

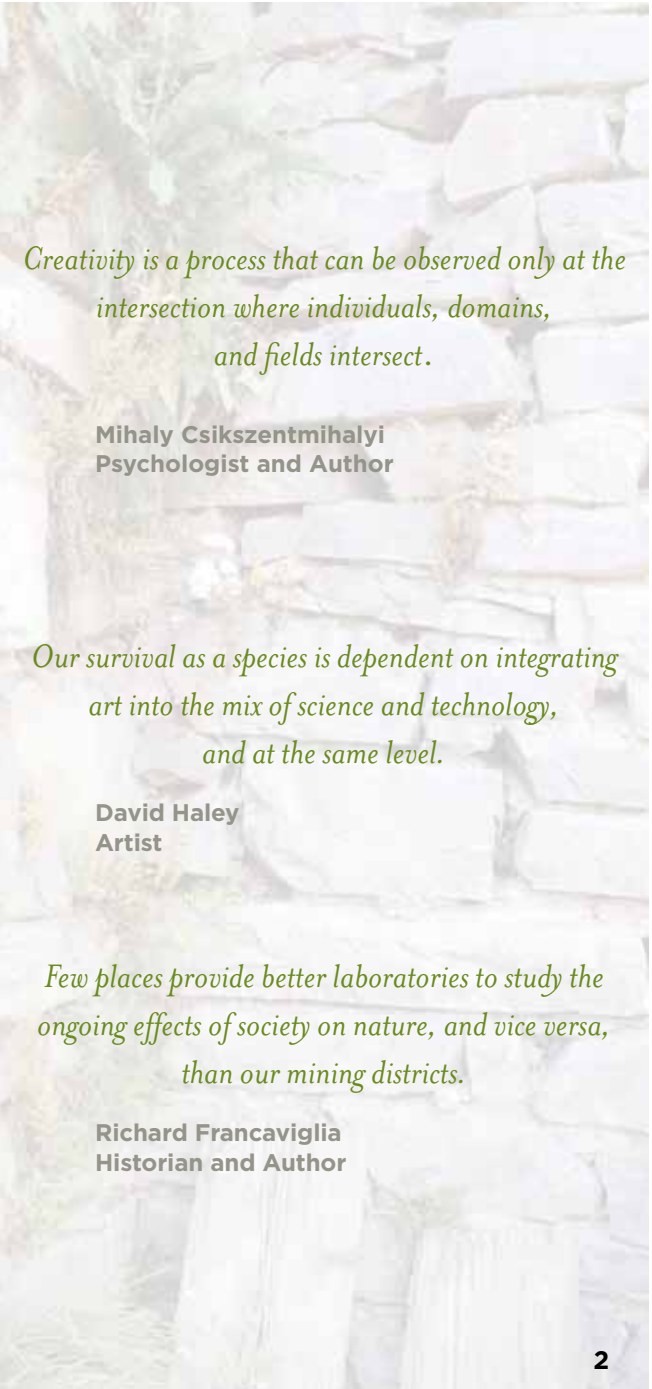


Envisioning Uses for an
Inactive Hard Rock Mine
in Hinsdale County, CO:
A Transdisciplinary
Collaboration

January 2010

Table of Contents

Project Summary	3
Transdisciplinary Collaborations	4
Objectives	5
Deliverables and Outcomes	5
Evaluation	6
Collaboration Guidelines	7
Project Plan	8
Schedule	9
Project Design and Management	10
Colorado Art Ranch	10
Hinsdale County	12
References	13



Creativity is a process that can be observed only at the intersection where individuals, domains, and fields intersect.

Mihaly Csikszentmihalyi
Psychologist and Author

Our survival as a species is dependent on integrating art into the mix of science and technology, and at the same level.

David Haley
Artist

Few places provide better laboratories to study the ongoing effects of society on nature, and vice versa, than our mining districts.

