access to information and outreach efforts about residual risks to continue protection of human health and the environment."

The Predecisional Draft *Long-Term Stewardship Strategic Plan* released by DOE in June 2002 outlines three goals for the agency, the third of which is "The capability and tools are in place to ensure the effectiveness of long-term stewardship for current and future generations." Among the objectives listed to reach this goal is "Ensure that a process is in place for education, outreach, and engagement," which includes the strategy "Develop an effective information management strategy to ensure public accessibility." The plan also provides four specific means in which this strategy could be implemented:

- 1) Information on residual contamination, its associated risks, and measures in place to protect public health and the environment is available to stakeholders by FY03,
- 2) Remedy review reports are made available to all interested parties,
- 3) A long-term stewardship curriculum for grades K–12 is available to local communities, and
- 4) The development of natural and cultural resources management plans are coordinated with long-term stewardship requirements and developed in partnership with stakeholders by FY04.

A DOE-produced draft framework for sites planning for long-term stewardship, *Site Transition Framework for Long-Term Stewardship* (July 2002), provides a list of actions to be completed prior to a site's transition to stewardship. The framework frequently cites the need to document conditions and provide documentation to the public. One criterion in the framework, "Information and Records Management Are Satisfied," specifically addresses information management needs. One action listed in this section is "Systems and procedures to establish and facilitate public access to and retrieval of information critical to long-term stewardship are in place. Examples could include, but are not limited to, Internet access, local library, on-site information center (e.g., Interpretive Center, Museum, etc.), etc." The framework also notes the importance of updating information and managing natural, cultural, and historical resources.

Perhaps most important, the *Long-Term Stewardship Planning Guidance for Closure Sites* (DOE 2002) instructs closure sites to identify the means by which the public will be afforded access to records. It asks planners to cite which records the site anticipates will be requested by the public and which records may be made accessible. Note that this document does not provide guidance for how to achieve these steps; rather, it relies on each closure site to determine how best to achieve

In July 2002, DOE's Idaho National Engineering and Environmental Laboratory (INEEL) released a draft *INEEL Long-Term Stewardship Strategic Plan*. One goal listed in this draft planning document is "Sustain knowledge of residual contamination in a manner that retains the relevance, accessibility, and integrity to the information for stewards, decision makers, and affected parties." To achieve this goal, the document identifies two strategic objectives. The first is to develop a management system for data and information that will be needed to implement long-term stewardship. The second is to "Develop an approach to provide access to long-term stewardship essential information for members of the stakeholders and Shoshone-Bannock Tribes." It justifies this objective by stating that access to stewardship information will increase the credibility of the stewardship program at INEEL. The plan does not define "long-term stewardship essential information," but it cites sampling and monitoring results, historical data, and location of contamination as examples. It also acknowledges that "modes of access" will have to accommodate differences in "communication needs, styles, and capabilities."

these objectives. This guidance document also includes a section on cultural, natural, and historical preservation, which includes "biological resources, threatened and endangered species, archeological and cultural resources, Native American treaty rights, and/or other natural and cultural resource issues that may be site specific."

Further evidence that DOE is beginning to address the public's need for information about closure sites is the recently opened DOE-supported Interpretive Center at the Weldon Spring site in Missouri (see page 45). Visitors to the Interpretive Center can view displays that summarize the history of the site, the remediation project, and how the on-site disposal facility was constructed. At this time, however, the Interpretive Center does not address how the public will access more detailed information regarding stewardship of the site or copies of site records. Also, there appears to be no process in place to sustain the operation of this center after DOE presence at the site ends.

### **Overlap Among Information Needs**

As previously mentioned, these distinct information needs also have some overlap. For example, it is clear that site stewards will need access to copies of site records, in case stewardship information proves inadequate for resolving some problem unforeseen during long-term stewardship planning.

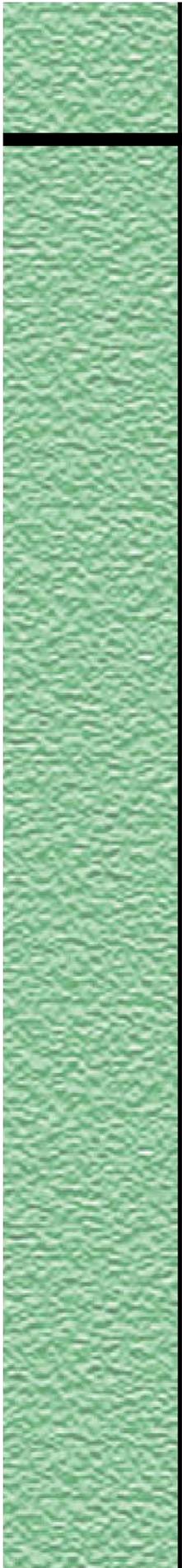
In particular, it is important that the public have reasonable access to copies of site records and stewardship information. In 1997, the Secretary of Energy Advisory Board's Openness Advisory Panel warned that many DOE documents are difficult to find due to poor document management, and that this can lead to suspicion within the public. This report recommends that DOE develop finding aids and encouraged the use of technology to enhance the efficiency of public access. This is consistent with the needs expressed by the Fernald public, who stated that they did not need immediate access to site records but needed a clear path defined for accessing this more in-depth information.

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Likewise, the Fernald public stated a need for information regarding both environmental conditions at the site and up-to-date stewardship information, which would be partly satisfied by providing public access to the information resources assembled for use by the site steward.

## **Conclusions**

There are varied degrees of preparedness for meeting the three types of information needs for DOE closure sites. Because the management and archiving of site records relies on an established NARA system, its implementation is already underway. Recent guidance documents have established the need for stewardship information resources, and have provided some detail on the exact types of information that are needed. However, there is no system in place to manage that information in a useful manner. Finally, there is a growing recognition that public access to information is a necessary component of long-term stewardship, however, few details have been provided regarding what this entails or how to accomplish it. In part, that's the role of this report.



# VII. Planning for Information Management at Fernald

*In order to understand the steps that need to be taken to ensure adequate public access to information for the Fernald site post closure, it is important to understand the current conditions of information management at the site. This section discusses the types of information available at Fernald, how it is currently being managed, and how the public currently gets information about the site.*

## **Information at Fernald**

Nearly forty years of production and more than a decade of environmental cleanup have produced a tremendous volume of records and other information at Fernald. As part of the DOE Complex, the Fernald site is obligated to follow NARA regulations in how it manages information and disposes of temporary records. However, due to a fifteen-year, court-enforced moratorium on the destruction of Fernald records, which was recently revised, there is a significant backlog of records that are now eligible for destruction.

At the site's current records storage center, located near the site, there are boxes of information, mostly in paper form, towering high in building-length shelves. According to the *Draft Fluor Fernald Records Disposition Plan (2002)*, at the end of 2001 these shelves held approximately 30,000 boxes of inactive records. An estimated 24,300 boxes predate the current contractor, meaning they were generated prior to 1993.

***At the end of 2001, the Fernald Records Center held approximately 30,000 boxes of inactive records.***



Of particular interest to the community is the site's substantial audio-visual collection. At the site's graphics department, there are more than 100,000 photographic negatives, 41,000 digital images, and 28,000 videos. The photographs include images of the early days of production at the Fernald plant and glimpses into the lives of Cold War era workers, as well as extensive documentation of the demolition of plant buildings and environmental cleanup. Videos include the hundreds of hours of videotape generated by the Fernald Living History Project.



*There are more than 100,000 photographic images held at the Fernald Graphics Center. Many older photographs have not been catalogued.*

**Table 8: Inactive records and artifacts being stored at the Fernald Site at the end of 2001.**

<b>Records/Artifacts</b>	<b>Approximate Number</b>
Boxes of site records	30,000
Photographic negatives	100,000
Digital images	41,000
Video tapes	28,000
Cold War artifacts	200
Early Settlement Artifacts	2,000
Native American artifacts	25,000

There is also a wealth of Cold War and Native American artifacts that have been identified by Cultural Resources staff at the site. The remaining Cold War artifacts include the original steam whistle used at the site, firearms used by the security force, and scale models of production facilities. Native American artifacts, which are much more numerous, were generated largely by archaeological studies required as part of the environmental cleanup. These include hundreds of tools, small pieces of pottery, and bone fragments. Many of these artifacts are protected by the National Historic Preservation Act, and additional Federal laws tightly regulate the care and ownership of Native American relics.

