



Plains CO₂ Reduction (PCOR) Partnership
Energy & Environmental Research Center (EERC)

OUTREACH ACTION PLAN

Plains CO₂ Reduction (PCOR) Partnership Phase III Task 2 – Deliverable D11, Update 2

Original Submitted: March 2008

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Cooperative Agreement No. DE-FC26-05NT42592

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2016-EERC-09-02

March 2016
Approved

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ACKNOWLEDGMENT

This material is based upon work supported by DOE NETL under Award No. DE-FC26-05NT42592.

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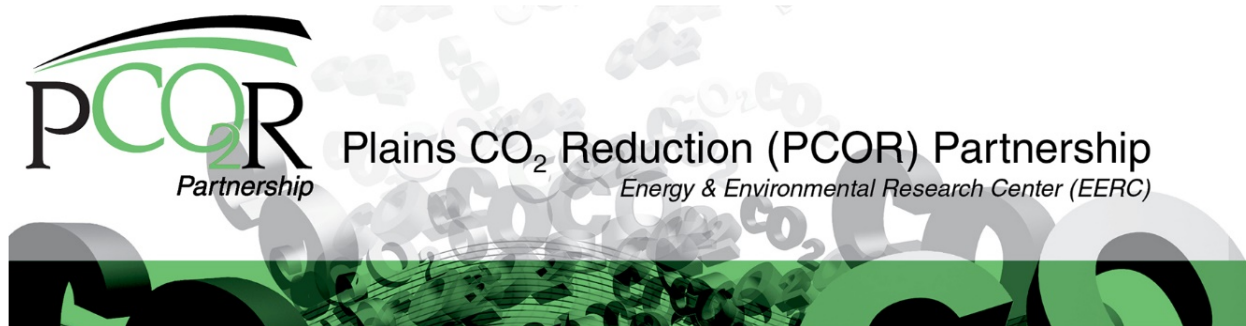
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OUTREACH ACTION PLAN

EXECUTIVE SUMMARY

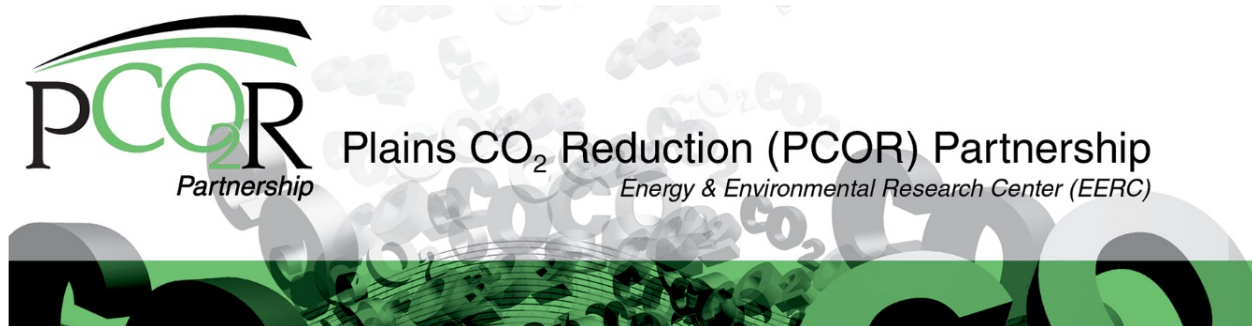
The Plains CO₂ Reduction (PCOR) Partnership region covers all or part of nine states and four Canadian provinces and has a total population of over 31 million in 11.9 million households. During Years 9–11 (Budget Period 5) of the Phase III U.S. Department of Energy Regional Carbon Sequestration Partnership Program, the PCOR Partnership outreach team will continue to undertake activities and develop products intended to help raise awareness of the practice of sequestration as well as the PCOR Partnership and its role in the region. All of the outreach efforts will point to the public Web site, which is a 24/7, comprehensive source of information and downloadable materials for all audiences.

Audiences defined by geography include the general public across the region, select communities, and stakeholders in project locations. The general audiences at the regional level will continue to be served by periodic broadcasts of original documentaries on public television. Select communities will continue to be served by providing materials to local libraries. Depending on the carbon capture and storage (CCS) project in the region, the PCOR Partnership will serve as follows:

- For its collaborative project with Denbury Resources Inc., continue to interact with landowners in the course of sampling and monitoring activities, update customized outreach materials, and take part, as requested, in community meetings.
- For the Aquistore project, operated by SaskPower and the Petroleum Technology Research Centre (PTRC), continue to take part in outreach advisory meetings and site open houses and maintain and update customized materials as appropriate.
- For the other projects, continue to maintain and make available a combination of project fact sheets, pages in the regional atlas, and pages on the public Web site.

Select audiences include educators and opinion leaders. Outreach to educators will continue through presentations and the distribution of materials, the development of lesson plans by master teachers, and the production and distribution of original video materials. Outreach to opinion leaders will continue to involve senior project personnel one on one supplemented by outreach materials. For members or potential members, a subset of opinion leaders, outreach will be supplemented by periodic e-mails and attendance at the annual meeting or through one of the PCOR Partnership's other forums.

Documentation and planning will be facilitated by the continued maintenance and development of the Outreach Information System, including the Outreach Tracking Database. These components help characterize outreach material development, the distribution of materials, outreach activities including television broadcasts, and Web traffic. This plan will be assessed and updated under this structure through the completion of the project, now scheduled for December 31, 2018.



OUTREACH ACTION PLAN

INTRODUCTION

The Plains CO₂ Reduction (PCOR) Partnership is one of the seven regional partnerships under the U.S. Department of Energy (DOE) Regional Carbon Sequestration Partnership (RCSP) Program. The partnerships' members collaborate to lay the groundwork for practical and environmentally sound sequestration of anthropogenic carbon dioxide (CO₂) emissions from the stationary sources within a formally designated area in the central interior of North America (Figure 1). The PCOR Partnership is led by the Energy & Environmental Research Center (EERC) at the University of North Dakota.

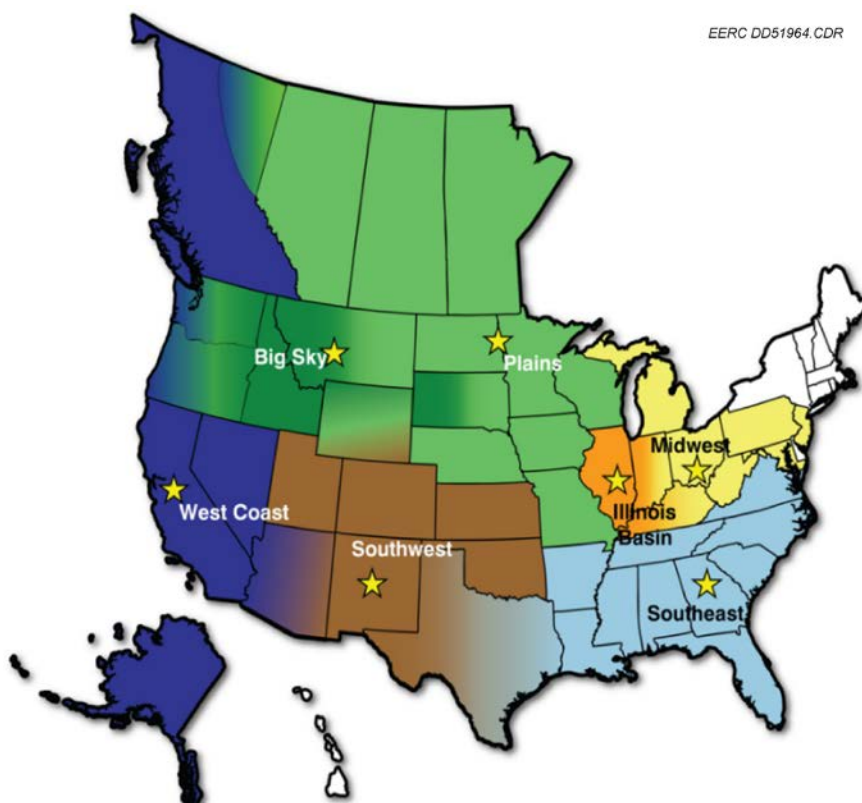


Figure 1. Map of the seven regional partnerships under the DOE RCSP Program. The PCOR Partnership (light green) covers the prairie region of Canada and the northern plains and adjacent areas of the United States.

As required by DOE, outreach has been an integral part of the PCOR Partnership Program since its inception in the fall of 2003. Outreach action plans (OAPs) have been submitted periodically throughout the course of the project to provide an update on strategies for information delivery to audiences across the region. The OAPs also discuss the role of new and existing products as well as product and activity tracking and evaluation. The individual OAPs differ in form and content over the multiyear RCSP Program in response to changes in knowledge, experience, capabilities, and lessons learned as well as the stage and focus of the program itself.

The Budget Period (BP) 5 OAP covers the period April 1, 2016, through December 31, 2018, the final 33 months of the PCOR Partnership Program.

BP5 OUTREACH DELIVERABLES AND MILESTONES

Figure 2 shows the time line for outreach deliverables in BP5. As shown in the left hand column, outreach is handled under Task 2 of the PCOR Partnership Program – Public Outreach and Education. The deliverables and milestones are listed below the body of the figure.

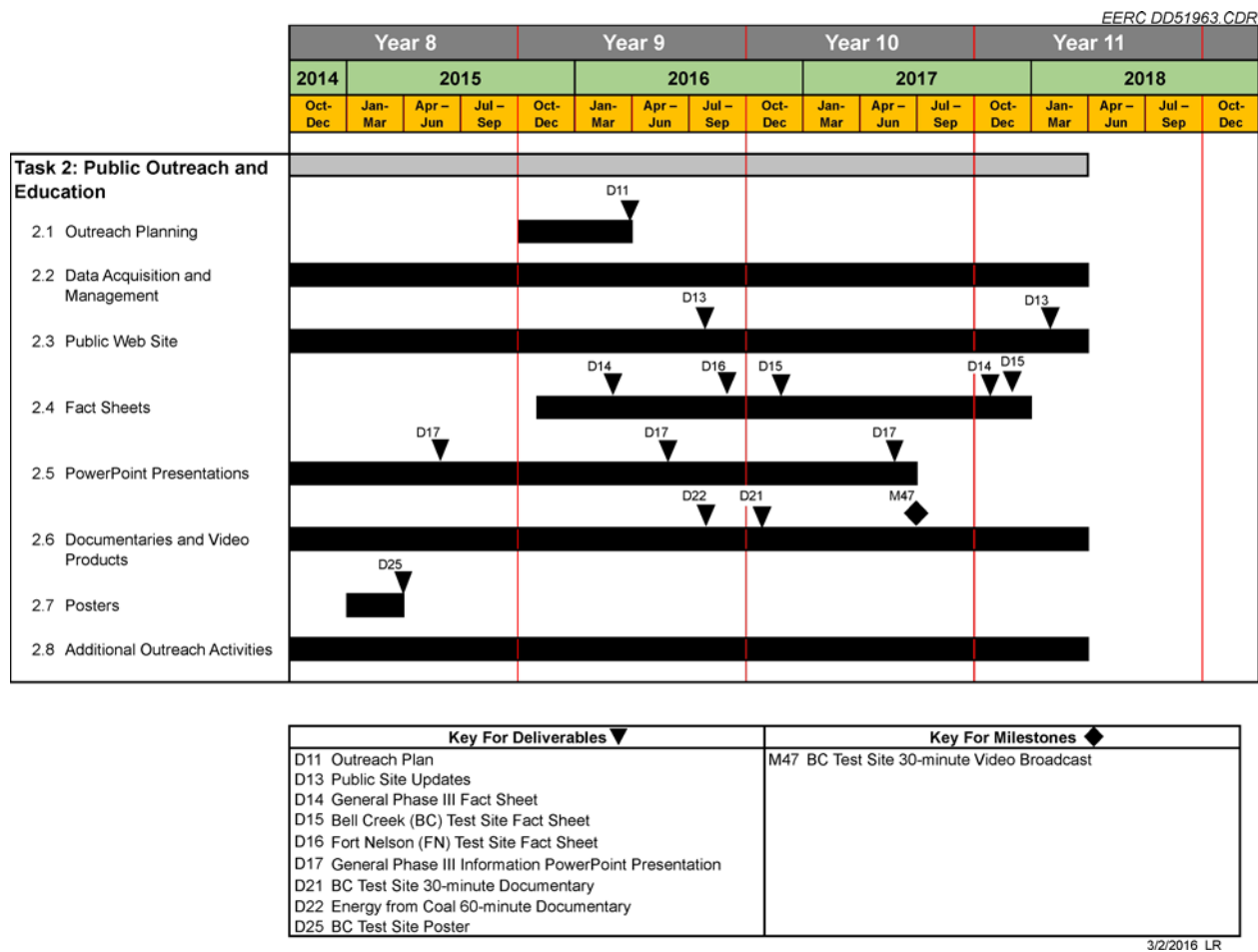


Figure 2. Comprehensive Task 2 milestone chart for BP5.

As shown in Figure 2 and detailed in Table 1, work during BP5 will include two original public television documentaries (Deliverable [D] 21 and D22) in collaboration with Prairie Public Broadcasting (PPB), two updates of the outreach PowerPoint materials (D17), the fifth edition of the regional atlas, updates to the Bell Creek (D15) and Fort Nelson (D16) fact sheets, and updates and upgrades to the public Web site (D13). In addition to these contractual deliverables, there will be value-added products. These include updates of fact sheets, updates and upgrades to the public Web site, and several periodic reports for landowners at Bell Creek related to near-surface and subsurface monitoring activities.

These materials are developed, distributed, and tracked under the framework shown in Table 1 and outlined in Appendix A. These materials are shown in the context of the comprehensive collection of outreach materials contained in Appendix E.

Table 1. BP5 Materials and Activities under Task 2

Subtask	Primary BP5 New/Ongoing Activities	Due for DOE Review
2.1 – Outreach Planning	Ongoing evaluation and updating of the BP5 OAP	NA ¹
2.2 – Data Acquisition and Management	Ongoing tracking and evaluation of outreach activities; quarterly outputs for reporting; ongoing refinement of protocols for outreach delivery, tracking, and quality assurance/quality control (QA/QC)	NA
2.3 – Public Web Site	D13 – periodic Web site updates	July 2016/January 2018
2.4 – Fact Sheets	D16 – update of Fort Nelson test site fact sheet D15 – update of Bell Creek test site fact sheet D14 – update of general Phase III fact sheet Value-added – Upgrades of the Phase II verification test fact sheets	August 2016 November 2016/2017 October 2017 TBD ²
2.5 – PowerPoint Presentations	D17 – update of general Phase III public information PowerPoint presentation	May 2016/2017
2.6 – Documentaries and Video Products	D22 – 1-hour public television documentary Coal and the Modern World ³ D21 – Half-hour public television documentary The Bell Creek Story ³ Value-added – Parts 3 and 4 of Energy and Carbon Value-added – Other TBD video products	D22; July 2016 October 2016 TBD TBD
2.7 – Posters	–	–
2.8 – Additional Outreach Activities	Aquistore Advisory Board activities, including monthly conference calls and periodic meetings and event attendance RCSP Outreach Working Group activities, including monthly conference calls and best practice manual preparation Other activities TBD	Monthly calls Monthly calls TBD

¹ Not applicable.

² To be determined.

³ In addition, 1000 packaged DVDs, video clips produced, documentary and video clips placed on the public Web site.

