

# **Taming the Web Environment: Developing the ETD Common Information System**

**Presented By:  
Cameron Bates  
Courtenay Turner**

Friday, December 16, 2005

# What is the “ETD-CIS”?

- ▶ The Environmental Technology Directorate Common Information System (ETD-CIS) is a suite of tools to help our staff manage their web content
  - Website templates
  - Requirements for developing websites in ETD
  - Online forms for data entry
  - Connections to Laboratory resources
  - Automated data transfer

# Developing Requirements

- ▶ Why build a tool for managing ETD's web content?
  - 70+ individually maintained websites
  - \$100,000+ spent annually on ETD websites
  - No brand identity
  - No consistency in content
  - No way to manage old/outdated content
  - No way to share data across websites

# Developing Requirements (Cont.)

- ▶ Spent many hours talking with group managers
- ▶ Took inventory of the types of content found on ETD websites
- ▶ Researched layouts and colors that appealed to our target audiences
- ▶ Identified types of content that could be shared across ETD technical groups, divisions, etc.
- ▶ Identified data sources that could be leveraged to populate portions of the system

# Developing Requirements (Cont.)

- ▶ Content types common to most ETD websites
  - Research areas (Capabilities)
  - Resources (Labs, Facilities, Technologies, Products)
  - Projects
  - Staff information
  
- ▶ Integration with lab data resources
  - HR database (OPWHSE)
  - Publications database (ERICA)

# Developing Requirements (Cont.)

- ▶ Other content areas that would benefit from being stored in the system
  - [Accomplishments](#) (Staff, Product Line)
  - Marketing materials (Brochures)
  - ETD-related websites
  
- ▶ Other system design considerations
  - Accounting for internal vs. external content delivery
  - Allowing multiple webmasters to administer their content within the system (role-based access)
  - Developed according to STI web standards (CSS-based layout, Valid HTML, Section 508 compliant, etc.)

# Role-Based Access

- ▶ Allow current webmasters continued maintenance of their websites
- ▶ Allow groups to maintain ownership of their content while enabling them to share content across ETD websites
- ▶ Create interfaces that allow non-developers to maintain content within the system
- ▶ Create different levels of access for webmasters, system admins, and users

# Creating a Brand Identity

- ▶ **Goal:** Create a consistent visual brand for the directorate to promote a consistent message to staff, management, clients, and potential clients
  
- ▶ **Solution:** Developed a template that created a sense of brand while still allowing the groups to customize and adopt distinctive designs
  - Standardized left navigation items
  - Customizable top banner