There are additional records that have been generated at Fernald, which have been stored in offices at the site and have not yet been accounted for by the Records Management program. These include site plans, historical maps, and architectural designs.

***Approximately 25,000  
Native American artifacts  
have been discovered at the  
Fernald site.***



According to a January 30, 2002 correspondence with Fernald Environmental Management Project manager, Steven McCracken, some Fernald records have been moved to off-site storage:

- Some employee records and original litigation files have already been transferred to the Federal Records Center in Dayton
- Federal personnel records are kept at the Ohio Field Office in Miamisburg, Ohio
- Prior to 1985, site records were maintained by Oak Ridge Operations in Oak Ridge, Tennessee; it is possible that some permanent records from this era were transferred to the regional Federal Records Center in Atlanta, Georgia

- Historical records produced by the Atomic Energy Commission in the 1940s, 50s and 60s, some of which may pertain to Fernald, were likely transferred to a Federal Records Center in East Point, Georgia many years ago. Records may have also been transferred to the National Archives in College Park, Maryland.

## The Life of a Fernald Record

### RECORD CREATED

DOE/Contractor activity results in the creation of a document, photograph, video, or other information.

### SCHEDULE ASSIGNED

Each working group has a trained Records Custodian who determines if the information is a record. If it is a record, it is assigned to a schedule which identifies the requirements for its preservation. Non-records are destroyed.

### RECORD ARCHIVED

Once an activity is completed at the site, records are transferred to the site's Records Center, where they are stored and recorded in a database.

### FEDERAL RECORDS CENTER

Some long-lived records will be transferred to a Federal Records Center in Dayton, Ohio. DOE retains control over the records, but must pay for storage. Public access to records must be requested through DOE.

### NATIONAL ARCHIVES

After approximately 20 years, or as designated by an assigned schedule, records are transferred to the National Archives. The record becomes a public document and is no longer owned by DOE.

### RECORD DESTRUCTION

Some records are destroyed immediately after their use. Others are scheduled for destruction in one to seventy-five years. The most critical records are designated as Permanent Records and are not destroyed. In addition, DOE has a moratorium in place preventing destruction of any records which contain information about human health effects.

### Sample Schedules for Destruction of Records

- Photographs of Routine Awards Ceremonies—1 year
- Hazardous Substance Transfer Files—3 years after shipment
- DOE Safety Reports—25 years
- CERCLA Administrative Records—75 years after Consent Order
- NEPA Environmental Impact Statements—Permanent

## Current information Management

For the Fernald site, the current site contractor, Fluor Fernald, is largely responsible for the management of information. Under Fluor's management, a record generated at Fernald follows a relatively simple path.

**Many Fernald records that pre-date the current contractor, including many photographs, have not been properly organized.**



Each program area at the site has a designated Records Custodian who has received training regarding NARA requirements. At one time, there were roughly 120 Records Custodians on site. When an activity at the Fernald site results in the creation of a document, photograph, video, or other media, the information is evaluated by one of these custodians to determine if it qualifies as an official record. If it is a record, it is assigned a schedule per NARA guidelines. Because several different functional areas at the site may use the same information (e.g., financial reports), copies of that information may be assigned different schedules by each Records Custodian. Most records are then sent to the Fernald Records Center, where each file is added to an electronic database and placed in an appropriate box for storage. Traditionally, photographs and other audio-visual records have been indexed and stored by the Fernald Graphics Center. Some long-lived records will be immediately transferred to the Federal Records Center in Dayton, but since a transaction fee and storage fee are charged, most records will remain at the Fernald Records Center until they must be moved. After approximately twenty years, permanent records will likely be transferred to the National Archives.

*Site staff anticipates that another 14,600 boxes of records will be generated during completion of the cleanup and closure of the site. That brings the total of boxes of records to be processed for final disposition to 44,600.*

This process has been followed since 1992, when Fluor became the lead contractor at the Fernald site. Through the history of the site, however, the organization and indexing of records have been inconsistent. Also, NARA records schedules have changed over time, meaning that many older records are misclassified. While Fluor records have been indexed at a file folder-specific level, many of the older records are labeled only per the box. The organization of older photographs was particularly poor, and the Graphics Center has many photographs and photographic negatives that have not been adequately identified or assigned retention schedules. Fortunately, recent digital images have been relatively well organized.

*"Stewards and stakeholders, whether located in the surrounding community or in remote locations, will require easy access to data and digital images collected as part of the long term monitoring process as well as to the identified historical data and records." (Draft Fernald Comprehensive Stewardship Plan, November 2001)*

An important component of an effective records management program is the destruction of records that have surpassed their assigned retention schedule. However, a moratorium on the destruction of Fernald records prohibited the full implementation of a records management program for fifteen years. Because that court-enforced moratorium has recently been revised to allow some records to be destroyed, the site must develop a plan to dispose of records that have surpassed their retention schedule. Due to the poor organization of older records and the total volume of records, this is a daunting task. In addition, many retention schedules are vague, because they are dependent upon the life span of certain programs or activities. The Records Management organization at Fernald is currently exploring the best ways to carry out the disposition and destruction of records at the Records Center. The site has made a commitment to the Stewardship Committee, FCAB, and other community organizations to provide updated information on which records will be destroyed and what safeguards will be implemented to ensure that records of public interest are not destroyed.

As the site nears closure, tens of thousands of additional records and other site information will be generated or will enter the records management system. The site needs to address these issues head-on if it is to meet its goal of site closure by the end of year 2006. Site staff anticipates that another 14,600 boxes of records will be generated during completion of the cleanup and closure of the site. That brings the total of boxes of records to be processed for final disposition to 44,600. Unfortunately, as these records management pressures are increasing, the number of staff dedicated to these tasks are decreasing. Adding to the challenge, space at

the site's record storage facility is rapidly dwindling. Recently, a multi-disciplinary group has been meeting at the site to address these issues.

Meeting the records management needs of site closure is the topic of the *Draft Fluor Fernald Records Disposition Plan*, submitted to DOE in May 2002. This plan outlines the records management issues being faced by the contractor, and its approach for completing its obligations by 2006. The plan defines three objectives: 1) validation and assignment of proper record retention schedules for all records, 2) destruction of temporary records meeting their required retention, and 3) authorized transfer of long-lived records to a Federal storage facility. In the document, Fluor Fernald proposes to develop a "cost efficient process for destruction authorization that meets all applicable legal and regulatory requirements with the desire to balance the needs of stakeholders" for temporary records produced during Fluor Fernald's management of the site. For "legacy records" produced by previous contractors, the plan proposes to outsource the work to a records management contractor before the end of 2002.

## **Planning for Long Term Stewardship**

The *Master Plan for Public Use of the Fernald Environmental Management Project* was finalized in June 2002 and has some relevance to the ongoing communication of information to the public. The plan identifies the primary future use of the site as "Limited public access for educational purposes including walking trails and interpretive information in restored areas." In terms of communication of information to the public, the document includes plans for twenty interpretive stations to be placed along walking trails: "The proposed Interpretive Stations are anticipated to contain multiple signs and displays providing education information on the specific point of interest (e.g., historical, cultural or ecological)." (DOE, Fernald Area Office 2002) The plan does not include specific information to be included in those signs or a process for the design of those interpretive signs. The plan also acknowledges that construction of an education facility has been proposed for the site, but does not currently commit DOE funding for or commitment to constructing such a facility.

Records Management was included as one section of a draft *Comprehensive Stewardship Plan* produced for the Fernald site in November 2001. In this section, DOE states, "Stewards and stakeholders, whether located in the surrounding community or in remote locations, will require easy access to data and digital images collected as part of the long term monitoring process as well as to the identified historical data and records." To achieve this, the document proposes the development of a long-term repository with web-based retrieval, search, and reporting capabilities. The plan also provides a table that lists the anticipated information needed to carry out long-term stewardship at the site. Another version of the Comprehensive Stewardship Plan, which is likely to include significant changes and greater detail,

is anticipated in early 2003. Site personnel involved in stewardship planning meet routinely with the Stewardship Committee and have shown significant interest in the results of this feasibility study.

*The site has a strong history of working with local students and teachers in a wide variety of disciplines. This work has gone a long way to bolster local understanding and acceptance of site activities.*

The Federal Records Center that services Fernald is located in Dayton, Ohio. Because an annual fee is charged for storage of each box at the Federal Records Center, transfer of records to this facility will be minimized until latter years of the project (Fluor Fernald 2002).