Table 2. BP5 Outreach Materials and Interaction under Other Partnership Tasks

Task	Primary BP5 New/Ongoing Activities	Due Date
1–Regional Characterization	D81 – Regional Atlas (5th Edition)	August 2016
9–Bell Creek Demonstration	Landowner interaction	TBD
	Periodic reports on monitoring results	TBD
	Other TBD	TBD

GOAL AND METHODOLOGY

The goal of the PCOR Partnership outreach is to raise awareness of both carbon capture and storage (CCS) and the PCOR Partnership to the general public across the region, provide outreach to key audiences and, in collaboration with project partners, provide outreach to audiences in the vicinity of CCS demonstrations.

Table 3 provides an overview of the outreach strategies. Methods are shown in the left column and audiences across the top. In keeping with the outreach task goal, delivery is approached from a geographic focus and from an audience-specific focus. As shown in the table, the public Web site is notable because it plays a role for all audience types. As shown in Figure 3, outreach has occurred across the region, but efforts have been concentrated in areas in the United States with significant storage potential (e.g., North Dakota) and where the implementation of storage would impact carbon footprints for electricity (e.g., Minnesota). The regional character and geographic framework are discussed in Appendix A.

Most of the materials for the deliverables and milestones for BP5, outlined in Figure 2 and Tables 1 and 2, serve as outreach to various audiences. The process for these products is covered in Appendix B. However, the outreach subtasks, particularly 2.1 Outreach Planning and 2.2 Data Acquisition and Management deal with the characterization, tracking and feedback, and iterative evaluations leading to revised approaches, capabilities, and plans that support the information delivery and audience engagement strategies. The integrated approach for product development, distribution, and evaluation is achieved using the capabilities of the Outreach Information System (OIS), which is further discussed in Appendix C.

The following sections discuss planned activities for the audiences under the two main categories: geographic focus and key audience focus. The public Web site, which has a role for all audiences, will be discussed separately.

Additional information is provided in the appendices; activities and roles by audience are detailed in Appendix D, outreach materials are listed in Appendix E, outreach methods and protocols are discussed in Appendix F, and project-related outreach is more fully discussed in Appendix G.

Table 3. Primary Outreach Methodologies by Audience Type

	Undifferentiated Audience			Key Audience Segments ¹		
	General Regional	Project Area	Select Communities	Opinion Leaders ²	Educators/ Youth Grade 6–12	Partners and Prospective Partners
One-on-One or Small Group		X		X		X
Press Releases and Articles	X	X	X			
Web ^{3,4}	X	X	X	X	X ⁵	X ⁶
Public TV Broadcasts	X					
Products in Libraries		X	X		X	
Product to Individuals		X		X	X	X
Meetings, Classes, Workshops		X		X	X ⁷	X

¹ Can be in project area or region; partners and prospective partners are a subset of this group.

² Variety of jurisdictional levels.

³ PCOR Partnership Public Web site, EERC Web site, and EERC social media.

⁴ Non-PCOR Partnership/EERC Web sites including PPB, PBS Learning Media, and North Dakota Studies as well as links from member Web sites and other sites.

⁵ PCOR Partnership resources on a variety of educator resource pages.

⁶ Includes DSS (decision support system, © 2016 EERC Foundation) and e-mail blasts.

⁷ Materials, information, and classroom activities conveyed through member-run educator workshops.

GEOGRAPHIC FOCUS

This section covers audiences primarily described on the basis of geography: general/regionwide, project area, and select communities.

General/Regionwide

During BP5, Phase III activities will continue the practice of actively reaching out to over 31 million people in the 11.9 million households across the international region. This outreach will occur primarily through documentaries produced in collaboration with PPB and broadcast on public television. A secondary strategy under consideration is to place articles in regional newspapers or regional magazines. As in the past, both of these strategies will be tracked and point toward the public Web site, the third source of information for households across the region.

As shown in Table 4, two original documentaries are scheduled for premiere in the PPB region in BP5. Approximately 3 months after the documentaries premiere, PPB will market the documentaries via NETA (National Educational Television Association). This action alerts other public television stations in the region and outside the region that the programs are available and, if the stations so choose, they can get the right to broadcast the documentaries over the next 3 years. At the end of the 3 years, stations have the option to renew their right to broadcast.

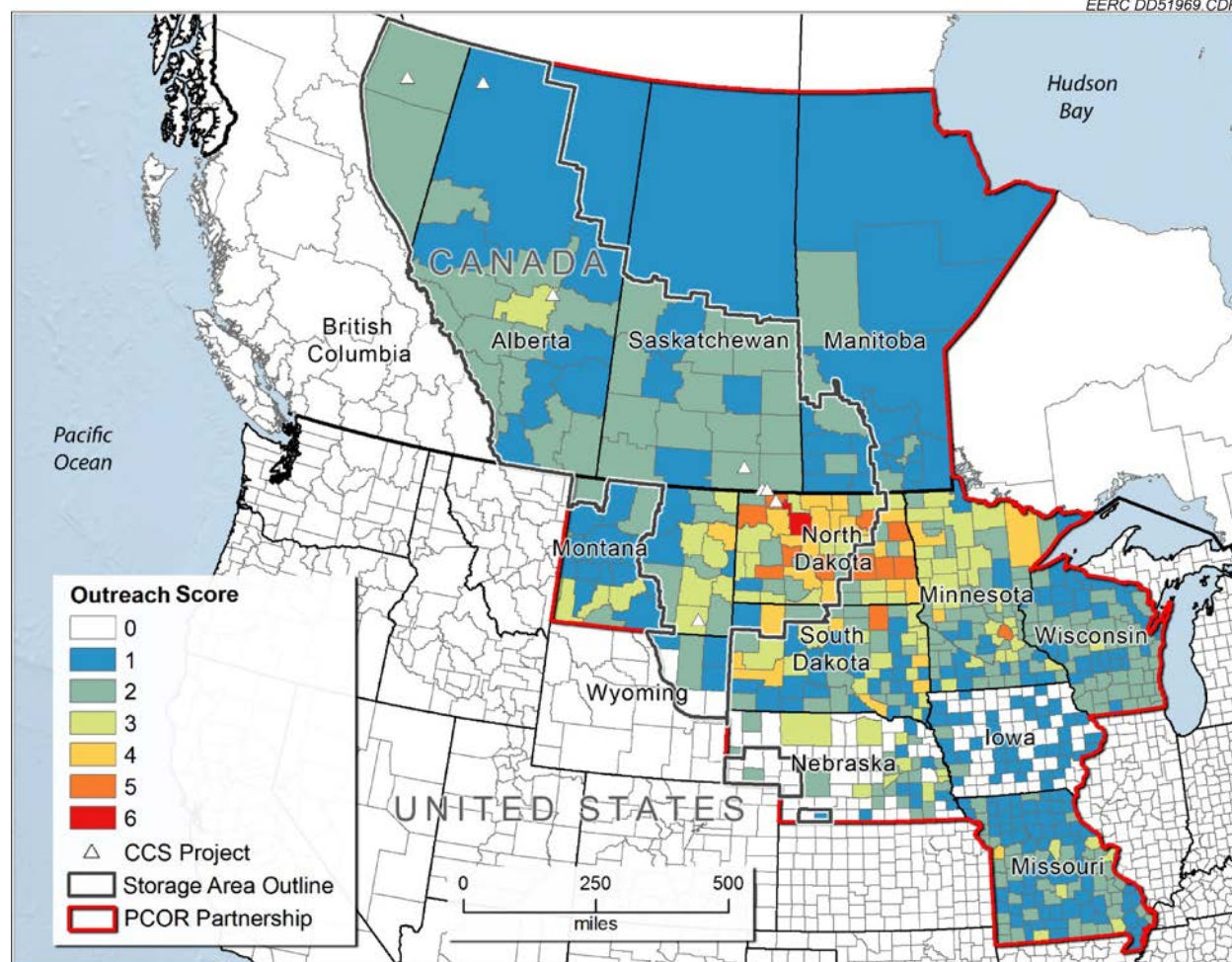


Figure 3. Outreach coverage for the PCOR Partnership region at the outset of BP5. The outreach score for each jurisdiction reflects a maximum of six positive responses at the county level (U.S.) or regional municipality level (Canada) regarding Web visits, materials in a library, documentary broadcasts aired, information materials with an educator, direct landowner interaction, and presence of a CCS project. This score is semiquantitative and reflects data collected from the start of the project to the present.

Table 4. Regional Broadcast Premieres on Public Television During BP5

Deliverable	Documentary Title and Subject	Initial Broadcast ¹
D22	Coal and the Modern Age	Spring 2017
D21	Bell Creek Story	Spring 2017

¹ Estimate; actual broadcast schedule will be worked out when documentary completed; typically shown multiple times in multiple market areas after initial broadcast.

Broadcast area tracking data for individual stations are obtained by PPB and provided to the PCOR Partnership on a quarterly basis, entered into the OIS, and reported to DOE.

Figure 4 shows the coverage to date for the previous documentaries. As shown in Figure 4, the documentary broadcasts have been viewed in areas within the PCOR partnership region with potential for CO₂ storage (e.g., North Dakota, Montana, Saskatchewan, Alberta, and British Columbia), in areas where storage would reduce the carbon footprint of electricity (e.g., Minnesota from North Dakota sources), and in areas having sources but lacking storage potential locally (e.g., eastern Missouri, southern Wisconsin).

At a minimum, upcoming documentaries will be broadcast in prime time in the international PPB broadcast area (shown in Figure 5). The documentary premieres will be publicized on air by PPB and in PPB's monthly program guide as well as in an e-mail alert to PCOR Partnership members. Each premiere is expected to be viewed in an estimated 12,000 households (1.4% of households in the PPB region; see Appendix F). The BP5 broadcast coverage for the new documentaries is expected to go beyond the PPB area over time and to eventually resemble the historical coverage shown in Figure 4.

Select Communities

As summarized in Appendix A, macro and micro metropolitan statistical areas corresponding to cities and towns contain the majority of the population in the PCOR Partnership region. Starting in BP4, select communities across the region were served by the placement of outreach materials in libraries. The placement resulted from partnership attendance at regional library conferences.

As shown in Figure 6, the 118 libraries with materials are in several states and one Canadian province. The materials include documentary DVDs, regional atlases, and public outreach posters. Several of these libraries are located in the area with high potential for storage in the U.S. portion of the region.

Usage itself is not tracked. Although librarians are willing to share anecdotal information on patron interest, sharing quantitative information is against policy.

As shown in Table 5, the PCOR Partnership will attend regional library conferences in BP5 and offer the libraries updated and new outreach materials. These materials will include the DVDs for D21 and D22 and the fifth edition of the regional atlas. In addition, a page will be added to the public Web site as part of an effort to inform communities regarding the availability of these materials at their local library.

The distribution of the materials will be documented, entered into the OIS, and reported on a quarterly basis.

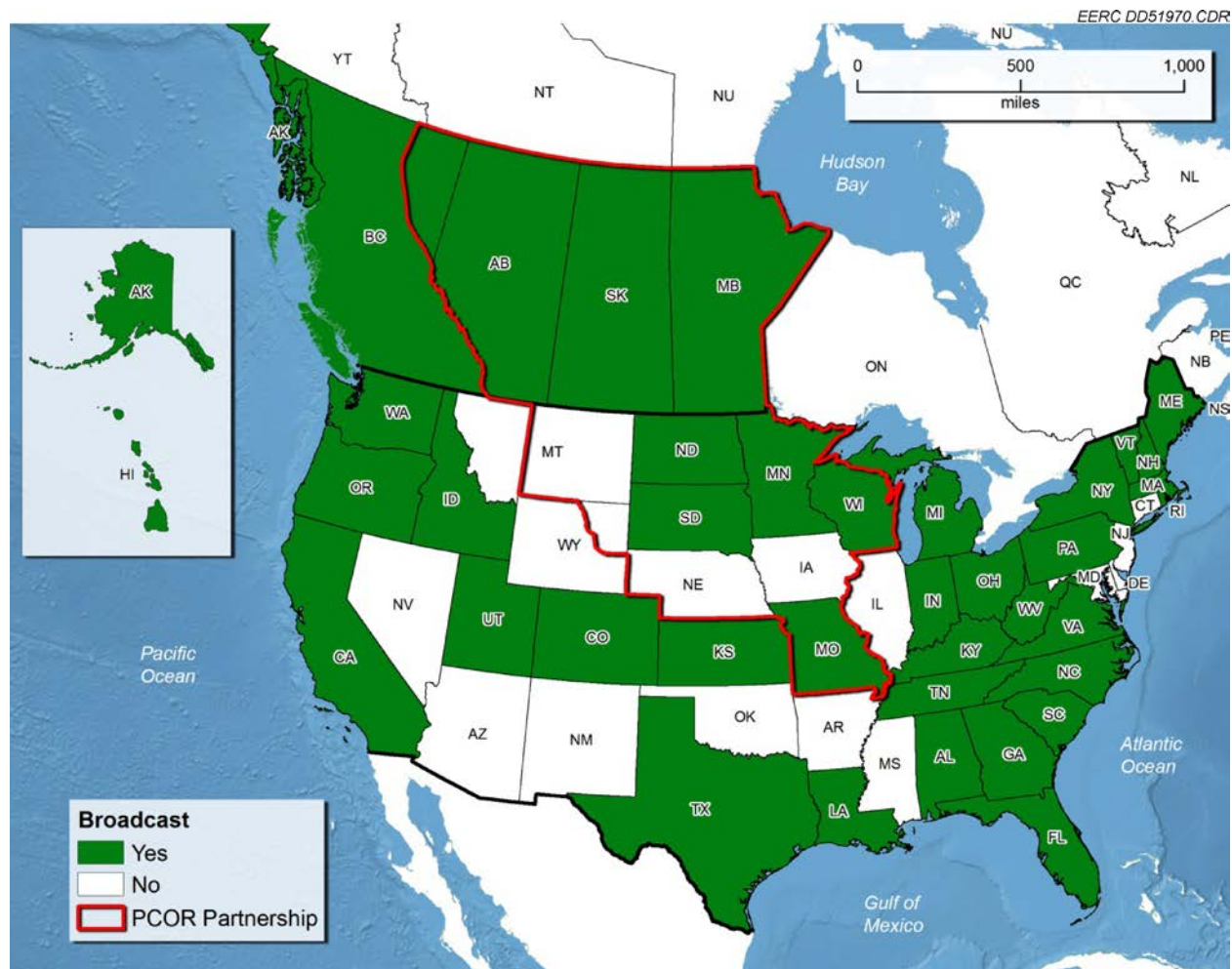


Figure 4. Status of outreach coverage for documentary broadcasts at the outset of BP5.