Richard Francaviglia
Historian and Author

Project Summary

Active and abandoned mines cover more than 100 million acres of the Intermountain West. Hinsdale County has 50 inactive mines, according to the Colorado Inactive Mine Reclamation Program. Inactive mines can pose many issues. Mines can leach acids into the watersheds and aquifers. The shafts and aging structures can be hazards to those who explore the sites. And, while some mines are regarded as heritage sites, many are considered eyesores that detract from the natural beauty of the mountains.

In towns with active mines there is often a lack of communication between mining interests and other community members. Towns benefit from the jobs that the mining industry provides, but the presence of mines can reduce an area's desirability for tourists, outdoor recreationists, homeowners and businesses.

Mining is part of the past and present of Lake City and Hinsdale County. The first settlers were men prospecting for silver in 1871. Today, the Golden Wonder gold mine, owned by LKA Enterprises, is still active. The community is currently experiencing a rift between pro- and anti-mining interests as they try to reconcile their mining heritage with their current dependence on recreation for economic viability.

LKA International, owner of the inactive Ute Ule Silver Mine, is considering donating the mine property to Hinsdale County. Located along a scenic byway high in the San Juan Mountains, the site has historical significance as well as economic, ecological, and social challenges.

The Lake City Downtown Improvement and Revitalization Team (DIRT) asked Colorado Art Ranch, a nonprofit interdisciplinary arts organization based in Colorado, to undertake a project to envision uses for the Ute Ule mine site and to help bridge the extraction-preservation schism within the community. DIRT approached Colorado Art Ranch because of its reputation for promoting the arts as a tool for creative problem solving. The proposed project addresses the community's needs through stakeholder participation, an art-science collaboration for envisioning uses for the mine site, and a public forum of the team's collaborative recommendations.



Many observers are likely to characterize mining country as a ruined, hellish wasteland, but we must remember that such was not always the case: to Americans in the late nineteenth century, mining activities symbolized progress and man's domination over nature.

Richard Francaviglia
Historian

Transdisciplinary Collaborations

The increasingly complex nature of social and environmental problems demands new approaches to identifying solutions. One promising approach is a transdisciplinary collaboration of professionals from the arts, sciences, and humanities to assess a problem and envision possible solutions. Geographer Bärbel Tress (Tress et al. 2005, 17) defines transdisciplinary collaborations as projects that “integrate academic researchers from different unrelated disciplines and non-academic participants...to research a common goal and create new knowledge and theory.”

Traditionally, the arts and sciences have been seen as opposed, with different goals and approaches. Artists and scientists are similar in that their work starts with questions about the what, why, and how of the world’s phenomena, yet the methods they use to ask questions and find answers are poles apart. When artists and scientists work together, their different perspectives and ways of thinking can lead to conclusions that combine the best of right-brain and left-brain thinking. The scientists begin to think like artists and the artists begin to think like scientists. The disruption of their typical ways of seeing and the cross-fertilization of ideas facilitate creative problem solving.

Recent projects have demonstrated the power of art-science collaborations in solving previously intractable problems. Carnegie-Mellon’s Studio for Creative Inquiry combined art, science, and community involvement to clean up Acid Mine Drainage and transform an abandoned coal mine into an interpretive garden describing the treatment process. A nine-year collaboration between artist Aviva Rahmani and bioengineers on the coast of Maine resulted in major bio-remedial habitat restoration. Art-science collaborations seem especially appropriate when addressing the “revisioning” process that must occur in order to repair or rehabilitate a piece of damaged land.

Science and Art are two twins of awe.

Jackie Brookner
Artist



The very act of creation in science involves the combination and recombination of previously unrelated ideas.

Diana Rhoten
Social Scientist

Objectives

The project has four main objectives:

1. Stimulate open and productive discussion about possible uses for an inactive mine in Hinsdale County.
2. Foster dialogue between the mining and the environmental communities.
3. Develop guiding principles for choosing solutions to the inactive mine site that are consistent with the community's values and goals.
4. Test a model for collaboration among artists and scientists to address an ecological and social issue.