### **Current Access to Information at Fernald**

Currently, there are many ways that members of the community receive information regarding Fernald. Sources of information include DOE and its contractor, the FCAB, and other organizations. There is a wide array of formats in which information is presented. The bulk of information about the site has not been translated to user-friendly formats, but there are many examples of accessible information that could become building blocks for future resources.

### **Information Provided by DOE and its Fernald Contractor**

There are several access points through which members of the community can obtain information about Fernald. Perhaps the most prominent has been the Public Environmental Information Center (PEIC). The PEIC houses a copy of the Administrative Record for the remediation and a variety of other technical records and site information. Fully staffed and open to the public six days a week, the PEIC was an important resource for the public during the selection of cleanup remedies for the site. In recent years, however, the center has received little public use. In late 2002, the PEIC collections were reduced in scope and moved to a much smaller, temporary facility located just outside the site entrance. The new PEIC is now open just two days a week or by appointment. Most of the information available at the PEIC exists only in lengthy, technical reports. PEIC collections have not been entered in a publicly searchable database, and the public must rely on a PEIC staff member to identify and locate desired information.

There are also a number of user-friendly information resources that have been produced or routinely offered by Fernald's DOE staff and contractors. Many of these depend heavily on staff resources and face-to-face interaction with the public. As part of its decision-making processes, the Fernald site has held numerous public

meetings and hearings. The site also holds bi-monthly progress meetings for the public, at which the status of cleanup projects and decision making processes are reviewed. Tours of the site are offered annually to the general public, and by request for special groups (e.g., university classes). At each of these events, the attention is given to answering the public's questions in an understandable way. The site has a strong history of working with local students and teachers in a wide variety of disciplines. This work has gone a long way to bolster local understanding and acceptance of site activities. Fernald's contractor has also managed a fairly active local education program. This program includes outreach to students, focused on topics such as archeology and environmental science, as well as site tours. The site also provides curricula ideas, training, and workshops for local schoolteachers. Again, these programs require the intensive involvement of Fernald staff, and have recently been scaled back as part of budgeting and planning for an accelerated cleanup schedule.

The site has also produced some resources that could serve as examples for how information can be presented during long-term stewardship. Fernald's contractor has produced a series of brief, colorful, fact sheets that describe issues being addressed at the site and each of the remediation projects underway. Recently the site has also produced project status sheets, designed to help the community understand current activities in each remediation project area and how close that project is to completion. The fact sheets and project status sheets are available at the PEIC, at some public meetings, and on the Fernald web site. A video that tells the story of the Fernald site's history and remediation, *First Link: A Story of Fernald*, was produced by Fluor Fernald in 2001 and has been widely distributed. The Fernald web site ([www.fernald.gov](http://www.fernald.gov)) presents an ever-expanding collection of information, including important upcoming events and general background information about the site.

### **Information Provided by the FCAB**

The FCAB has also been a major source of information for the Fernald community. All meetings of the FCAB and its committees, at which many aspects of the Fernald site are discussed, are open to the public and are summarized in writing for public release. Often, summaries of reports and other informational resources are prepared by FCAB staff and distributed at these meetings.

The FCAB and its Stewardship Committee have sponsored public meetings and workshops at which information about the site and specific issues are displayed and communicated through presentations. These include workshops for the Future of Fernald process, of which this study is a part.

The FCAB's contractor manages a web site ([www.fernaldcab.org](http://www.fernaldcab.org)), which includes background information about the site, updates on current issues, all FCAB-produced documents and information, and links to important documents.

### **Information Provided by Other Organizations**

Two other local organizations have become significant information resources for the Fernald area: the Fernald Residents for Environment, Safety and Health (FRESH) and the Fernald Living History, Incorporated (FLH).

FRESH is the grassroots advocacy organization focused on the Fernald site and its impact on the community. Members of this group stay up-to-date on activities at the site and throughout the DOE Complex. They communicate this information to members of the organization and others through meetings and newsletters. Leaders of the organization also provide substantial information to other members of the community through personal interaction. Their bi-monthly meetings are open to the public and regularly have presentations by site personnel.

Fernald Living History, Inc. (FLH), is dedicated to preserving and communicating the history and significance of the Fernald site. The main project of this organization was to work with Fernald staff to video record and transcribe interviews with current and former site employees and other community members. To date, more than one hundred interviews have been conducted. Segments from these videos are a major component of the DOE-produced history video from 2001. FLH has also contributed information to schoolteacher education workshops.

# VIII. Key Points & Conclusions

*This section presents a number of key points related to public access to information during long-term stewardship of the Fernald site and the conclusions of the FCAB drawn from those points.*

- **Through Community-Based stewardship, the public will play a vital and active role in long-term stewardship of sites like Fernald, which contain residual contamination.** Members of the public are an ideal and necessary choice to provide oversight of site management because their presence near the site is continuous, their interest in the site is high because they and their families shoulder the majority of risks from residual contaminants, and community outcry is a powerful means to spur governmental action when problems arise.
- **Public access to information is the critical tool for Community-Based Stewardship.** Information regarding the environmental conditions at the site, the controls that are in place, and parameters of site management are essential for oversight of long-term stewardship. Public awareness of hazards at the site and how risks of exposure are controlled can function as an important institutional control for sites like Fernald. Without this active transfer of information across generations, the public is likely to forget or neglect protective measures that are in place. In addition, access to information about the cultural and historical legacy of the site provides important lessons for local communities and our society at large.
- **The Fernald community has identified the types of information to which the public needs access after site closure.** These needs include information about the history and cultural legacy of the site, information about past and existing environmental conditions, clearly defined expectations for long-term stewardship, and frequently updated monitoring reports.
- **Information must be actively communicated and immediately available to local community members in user-friendly, easily understood formats.** The Fernald public has identified the need to have information presented in formats that meet the diverse needs, interests, and education levels of community members. According to the public, most information should be summarized, presented in graphics-rich formats that make the information easily understood to people without technical backgrounds, and available immediately at or near the site. The public has also stated that active public outreach and education is needed to ensure a high degree of awareness that information resources are available.

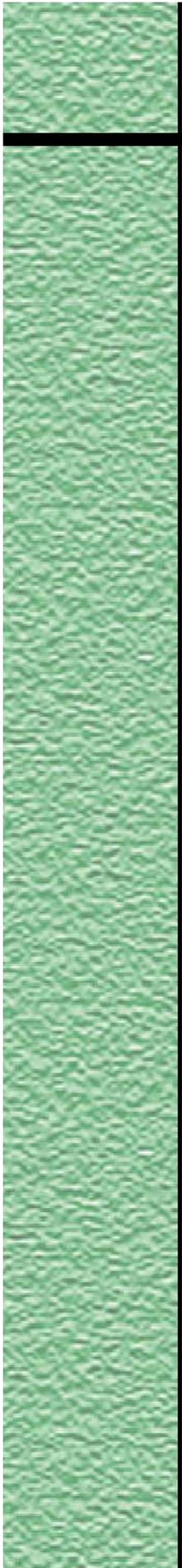
- **The public needs reasonable access to in-depth technical information.** This means that the most critical documents (e.g., the CERCLA Administrative Record) should be available at or near the site. It also means that interested members of the public should have access to a database that allows them to search for complete technical documents and other site records using familiar terms, and that copies of this information can be accessed in a timely and reasonable manner.
- **Systems are in place to ensure that site records are preserved and archived, but these systems may not provide adequate public access.** Federal guidelines also mandate that site records are organized and archived in specific ways. Staff at the Fernald site are currently pursuing the proper management and disposition of extensive site records. However, these systems do not provide the public with a searchable database or a reasonable means to obtain the technical information that they are likely to need.
- **DOE guidance for closure sites is insufficient to ensure public access to useful information during long-term stewardship.** While recent long-term stewardship guidance acknowledges the importance of managing information for long-term stewardship, it does not provide specific guidelines for how to ensure information is accessible to the public or communicated in a useful way.
- **There is currently abundant information available to the public regarding the Fernald site, but current planning documents for the site do not ensure its availability to the public once the environmental remediation is completed.** There are currently many opportunities for the Fernald community to access information about the site. However, all of these resources will likely cease to be available upon site closure. At this time, there are no clear plans in place for providing information to the public during long-term stewardship.

From the key points presented here, we have drawn a number of conclusions:

- **DOE should approach providing public access to information and promoting public awareness of the site as an institutional control that must be in place at the time of site closure and maintained throughout long-term stewardship.** It is a necessary tool to make certain that the public can provide oversight of the site and reduce the risk of exposures to residual contamination.

