

# Wyoming Landscape Conservation Initiative

"Conserving world-class wildlife resources. Facilitating responsible development."



## Wyoming Landscape Conservation Initiative Data Management and Integration

Discover and Access Scientific Data and Resource Management Information

**Long-term Monitoring - Framework and Indicators** - Remove from WLCI - More Info...  
Project: ScienceBase Project  
Develop a landscape scale sampling design for documenting resource conditions across WLCI area including...

**Effectiveness Monitoring of Past Habitat Treatments** - Remove from WLCI - More Info...  
Project: ScienceBase Project  
Inventory and evaluate the effectiveness of past habitat treatments and use the information to develop...

**B-Q Canal Rehabilitation, Wetlands Improvement, and Elk Movement...** - Remove from WLCI - More Info...  
Project: ScienceBase Project  
Improve the irrigated meadows on the Cokeville Meadows National Wildlife Refuge.

**Raymond Mountain Invasives** - Remove from WLCI - More Info...  
Project: ScienceBase Project  
Invasive species treatment to improve the forage base for wildlife species on Raymond Mountain, in...

**Baseline Synthesis - Modelling Effects of Energy Development and...** - Remove from WLCI - More Info...  
Project: ScienceBase Project

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Image showing digital WLCI Data Catalog records, with associated descriptive and geospatial information, accessible through the WLCI Web site ([www.wlci.gov](http://www.wlci.gov)).

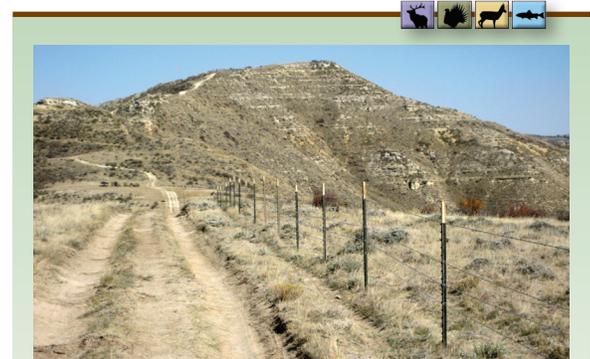
Six Federal agencies, two State agencies, and two local entities formally support the Wyoming Landscape Conservation Initiative (WLCI) and work together on a landscape scale to manage fragile habitats and wildlife resources amidst growing energy development in southwest Wyoming. The U.S. Geological Survey (USGS) was tasked with implementing targeted research and providing scientific information about southwest Wyoming to inform the development of WLCI habitat enhancement and restoration projects conducted by land management agencies. Many WLCI researchers and decisionmakers representing the Bureau of Land Management, U.S. Fish and Wildlife Service, the State of Wyoming, and others have overwhelmingly expressed the need for a stable, robust infrastructure to promote sharing of data resources produced by multiple entities, including metadata adequately describing the datasets. Descriptive metadata facilitates use of the datasets by users unfamiliar with the data. Agency representatives advocate development of common data handling and distribution practices among WLCI partners to enhance availability of comprehensive and diverse data resources for use in scientific analyses and resource management. The USGS Core Science Analytics and Synthesis (CSAS) team is developing and promoting data integration tools and techniques across USGS and partner entity endeavors, including a data management infrastructure (described below) to aid WLCI researchers and decisionmakers.

## WLCI Data Catalog

The WLCI Memorandum of Understanding (available at [www.wlci.gov](http://www.wlci.gov)) specifies the need to integrate new data with existing knowledge and technologies to enable information exchange among agency partners. In collaboration with the USGS Fort Collins Science Center, CSAS established and maintains the WLCI Data Catalog to facilitate exchange of information, data, and research findings among partners, industry, and stakeholders. Agency partners are being engaged to identify relevant information resources to share with the WLCI community through the Data Catalog.



The WLCI is a long-term, science-based program to assess and enhance aquatic and terrestrial habitats at the landscape scale in southern Wyoming, while facilitating responsible development through local collaboration and partnerships.



Photograph showing Grizzly Wildlife Habitat Management Area fencing project. Source: WLCI.

### About the WLCI

The WLCI, established in 2007, is a long-term science-based partnership created to assess and enhance aquatic and terrestrial habitats in southwest Wyoming on a landscape scale while facilitating responsible development through local collaboration and partnerships. Partners in the WLCI include the Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Geological Survey, National Park Service, Bureau of Reclamation, Natural Resources Conservation Service, Wyoming Game and Fish Department, Wyoming Association of Conservation Districts, Wyoming County Commissioners' Association, and Wyoming Department of Agriculture, as well as university and private-sector collaborators.

### Repeatable Methodology

A key strategic objective of the USGS in providing support to the WLCI is to establish repeatable methodologies in both science and management that can be applied to other projects and interagency partnerships in other areas of the United States with resource management challenges. For example, integrated ecological assessments, which incorporate several scientific fields into interdisciplinary evaluations of environmental systems, are being developed by USGS researchers. Large-scale, multidisciplinary, and multipartner endeavors such as the WLCI promote the sharing, advancement, and application of scientific data and information management tools and techniques in understanding pressing scientific and management issues.