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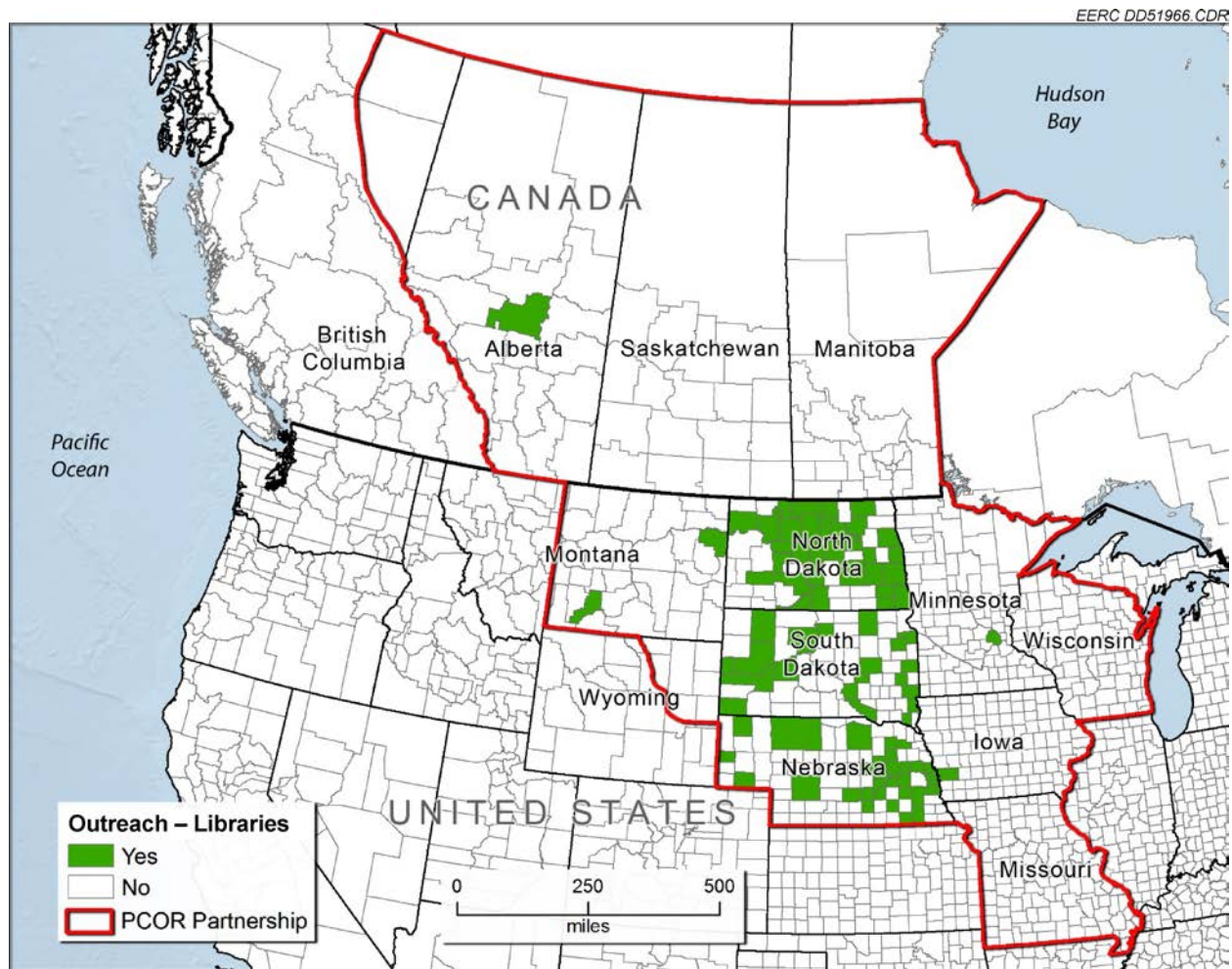


Figure 6. Libraries in U.S. counties and Canadian regional municipalities with outreach materials.

Table 5. Materials Distribution at Library Events

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Mountain Plains Library Association				X					X	
North Dakota Library Association		X	X	X					X	
South Dakota Library Association				X					X	

Project Areas

The PCOR Partnership region is the site of ten CCS-related projects – three completed and seven active. All active projects are operated by PCOR Partnership members. These members have their own individual outreach efforts under way. Partnership efforts are subordinate to operator efforts. Outreach activities at the partnership level are divided into five categories:

- General project information (delivered via PCOR Partnership general information products, including fact sheets, the regional atlas, presentations, documentary broadcasts or DVDs, and/or pages or other components of the public Web site).
- Customized outreach products and assistance with events under the auspices of the site operator.
- Involvement in a project outreach advisory group.
- Partnership management and implementation of a project-level outreach program (completed Phase II projects).
- Landowner relations for specific activities under the auspices of a site operator.

The involvement for project-level outreach is summarized in Figure 7 and discussed in greater detail in Appendix G. As shown in Figure 3, project-level outreach does not happen in isolation but within the context of regional and key audience outreach.

In BP5, project-level outreach will continue under the existing approach and framework. In order to expand the understanding of outreach, partners will be asked to provide information on their project-level outreach so that this can be added to the information in the OIS.

The Bell Creek site, operated by Denbury Onshore LLC, is a formally designated partnership demonstration project and will feature landowner relations and other activities as follows:

- Landowner interaction related to sampling activities including written reports of monitoring results to landowners and contact related to periodic water and soil gas quality sampling/monitoring events. In addition, there will be interaction with landowners related to the EERC's scalable, automated, semipermanent seismic array (SASSA) project. The SASSA project is complementary to but separate from the EERC's PCOR Partnership activities in the Bell Creek oil field. The outreach is included here because, from a landowner perspective, SASSA is part of Denbury's overall effort to monitor CO₂ in the area, builds on the relationships established by EERC PCOR Partnership efforts, and involves many of the same EERC personnel. SASSA is focused on tracking CO₂ movement in the subsurface on the basis of periodic seismic testing. As with the water- and soil gas-related activities, landowner contact involves notification of testing, confirmation of permission to be on the land, and follow-up after test events. In keeping with project guidelines, both of these outreach activities will feature oversight by Denbury.



Figure 7. Outreach activities related to CCS projects in the PCOR Partnership region.

- Updating of select customized materials including a fact sheet and PowerPoint slides.
- Other activities or materials as requested.

Denbury's Bell Creek commercial enhanced oil recovery project is also notable because it will be featured in the original documentary production *The Bell Creek Story*, which is scheduled for premiere in the spring of 2017 in the PPB broadcast region. Denbury concurred regarding the production in the fall of 2015, and the EERC and PPB will be collecting interviews and filming at the site during the first half of 2016.

KEY AUDIENCES

The PCOR Partnership has focused on the following key audiences distributed throughout the region:

- Educators in Grades 6 through 12 (directly informed by attending PCOR Partnership presentations; if educators do classroom activities, then students are informed as well).

- Opinion leaders (informed mainly by personal contact with the EERC and the PCOR Partnership).

Educators (Grades 6 through 12)

Educators represent members of communities, a source of classroom activities and feedback on nature and quality of outreach materials, and mentors of today's youth – the group which will experience the low-carbon-energy world that carbon sequestration and other carbon management options will help create.

As shown in Table 6, the PCOR Partnership has provided outreach to teachers on a consistent annual basis through participation in existing regional teacher workshops. This direct contact has been supported by information on the public Web site and educator Web sites like PBS Learning Media, North Dakota Studies, and PPB. To date, the PCOR Partnership has provided presentations to and/or placed materials with teachers representing 80% of the school districts in North Dakota and 25% of the districts in the overall PCOR Partnership region. Figure 8 shows that the distribution includes the area with high storage potential in the United States, areas where carbon footprints would be affected by the adoption of geologic storage (e.g., central Minnesota), areas near storage potential in adjacent partnership regions (e.g., western Nebraska and the Denver Basin, Missouri and the Illinois Basin), and areas without significant geologic storage potential.

In BP5, the outreach team will continue to collaborate with teachers to develop activities that use the PCOR Partnership's outreach materials in the classroom and solicit feedback to improve the materials and activities. Distribution pathways will continue to include the Web as well as meetings of the North Dakota Science Teachers Association; the North Dakota Lignite Energy Council's teacher seminar in Bismarck, North Dakota; and venues provided through PPB's Education Services Group.

Table 6. Materials Distribution at Educator Events

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Geographic Alliance				X		X				
Keystone	X									
Lignite Energy Council	X	X	X	X	X	X	X	X	X	X
Missouri Minerals Education Foundation				X						
Teacher Workshop										
National Sequestration Education Center						X				
North Dakota Petroleum Council	X	X	X	X						
North Dakota Science Teachers Association	X	X	X	X	X	X	X			
Teacher Training Institute			X	X	X	X	X			

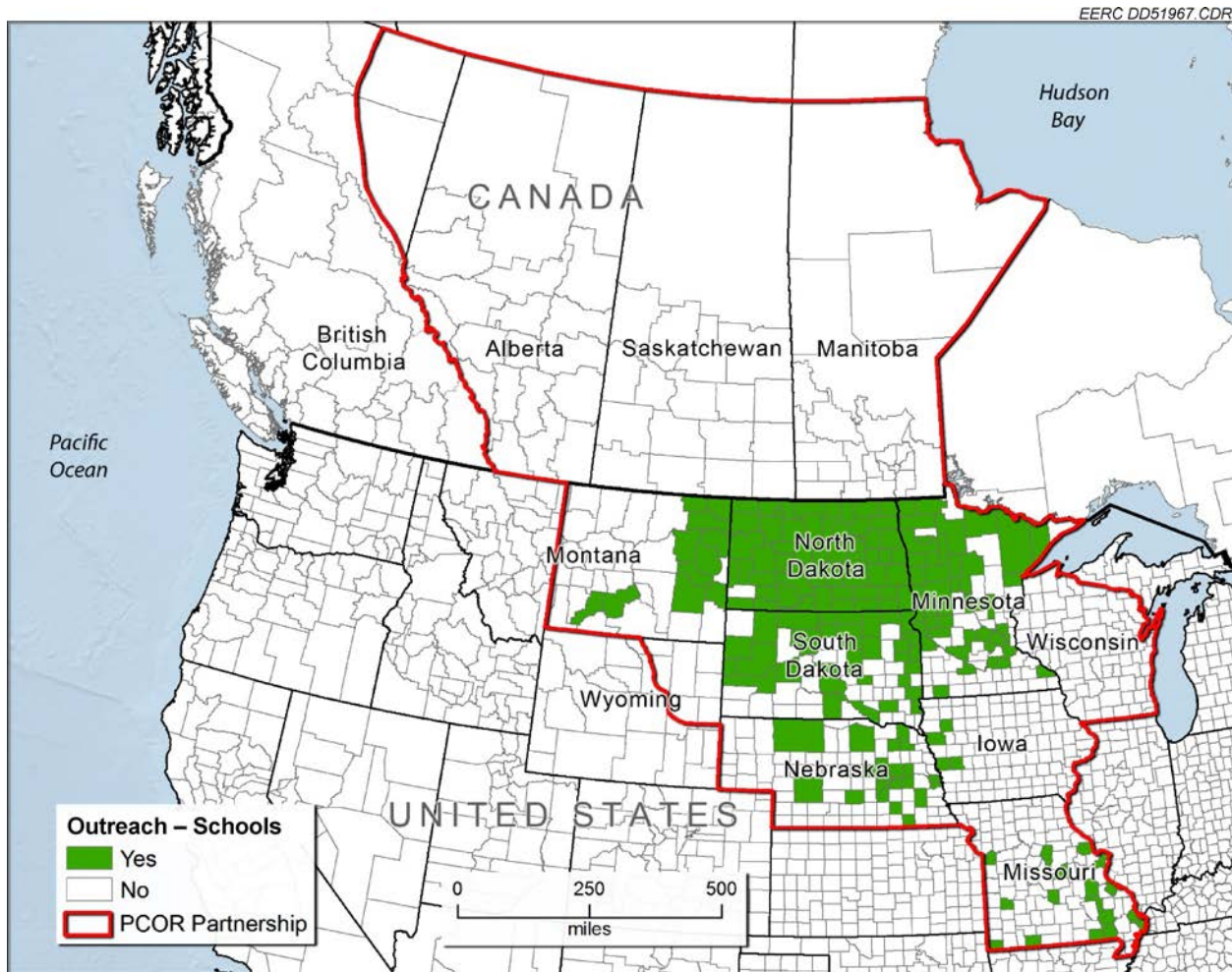


Figure 8. Areas represented by educators who have attended a PCOR Partnership outreach presentation or received outreach materials from the PCOR Partnership.

To date, educator activities in the Canadian portion of the region have been indirect for the most part. In BP4, the PCOR Partnership provided comments on a climate change curriculum that was being implemented in Regina, Saskatchewan, Catholic schools. The partnership joined the Global Carbon Capture and Storage Institute (GCCSI) and PTRC in working with SaskPower to plan school activities related to the Boundary Dam plant kickoff. During BP5, efforts will continue to identify opportunities to work with educators in the Canadian portion of the region.

Teacher-related activities will be documented, entered into the OIS, and reported on a quarterly basis.

Opinion Leaders

Opinion leaders play a key role in information transfer by sharing information with their peers and stakeholders. Opinion leaders include members of state and local government, technical community business groups, and nongovernment organizations (NGOs).

In BP5, communication with opinion leaders will continue to be accomplished mainly through one-on-one outreach conducted by EERC staff. This activity also encompasses presentations at state or municipal government meetings, state or regional chamber of commerce meetings, service clubs, educational group meetings, and meetings with editorial boards of major regional newspapers. A typical information packet would include documentary DVDs, an atlas, fact sheets, and copies of the presentation if appropriate.

PCOR Partnership personnel will document these outreach activities quarterly, enter the information into the OIS, and report on significant activities and materials distribution on a quarterly basis.

The members of the PCOR Partnership are considered a critical subset of the opinion leaders in the region. Members represent state and federal agencies and regulatory groups, energy production companies, major stationary CO₂ sources, higher education, research groups, and energy/environment/ethnic NGOs. These groups and their representatives are relatively well informed regarding carbon, energy, environmental, and economic issues, particularly in their specialty areas, when compared to the general public.

Outreach to members and potential members, as with other opinion leaders, falls mainly to the PCOR Partnership's senior management and to the leads on the tasks directly related to the members' interests. This effort helps to maintain awareness of trends and opportunities and technical developments as well as to foster communication and community. Formal PCOR Partnership outreach activities include ongoing communication to partners and prospective partners as well as the PCOR Partnership Annual Membership Meeting.

In BP5, the 2-day PCOR Partnership Annual Membership Meeting will continue to be held each fall and will continue to be geared for members and prospective members. Based on past experience, two-thirds of the member organizations are expected to send representatives. Each year, the meeting features approximately 12 hours of presentations by PCOR Partnership leaders, members, and invited speakers. The meeting also features several side meetings focused on technical activities. The meeting will continue to be held in different locations in the region of the PCOR Partnership each year in order to highlight regional developments and issues and in an effort to optimize attendance. Consideration is under way for an expanded meeting format to look back at achievements and consider the future as the members mark the end of the formal stage of the 15-year PCOR Partnership collaborative effort.

PUBLIC WEB SITE

The Web is currently available to 85% of homes in the United States and Canada, and there is growing access through mobile devices. Given this, the PCOR Partnership views the Web site as an information backstop for all audiences and levels of information delivery and as a one-stop shop for accessing and downloading outreach and background materials. The public Web site is a DOE requirement, and the PCOR Partnership Web site has been online since June 2004.

In the period leading up to BP5, the main focus has been twofold: cost-effective upgrades to the public Web site and the development of robust, informative tracking capability. Significant activity since the last OAP include:

- Developing and implementing 32 new Web pages.
- Implementing comprehensive tracking via Google Analytics for visitor interactions with all Web site elements, including Web pages, PDFs, and videos.
- Upgrading the host video server to Adobe Media Server for improved streaming and video tracking capability.
- The addition of new outreach materials (six project fact sheets, four Water Working Group fact sheets, and three project-related posters, 21 new video clips, and one documentary).
- Establishment of a standard operating procedure (SOP) for Web development and programming aimed at improved efficiency and tracking capability.

Figure 9 illustrates the origin of Web traffic from within the region, and Figure 10 shows historical visitor traffic from the region as well as from outside the region.

Activities in BP5 will focus on updating project-related content and the overhaul of several of the top-visited pages. Outreach products will be updated and replaced as needed, and new materials will be added as scheduled.