# Examples of Customized Banners

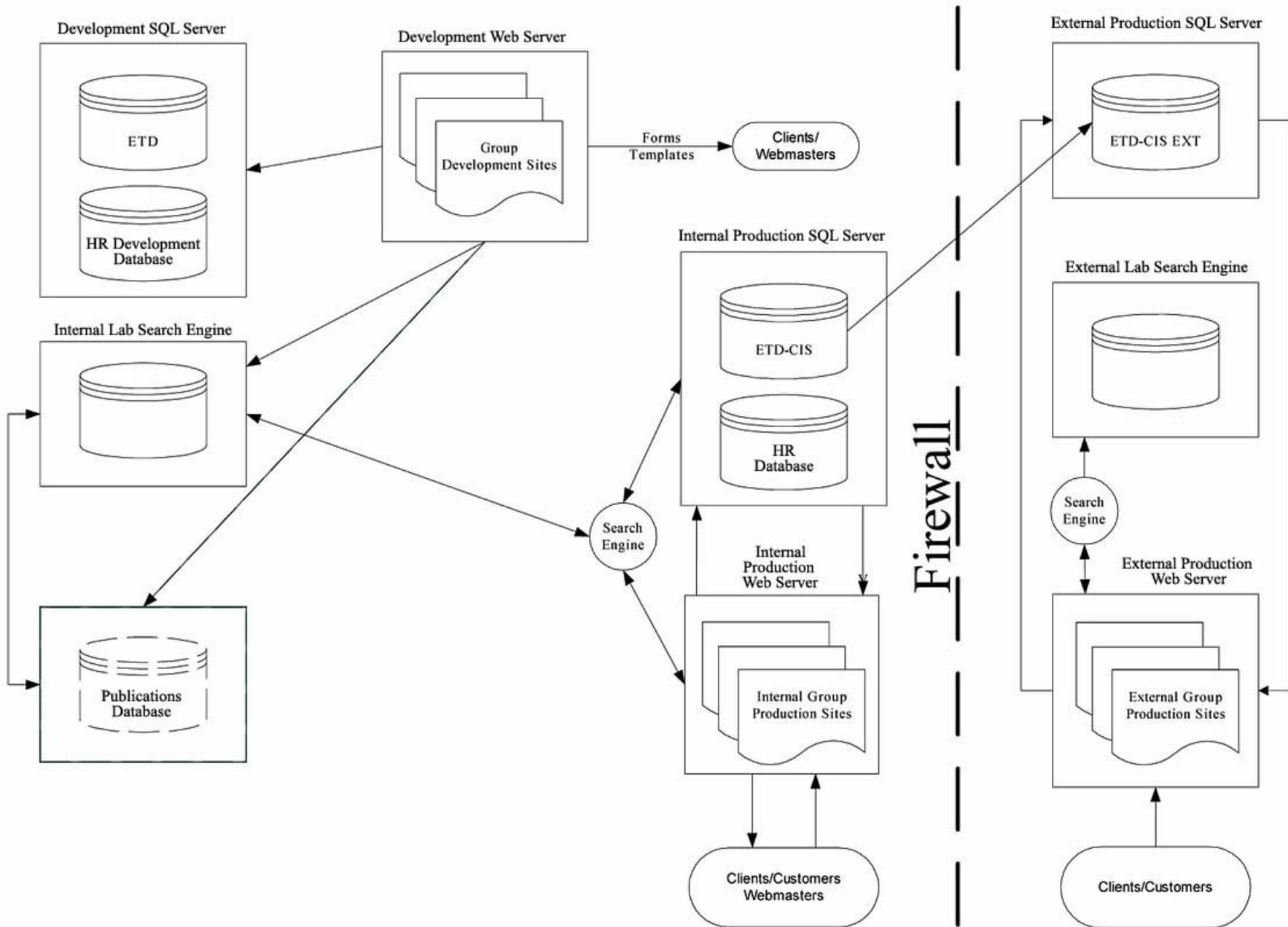
Environmental Technology Directorate

Hydrology  
pnl.gov

Radiochemical Sciences  
and Engineering Group

Risk & Decision Sciences Group

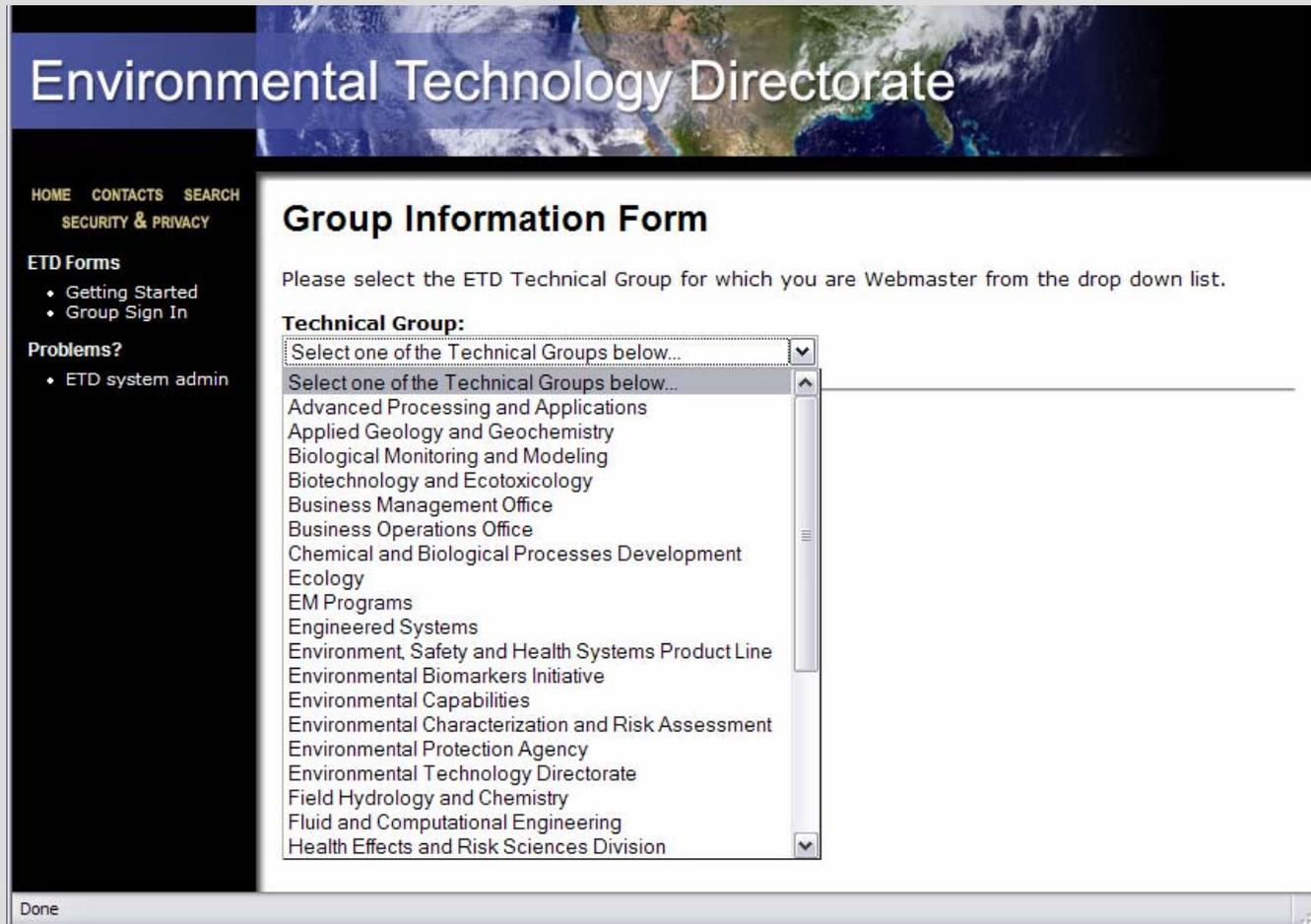
# Environmental Technology Directorate Common Information System (ETD-CIS) Architecture