Deliverables and Outcomes

The project will have three deliverables:

1. Team Vision. The vision may take multiple forms including a Power-Point with guiding principles, images, concepts, and words.
2. Community Artposium. An Artposium (a public art-science symposium) will be held the final weekend of the residency. The Artposium will commence with a social event and keynote speaker on Friday evening. On Saturday the Collaboration Team will present their ideas for the mine and attendees will discuss the recommendations. Interdisciplinary workshops on mine reclamation topics may also be offered.
3. Documentation. The results of this project will be a model for other collaborative envisioning projects. A publication and/or multimedia presentation will be created to make the information widely available.

The project will give Lake City and Hinsdale County stakeholders:

- an opportunity to interact with the Collaboration Team members
- a valuable starting point for developing a plan of use for the Ute Ule Mine
- a non-threatening setting to discuss mining and environmental issues



Reclamation projects involve inquiry and action that can occupy a roomful of disciplines. It is only through collective interdisciplinary inquiry and discourse that complex systems can be perceived.

**Studio for Creative Inquiry
Nine Mile Run Team**

Members of the Collaboration Team will enjoy personal and professional benefits. They will:

- test a model for transdisciplinary collaboration and envisioning
- expand their worldviews and influence fellow team members' ways of seeing
- further develop their research and creative skills by addressing a real-world problem
- explore a beautiful, high mountain habitat
- form new friendships and professional associations
- perhaps draw from the collaborative experience to write papers, give presentations, or create works of art

Evaluation

Quantitative and qualitative methods will be used to evaluate the success of the project.

Community. All Hinsdale County stakeholders will be invited to take an online or mail survey one month prior to the project (June 2011) and one month after the project is completed (September 2011). The questionnaires will measure perceptions and attitudes regarding the economic, environmental, and social aspects of active and inactive mines in Hinsdale County and provide a pre- and post- gauge of the community's openness to discussing mining issues.

Collaboration Team. Immediately following the project, Collaboration Team Members will complete an online survey evaluating the Collaborative Residency. Within one month, a researcher will conduct a 45-minute telephone interview to gather additional insight into their experience.



Collaboration Guidelines

To ensure the success of the project, Colorado Art Ranch will follow guidelines drawn from research on group creativity and the collaborative process (Berryman, 2002; Catney and Lerner 2009; Rhoten et al. 2009; Steinheider and Legrady, 2004; Sawyer 2007; Tress et al. 2005).

1. Team Composition. Assemble a group of five to nine members who:
 - have complementary skills
 - demonstrate mastery in their respective disciplines
 - accept that no one discipline is superior to another
 - have demonstrated the ability to work in groups
 - can convey their thoughts in words, image or performance
 - are “deep listeners,” able to listen fully and respond with unplanned responses to what they hear
2. Goals and Outcomes. Establish goals that provide a focus for the team. The goals should be open-ended enough for problem-finding creativity to emerge. Determine what kind of outcomes the project will produce and allocate time and resources to work on the outcomes.
3. Communication. Collaborations thrive when there is open communication, personal trust, and willingness to compromise. Keep communication channels open at all times and clarify confusion immediately. Hold regular formal meetings and create opportunities for frequent informal conversations.
4. Work and Living Space. Spatial proximity of team members speeds the collaborate process. Provide communal spaces for informal gatherings where spontaneous conversations can occur and private spaces conducive to reflection and quiet concentration.
5. Facilitation. Close supervision and detailed work plans inhibit the performance of creative people. However, a good facilitator enhances the collaboration by ensuring the team members can concentrate, uninterrupted, on the task at hand. The ideal facilitator creates an atmosphere of trust and respect, gives the team a sense of autonomy, encourages equal participation in the creative envisioning, and provides the resources and guidance needed by the team.