Improved and refined tracking will continue to be a priority in BP5. Search engine optimization in which actions are taken to improve the ability of visitors to identify the site based on key words will be a priority.

Web activity will continue to be documented on a quarterly basis, entered into the OIS, and reported quarterly.

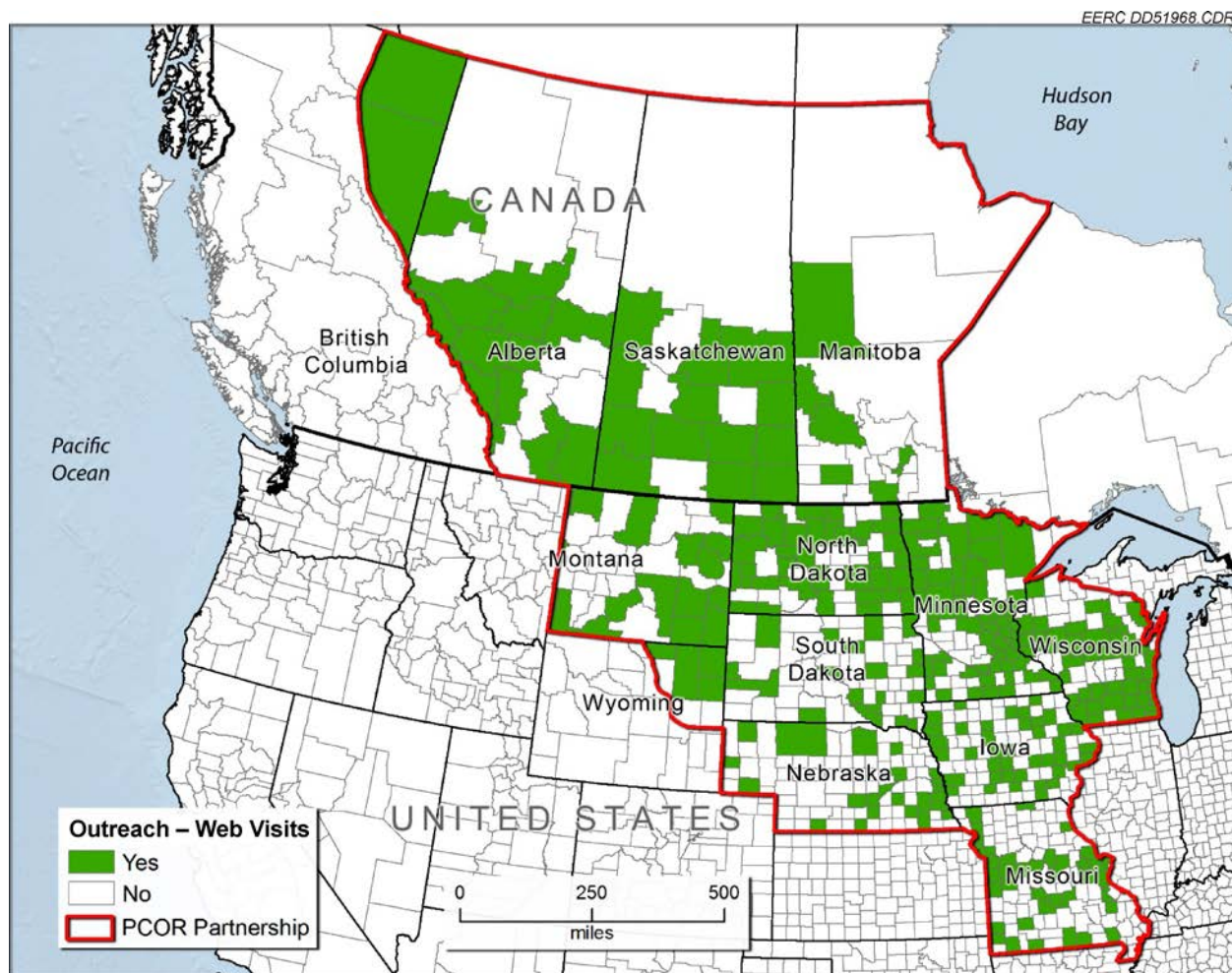


Figure 9. Origin of Web traffic for the region.

TRACKING AND REPORTING

Reporting of outreach activities and material distribution will continue on a quarterly and annual basis in accordance with the outreach reporting SOP. This SOP provides written instructions on where specific information is located and how to access it from the different areas of the OIS. Many of the different sections in these reports have been programmed to generate standardized reports to streamline the reporting process, which assists in QA/QC of the data being reported. Standardized reports exist for outreach venues, presentations given, outreach materials distributed, and broadcasts televised; specific audience types can be generated from the Outreach Tracking System; and Web site data are reported using Google Analytics software. The SOP also outlines how to extract specific data and the format needed to be GIS (geographic information system)-compatible to produce various thematic maps which are not only used for reporting but also for presentations and other outreach materials.

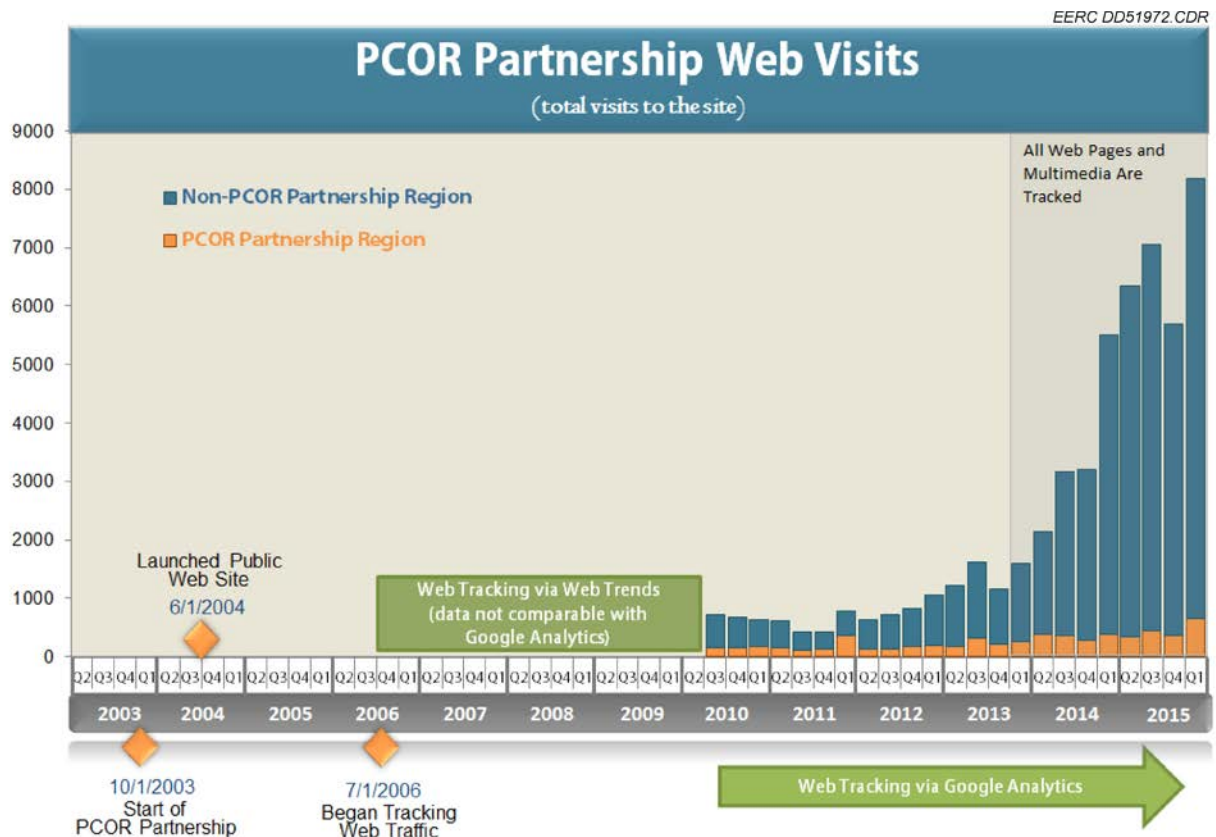


Figure 10. Graph showing public Web site traffic on a quarterly basis from 2010 to the outset of BP5.

SUMMARY

This OAP provides a framework for the 33 months of the PCOR Partnership Phase III BP5 activities for Task 2, Outreach and Education. The plan shows how the deliverables and activities under the eight subtasks of Task 2 will continue to meet DOE's goals for outreach by delivering materials and information to several audiences in the PCOR Partnership region defined either by geography or by their key roles in society. Further, the plan shows how the Web will continue to be used as a one-stop shop for information and materials for all audience types. Finally, the report shows how Task 2 will continue to document and track outreach material and activity development, distribution, and feedback as a means of evaluating program efforts and improving outreach in the future.

APPENDIX A

**SPATIAL FRAMEWORK AND
DEMOGRAPHICS**

SPATIAL FRAMEWORK AND DEMOGRAPHICS

The Plains CO₂ Reduction (PCOR) Partnership region includes all or part of nine states (Iowa, Minnesota, Missouri, Montana, Nebraska, North Dakota, South Dakota, Wisconsin, and northeast Wyoming) and four Canadian provinces (Alberta, Manitoba, Saskatchewan, and British Columbia). This is an area of 1.4 million square miles (353 million hectares) and corresponds to 18% of the combined land mass of the United States and Canada. Outreach approach, planning and implementation, and evaluation require a geospatial framework that can accommodate the social and geologic character of the region. The map shown in Figure A-1 contains the political boundaries and geologic basins needed to frame outreach at the most fundamental level in the PCOR Partnership region.

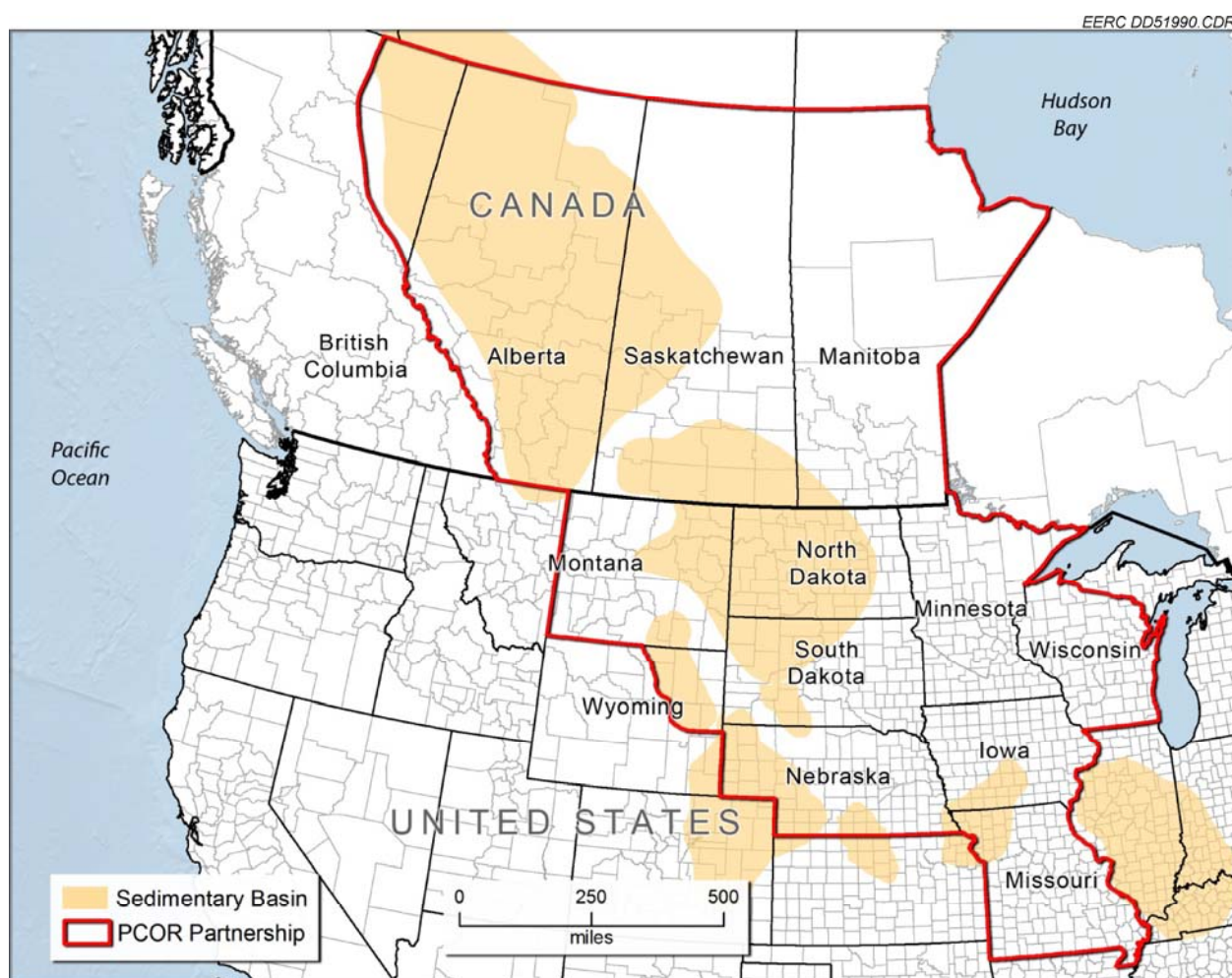


Figure A-1. Map of PCOR Partnership region showing significant political boundaries and geologic basins.