# Initial Rollout

- ▶ Features included in initial launch
  - Searchable staff directory
    - HR database info
    - Bio, education, awards, etc.
  - Customized system search (integrated with lab search engine)
  - Projects, Research Areas, Labs and Facilities, Technologies and Products
  - Scheduled nightly updates to the external version of the website, populated with content marked for external display
  - A complete set of web-based forms for webmasters to enter and manage their shared content

# Webmaster Forms



**Environmental Technology Directorate**

HOME CONTACTS SEARCH  
SECURITY & PRIVACY

**ETD Forms**

- Getting Started
- Group Sign In

**Problems?**

- ETD system admin

## Group Information Form

Please select the ETD Technical Group for which you are Webmaster from the drop down list.

**Technical Group:**

Select one of the Technical Groups below...

- Select one of the Technical Groups below...
- Advanced Processing and Applications
- Applied Geology and Geochemistry
- Biological Monitoring and Modeling
- Biotechnology and Ecotoxicology
- Business Management Office
- Business Operations Office
- Chemical and Biological Processes Development
- Ecology
- EM Programs
- Engineered Systems
- Environment, Safety and Health Systems Product Line
- Environmental Biomarkers Initiative
- Environmental Capabilities
- Environmental Characterization and Risk Assessment
- Environmental Protection Agency
- Environmental Technology Directorate
- Field Hydrology and Chemistry
- Fluid and Computational Engineering
- Health Effects and Risk Sciences Division

Done

# Webmaster Forms

The screenshot shows a web browser window displaying the Environmental Technology Directorate (ETD) Group Information Form. The page has a dark blue header with the text "Environmental Technology Directorate" and a background image of Earth from space. A left-hand navigation menu is visible, listing various categories such as "ETD Forms", "Webmaster Home", "Staff", "Brochures", "Projects", "Resources", "Research Areas", and "Problems?". The main content area is titled "Group Information Form" and contains the following information:

- Fluid and Computational Engineering**
- Group Manager:** Thomas Michener
- Administrative Secretary:**
- Group Webmaster(s):** Cameron Bates
- Development Website URL:** <http://fluidcompdev.pnl.gov>
- Input field:
- Production Website URL:** <http://fluidcomp.pnl.gov>
- Input field:
- Is this site published in the ETD template?
- [ETD Webmaster](#)
- Reviewed:** December 2005
- ETD-CIS cost avoidance to date: \$193,335.

At the bottom left of the browser window, the text "Done" is visible.