Prepared in cooperation with the





## Data and Information Support Components

Available at [www.wlci.gov](http://www.wlci.gov).

### Data Catalog

The online digital Data Catalog centralizes information and contains metadata harvested from the USGS; publications and agency reports by WLCI partners including the University of Wyoming; and new, original data records produced by WLCI research projects.

### Projects Database

The need expressed by WLCI partners for a database of science and habitat conservation projects prompted creation of a project metadata model containing more than 90 WLCI activities. This Projects Database model has been extended to support other scientific efforts.

### Data Acquisition and Management

Data management staff members have acquired, optimized, and hosted both USGS and WLCI partner data on the [data.usgs.gov](http://data.usgs.gov) hosting platform, which has been made available to the WLCI.

### Web Site Management

Data management staff provided the WLCI Coordination Team and Communication Team with a Web content management solution that allows team members to maintain current content through a simple Web interface.

### Interagency Web Portal

An "interagency Web portal"—a need indicated early in the Initiative's development—was facilitated through the myUSGS virtual community space. It provides WLCI partners access to document management, data uploading, and overall information management capabilities.

### Sources

Biewick, L.R.H., 2009, Oil and gas development in southwestern Wyoming—Energy data and services for the Wyoming Landscape Conservation Initiative (WLCI): U.S. Geological Survey Digital Data Series 437. (Also available at <http://pubs.usgs.gov/ds/437/>.)

### For more information, contact:

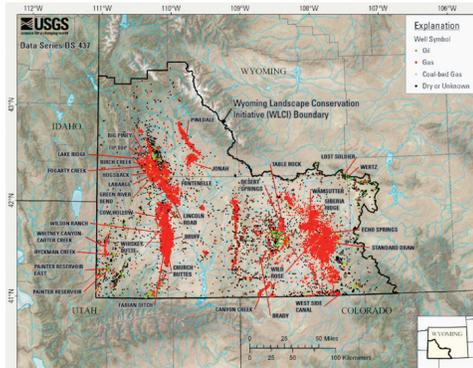
Natalie Latysh, [nlatysh@usgs.gov](mailto:nlatysh@usgs.gov),  
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As of spring 2011, the WLCI Data Catalog references more than 500 relevant information items and associated metadata. Advanced capabilities for information discovery include online data viewing, map generation, creation of themed data libraries, association of related data records, downloading of available datasets, and documentation of scientists and organizations associated with projects and data.

Data records are continually being sought for the WLCI region by individual researchers and data management staff. Routine data harvests for the WLCI Data Catalog from the University of Wyoming's Wyoming Geographic Information Science Center provide the most up-to-date recorded information about the State of Wyoming, and WLCI project personnel can upload datasets and add associated metadata seamlessly into the Data Catalog. The addition of information resources to the Data Catalog requires adherence to USGS data publishing policies and assignment of associated long-term data archiving responsibilities. To help address these concerns, the USGS is striving to provide necessary data hosting support for the WLCI as a whole, while also promoting development of additional information management capacity in partner agencies.

## WLCI Projects Database

The WLCI Projects Database stores descriptive and geospatial information for habitat projects conducted by resource management agencies as well as for science projects conducted by the USGS. The Projects Database is delivered to users of the WLCI Web site through one of two interactive maps: Science Projects and Habitat Projects. Each map shows project locations that are linked to additional project information including abstracts, project summaries, and detailed views of sampling locations and project footprints. The WLCI Coordination Team and USGS personnel routinely refine project descriptions and activity information gleaned from status reports, and approved projects are added to the database through a Web form. The projects data model has been extended beyond the WLCI to serve other initiatives.



Example of a decision-support mapping product for WLCI accessible through the WLCI Data Catalog. Source: Biewick (2009).

## Web Site Management

The WLCI Web site ([www.wlci.gov](http://www.wlci.gov)) shares information about activities, publications, projects, documents, and participation of WLCI partners. Users also access the WLCI Data Catalog and Projects Database through the Web site. Authorized WLCI Coordination Team and Communication Team members maintain the WLCI site through a Web content management system.

## Donate!



The WLCI has an agreement with the Wildlife Heritage Foundation of Wyoming to manage contributions for WLCI work. Donations can be made through [www.wlci.gov](http://www.wlci.gov) or send a tax-free contribution to:

**Wildlife Heritage Foundation/WLCI**  
P.O. Box 20088  
Cheyenne, WY 82003

## Partnerships

The WLCI partnership formally includes the Bureau of Land Management (BLM), U.S. Fish and Wildlife Service (USFWS), U.S. Geological Survey (USGS), U.S. Forest Service, Wyoming Department of Agriculture, Wyoming Game and Fish Department (WGFD), local conservation districts, and local county commissions. Additional groups and individuals participate as well.



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