The PCOR Partnership region is divided into 23 outreach sectors, as shown in Figure A-2. These sectors are subregions defined on the basis of demographic criteria and carbon storage

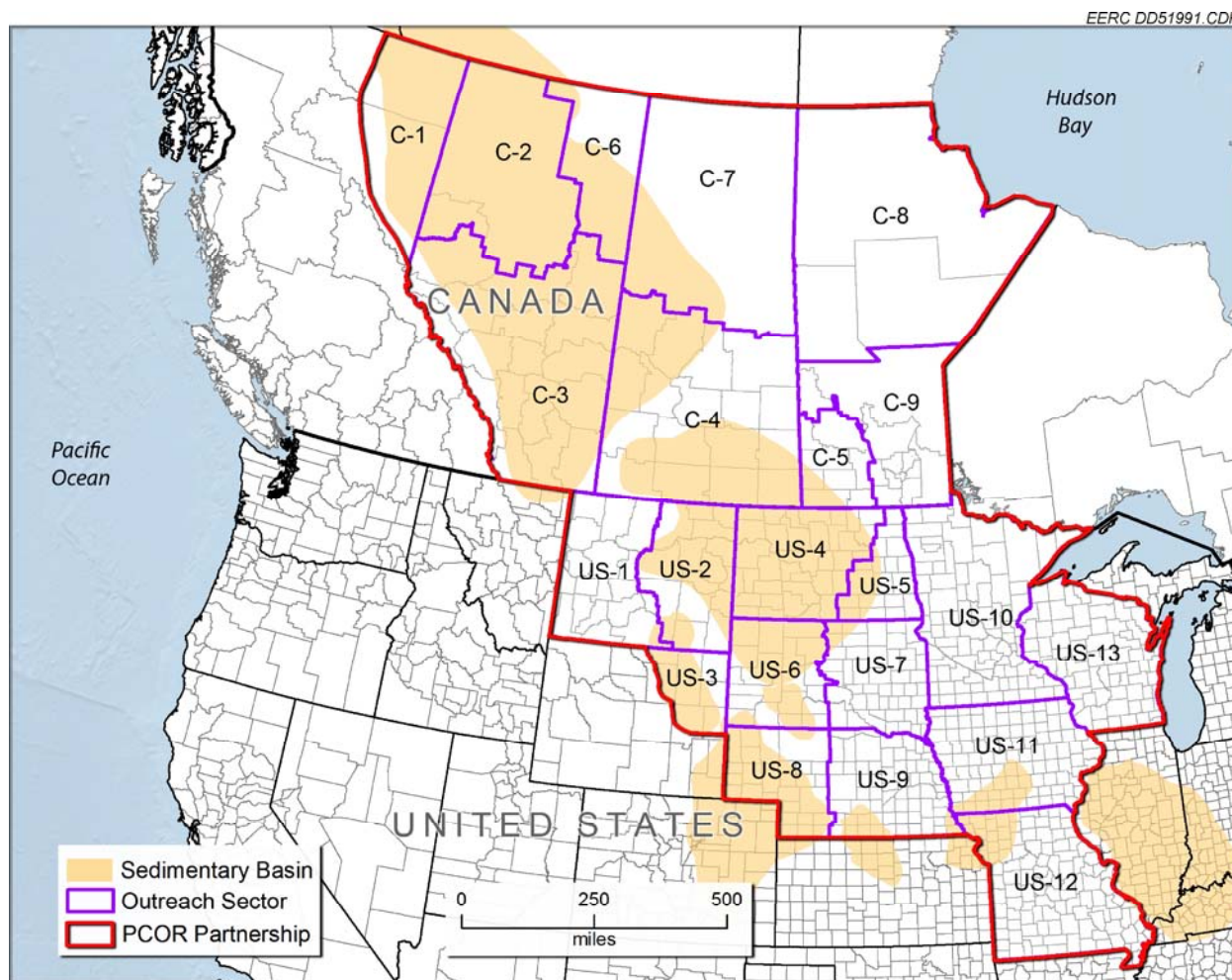


Figure A-2. Map of the 23 outreach sectors showing their correspondence to geologic basins within or adjacent to the PCOR Partnership region.

potential. The sectors are divided into Region A (west) and Region B (east), as shown in Figure A-3, and are described in more detail below.

Region A includes sectors in the Canadian provinces of British Columbia, Alberta, and Saskatchewan as well as sectors in the U.S. states of North Dakota (west), South Dakota (west), Nebraska (west), Montana (east), and Wyoming (northeast). These areas contain geologic basins that produce fossil energy. These areas are energy resource exporters (including coal in the form of electricity and syngas). Further, Region A coincides with areas where people “live with” energy resource extraction, refining, and conversion activities. Because of the geologic setting (geologic strata of the depth and nature appropriate for consideration for the geologic storage of anthropogenic CO₂), Region A contains the sites for the three geological CO₂ storage Phase II verification tests as well as a number of commercial-scale geologic storage projects, including the Bell Creek Phase III demonstration project. This region contains 47% of the PCOR Partnership region’s land area and about 22% of the region’s population.

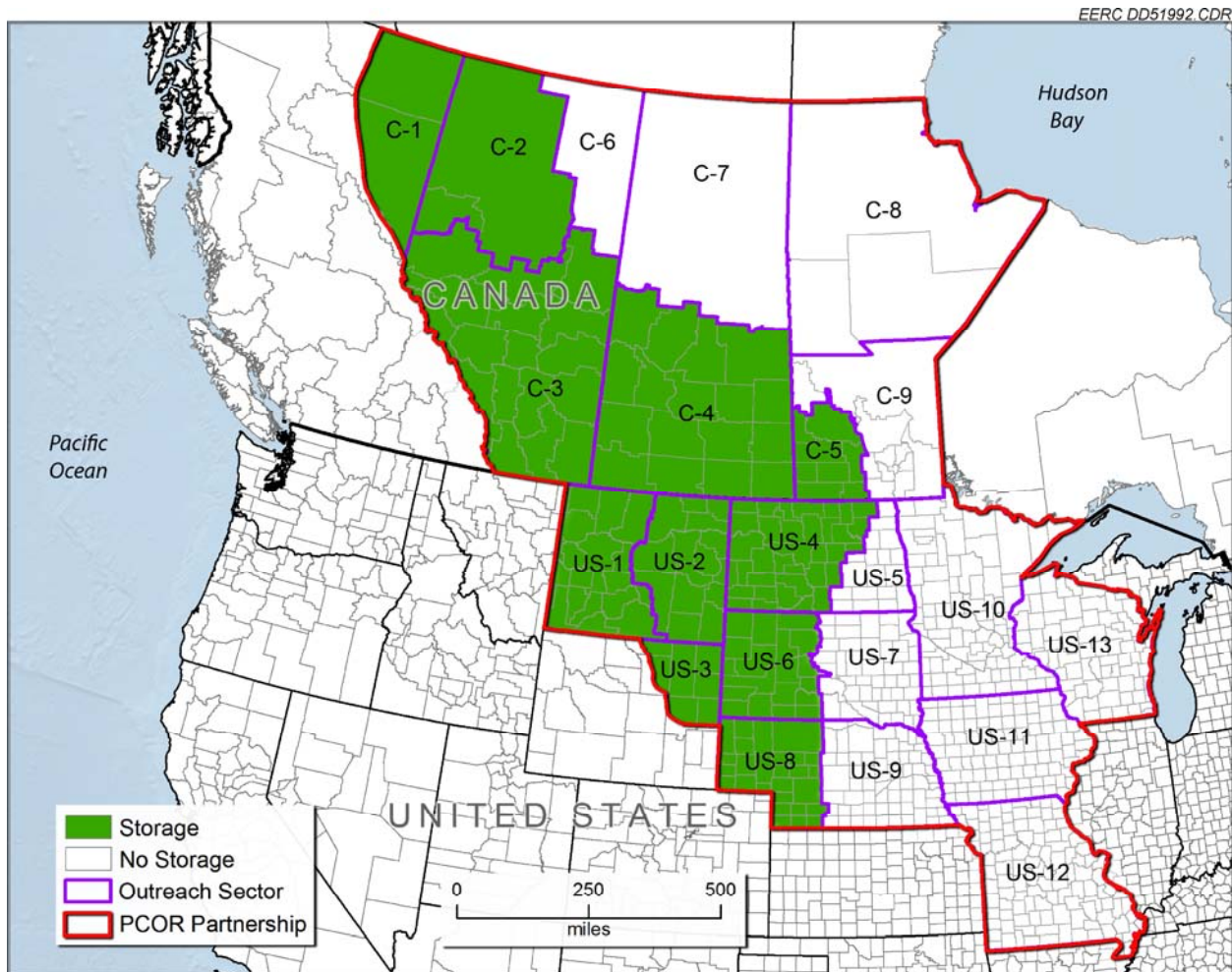


Figure A-3. PCOR Partnership divided into 23 outreach sectors, with areas in green (Region A) having storage potential.

Region B includes outreach sectors in the U.S. states of Minnesota, Wisconsin, Iowa, Missouri, Nebraska (east), North Dakota (east), and South Dakota (east). In Canada, Region B includes sectors that correspond to northeastern Alberta, northern Saskatchewan, and the majority of Manitoba. For the most part, Region B is an importer of energy resources (including coal in the form of electricity). This region contains many sites related to the partnership's terrestrial verification test but has few possibilities for geologic storage. This region accounts for 53% of the PCOR Partnership region's land area and over 78% of its population. This region also contains the bulk of the urban population and is the source of most of the economic output generated within the overall PCOR Partnership region.

The border between Canada and the United States cuts laterally across the geologic, land use, and economic characteristics that differentiate and define Regions A (west) and B (east). The result is northern and southern politically defined regions that differ in national policy and regulatory regimes.

The population of the PCOR Partnership region is shown in Table A-1. The Canadian area contains 40% of the region's land area and 20% of the region's population, while the U.S. portion contains 60% of the land and 80% of the population. The Canadian area accounts for 17% of the total Canadian population, 20% of its land area, and 22% of its gross domestic product (GDP). The U.S. area contains 8% of the total U.S. population, 16% of the land area, and 7% of its GDP. It should be noted that the Canadian portion of the region accounts for 40% of Canadian CO₂ emissions (all sources), and the U.S. area accounts for 9% of U.S. emissions (all sources).

The population density within the PCOR Partnership region is shown in Figure A-4. The U.S. portion of the region contains about 24 million inhabitants, and 88% of the population lives in metropolitan or micropolitan population centers as defined by the U.S. Office of Management and Budget (www.prb.org/Articles/2003/CensusBureautoTrackBothMetroandMicropolitanAreas.aspx). The Canadian portion of the region contains approximately 6 million inhabitants; 77% of the population lives in the equivalent of metropolitan or micropolitan population centers.

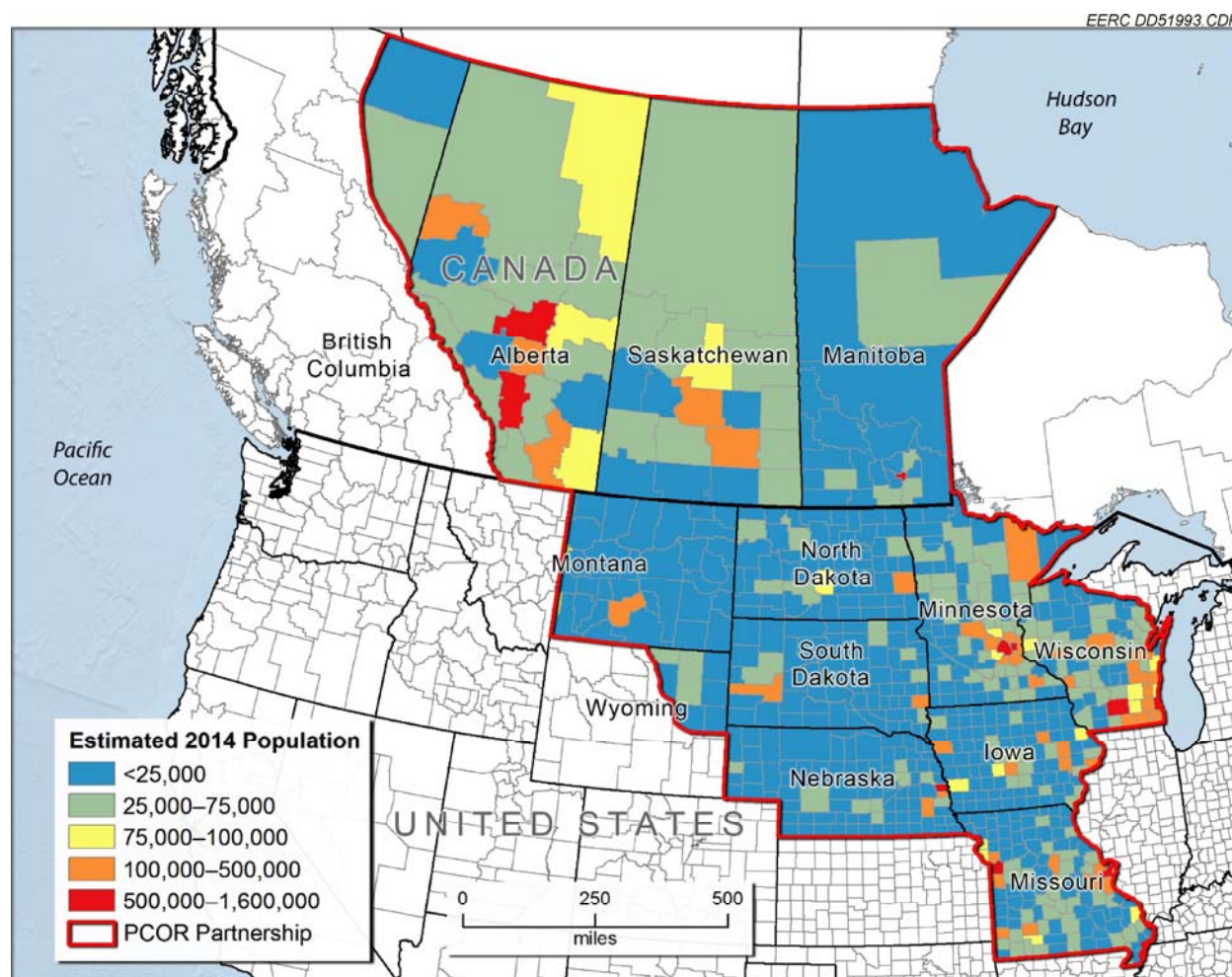


Figure A-4. Population density within the PCOR Partnership region.

Table A-1. PCOR Partnership Region Population (2014 estimates)

State/Province	Census (estimated)	Population¹	Percent of Population
Iowa	2014	3,107,126	9.97
Minnesota	2014	5,457,173	17.50
Missouri	2014	6,063,589	19.45
Montana ²	2014	525,773	1.69
Nebraska	2014	1,881,503	6.03
North Dakota	2014	739,482	2.37
South Dakota	2014	853,175	2.74
Wisconsin	2014	5,757,564	18.47
Wyoming ²	2014	192,357	0.62
U.S. Subtotal	2014	24,577,742	78.83
Alberta	2014	4,121,692	13.22
British Columbia ²	2014	70,796	0.23
Manitoba	2014	1,282,043	4.11
Saskatchewan	2014	1,125,941	3.61
Canada Subtotal	2014	6,599,941	21.17
Total PCOR Partnership		31,177,683	100.00

¹ Based on U.S. Census data and Statistics Canada data.

² Based on the portions of these areas included in the PCOR Partnership region.

REFERENCES

Scommegna, P., 2003, Census bureau to track both metro and ‘micropolitan’ areas: www.prb.org/Publications/Articles/2003/CensusBureautoTrackBothMetroandMicropolitanAreas.aspx, (accessed January 2008).

APPENDIX B

OUTREACH PROCESS FRAMEWORK

OUTREACH PROCESS FRAMEWORK

Outreach activities and materials are conceived of, developed, distributed or implemented, and evaluated under a formal process framework. The framework is based on Macnamara's classic pyramid model of public relations research (Figure B-1; see Watson and Noble, 2007, p. 85) as a basis for developing an outreach process framework. Macnamara's model involves three stages attendant steps and organized as follows:

- Inputs – Formative research (development inputs and feedback)
- Outputs – Process and program evaluation (product dissemination or reach)
- Outcomes – Functional and organizational evaluation (outcomes or impacts)

The PCOR Partnership framework, shown in Figure B-2, has three stages: inputs, outputs, and outcomes. Within this process framework, products such as the Web pages, fact sheets, outreach posters, documentaries, and video clips (see Appendix E, Table E-1) are individually documented and characterized with respect to development path, recognition, update history, and distribution or degree of visibility. In select cases, their outcomes are also characterized. The process is iterative, with feedback and lessons learned incorporated into product updates and/or subsequent events and activities.