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- **Long-term public information needs are distinct from long-term stewardship information requirements and records management procedures.** The public is not interested in becoming a custodian of DOE records or managing a duplicate archive of technical documents. The public has specific needs for the type of information and the formats in which it is presented. For example, DOE guidance focuses solely on technical information required to carry out long-term stewardship activities, whereas the public also needs information regarding the site's cultural and historical legacy.
  - **Providing for public information needs will require action at the site level and by DOE Headquarters.** The types of information required by the public and the means to communicate that information must suit the needs and characteristics of the community living and working near the site. However, because technical records are likely to be archived in locations remote from the site, DOE Headquarters must ensure that copies of these records are accessible to the public in a reasonable manner. In addition, funding and support for creating and maintaining public information systems must be provided at a national level.
  - **It is critical to establish a system that will perpetuate awareness through many generations, which will require that DOE address commitment, funding, and outreach.** Due to the length of time for which information will need to be accessible, it is important that DOE establish a legal obligation to provide information to the public during long-term stewardship, so funding and other resources are ensured after site closure. Access to information will be useless, however, if members of the public are not aware of information resources or why these resources are something about which they should care.

It is with these conclusions in mind that the FCAB offers the recommendations in Section IX.



# IX. Recommended Actions

*The FCAB and members of its Stewardship Committee undertook this study because they felt that it was important to identify the actions that are necessary to ensure public access to information during long-term stewardship of the Fernald site. This section identifies actions that should be taken by DOE at both the site-specific and national levels.*

Because each site is unique and communities may have different needs, each site must determine how the public will access information and provide information in formats that suit community needs. However, each site is a part of a larger system, for which DOE Headquarters has responsibility. At a national level, DOE has an obligation to manage records from closure sites in a way that facilitates public access to complete, in-depth site information.

## Steps that Need to Be Taken at Fernald

Because DOE guidance for long-term stewardship has emphasized site-specific planning, the responsibility to provide public access to information also falls at the site level. The FCAB views these steps mostly as the responsibility of DOE, but recognizes that most of them would be carried out by a contractor. At each step of the way, the public should have an opportunity to provide input and shape specific products. To ensure public access to needed information, the following measures should be taken by DOE at the Fernald site.

**1. Commit to Supporting Public Access to Site Information on an Ongoing Basis.** Community-Based Stewardship is critical to the overall effectiveness of long-term stewardship, which in turn, is critical to maintaining the effectiveness of the implemented remedies. Because public access to information is an important institutional control and facilitates the enforcement of other controls at the site, the DOE commitment to implement stewardship and provide information to the public should be formalized in a legal document. Perhaps the most logical way to accomplish this is in a Record of Decision focused on stewardship obligations.

**2. Manage Site Records in a Way that Meets Community Needs for Information.** Fernald needs to establish a clear system to ensure that information with value to the public is being preserved and archived. This is critical because Fernald is beginning to cull the substantial number of records currently stored at the Records Center and photographs stored at the Graphics Center. Fernald's con-

A Comprehensive Site-Wide Operable Unit is required by the "Fernald Environmental Management Project Consent Agreement as Amended under CERCLA Sections 120 and 106(a), September 20, 1991." Section 10 defines the purpose of this Operable Unit as "An evaluation of remedies selected for [Operable Units] 1-5...to ensure that they are protective of human health and the environment on a site-wide basis..." A Record of Decision (ROD) is required for this Operable Unit, which should outline actions that must be taken if the remedies at the site are not protective of human health and the environment. Because ongoing protection of human health and the environment at and near the Fernald site will require adequate public access to site information, this Comprehensive Site-Wide ROD may provide an opportunity to solidify DOE's commitment to provide information to the community.

tractor has already promised to provide the public with lists of records to be destroyed and to set up safeguards to prevent the destruction of needed information. Managing site records will require that information be identified, indexed, organized, and put in a database. The database should be searchable using a list of key words that have been developed with community input.

**3. Prepare Stewardship Information with Community Needs in Mind.** As the site prepares information that will be required for long-term stewardship activities, it should consider public needs in choosing information and how it will be managed. The kinds of information that will be prepared for the post-closure site steward will almost certainly parallel many of the information needs cited by the Fernald community. In addition, the site stewards must determine how they will provide up-to-date information to the community on an ongoing basis. The Fernald community needs access to current environmental conditions at the site, monitoring reports, and any inconsistencies between monitoring results and requirements mandated by the CERCLA Records of Decision.

**4. Develop Information Resources that are Specific to Community Needs.** The public has identified a substantial number of topic areas for which it needs access to information. The public has also indicated that it needs information to be translated into a user-friendly format. This means that information should be presented in plain language and alternate visual formats where possible. Special attention should be given to developing graphics, measures, and timelines that can be updated as stewardship proceeds. Transforming technical information into these formats will require an investment of time and energy. Once information is in user-friendly formats, the media that will be used to communicate the information must be selected. The use of electronic media continues to increase in our society; however, attention must be given to maintenance costs and the rapidity of changing technology. The Fernald community has shown a strong interest in constructing a multi-use education facility at the site, which would provide on-site availability of information.

**5. Establish an Outreach Program to Communicate to the Community What Information Resources are Available.** In order for information to be truly accessible, there must be an awareness within the community that information exists and that the information is relevant to their lives. This will be of particular importance as new residents move into the area and future generations mature. A means to accomplish ongoing community outreach must be included in any plans for long-term stewardship. One major component of this outreach must include the integration of site education in local schools.

**6. Identify a Long-Term Manager of Public Information and Solidify a Funding Source for Information-Based Activities.** A long-term information manager is needed to ensure access to information, because new information will

be generated throughout long-term stewardship, media and access points may require maintenance, and public outreach will be required. This manager may or may not be the same entity as the site steward. The community has suggested universities, government agencies, or nonprofit organizations to fulfill this role. Likewise, these activities will require a long-term funding source. The magnitude of funding needs will depend on other variables, such as media, access points, and outreach.

## Steps that Need to Be Taken at a National Level

As discussed earlier in this report, long-lived and permanent site records will be sent to a Federal Records Center for storage after the closure of the Fernald site. Eventually, ownership of permanent records will transfer to the National Archives. The Fernald community does not believe that it needs instantaneous access to all of these records, at or near the site. However, the community has identified that it needs a clear path to access these records in a reasonable amount of time. In addition, the Fernald site also needs clarity from DOE regarding long-term funding for public access to information.

**7. Commit to a Long-Term Funding Strategy for Long-Term Stewardship Activities.** Ensuring long-term access to information at or near the Fernald site and keeping those information sources up-to-date will require adequate funding over the long term. However, like other long-term stewardship activities, DOE has not clarified its funding commitment. Without this commitment, it is difficult for the individual sites or communities to plan for funding needs. Fernald staff and the community are being forced to plan in a partial vacuum, with the 2006 closure date approaching rapidly. One author who writes about the potential pitfalls of institutional controls notes that "...the current method of year-to-year funding of an organization has a high probability of failure when projected over centuries or millennia." (Jarvis 2002).

**8. Develop a Searchable National Database of Records from Closure Sites.** The *Long-Term Stewardship Study* (DOE 2001) states that, in order to better meet its long-term information management needs: "A system should be developed to enable a person with limited knowledge to DOE sites to be able to easily search, find, and understand relevant information." DOE needs to develop a system that can help the public identify what records exist for any closed site, search for specific records or keywords, locate where that record is stored, and follow easy steps to retrieve a copy or electronic file of the record. DOE should involve members of the public in designing this system and developing a list of keywords. The database currently managed by the DOE Grand Junction Office's Long-term Surveillance and Maintenance Program may serve as a valuable model or instrument for creating a comprehensive closure site database.

Additional recommendations for DOE to ensure adequate access to its records in the future can be found in DOE's Records Management Division's Roadmap II: The next generation, 2000-2006 (2000).

**9. Correlate NARA Retention Schedules and Guidelines with Long-Term Stewardship Needs.**

Under NARA, many environmental records and the CERCLA administrative records are not considered permanent records and have been assigned retention schedules of up to seventy-five years in length. This is simply not suitable to the needs of long-term stewardship. An additional category of permanent records needs to be established to protect the information needed for effective long-term stewardship. Furthermore, NARA guidelines for the retention of audiovisual records (e.g., photographs) may not fully consider recent advances in long-term storage technologies or the needs of preserving information only found in digital formats. If NARA schedules cannot be tailored to the needs of closure sites, DOE should develop a redundant archive, preserving copies of the most vital records in perpetuity.