# Project Input Form

Environmental Technology Directorate

[HOME](#) [CONTACTS](#) [SEARCH](#)  
[SECURITY & PRIVACY](#)

**ETD Forms**

- [Getting Started](#)
- [Group Sign In](#)

**Webmaster Home**

**Staff**

- [Staff Info](#)

**Brochures**

- [New Description \(admins only\)](#)
- [Update Descriptions \(admins only\)](#)
- [Associations](#)

**Projects**

- [New Description](#)
- [Update Descriptions](#)
- [Associations](#)
- [Additional Info](#)

**Resources**

- [New Description](#)
- [Update Descriptions](#)
- [Associations](#)
- [Additional Info](#)

**Research Areas**

- [New Description](#)
- [Update Descriptions](#)
- [Associations](#)
- [Additional Info](#)

**Problems?**

- [ETD system admin](#)

## Project Description Entry Form

**Title:**

**Project Number:**

**Abstract:**

**ETD Point of Contact:**  
\* Please enter the 5 character employee ID for the ETD point of contact staff member. (Example: 3K267)

**Product Line**

**Start Date:**  
\* MM/DD/YYYY

**End Date:**  
\* MM/DD/YYYY

**Website URL:**  
\* If the project has a dedicated website, enter the URL for the website here. If there are additional pages of information on the group website please use the additional information form.

**Publish Internally?**

**Publish Externally?**

Done

# Project Association Form

## Environmental Technology Directorate

HOME CONTACTS SEARCH  
SECURITY & PRIVACY

### ETD Forms

- Getting Started
- Group Sign In

### Webmaster Home

### Staff

- Staff Info

### Brochures

- New Description (admins only)
- Update Descriptions (admins only)
- Associations

### Projects

- New Description
- Update Descriptions
- Associations
- Additional Info

### Resources

- New Description
- Update Descriptions
- Associations
- Additional Info

### Research Areas

- New Description
- Update Descriptions
- Associations
- Additional Info

### Problems?

- ETD system admin

## Group Project Association Form

### Environmental Capabilities

#### Legend:

i = cleared for internal publication

e = cleared for external publication

#### Projects

Project Title	Project Number	Internal?	External?
<input type="checkbox"/> Advanced Catalyst Development for Polyols Production	45433	i	e
<input type="checkbox"/> Advanced Imaging	45159		
<input type="checkbox"/> Advancing Patient Safety		i	e
<input type="checkbox"/> AMEC Earth and Environmental Regulatory and Analysis Decision Support	45251	i	e
<input type="checkbox"/> An Integrated Approach for Risk-Based Decision-Making and Risk Communication			
<input type="checkbox"/> Anadromous Fish Evaluation Programs: Washington, Oregon, Idaho, Alaska			
<input type="checkbox"/> Archimedes Technology Group, San Diego, California	41903	i	e
<input type="checkbox"/> Armenia Nuclear Power Plant Decommissioning Planning		i	e
<input type="checkbox"/> Battelle Chlorinated Solvent Bioremediation Design Service for In Situ Bioremediation and Natural Attenuation			
<input type="checkbox"/> BON FPE 2004 - Task 1	46827		
<input type="checkbox"/> BON FPE 2004 - Task 2	46827		
<input type="checkbox"/> BON FPE 2004 - Task 3	46827		
<input type="checkbox"/> Bonneville FGE	41978		
<input type="checkbox"/> Bonneville Project Powerhouse 2 Fish Guidance Efficiency Simulations		i	e
<input type="checkbox"/> Bonneville Tailrace Project: Three-Dimensional CFD Models and Flow Measurements		i	e
<input type="checkbox"/> Bull Trout Studies, Lower Snake River And McNary Reservoir 2003	44376	i	e
<input type="checkbox"/> Calibrations		i	e
<input type="checkbox"/> Catalytic Gasification of Wet Biomass	43462	i	e
<input type="checkbox"/> CEDR-Related Activities	10741	i	e
<input type="checkbox"/> Center of Excellence in Chemical Hydrogen Storage	46385	i	e
<input type="checkbox"/> Chandler Canal	40828		
<input type="checkbox"/> Chandler Canal Low Water	42965		

# Staff Information Form

## Environmental Technology Directorate

[HOME](#) [CONTACTS](#) [SEARCH](#)  
[SECURITY & PRIVACY](#)

**ETD Forms**

- [Getting Started](#)
- [Group Sign In](#)