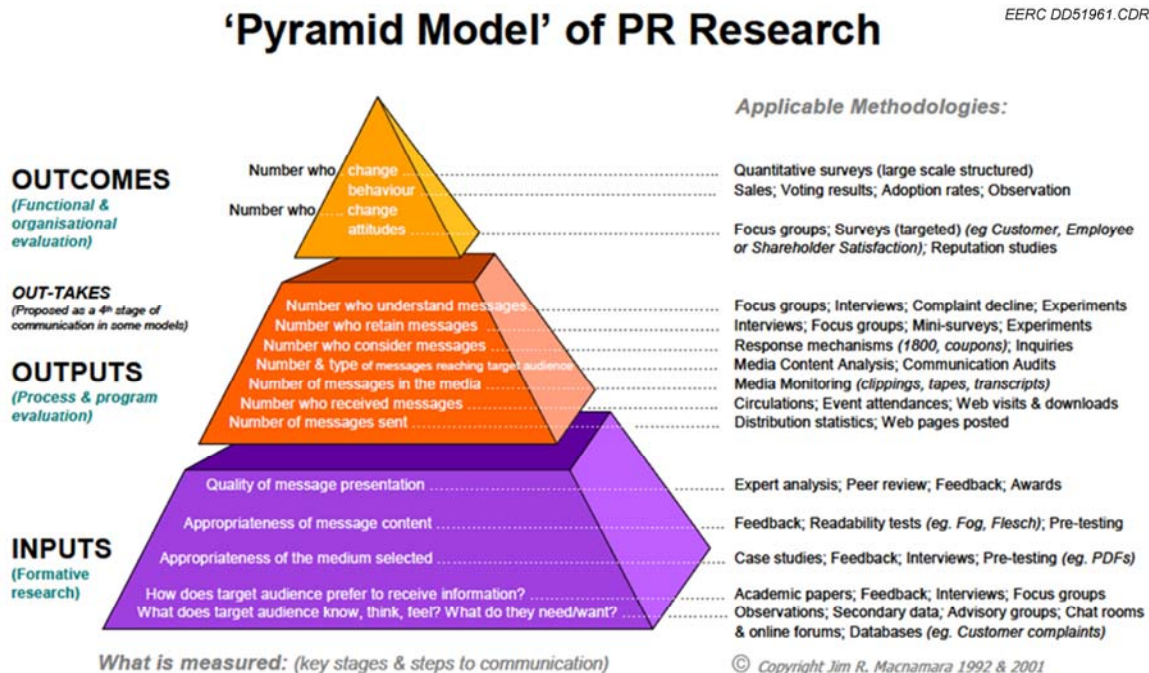


Figure B-1. Macnamara's pyramid model of public relations research.

Table B-1. Modified Outreach Process Approach Used by the PCOR Partnership

Stage	Item	Sample Applicable Method/Action	PCOR Partnership Actions
Inputs (research and development)	Outreach product or activity concept	Focus group, survey, advisors, incorporating lessons learned	Advisors, select use of audience focus groups, building on program and peer experience
	Refining product or activity	Focus groups, research, testing, experts	
	Audience or audience proxy perception or recognition	Awards, endorsements, feedback	Track awards, anecdotal feedback, formal feedback
Outputs	Product distribution, activity reach	Tracking of number, location, and type	Track web visits, television broadcasts, product distribution, presentations; quarterly review and reporting
Outcomes	Change in level of audience knowledge or outlook	Tracking, survey, focus group	Feedback from select audiences

INPUTS AND FEEDBACK

Input during the formative research stage takes the form of in-house discussions by the product development team and feedback from nontechnical audience proxies through formal or informal focus groups. Based on past experience, focus groups may be composed of EERC nontechnical staff, master teachers recruited through Prairie Public Broadcasting's Education Services group, or members of the general public.

With respect to outcomes, feedback will continue to be solicited during and following presentations and for individual outreach products. In BP5, the PCOR Partnership will make increased use of real-time audience feedback systems (e.g., clicker audience response systems).

OUTPUTS AND TRACKING

Outreach activities and distribution of materials are now tracked in greater detail in an effort to characterize distribution of materials and reach of outreach activities and information sources. Improvements will continue to be made in reporting and presenting results. Outreach products distribution tracking is reported on a quarterly and annual basis. Because of concerns over cost/benefit, efforts to track contact hours with partners and potential partners have been

discontinued. Even so, basic information for presentations to peers and the public will continue to be collected, including meeting location, PCOR Partnership staff represented, number of attendees, and outreach tools utilized. Any outreach done with the other key audiences identified in this plan, as well as with the general public, will continue to be tracked and summarized. Specific activities are detailed below:

- **Outreach Products and Activities** Prior to 2010, outreach material distribution was tracked at a high level, with only product type and number of products distributed recorded. To provide a basis for more detailed tracking, a form was developed to document key audiences and the products they received. Currently, information is collected on a regular basis regarding meeting place, PCOR Partnership staff represented, presentations given, number and type of attendees, and materials disseminated. The Outreach Tracking Database (OTD) was created to store and process the information recorded on the tracking forms. The OTD generates standardized reports used for quarterly and annual reporting. The OTD brings together contact information and recipient type (general public, landowner, educator, and library) with geographical information for creating GIS (geographic information system) maps. Product distribution can then be visually displayed by different variables such as region and recipient type.
- **Public Web Site** All PCOR Partnership materials are uploaded onto the public Web site. Web site analytics¹ are used in order to track and evaluate visitor behavior. Analytics-monitoring software is used to measure online performance through user interactions, and from this visitor behavior, trends can be inferred. Google Analytics (GA) Universal, a free product offered by Google, is used on the public Web site to provide standardized data analysis on user interaction as well as the basis for focused, in-depth research into visitor behavior. Reports focus on three topics: 1) audience – who is coming to the PCOR Partnership Web site? 2) traffic sources – where is the audience coming from? and 3) content – what content is being viewed?
- **Subcontractor Venues** As required in its subcontract, Prairie Public Broadcasting (PPB) will continue to provide information on documentary broadcasts at the market level within its broadcast region as well as the remainder of the PCOR Partnership region and the United States. PPB will also report on its YouTube channel activity for documentaries and film clips and the distribution of education products through Web and conference venues (e.g., PBS Learning Media, North Dakota Studies Web site).
- **Media Coverage** Media coverage is defined as reports or articles related to the PCOR Partnership covered on external outlets such as television or radio or found in newspapers or magazines, including both print and online news sources. Prior to 2016, media coverage was tracked internationally though the news service utilized by the University of North Dakota. This service has been discontinued, and at present, the outreach team uses Google Alerts notification to track PCOR Partnership-related news available through online pathways.

¹ The field of data analysis. Analytics often involves studying past historical data to research potential trends to evaluate the performance of a given tool or scenario (Business Dictionary, 2014).

OUTCOME AND IMPACT

In total, communication involves introducing information, hearing and comprehending it, and then acting on the information. People can be exposed to information but not incorporate it, be affected by it, or act on it. The PCOR Partnership is focused on exposing stakeholders to information but does not measure its impact. This is because of the fact that the quality of communication is known to vary across the spectrum of delivery pathways of the type used in the PCOR Partnership's outreach efforts. In addition, the PCOR Partnership's ability to cost-effectively quantify the outcome of the communication varies by pathway. As a result, the PCOR Partnership will continue to gather feedback from in-person presentations to select audiences (including the gathering of feedback via clicker systems). However, the PCOR Partnership has not planned any formal surveys or focus groups. Hence, no attempt will be made to define an opinion baseline and then to measure the effectiveness of attempts at information transfer with respect to that baseline for an audience segment overall or for a segment within a particular region.

REFERENCES

- Business Dictionary, 2014, www.businessdictionary.com/definition/analytics.html#ixzz36KCBUmy8 (accessed June 2014).
- Watson, T., and Noble, P., 2007, *Evaluating public relations—a best practice guide to public relations planning, research, and evaluation* [second ed.]: Philadelphia, Kogan Page US, 252 p.

APPENDIX C

OUTREACH INFORMATION SYSTEM

OUTREACH INFORMATION SYSTEM

The Plains CO₂ Reduction (PCOR) Partnership Outreach Information System (OIS) contains information needed to plan, track, and assess outreach actions as well as to produce thematic maps and other products to aid in reporting and outreach activities, including the Web site, PowerPoint presentations, fact sheets, and documentary products both at the regional and project level. Three components make up the OIS:

Table C-1. Three-Part OIS

Outreach Information System		
<p>Background Characterization</p> <ul style="list-style-type: none"> • Outreach Product Character and Distribution Plan • CCS Projects • Libraries • Natural CO₂ Sources • Newspaper • Population Data ♦ Broadcasting Areas ♦ Counties/Municipality ♦ Library Service Population ♦ Newspaper Circulation ♦ Schools and School Districts • School and School Districts • Shale Plays • Underground Gas Storage Facilities 	<p>Product/Activity Character and Tracking</p> <p><u>Outreach Tracking Database:</u></p> <ul style="list-style-type: none"> • PBS Broadcasts • Materials to Libraries • Materials to Educators • Materials to Other Audiences/Repositories • Product Inventory • Presentation Venues • Audience Type <p><u>Other:</u></p> <ul style="list-style-type: none"> • Media Coverage • Web Visits, Pageviews, Traffic <p><u>Sources</u></p> <ul style="list-style-type: none"> • Energy & Environmental Research Center (EERC), Prairie Public Broadcasting (PPB), and YouTube Channels 	<p>Spatial Analysis (GIS¹ layers)</p> <ul style="list-style-type: none"> • Broadcast Areas • CCS Projects • Libraries • Print Media Coverage Areas • Natural CO₂ Deposits/Sources • School and School Districts • Shale Plays • Web Visit Source Areas • Underground Gas Storage Facilities • Political Jurisdictions • Geologic Provinces • Stationary CO₂ Sources •

¹ Geographic information system.

Three components make up the OIS:

- **Background Characterization** consist of key demographic variables, outreach product character and distribution methods, distribution networks, and other information to aid in planning and assessment of outreach activities. Data are housed in multiple spreadsheets for easy update and then imported into the Outreach Tracking Database, GIS software, or left in spreadsheet format (depending on function and usability). Regardless of where the information is managed, all data are GIS-compatible. Data are updated and quality assurance/quality control (QA/QC) performed periodically.

- **Product/Activity Character and Tracking** involves tracking all outreach activities and distribution of materials in an effort to characterize outreach efforts. All outreach activities are entered into the Outreach Tracking Database. Information collected includes meeting place, PCOR Partnership staff represented, presentations given, number and type of attendees, and materials disseminated. The database brings together contact information and recipient type (general public, landowner, educator, and library) with geographical information. Also tracked in the database are the number and location of broadcasts aired by PPB. Other tracking activities that are managed in separate spreadsheets include PCOR Partnership media coverage (print, online, radio, and televised) and Web site activity (visits, pageviews, and traffic sources).
- **Spatial Analysis (GIS layers)** provides for the ability to use GIS software (i.e., ArcGIS) to relate data to location or area definition. In other words, housing the latitude, longitude, and/or shapefiles (e.g., school districts), which allow multiple layers to be created, analyzed, and displayed.

APPENDIX D

AUDIENCES, MESSAGES, AND PERSONNEL

AUDIENCES, MESSAGES, AND PERSONNEL

Appendix D contains a general characterization of the key outreach audiences, messages, and personnel and their roles.

PARTNERS AND PROSPECTIVE PARTNERS

The current and prospective members of the Plains CO₂ Reduction (PCOR) Partnership represent the technical, investment, oversight, and evaluation expertise critical to the success of sequestration in the region. Partner organizations and prospective member organizations are relatively well informed, particularly in their specialty area, compared to the general public. These groups include the following:

- State and federal regulatory groups
- Energy extraction and refining
- Energy transportation
- Electrical utilities
- Other large stationary sources like cement-manufacturing and ethanol plants
- Higher education
- Research groups
- Energy/environmental nongovernmental organizations

Public (regional)

For the purposes of outreach to the general public across the region, the following are the key audiences and approach:

- General public (informed by products placed in the regional-level media)
- Youth in Grades 6 through 12 (informed by science educators, mainly in the area centered in North Dakota)
- Landowners (informed by products placed in the regional-level media)
- Opinion leaders (informed by personal contact with the EERC and PCOR Partnership partners)

Public (demonstration site)

For the purposes of outreach to the general public in the regional area of the demonstration sites, the following are the key audiences and the groups that influence them:

- General public (informed by products placed in the media)

- Youth in Grades 6 through 12 (informed by science educators)
- Landowners (informed by personal contact with the EERC and PCOR Partnership partners)
- Opinion leaders (informed by personal contact with the EERC and PCOR Partnership partners)

MESSAGES

Several key themes are included in the messaging utilized to achieve the goals. One set of messages serves to promote awareness of the PCOR Partnership itself and incorporates messages concerning the PCOR Partnership as a primary source of information on CO₂ management in the region. It explains that the partnership is part of a national U.S. Department of Energy program and what the PCOR Partnership is doing in this region compared to what the other partnerships are doing in their regions.

Another set of themes deals with sequestration as a strategy for managing carbon. These themes are illustrated through the following talking points:

- Carbon management is coming, and sequestration is a critical component.
- Successful carbon management depends on balancing need for energy, health of the environment, and health of the economy.
- Geologic carbon sequestration (carbon capture and storage) using anthropogenic CO₂ is built on the 30 years of experience with CO₂ flooding in oil fields using natural CO₂.
- Our region has optimal sites for geologic sequestration (the region in general is optimal and has areas that meet the criteria as site candidates).
- Our region is already implementing commercial projects in anthropogenic CO₂ sequestration (e.g., the Weyburn and Apache projects) and will continue to develop suitable opportunities.
- The PCOR Partnership brings together the experience needed to plan and implement successful sequestration projects.
- Sequestration means economic opportunity for the agriculture and energy sectors and new projects in CO₂ storage.
- Everyone has a role to play in reducing carbon.

These themes and others are adapted to the needs of each audience served by the PCOR Partnership outreach activities and products.

PERSONNEL AND ROLES

Everyone in the PCOR Partnership project has a role in outreach. The major roles, including relationships to audiences, are shown in Table D-1.

Table D-1. EERC PCOR Partnership Personnel and Activities Related to Outreach

Name/Position	Primary Audiences	PCOR Partnership Outreach Activities¹
John Harju VP for Strategic Partnerships	Opinion leaders, media, partners, test and demonstration partners	Press spokesperson, legislative briefings, partners and potential partners, editorial boards, external audiences and media
Ed Steadman VP for Research	Opinion leaders, media, partners, test and demonstration partners	Partners and potential partners, technical conferences, technical organizations
Charlie Gorecki Director of Subsurface R&D	Opinion leaders, test and demonstration partners, technical audiences	Partners and potential partners, technical conferences, technical organizations; lead on review and approval of outreach products and activities
Wes Peck Principal Geologist, Geosciences Group Lead	Demonstration and field project partners, technical audiences	Lead on atlas, technical support for outreach information system, creative lead on technical graphics, augments outreach to state agencies and partners.
Loreal Heebink Senior Project Management Specialist	DOE, PCOR Partnership personnel	Chief point of contact (POC) for contractual updates to DOE and for internal communications
Janelle Ensrud Assistant to VP for Research	Public, partners, and potential partners	POC for product preparation in the EERC system and with DOE; POC for outreach product distribution
John Hamling, Larry Pekot, and Jim Sorensen Leads/Liaisons for PCOR Partnership Demonstrations and Activities with other Carbon Capture and Storage Projects	CCS demonstration partners, partners on other CCS projects	POCs for augmenting partner outreach or Fort Nelson feasibility project, British Columbia (Spectra), Aqistore project, Saskatchewan (Petroleum Technology Research Centre [PTRC], SaskPower), and Bell Creek Field, Montana (Denbury); partners and potential partners, technical conferences and workshops, technical organizations, partner outreach requests
Jib Wilson Regulatory Specialist	Regulatory community	Liaison with regulatory community; lead on annual CCS focused Regulatory Roundup meeting
Barry Botnen Hydrologist, Oilfield Operations Group	Demonstration site landowners	POC for landowner interaction for water and soil gas sampling and related activities at Bell Creek demonstration site
Dan Daly Senior Geologist, Outreach Task and Team Lead	General public, select audiences; liaison with PCOR Partnership team and outreach advisory and working groups	Presentations (workshops, NGOs [nongovernmental organizations], educators, students, community groups); lead author on fact sheets, Web pages, coauthor on documentaries, PowerPoint, and posters; lead on planning, management, and reporting
Janet Crossland Research Scientist; Lead for Outreach Task Tracking and Tracking Support Subtasks	PCOR Partnership team, EERC support groups	Tracking protocols, tracking implementation and protocol quality assurance/quality control (QA/QC); search engine optimization; data management; maintains and updates OIS and Outreach Tracking Database; liaison to Web programming on tracking issues

¹ All take part in development and review of outreach materials and presentations and in gathering feedback for optimizing outreach materials as coordinated by the outreach team.