**10. Collaborate with Closure Sites to Provide Access to In-Depth Information Resources.**

Fernald stakeholders need a clear path to reach more in-depth information about the site, which may be held in records archived at locations remote from the site. In order to achieve this, DOE Headquarters must collaborate with closure site communities and site stewards to ensure that in-depth information is available to the public on an ongoing basis. This will require cooperating with closure-site stewards to provide outreach regarding the types of information that are available and how they can be accessed.

# X. Putting it all Together at Fernald: The Proposed Multi-Use Education Facility

*An aware public with access to a rich information source is crucial to Community-Based Stewardship, and thus, successful long-term stewardship at sites facing residual waste issues. A major challenge for sites facing closure is putting in place the mechanisms or structures that can sustain community awareness of the site for multiple generations. At Fernald, the community has recommended the construction of a multi-use education facility to meet this challenge. This section presents a preliminary conceptual design for such a facility, created with input from the Fernald Community.*

Among the steps identified by the DOE *Long-Term Stewardship Study* (2001) that would improve DOE's ability to meet its future information management needs is the establishment of historic sites and museums that include information repositories. An Environmental Law Institute report (2001) also urges DOE to investigate the use of museums as a mechanism for making information available to the public during long-term stewardship. A paper produced for DOE, *Evaluation of Alternative Methods to Provide DOE Stewardship Information to Local Affected Parties* (Hegner and Shull 2001), identifies three objectives of providing information to the public:

- 1) provide information storage and archives,
- 2) promote public awareness of the site and its associated hazards, and
- 3) promote transfer of knowledge across generations.

The paper goes on to evaluate potential methods for transmitting information to local communities, including museums and visitor centers (see table on following page).

## **The Need for a Multi-Use Education Facility**

The Fernald community continues to show strong support for the construction of an education facility at the site (see Appendix C—Criteria for an Education Center). The FCAB believes that such a facility could provide a number of

## **Cold War Museum Planned for the Rocky Flats Site**

A group of citizens, employees, and SSAB members have formed a non-profit organization to gather materials and plan for a Cold War Museum to be located at or near the Rocky Flats site in Colorado. According to a fact sheet distributed by the community organization, "The mission of the museum will be to document the historical, environmental, and scientific aspects of Rocky Flats, and to educate the public about Rocky Flats, the Cold War, and their legacies through preservation of key artifacts, and development of interpretive and educational programs." This work has been supported by the U.S. Congress. The act that establishes a national wildlife refuge at the Rocky Flats site also authorizes the U.S. Secretary of Energy to construct a cold war museum at the site. It does not, however, secure any funding for the project. The primary contractor for cleanup of the site has donated \$150,000 to the cause. To date, some artifacts and photographic prints have been collected and preserved. (See Appendix F for more information regarding the Rocky Flats Cold War Museum.)

	Qualitative Criteria						Costs	
Methods	Accessibility of Source	Accessibility of Content	Depth of Information	Static vs. Dynamic	Institutional Support	Intergenerational Transfer	Capital (Annual)	O & M
<b>Museums</b>	<ul style="list-style-type: none"> <li>High</li> <li>Designed to attract visitors</li> </ul>	<ul style="list-style-type: none"> <li>High</li> <li>Customized</li> <li>Info retrieval inefficient</li> </ul>	<ul style="list-style-type: none"> <li>Wide range</li> <li>Not suitable for very basic/complex</li> </ul>	<ul style="list-style-type: none"> <li>Relatively static</li> </ul>	<ul style="list-style-type: none"> <li>High</li> <li>Requires curator and/or support staff</li> </ul>	<ul style="list-style-type: none"> <li>High</li> </ul>	<ul style="list-style-type: none"> <li>\$500,000 to \$5 million</li> </ul>	<ul style="list-style-type: none"> <li>\$100,000 to \$1 million</li> </ul>
<b>Visitor Centers</b>	<ul style="list-style-type: none"> <li>High</li> <li>Acts as focal point for main attraction</li> </ul>	<ul style="list-style-type: none"> <li>High</li> <li>Customized</li> <li>Info retrieval inefficient</li> </ul>	<ul style="list-style-type: none"> <li>Wide range</li> <li>Less comprehensive than museums</li> </ul>	<ul style="list-style-type: none"> <li>Relatively static</li> </ul>	<ul style="list-style-type: none"> <li>High</li> <li>Curator not required</li> <li>Staff needed</li> </ul>	<ul style="list-style-type: none"> <li>Fairly high</li> <li>May require promotional publicity</li> </ul>	<ul style="list-style-type: none"> <li>\$200-500K (new)</li> <li>\$30-100K (addition)</li> </ul>	<ul style="list-style-type: none"> <li>\$30-100K</li> </ul>
<b>Reading Rooms</b>	<ul style="list-style-type: none"> <li>Fairly high</li> <li>May require promotional publicity</li> </ul>	<ul style="list-style-type: none"> <li>Moderate</li> <li>Research skills, staff help required</li> </ul>	<ul style="list-style-type: none"> <li>Moderate to very complex</li> <li>Unsuitable for time-sensitive</li> </ul>	<ul style="list-style-type: none"> <li>Moderately to very static</li> <li>Could add computers</li> </ul>	<ul style="list-style-type: none"> <li>Moderate to relatively high</li> </ul>	<ul style="list-style-type: none"> <li>Low to moderate</li> </ul>	<ul style="list-style-type: none"> <li>\$50-100K (in existing facility)</li> </ul>	<ul style="list-style-type: none"> <li>\$10-\$75K</li> </ul>
<b>Web Sites</b>	<ul style="list-style-type: none"> <li>Fairly high</li> <li>Need public terminals</li> <li>Site may be buried on web</li> </ul>	<ul style="list-style-type: none"> <li>Very high</li> <li>Customized</li> <li>Requires good organization to be useful</li> </ul>	<ul style="list-style-type: none"> <li>Very wide range</li> </ul>	<ul style="list-style-type: none"> <li>Very wide range</li> </ul>	<ul style="list-style-type: none"> <li>Moderate to very high</li> <li>Can integrate database</li> </ul>	<ul style="list-style-type: none"> <li>Moderate to high</li> <li>Could locate terminals in public facility</li> </ul>	<ul style="list-style-type: none"> <li>\$50-100K</li> </ul>	<ul style="list-style-type: none"> <li>\$10-50K</li> </ul>
<b>National Database</b>	<ul style="list-style-type: none"> <li>Moderate</li> <li>Depends on distribution method</li> </ul>	<ul style="list-style-type: none"> <li>Moderate</li> <li>Requires database skills</li> </ul>	<ul style="list-style-type: none"> <li>Wide range</li> <li>Solid design is critical</li> </ul>	<ul style="list-style-type: none"> <li>Wide range</li> <li>Unsuitable for extremely dynamic info</li> </ul>	<ul style="list-style-type: none"> <li>Moderate to very high</li> <li>Can distribute via website</li> </ul>	<ul style="list-style-type: none"> <li>Low to moderate</li> </ul>	<ul style="list-style-type: none"> <li>\$50-100K</li> </ul>	<ul style="list-style-type: none"> <li>\$10-50K</li> </ul>
<b>Traveling Exhibits</b>	<ul style="list-style-type: none"> <li>Low to moderate</li> <li>Impermanent</li> </ul>	<ul style="list-style-type: none"> <li>Low to moderate</li> <li>No info retrieval</li> </ul>	<ul style="list-style-type: none"> <li>Low to moderate</li> <li>Limited space</li> </ul>	<ul style="list-style-type: none"> <li>Wide range</li> <li>Limited by production time needed</li> </ul>	<ul style="list-style-type: none"> <li>Low to moderate</li> </ul>	<ul style="list-style-type: none"> <li>Moderate</li> <li>Highly visible</li> <li>May not be durable</li> </ul>	<ul style="list-style-type: none"> <li>\$40-50K (for, customizable template)</li> </ul>	<ul style="list-style-type: none"> <li>\$10-15K</li> </ul>
<b>Publications</b>	<ul style="list-style-type: none"> <li>High to very high</li> </ul>	<ul style="list-style-type: none"> <li>Wide range</li> <li>Customized: should have wide appeal</li> </ul>	<ul style="list-style-type: none"> <li>Very wide range</li> </ul>	<ul style="list-style-type: none"> <li>Wide range</li> <li>Allows for targeted messages</li> </ul>	<ul style="list-style-type: none"> <li>High to very high</li> <li>Depends on complexity</li> </ul>	<ul style="list-style-type: none"> <li>Moderate to high</li> <li>Depends on complexity</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>\$30,000-\$75,000</li> </ul>
<b>Signs, Site Markers, Storyboards</b>	<ul style="list-style-type: none"> <li>High</li> <li>May be overlooked or hidden</li> </ul>	<ul style="list-style-type: none"> <li>High</li> <li>Brief, direct messages</li> </ul>	<ul style="list-style-type: none"> <li>Low to moderate</li> <li>Can refer to other resources</li> </ul>	<ul style="list-style-type: none"> <li>Static (boards, markers)</li> <li>Wide range (signs)</li> </ul>	<ul style="list-style-type: none"> <li>Low to moderate</li> </ul>	<ul style="list-style-type: none"> <li>High to very high</li> <li>Casual contact likely over time</li> </ul>	<ul style="list-style-type: none"> <li>\$10-20K (signs)</li> <li>\$5-10K (storyboards)</li> </ul>	<ul style="list-style-type: none"> <li>\$3-5K</li> </ul>