**Webmaster Home**

**Staff**

- [Staff Info](#)

**Brochures**

- [New Description \(admins only\)](#)
- [Update Descriptions \(admins only\)](#)
- [Associations](#)

**Projects**

- [New Description](#)
- [Update Descriptions](#)
- [Associations](#)
- [Additional Info](#)

**Resources**

- [New Description](#)
- [Update Descriptions](#)
- [Associations](#)
- [Additional Info](#)

### Staff Entry Form

Input for: Bilyard, Gordon R (3E155)

**Group:**

**Research Interests:**  
[\\* Separate entries with hard returns](#)

Stakeholder Engagement and Science Communication  
 Risk Assessment and Management  
 Strategic Planning  
 Applied Marine and Estuarine Ecology  
 Marine Ecological Research

**Education and Credentials:**  
[\\* Separate entries with hard returns](#)

Ph.D., Oregon State University (Biological Oceanography), 1979.  
 M.S., University of Maine (Zoology), 1973.  
 B.A., University of Vermont (Zoology), 1970.

**Professional Affiliations:**  
[\\* Separate entries with hard returns](#)

American Association for the Advancement of Science

# System Growth and Buy-In

- ▶ Adoption of the new system was wider than expected. Many technical groups in ETD were quick to adopt the new template and enter their content into the system
- ▶ Started with internal directorate site and a handful of external technical group websites

# Post-Launch System Enhancements

- ▶ Staff and product line accomplishments
- ▶ Brochures and marketing materials repository
- ▶ Staff information authorization process
- ▶ Automated publication citations via the ERICA publications database
- ▶ System reporting tools
- ▶ [External version](#) of the directorate website
- ▶ Extending pieces of the system to other types of websites (Divisions, Projects, Programs, Lab Initiatives)
  - <http://stomp.pnl.gov>
  - <http://procscieng.pnl.gov>

# Staff Authorization

- Technologies & Products
- Facilities & Laboratories
- Staff
- Publications
- Marketing Materials
- ETD Websites
- Useful Links

Pacific Northwest  
 National Laboratory  
Operated by Battelle for the  
 U.S. Department of Energy



## Authorization Form - Bates, Cameron J

I authorize the ETD to add the following checked categories of information (if available) to my internal and external ETD web pages:

Category	Internal	External
Photo:	<input type="checkbox"/>	<input type="checkbox"/>
Affiliations:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Awards & Recognition:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Biography:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Education:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Research Interests:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Please provide any additional comments, concerns, or questions you would like to have addressed. Comments will be sent to the ETD webmaster.

When you click "Submit", an email message containing your selections will be sent to you for your records.