Continued . . .

Table D-1. PCOR Partnership Personnel and Activities Related to Outreach

Name/Position	Primary Audiences	PCOR Partnership Outreach Activities¹
Charlene Crocker Research Scientist; Lead for Outreach Task Web, Video, and Education Subtasks	PCOR Partnership team, EERC support groups, Select audiences	Documentary development, educational material development, Web content and format development; Web programming liaison; IP (intellectual property) issues, lead on development and QA/QC for operating procedures
Derek Walters EERC Communications Lead	General public and audience segments via media outlets	Press releases; media pieces in collaboration with program management, technical and outreach task personnel

¹ All take part in development and review of outreach materials and presentations and in gathering feedback for optimizing outreach materials as coordinated by the outreach team.

APPENDIX E

OUTREACH MATERIALS

OUTREACH MATERIALS

Table E-1 is a summary of the more than 53 outreach materials in ten product categories developed or scheduled for development under the Plains CO₂ Partnership (PCOR) Program Phases I, II, and III. The outreach materials include the following:

- Over 20 fact sheets
- Seven, broadcast quality original documentaries on key sequestration topics (DVDs)
- A variety of short video segments to support PowerPoint and Web applications
- Newspaper articles
- A 80+-page public Web site
- A 122-page, full-color regional sequestration atlas
- PowerPoint presentations for general audiences and project-specific audiences
- A display booth
- General sequestration and project-specific posters
- Press releases

Two-thirds of the materials developed for the project remain in use, as indicated in Table E-1. The materials in development or being updated during Budget Period (BP)5 are in orange font in Table E-1. These materials are intended for the use of the PCOR Partnership team and partners and are available to the other U.S. Department of Energy partnerships.

Table E-1. Outreach Materials (Phases I–III)

Designation	Product¹	Availability Date
Fact Sheet 1	What is the PCOR Partnership?	3/2004 ^{2,3}
Fact Sheet 2	CO ₂ Sequestration – Controlling CO ₂ Emissions to the Atmosphere Through Capture and Long-Term Storage	6/2005
Fact Sheet 3	The Weyburn Oil Field – A Model for Value-Added Direct CO ₂ Sequestration	6/2005
Fact Sheet 4	Identifying CO ₂ Sequestration Opportunities	6/2005
Fact Sheet 5	Wetland Carbon Sinks in the Glaciated North American Prairie	8/2005
Fact Sheet 6	Regional Sequestration Potential – Field Validation Tests	3/2006 ^{2,4}
Fact Sheet 7	Zama Acid Gas EOR, CO₂ Sequestration, and Monitoring Project	7/2006²

¹ Products developed by PCOR Partnership only; outreach products available to the PCOR Partnership from DOE and other organizations are not listed here.

² Will be updated periodically.

³ Fact sheet was named “What Is CO₂ Sequestration?.p”

⁴ Fact sheet replaced “PCOR Partnership Phase II.”

⁵ Fact sheet changed from 11 to 14.

⁶ Fact Sheets from the Water Working Group.

⁷ Joint PCOR Partnership/PPB production aimed at general audiences; available for broadcast or in DVD format.

⁸ Discontinued.

⁹ Created as required.

Continued . . .

Table E-1. Outreach Materials (Phase I, Phase II, and Phase III) (continued)

Designation	Product¹	Availability Date
Fact Sheet 8	CO ₂ Sequestration Through Habitat Restoration – Defining Best Terrestrial Sequestration Practices for Landowners	12/2006 ²
Fact Sheet 9	Cobenefits of Terrestrial Carbon Sequestration in the PCOR Partnership Region	2/2007 ²
Fact Sheet 10	CO₂ Sequestration Validation Test in a Deep, Unminable Lignite Seam in Western North Dakota	7/2007²
Fact Sheet 11	Best Management Practices for Terrestrial Carbon Sequestration on Private Lands in the Prairie Pothole Region	10/2007
Fact Sheet 12	CO₂ Sequestration Validation Test in a Deep Oil Field in the Williston Basin	10/2007
Fact Sheet 13	Western Canadian Basin (CO ₂ EOR and CO ₂ Sequestration – The Case for Collaboration)	11/2008
Fact Sheet 14	PCOR Partnership – Demonstrating CO₂ Storage in the Northern Great Plains (Phase III general)	6/2008^{2,5}
Fact Sheet 15	Risk Management	10/2009
Fact Sheet 16	Geological Storage of Sour CO₂ from a Natural Gas Processing Plant – A Commercial Demonstration	6/2009²
Fact Sheet 17	Bell Creek Integrated CO₂ EOR and Storage Project	3/2011²
Fact Sheet 18	PCOR Partnership Role in the Aquistore Project	2/2014 ²
WWGFS1	Regional Carbon Sequestration Partnership Water Working Group	5/2010 ⁶
WWGFS2	Carbon Capture and Storage: Protecting Freshwater Resources	3/2013 ⁶
WWGFS3	Monitoring, Verification, and Accounting Plans for Protection of Water Resources During the Geologic Storage of CO ₂	1/2014 ⁶
WWGFS4	Long-Term Protection of Freshwater Resources Following CO ₂ Storage	10/2014 ⁶
Documentary 1	“Nature in the Balance — CO ₂ Sequestration”	10/2005 ⁷
Documentary 2	“Reducing Our Carbon Footprint—The Role of Markets”	3/2007 ⁷
Documentary 3	“Out of the Air Into the Soil: Land Practices That Reduce Atmospheric Carbon Levels”	9/2008 ⁷
Documentary 4	“Managing Carbon Dioxide: The Geological Solution”	11/2009 ⁷
Documentary 5	“Global Energy and Carbon: Tracking Our Footprint”	10/2010 ⁷
Documentary 6	“Coal and the Modern Age”	4/2017⁷
Documentary 7	“The Bell Creek Story”	4/2017⁷
Video Segments	Support segments for PowerPoint presentations, North Dakota Studies, PBS Learning Media and PCOR Partnership Web sites	12/2008

¹ Products developed by PCOR Partnership only; outreach products available to the PCOR Partnership from DOE and other organizations are not listed here.

² Will be updated periodically.

³ Fact sheet was named “What Is CO₂ Sequestration?.”

⁴ Fact sheet replaced “PCOR Partnership Phase II.”

⁵ Fact sheet changed from 11 to 14.

⁶ Fact Sheets from the Water Working Group.

⁷ Joint PCOR Partnership/PPB production aimed at general audiences; available for broadcast or in DVD format.

⁸ Discontinued.

⁹ Created as required.

Continued . . .

Table E-1. Outreach Materials (Phase I, Phase II, and Phase III) (continued)

Designation	Product¹	Availability Date
Video Series	“Education Video Series — Meeting the Challenge” (4 parts)	
	Part 1: “Energy”	6/2013 ⁷
	Part 2: “Energy and Carbon”	6/2014 ⁷
	Part 3: “Finding Solutions”	1/2018 ⁷
	Part 4: “Carbon Capture and Storage”	1/2018 ⁷
Tech Video	“Installing a Casing-Conveyed Permanent Downhole Monitoring System”	10/2014
Article 1	Controlling Carbon Dioxide Emissions and Still Providing Affordable Energy	10/2005
Article 2	An Introduction to Storage of Carbon	10/2005
Article 3	The Capture and Long-Term Storage of Carbon Dioxide	10/2005
Article 4	A Study of the Great Plains of North America: Carbon Dioxide Sequestration Communications Supported by GIS	10/2006
Article 5	Zama Acid Gas Project: Plains CO ₂ Reduction (PCOR) Partnership	2/2007
Atlas	PCOR Partnership Atlas	10/2005²
Public Web Site	PCOR Partnership public Web site (www.undeerc.org/pcor)	6/2004^{2,4}
PowerPoint	PCOR Partnership public outreach PowerPoint presentation	8/2006 ²
PowerPoint	General Phase II PowerPoint	5/2006 ²
PowerPoint	General Phase III PowerPoint	5/2008²
PowerPoint	Fort Nelson PowerPoint	7/2009 ²
PowerPoint	Bell Creek PowerPoint	3/2011 ²
Display Booth	PCOR Partnership public outreach display booth	6/2007
Public Poster 1	PCOR Partnership region sequestration general poster	3/2009 ⁸
Public Poster 2	Bell Creek Site – CO ₂ Emissions Go to Work to Produce More Oil	3/2009
Public Poster 3	Fort Nelson Site – Natural Gas with a Reduced Carbon Footprint	2/2011
Public Poster 4	Aquistore: Demonstrating Carbon Storage	1/2014
Public Poster 5	Reducing Greenhouse Gas Emissions (CO ₂ enhanced oil recovery and CCS)	1/2014
Press Releases	Multiple products developed and released by the EERC	On file ⁹

¹ Products developed by PCOR Partnership only; outreach products available to the PCOR Partnership from DOE and other organizations are not listed here.

² Will be updated periodically.

³ Fact sheet was named “What Is CO₂ Sequestration?.”

⁴ Fact sheet replaced “PCOR Partnership Phase II.”

⁵ Fact sheet changed from 11 to 14.

⁶ Fact Sheets from the Water Working Group.

⁷ Joint PCOR Partnership/PPB production aimed at general audiences; available for broadcast or in DVD format.

⁸ Discontinued.

⁹ Created as required.

APPENDIX F

**OUTREACH DELIVERY METHODS AND
PROTOCOLS**

OUTREACH METHODS AND PROTOCOLS

Appendix F deals with the methods for release and delivery of the outreach products (Appendix E) to the audiences (Appendix D) in the region (Appendix A). All releases to the public require the consent and approval of Plains CO₂ Reduction (PCOR) Partnership senior management and, depending on the situation, appropriate U.S. Department of Energy and partner representatives. Because Canada has ratified the Kyoto Treaty, PCOR Partnership outreach efforts in Canada occur within a relatively formal framework and, where appropriate, in collaboration with ongoing government carbon management outreach activities.

PUBLIC RELATIONS

Public relations (press releases, newspaper articles, magazine articles) for the PCOR Partnership are developed in consultation with the Senior Marketing Communications Specialist of the Energy & Environmental Research Center (EERC), and press releases are distributed to regional TV stations, radio stations, newspapers, and/or magazines. In select cases, such as validation and demonstration project milestones, press releases are developed and distributed by partners following either notice or consultation with EERC and PCOR Partnership management (i.e., all Bell Creek communications require review and approval by Denbury Onshore LLC). The results of public relations activities are gathered monthly from EERC Marketing Communications and PCOR Partnership management (Task 10) and entered into the media relations spreadsheet. The results of public relations activities are gathered monthly at the task manager meeting and from monthly updates and entered into the Outreach Tracking Database.

ONE-ON-ONE COMMUNICATIONS

One-on-one outreach is primarily reserved for members or for technical audiences. PCOR Partnership management and technical personnel handle one-on-one communications with environmental groups, nongovernmental organizations, and key officials. The results of public relations activities are gathered monthly at the task manager meeting and from monthly updates and entered into the Outreach Tracking Database.

PRESENTATIONS AND EVENT PARTICIPATION

Presentations and event participation occur for all key audiences. Presentations are done for partners and with partners. PCOR Partnership staff members participate in events where they make technical presentations and host the PCOR Partnership booth. Members of the outreach team are available to give presentations at meetings and events held by partners or external groups. At the Bell Creek site, these types of activities are conducted as called for by the project plan and approved by Denbury. The results of public relations activities are gathered monthly at the task manager meeting and from monthly updates and entered into the Outreach Tracking Database.

OUTREACH NETWORKS

A number of print and electronic outreach networks exist in the region. Many of these are maintained by partners or by groups with whom the outreach team or partners are working. Utilizing these existing outreach networks will increase the ability to assess outreach impact with efficiency and consistency. Because the PCOR Partnership region is extensive, using the outreach network is an efficient means of communicating with key audiences within the general public. Three key audiences are landowners, youth, and the interested public. The outreach networks could include the following:

- Print networks (maintained by communications staff at electric utilities to inform the general public and opinion leaders)
- Print and electronic networks (maintained by the U.S. Department of Agriculture Extension Service to inform landowners)
- Print and electronic networks (maintained by Prairie Public Broadcasting, including its YouTube channel featuring documentaries and clips, Web site featuring DVD products, and others including social media for documentary-filming trips.
- Print and electronic networks maintained by the EERC, including a YouTube channel featuring documentaries and clips and social media featuring activity updates.
- Print and electronic networks (maintained by science educators to inform themselves, including the PBS Learning Media Web sites and North Dakota Studies Web sites)
- Print and electronic networks (maintained to inform the interested public, including opinion leaders)

The results of public relations activities are reported by the outreach team, gathered monthly at the task manager meeting, and obtained from monthly updates are entered monthly into the OIS.

PCOR PARTNERSHIP PUBLIC WEB SITE

The primary vehicle for distributing outreach materials is the PCOR Partnership public Web site. All outreach methods and activities direct audiences to the Web site. The Web site offers continuity as well as the ability to interact. The Web features all of the outreach products, which can also be downloaded, streamed, or ordered in hard copy. An upcoming emphasis will be increased potential for use in school and household activities related to schools. Additional priorities will include improving the methodology and reporting for Web site visits, raising the visibility of the PCOR Partnership site through continued search engine optimization, and increasing its likelihood for interlinkage with partner Web sites. All of these activities are supported by standard operating procedures. Web traffic is entered into the OIS and reported on a quarterly basis.

NON-PCOR PARTNERSHIP WEB SITES

The PCOR Partnership continues to expand its outreach initiative by increasing product exposure and visibility on its partners' Web sites. All 50 video clips and five full-length documentaries (which are available on the public Web site) were uploaded to the both the EERC and Prairie Public Broadcasting's YouTube channels as well as the North Dakota Studies Web site and PBS Learning Media Web site which are used by teachers and students. Additional clips and documentaries will be uploaded on these sites as new ones become available.

The PCOR Partnership drives Web traffic by displaying or linking (having an actual hyperlink to the PCOR Partnership Web site) its Web address on partner Web sites and providing partners the opportunity to do the same. Currently, there are approximately a dozen partners who display the PCOR Partnership Web link. The effect will continue to reach out to partners, with the goal of additional links and increased public Web visibility and traffic.

MASS MEDIA – PUBLIC TELEVISION

The broadcasts on public television will continue to be the main means of general public outreach at the regional level. As shown in Table F-1, 17 public television stations provide full coverage across the region. Prairie Public Broadcasting, the coproducer of the PCOR Partnership's broadcast-quality documentaries, does the initial broadcast of the documentaries in its market (North Dakota, Manitoba, and northwestern Minnesota) and then takes the lead in making the documentaries available to the other public television stations in the PCOR Partnership region and beyond.