Source: Evaluation of Alternative Methods to Provide DOE Stewardship Information to Local Affected Parties (Hegner and Shull 2001)

critical benefits to the implementation and maintenance of long-term stewardship:

- Establish a continuous presence at the site to keep the community aware of the site and involved in long-term stewardship activities.
- Provide a central location to raise and maintain awareness of the Fernald site, its history, and the controls that are in place to protect human health and the environment
- Provide a focal point for educational opportunities among area schools on environmental issues and Fernald history
- Integrate the many future uses of the Fernald site including environmental restoration and research, long-term stewardship, monitoring and maintenance, education, and Native American history

- Provide office space and logistical facilities for site stewards. This could serve as the repository for information required to carry out long-term stewardship activities
- Become an asset to the local community and help to transform the legacy of Fernald from a negative one to a positive one.

*For a facility to be effective, it must become a sustaining force within the community, offering programs and activities that draw an ongoing regional audience to the site and continuing to reinforce the wide spectrum of lessons offered from the total Fernald experience.*

Overall, a multi-use education facility would play an important integrating role in the future of the Fernald site, combining the wide variety of information, education, outreach, and long-term stewardship needs into one community-centered location. Creating such a community touchstone is critical to sustaining Community-Based Stewardship across generations. Small single-use facilities will quickly fall into disuse and will have trouble finding continuing national and community support. For a facility to be effective, it must become a sustaining force within the community, offering programs and activities that draw an ongoing regional audience to the site and continuing to reinforce the wide spectrum of lessons offered from the total Fernald experience.

## **Conceptual Planning Process**

In order to understand the need for an on-site facility and the characteristics of a useful facility, the Fernald CAB has conducted an ongoing dialogue as part of the Future of Fernald process. This dialogue included a detailed design charrette held in May 2002, which resulted in a preliminary conceptual plan for a facility.

### **Functions of a Facility**

This process began with a series of discussions used to identify specific functions that the facility should serve. The public identified the following uses:

- An Interpretive Museum housing artifacts, explanatory material and interactive exhibits to educate visitors about all aspects of the site's history
- An Information Resource Center to store and provide public access to written, photographic and video materials pertaining to the site, as well as copies of important site records

- An Educational and Research Center to support visits by groups of schoolchildren and college students, and provide classroom space, laboratory areas and staging areas for fieldwork
- A flexible Meeting Room to serve as lecture hall and community gathering space
- Offices for education facility staff, site stewards, and maintenance and monitoring personnel.

The community also expressed a strong desire for the appearance of the facility to be appropriate for the Fernald area and project a welcoming, open image that would attract the public to the site.

### **Design Process**

The Cincinnati architecture and planning firm of Scheer & Scheer, Inc. was retained to give shape to the community's vision of the education facility. The design process began with an intensive half-day group design exercise (called a "charrette") in which approximately twenty-five community members participated. During this exercise, participants discussed images of relevant architecture to refine their ideas about the building's appearance and other issues. Scheer & Scheer provided the participants with guidelines regarding the space that is required to fulfill each of the proposed functions of the building. They then worked in teams to develop site plans and building design ideas.



*The charrette actively involved the community in creating a conceptual design for the multi-use education facility.*

The architects used the results of this charrette as the basis of their design work. Preliminary design ideas were presented to the community at subsequent Stewardship Committee meetings. Using community input from these meetings, the architects then refined their ideas to produce the plans and images presented in this report.



*Working with architects, the Fernald stakeholders envisioned a vibrant multi-use education center, which would become a focal point of the community.*

## A Preliminary Design Concept

The architects developed a conceptual plan for a multi-use education facility, which meets the needs identified by the community. This design brings life to the community's preliminary needs and desires. It is intended to spur further dialogue about community preferences and help build support for the construction of a multi-use education facility.

In keeping with the theme of excavation, this design for the facility is largely below grade. The building would be approached by car or bus down a ramp that takes the visitor through "layers" of the site's history, represented by objects and images impressed in a retaining wall.

## Architects' Observations about the Fernald Site

Several observations about the site served as the basis for the architects' conceptual design.

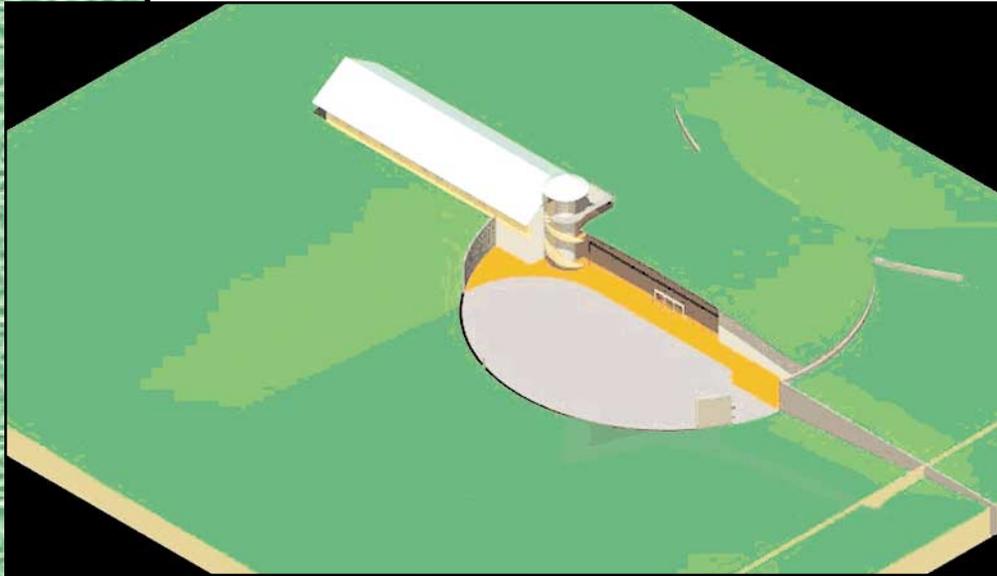
1. Extensive excavation is being done on the site as soil is removed from various areas to build the on-site disposal facility. This process is permanently changing the contours of the land. Since the specific site chosen for the education facility will be excavated for this "soil borrowing," its final contours will be shaped by the remediation process.

2. The site will be restored to a natural state after remediation. This suggests that the building become part of the landscape as much as possible.

3. Perhaps the predominant theme that the education facility will express is the recovery of a balanced environment on the site. The building should therefore be environmentally responsible by conserving energy, minimizing runoff, using renewable and recyclable materials and expressing this theme through its imagery.

4. Several significant features of the site are below grade. The decontamination of groundwater and soils are the most important aspects of the remediation effort. The site also contains archaeological sites of Native American settlements, which continue to be investigated, and future use of the site will include reburial of Native American remains. Furthermore, the study of the site's ecology includes soils, geology and hydrology. The education facility will support the study of and education about all of these aspects of the site.

This final observation suggested to the architects a theme of excavation for the facility. Excavation is both a means of and metaphor for discovery. We commonly use the term "dig" as a synonym for "investigate" with a connotation of looking for something that is hidden. The fact that deeper layers are (usually) earlier in time also makes excavation a good metaphor for the exploration of history.