---

### Current Staff Information:

**Cameron Bates**

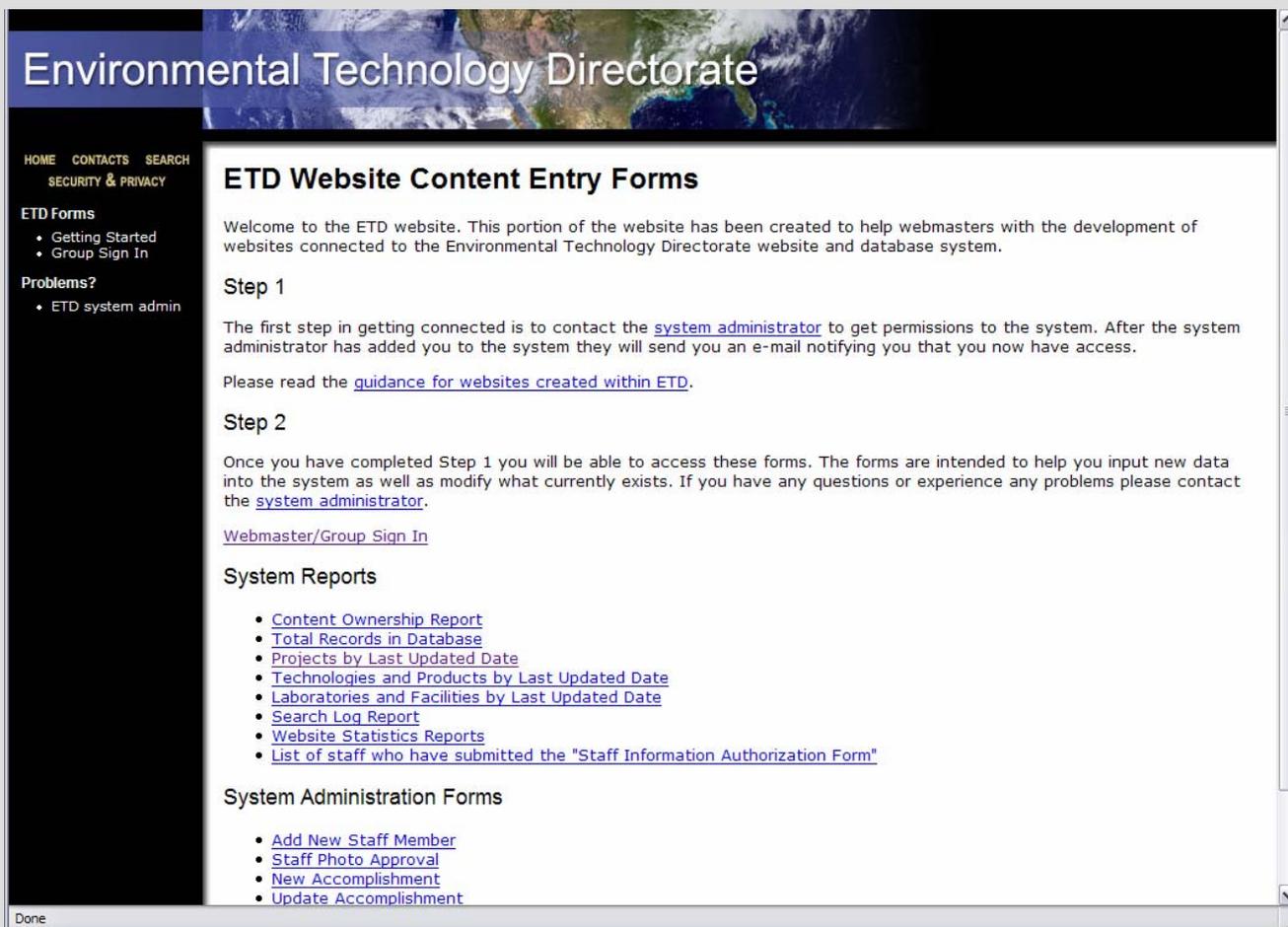


Specialist  
 Pacific Northwest National Laboratory  
 PO Box 999  
 Richland, WA 99352  
 E-mail: [Cameron.Bates@pnl.gov](mailto:Cameron.Bates@pnl.gov)

#### Research Interests

- ETD Web Development Team

# System Reporting Tools



**Environmental Technology Directorate**

HOME CONTACTS SEARCH  
SECURITY & PRIVACY

**ETD Forms**

- Getting Started
- Group Sign In

**Problems?**

- ETD system admin

## ETD Website Content Entry Forms

Welcome to the ETD website. This portion of the website has been created to help webmasters with the development of websites connected to the Environmental Technology Directorate website and database system.

### Step 1

The first step in getting connected is to contact the [system administrator](#) to get permissions to the system. After the system administrator has added you to the system they will send you an e-mail notifying you that you now have access.

Please read the [guidance for websites created within ETD](#).

### Step 2

Once you have completed Step 1 you will be able to access these forms. The forms are intended to help you input new data into the system as well as modify what currently exists. If you have any questions or experience any problems please contact the [system administrator](#).

[Webmaster/Group Sign In](#)

### System Reports

- [Content Ownership Report](#)
- [Total Records in Database](#)
- [Projects by Last Updated Date](#)
- [Technologies and Products by Last Updated Date](#)
- [Laboratories and Facilities by Last Updated Date](#)
- [Search Log Report](#)
- [Website Statistics Reports](#)
- [List of staff who have submitted the "Staff Information Authorization Form"](#)

### System Administration Forms

- [Add New Staff Member](#)
- [Staff Photo Approval](#)
- [New Accomplishment](#)
- [Update Accomplishment](#)

Done

# Cost Savings Analysis

- ▶ Developed metrics
- ▶ Monthly reporting of cost savings
- ▶ Tangible metrics for management
- ▶ To date, the system has saved the lab an estimated \$193,000+

# Outlook

- ▶ Future enhancements
  - Out-dated content notifications
  - Metadata for enhanced searchability
- ▶ Other directorates adopting parts of the system
  - National Security Directorate (NSD)
  - Computational and Information Sciences Directorate (CISD)