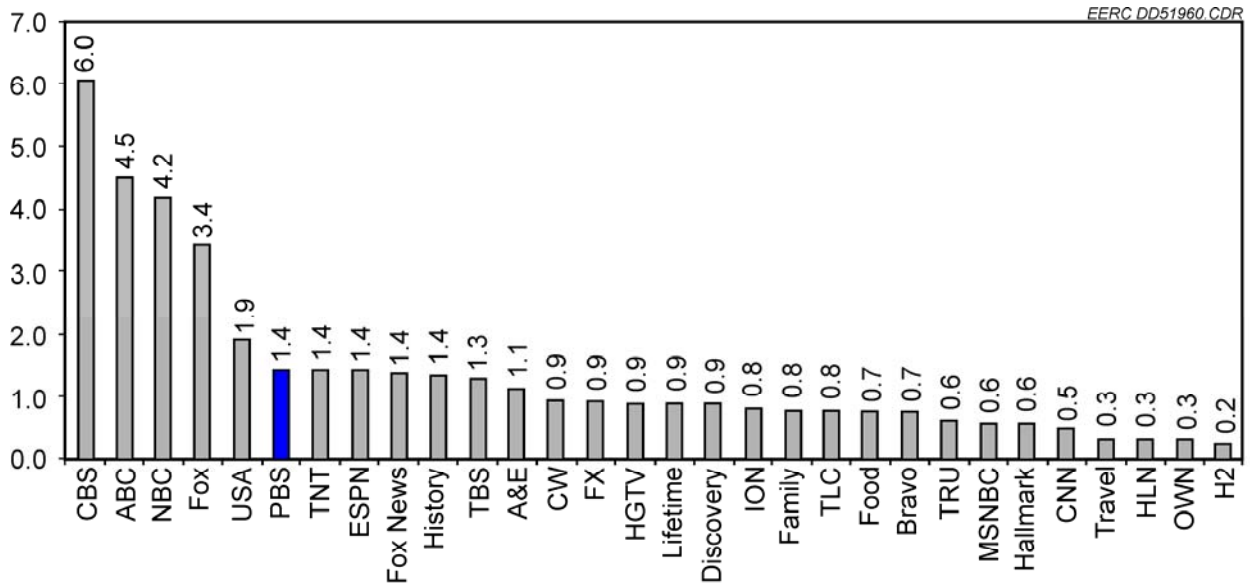
With the exception of Minnesota and Missouri, each state within the PCOR Partnership region has a single station. In Canada, the province of Alberta is covered by Spokane Public Television. Saskatchewan is covered by a feed from Detroit, Michigan, public television. Broadcasts in these markets and beyond will be tracked in order to determine the impact and the reach.

The involvement of public television in these documentaries is a message in itself. According to the Corporation for Public Broadcasting's Local Station Services Research Project, public television stations do better than viewers' most watched broadcast and cable stations in "respecting my intelligence," "setting the standards for quality in television," and "putting the viewer's interests first." The key principles that distinguish public television in the minds of viewers are trust, quality, intelligence, balance, uniqueness, engagement, and variety in a style that is consistent, visible, and approachable.

As shown in Figure F-1, the Public Broadcasting Service (PBS) averaged a 1.4 prime time rating nationwide during the 2012–2013 season. In other words, 1.4% of households tuned in during prime time. As shown on the figure, this places PBS ranked near the top of the most watched cable networks. According to Prairie Public Broadcasting, 5% of the more than half million households in its market area (26,000 households) watch its prime time broadcasts.

Table F-1. Public Television Stations in the PCOR Partnership Region

Primary Coverage Area	Public Television Station	Location
North Dakota	Prairie Public Broadcasting	Fargo, North Dakota
South Dakota	South Dakota Public Television	Vermillion, South Dakota
Nebraska	NET1	Lincoln, Nebraska
Iowa	Iowa Public Television/IPTV	Johnston, Iowa
Minnesota Southeast	Twin Cities Public Television	Minneapolis, Minnesota
Minnesota Northeast	WDSE/Channel 8	Duluth, Minnesota
Minnesota South	Pioneer Public TV	Appleton, Minnesota
Minnesota North Central	Lakeland Public Television	Bemidji, Minnesota
Wisconsin	Wisconsin Public Television	Madison, Wisconsin
Missouri East	KETC/Channel 9	St. Louis, Missouri
Missouri West	Kansas City Public Television	Kansas City, Missouri
Missouri South	Ozarks Public TV	Springfield, Missouri
Missouri North	KMOS Missouri	Warrensburg, Missouri
Montana	Montana PBS	Bozeman, Montana
Wyoming	KCWC/Channel 4	Riverton, Wyoming
Alberta	KSPS	Spokane, Washington
Manitoba	Prairie Public Broadcasting	Fargo, North Dakota
Saskatchewan	Detroit Public Television	Detroit, Michigan



Nielsen Galaxy Explorer (2012–2013); excluded are children's, Spanish language, and pay TV networks.

Figure F-1. Most watched broadcast and basic cable networks in prime time.

The demographic breakdown of the PBS audience, as shown in Table F-2, reflects the overall U.S. population with respect to education and income. This information was based on data from Nielsen Media Research gathered between October 2012 and May 2013.

The outreach team will use the conservative national estimate of 1.4% for prime time viewing as a basis for its estimates of viewership within the PCOR Partnership region as well as for exposure outside of the region. As before, the broadcast exposure will be supplemented by the distribution of DVDs and the availability of streaming video on the Web site. In addition, press releases and newspaper articles may be tied to the premiere of the program as a means to optimize public awareness of the content. As in the past, the exposure resulting from these activities will be obtained and entered into the OIS and reported on a quarterly basis.

Table F-2. Television Audience Comparisons (2012–2013 broadcast season) (Nielsen Media Research, 2012–2013)

	% of U.S. Population	% of PBS Audience
Education of Head of Household		
<4 yr of High School	9.0	14.0
High School Graduate	23.0	29.0
1–3 yr of College	29.0	31.0
4+ yr of College	39.0	26.0
Household Income		
<\$20,000	21.0	17.0
\$20,000–\$39,999	22.0	21.0
\$40,000–\$59,999	19.0	19.0
\$60,000–\$74,999	10.0	10.0
\$75,000–\$99,999	10.0	12.0
\$100,000+	18.0	22.0

REFERENCES

- Corporation for Public Broadcasting, 2004, Local station services research project: www.cpb.org/stations/npsresearch/ (accessed February 2008).
- Nielson Galaxy Explorer, 2012–2013, PBS primetime ratings vs. other networks, household 2012–2013 season: Data set supplied by Prairie Public Broadcasting, March 1, 2016.
- Nielson Media Research, 2012–2013, Television audience comparisons: Data set supplied by Prairie Public Broadcasting, March 1, 2016.

APPENDIX G

PROJECT-RELATED OUTREACH

PROJECT-RELATED OUTREACH

There are six active CO₂ injection projects in the Plains CO₂ Reduction (PCOR) Partnership region. In addition, there are four research projects that are completed for geologic storage and two (Weyburn–Midale and Zama) that occurred at commercial enhanced oil recovery (EOR) sites which remain active. In addition, there are CO₂ capture facilities in the region, including the Boundary Dam retrofit on a coal-fired power plant. A regional study, now completed, of terrestrial sequestration is also notable. All of these projects involved PCOR Partnership members, and the PCOR Partnership outreach and education task has had or is actively engaged in outreach for these projects.

The projects and the activities for the projects in the region are summarized in Figure G-1 and Table G-1. The landowner-related outreach activities at Bell Creek during Budget Period (BP) 4 are summarized in Table G-2.



Figure G-1. Regional carbon capture and storage (CCS) projects and project-level outreach activities.

Table G-1. Summary of PCOR Partnership Outreach Role in Regional CCS Projects

Project Name	Project Lead	Status	Outreach Activities
Fort Nelson CCS Feasibility Project	Spectra Energy	Completed	Interview and location video (in progress), poster, Web site pages, fact sheets, presentations, and other outreach materials
Bell Creek CO ₂ Storage Demonstration Project	Denbury Onshore LLC	Active	Supporting role in landowner relations (with respect to monitoring, verification, and accounting technical activities), interview and location video (in progress), poster, Web site pages, fact sheets, presentations, and other outreach materials
IEA Greenhouse Gas R&D Programme Weyburn–Midale CO ₂ Monitoring and Storage Project	Petroleum Technology Research Centre and Apache Canada	Completed ¹	Outreach advisory panel, interview and location video used in documentaries and video products, Web site pages, inclusion in fact sheets, presentations, and other outreach materials
Aquistore Project (owned by SaskPower)	Petroleum Technology Research Centre	Active	Outreach advisory panel, interview and location video used in original documentaries and video products, poster, Web site pages, fact sheets, presentations, and other outreach materials
Zama Field Validation Test	PCOR Partnership and Apache Canada	Completed ¹	Location video used in original documentaries and video products, Web site pages, fact sheets, presentations, and other outreach materials
SaskPower Boundary Dam CCS Project	SaskPower	Active	Interview and location video used in original video products (planned), partnership Web site pages, inclusion in fact sheets, presentations, and other outreach materials
Terrestrial Field Validation Test	PCOR Partnership, Ducks Unlimited, North Dakota State University	Completed	Advisory role, interview and location video used in original documentaries and video projects, Web site pages, fact sheets, presentations, and other outreach materials
Quest CCS Project	Shell Canada	Active	Web pages and mentions in presentations and other outreach materials
Northwest McGregor Field Validation Test	PCOR Partnership	Completed	Landowner and community relations, Web site pages, fact sheets, presentations, and other outreach materials
Lignite Field Validation Test	PCOR Partnership	Completed	Landowner and community relations, Web site pages, fact sheets, presentations, and other outreach materials

¹ Research project completed but the commercial EOR projects remain active.

Table G-2. Bell Creek Outreach Activities in BP4

Year	Date	PCOR Partnership Activities	PCOR Partnership Landowner Contact	Denbury Outreach
2011	7/5–9/2011 and 8/1–5/2011		Initial landowner contact. Signing of landowner agreements to work on their property in the Bell Creek Field area.	
	11/1–1/2011 and 11/27–12/2/2011	Sample Event 1: Full event soil gas, surface/groundwater	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
	12/9–31/2011	Prairie Public Broadcasting (PPB) filmed well drilling and installation		
2012	1/1–5/2012	PPB filmed well drilling and installation		
	4/23–29/2012	Sample Event 2: Full event soil gas, surface/groundwater	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced. Results from Sample Event 1 were explained and distributed in person.	
	6/15–26/2012	Sample Event 3: Full event soil gas, surface/groundwater	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced. Results from Sample Event 2 were explained and distributed in person	
	8/6–17/2012	Sample Event 4: Full event soil gas, surface/groundwater EERC and PPB filmed water and soil baseline sampling activities	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
	9/4–6/2012 and 9/17–20/2012	EERC and PPB filmed seismic acquisition pipeline construction activities		
	9/25/2012		Results from Sample Event 3 were explained and distributed in person.	
	10/15–19/2012	Installed soil gas profile stations (SGPSs) Sample Event: SGPS only	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
	11/1–13/2012	Sample Event 5: Full event soil gas, surface/groundwater	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
	12/21–22/2012			Denbury landowner appreciation luncheon. 50 attendees.

Continued . . .

Table G-2. Bell Creek Outreach Activities in BP4 (continued)

Year	Date	PCOR Partnership Activities	PCOR Partnership Landowner Contact	Denbury Outreach
2013	1/7–10/2013	Sample Event: Phase I soil gas sampling only	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced. Results from Sample Events 4 and 5 were explained and distributed in person.	
	3/13/2013			Denbury distributed PCOR Partnership outreach materials to six to eight county extension agents.
	3/15–22/2013	Sample Event: Phase I soil gas sampling only Completion of Fox Hills groundwater-monitoring wells	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
	4/1–4/2013	Sample Event: Fox Hills groundwater wells only	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
	4/21–5/1/2013	Sample Event 6: Full Event soil gas, surface/groundwater	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced. Results from Sample Events 4 and 5 were explained and distributed in person to those who did not yet receive results.	
	5/28–31/2013	Sample Event: Phase I soil gas sampling only	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
	6/24–27/2013	Sample Event: Phase I soil gas and Fox Hills groundwater sampling	Call all landowners before sampling trip. Field crew talked to landowners in-person before sampling commenced.	
	7/31–8/1/2013	Sample Event: Phase I soil gas and Fox Hills groundwater sampling	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
	8/14/2013	PPB filmed Denbury site commissioning event		Denbury site commissioning event, 70 attendees.
	8/26–29/2013	Sample Event: Phase I soil gas and Fox Hills groundwater sampling	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
	9/9–14/2013		Results from Sample Event 6 were explained and distributed in person.	

Continued . . .

Table G-2. Bell Creek Outreach Activities in BP4 (continued)

Year	Date	PCOR Partnership Activities	PCOR Partnership Landowner Contact	Denbury Outreach
2013	9/30–10/4/2013	Sample Event 7: Full event soil gas, surface/groundwater	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
	11/10–15/2013	Sample Event: Phase I soil gas and Fox Hills groundwater sampling	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
	12/9–17/2013	Sample Event: Phase I soil gas and Fox Hills groundwater sampling	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
2014	1/12–17/2014	Sample Event: Phase I soil gas and Fox Hills groundwater sampling	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced. Results from Sample Event 7 were explained and distributed in person.	
	2/9–14/2014	Sample Event: SGPS/Fox Hills; SGPSs and groundwater wells	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
	3/3–9/2014	Sample Event: SGPS/Fox Hills; SGPSs and groundwater wells	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
	4/13–17/2014	Sample Event: Phase I soil gas and Fox Hills groundwater sampling	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
	6/8–16/2014	Sample Event: Phase I and II soil gas and Fox Hills groundwater sampling	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
	9/18–25/2014	Sample Event 8: Full Event soil gas, surface/groundwater	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
	12/1–7/2014	Sample Event: Phases I and II soil gas and Fox Hills groundwater sampling	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
	12/14/2014		Results from Sample Event 8 were explained and distributed in person.	

Continued . . .

Table G-2. Bell Creek Outreach Activities in BP4 (continued)

Year	Date	PCOR Partnership Activities	PCOR Partnership Landowner Contact	Denbury Outreach
2015	4/23–29/2015	Sample Event 9: Phases I and II soil gas and surface and groundwater sampling	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
	6/22–27/2015	Sample Event: Phases I and II soil gas and Fox Hills groundwater sampling	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced. Results from Sample Event 9 were explained and distributed in person	
	8/23–28/2015	Sample Event 10: Phases I and II soil gas and surface and groundwater sampling	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
	9/28–10/2/2015		Negotiations with Bell Creek landowners to put seismic nodes on their land.	
	10/2–8/2015	First seismic event: Nodes not permanently set	Landowners were called before seismic testing commenced.	Ken Anderson from Denbury worked with EERC and landowners to aid discussions.
	10/19/2015		Landowners for seismic project received payment.	
	10/26–10/30/2015	Second seismic event: Nodes permanently set into ground	Field crew talked with landowner to explain seismic process.	
	10/30–11/2/2015	Sample Event: Phases II, III, and IV soil gas and Fox Hills groundwater sampling	Call all landowners before sampling trip. Field crew talked to landowners in person before sampling commenced.	
	11/17/2015		Results from Sample Event 10 were explained and distributed in person.	
	12/7–11/2015	Third seismic event: Nodes downloaded, charged, and redeployed	Landowners were talked to before sampling event.	
2016	1/25–29/2016	Fourth seismic event: Nodes downloaded, charged, and redeployed	Landowners were talked to before sampling event.p	