*The community desires a multi-use education center is that would attract visitors and blend in to the landscape.*

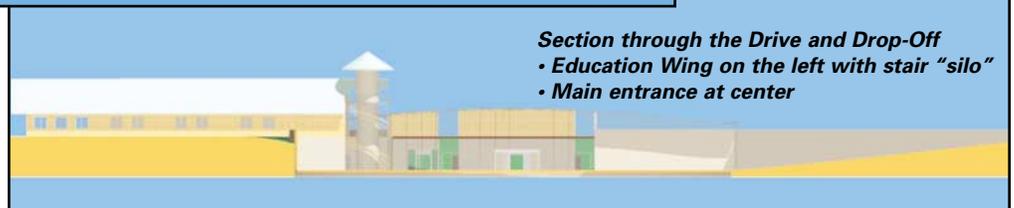
This wall continues around the building, reappearing in most of the major spaces and tying the building together with reminders of the site's past. The facility's parking area slopes gently from the front entrance up to grade. This would conceal most of the parking from the main access road and drive.

The Interpretive Museum, Meeting Room and Site Records areas, as well as a large lobby, are located in the below-grade portion of the building. Each of these spaces could be used separately and opened to groups as needed. At the back of this lower level is a small court yard, which could be used to display the Cold War Garden, a monument currently displayed at the site that celebrates the contribution of Fernald workers. In this design, the roof over a major portion of the building is planted in grasses and forms a low hill lifted slightly above the surrounding fields. This would help the building become part of the landscape, provide excellent insulation and reduce runoff.



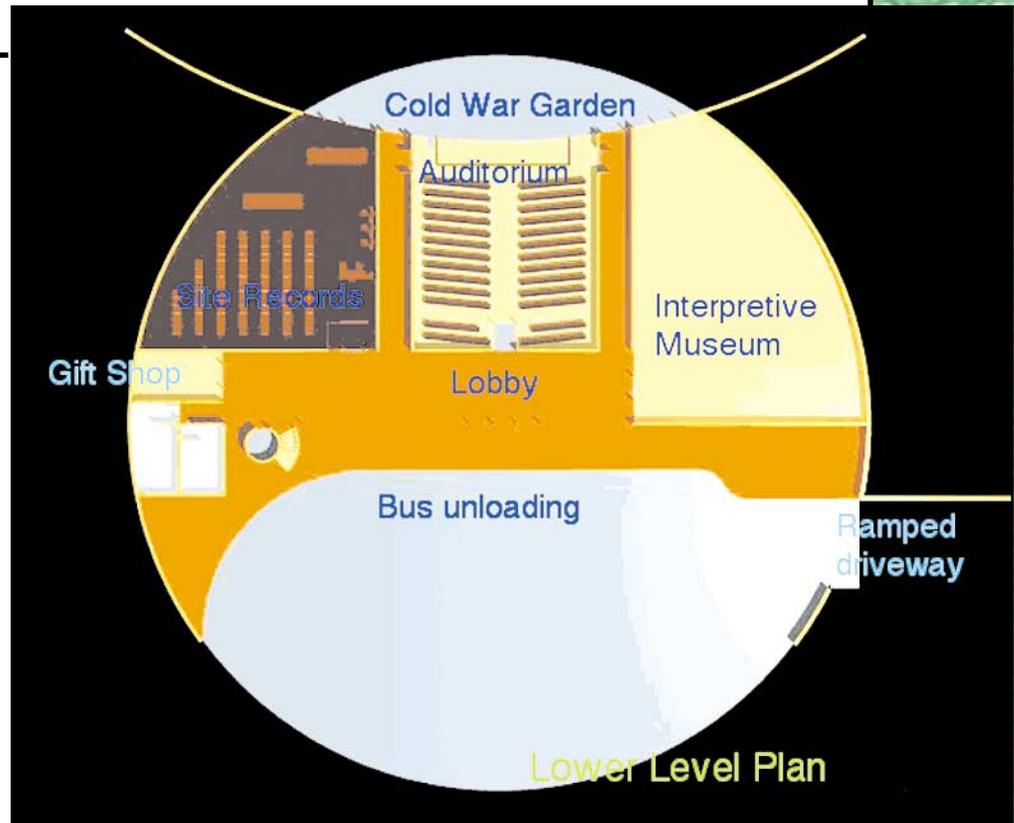
**Section through the Facility, north-south**  
 • Sloped parking area on the right  
 • Main lobby and Auditorium on the left

*In the conceptual design, much of the facility would be built below grade.*

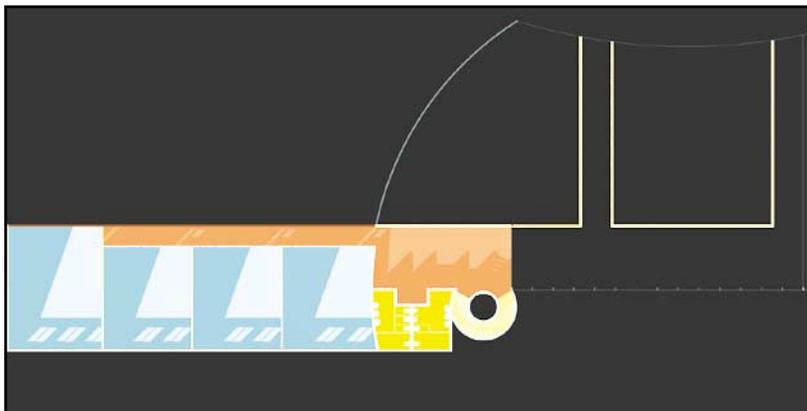


**Section through the Drive and Drop-Off**  
 • Education Wing on the left with stair "silo"  
 • Main entrance at center

*The conceptual design includes several independent spaces that would serve different functions.*



An Educational and Research Center is reached by stairs and an elevator from the lower lobby area. This area is entirely above grade and would be visible to passers-by. The form of the Educational and Research Center recalls a barn and so also becomes part of the landscape. The stair and elevator are contained in a glass "silo". The center is connected via an outdoor space to walking trails that lead to other restored areas of the site. This design includes three classrooms that can be combined by retracting movable walls and a laboratory/greenhouse.



*Upper Level Plan: An Educational and Research Center is the above-grade portion of the conceptual design.*

## **Recommended Next Steps**

To achieve its vision for the construction of a multi-use education facility at the site, the community must continue to build support within the community and among key decision makers. Then, a more detailed look at how a facility could meet community needs should be conducted and potential funding sources investigated. Some specific next steps for the Stewardship Committee and FCAB could include:

### **1. Develop a Strategy and Timeline for Planning.**

If a multi-use education facility is to be constructed at the Fernald site, a planning process must be established quickly. The anticipated closure date of 2006 is rapidly approaching. The Stewardship Committee must develop a cogent strategy that it can follow, including clear goals and objectives. A timeline is needed to better understand what steps must be taken to have an education facility in place at the time of site closure.

### **2. Gauge Interest of Other Groups and Organizations.**

The Stewardship Committee should meet with community groups and other local organizations to discuss their interest in a multi-use education facility at the Fernald site. These groups could include local historical societies, municipal governments, universities, nearby school systems, and conservation and environmental organizations. The Stewardship Committee must also continue to work closely with DOE, regulators, and the site contractor.

### **3. Conduct a Multi-Use Education Facility Feasibility Study.**

Funding should be pursued to conduct an in-depth feasibility study for the construction of a multi-use education facility at the Fernald site. This study would further explore community needs, assess potential levels of use for a facility, estimate costs, identify potential funding sources, and develop a coherent strategy for moving forward with a planning process.

### **4. Identify an Entity to Pursue Fund-Raising and Partnerships.**

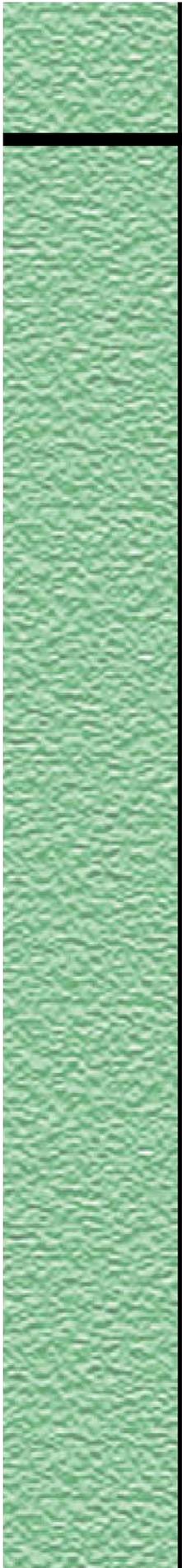
The FCAB is an official DOE Site-Specific Advisory Board, formed under a charter that meets Federal Advisory Committee Act requirements. As such, the FCAB and its Stewardship Committee are prohibited from fundraising activities or lobbying political leaders. In order to generate support for an education facility, the community may need to identify an existing or new entity that can assume an active role in generating political support, building partnerships, and securing funds.

### **5. Identify Resources that would be Useful in Telling the Fernald Story.**

The Stewardship Committee should continue to work with site personnel and the community to determine what resources are needed to tell the full story of Fernald. Some resources may exist outside the DOE complex (e.g., community newsletters, newspaper clippings, photographs, etc.)

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A Fernald Multi-Use Educational Facility would foster a more robust community understanding of the site's past while its educational programs look towards the future. The information communicated through this facility would serve the needs of Community-Based Stewardship and result in a greater level of protection for human health and the environment. Furthermore, the community vision for this facility would help the broader public to apply the lessons learned at Fernald so that the site may become a living monument to our growing understanding of our world.



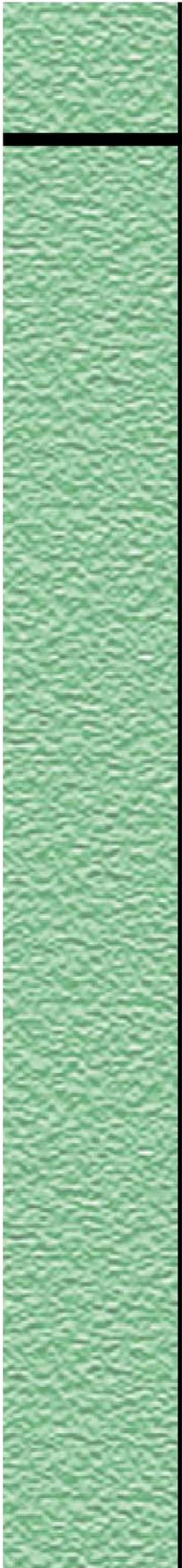
# XI. Conclusion

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This report offers a unique opportunity for the Fernald community to present its perspective on how and why information should be provided to the public after the environmental remediation of a DOE-managed site is completed. The Fernald community envisions a future in which the community continues to play a vital role in the management of the site, and the site plays an important role in teaching the community about its history and the environment. To reach this future, the public needs ongoing access to a rich source of information regarding the site. The FCAB believes that if this issue is not addressed quickly and completely at the Fernald site and at DOE Headquarters prior to site closure, the community's post-closure information needs will not be met.

The recommendations in this report place a great deal of responsibility on DOE Headquarters and managers at the Fernald site to meet community information needs. However, the premise of Community-Based Stewardship is that the community must play an active role in the ongoing management of the site. As such, the FCAB is committed to working with all levels of DOE and its contractors to achieve the vision set forth in this report.

Together, DOE and the Fernald community can build a future of Fernald that sustains community awareness of the site and its history, maintains the integrity of the remediation and restoration projects, and ensures protection of human health and the environment for many generations to come.



# References

- Applegate, J.S. and S. Dycus. 1998.  
*Institutional Controls or Emperor's Clothes?  
Long-Term Stewardship of the Nuclear Weapons Complex.*  
*Environmental Law Reporter*, 28.
- Bauer, C. and K.N. Probst. 2000.  
*Long-term Stewardship of Contaminated Sites:  
Trust funds as mechanisms for financing and oversight.*  
Resources for the Future, Discussion Paper 00-54.  
Available at [http://www.rff.org/disc\\_papers/PDF\\_files/0054.pdf](http://www.rff.org/disc_papers/PDF_files/0054.pdf).
- DOE. 2002.  
*Long-term Stewardship Planning Guidance for Closure Sites.*
- DOE. 2002.  
*Site Transition Framework for Long-Term Stewardship.*  
Revision 1 (July 1, 2002).
- DOE. 2002.  
*Department of Energy's Long-Term Stewardship Strategic Plan.*  
Predecisional Draft, Version 2.0 (June 21, 2002).
- DOE. 2001.  
*A Report to Congress Detailing DOE's Existing  
and Anticipated Long-Term Stewardship Obligations.*  
Available at <http://lts.apps.em.doe.gov/center/>
- DOE, Fernald Environmental Management Project. 2001.  
*Comprehensive Stewardship Plan*, Revision 2 (November 2001).
- DOE, Fernald Area Office. 2002.  
*Master Plan for Public Use of the Fernald Environmental  
Management Project.*
- DOE, Miamisburg Closure Project. 2002.  
*Mound Site Assessment of Post-Closure Data Needs.*  
Available at <http://www.doe-md.gov/postclosuresteward.asp>
- DOE, Office of Environmental Management. 2001.  
*Long-Term Stewardship Study, Final Study.* Available at  
<http://lts.apps.em.doe.gov/center/stewstudy.html>

- DOE, Office of Environmental Management. 1999.  
*From Cleanup to Stewardship.*
- DOE, Records Management Division. 2000.  
*Roadmap II: The next generation, 2000-2006.* Tactical Plan.  
Available at <http://cio.doe.gov/Records/pdf-rm2.pdf>.
- DOE, Secretary of Energy Advisory Board,  
Openness Advisory Panel. 1997.  
*Responsible Openness: An imperative for the department of energy.*  
Available at <http://vm1.hqadmin.doe.gov/seab/openness.pdf>.
- Edge, R. and L. Pavelka-Zarkesh. 1999.  
*Document System for Site Stewardship at U.S. Department  
of Energy Grand Junction Office.* Available at  
[http://www.gjo.doe.gov/programs/ltsm/general/tech\\_doc/  
pro-papers/lynn/lpav.htm](http://www.gjo.doe.gov/programs/ltsm/general/tech_doc/pro-papers/lynn/lpav.htm).
- Environmental Law Institute. 2001.  
*The Role of Local Governments in Long-Term Stewardship.*  
Available at <http://www.eli.org/store/rr01localDOE.htm>
- Environmental Law Institute. 1999.  
*Protecting Public Health at Superfund Sites:  
Can institutional controls meet the challenge.*  
Available at <http://www.eli.org/pdf/rrinstitutionalcontrols00.pdf>
- Fluor Fernald, Inc. 2002.  
*Fluor Fernald, Inc. Records Disposition Plan.*
- Hegner, R. and S. L. Shull. 2001.  
*Evaluation of Alternative Methods to Provide DOE Stewardship  
Information to Local Affected Parties.*  
DOE White Paper prepared by ICF Consulting, Inc.
- ICF Kaiser. 1998.  
*Managing Data for Long-Term Stewardship.* Working Draft.  
Available at <http://lts.apps.em.doe.gov/center/reports/doc1.html>
- Jarvis, T.T. 2002.  
Stewardship and U.S. Nuclear Weapons Production Wastes —  
An introduction. *Environmental Progress*, 21, 71-78.

- 
- National Research Council. 2000.  
*Long-Term Institutional Management of U.S. Department of Energy Legacy Waste Sites.*  
Available at <http://books.nap.edu/books/0309071860/html>
  
  - McCracken, S. 2002.  
Information Regarding Off-Site Records.  
Response to memorandum, J. Bierer to S. McCracken, Information request, off-site FEMP records.
  
  - Oak Ridge Reservation, Stewardship Working Group. 1999.  
*Stakeholder Report on Stewardship, Volume 2.* Available at  
<http://www.oakridge.doe.gov/em/ssab/Publications/stewardshipVol2.pdf>
  
  - Probst, K. and M.H. McGovern. 1998.  
*Long-Term Stewardship and the Nuclear Weapons Complex: The challenge ahead.* Resources for the Future. Internet Edition.  
Available at [http://www.rff.org/reports/PDF\\_files/stewardship.pdf](http://www.rff.org/reports/PDF_files/stewardship.pdf)
  
  - State and Tribal Governments Working Group. 1999.  
*Closure for Seven Generations.* National Conference of State Legislatures, Denver, CO. Available at  
<http://www.em.doe.gov/ftplink/stgwg/stgwgcom.pdf>
  
  - Tonn, B.E. 2001. Institutional Designs for Long-term Stewardship of Nuclear and Hazardous Waste Sites. *Technological Forecasting & Social Change*, 68, 255-273.