Mining jobs have decreased in relative importance in part because modern mining methods require fewer workers than in the past. If job growth is to occur in the mining industry, it will likely be in mine reclamation, closure and long-term environmental monitoring.

Wilderness Society 2000

6. Process. Allow the group to alternate work with frequent breaks, and switch constantly between group and individual activity. The creative process is most fruitful when periods of work are combined with periods of play.

Project Plan

Collaborative Transdisciplinary Residency

After reviewing applications, Colorado Art Ranch will select five to seven professionals of diverse backgrounds to develop a vision for the future of an inactive hard rock mine site in Hinsdale County. The Collaboration Team will include scientists (e.g., ecologists, mining engineers, biologists, hydrologists, geologists), artists (e.g., sculptors, poets, photographers, filmmakers, painters), and perhaps other professions (e.g., landscape architects, historians, educators). The team will be in residence in Lake City for four weeks. Travel, housing, studio space, and a stipend will be provided to team members.

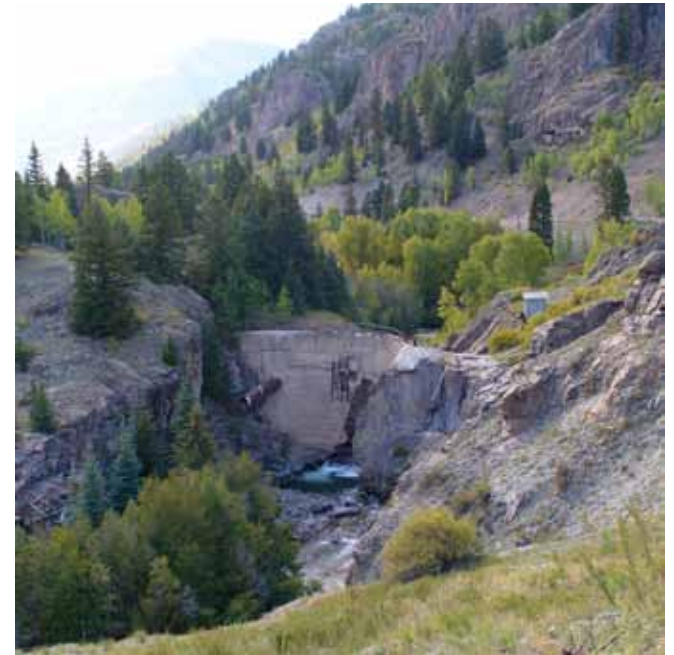
Information Gathering

During the first week of the residency, team members will meet with stakeholders to acquaint the team with the mine's history, community values and dynamics, and economic and environmental concerns. These visits will give the team multiple points of view:

- Miners and mining company officials (LKA Enterprises)
- Outdoor enthusiasts (hikers, hunters, anglers, recreationists)
- Government land managers (USFS, BLM)
- Residents of Lake City and Hinsdale County
- Business community and tourism industry representatives
- Environmental groups
- County historians
- City and county officials and elected representatives

Collaborative Envisioning

Team members will spend time (alone and as a group) exploring the Ute Ule mine site. Each member will develop a body of work (e.g., notes, sketches, data, interview transcripts, samples, artwork, photographs, poems),



The arts can facilitate a process of learning through the engaged senses, bypassing conditioned patterns of thinking and allowing other ways of knowing to come forward, at times subtly, at times overwhelmingly.

Beth Carruthers
Artist and Philosopher

which they will use in the collaborative envisioning process. The team will hold weekly meetings, facilitated by Grant Pound, to discuss their observations, interactions, community research, and ideas. During the fourth week of the residency, the team will assemble a collaborative vision for the site.

Community Artposium

At the end of the project, an Artposium will be held. The Collaboration Team will present their vision and recommendations for the site and invite discussion from local citizens and the public at large.

Schedule

2010	Secure funds for the project, solicit proposals from artists and scientists
September 3	Proposals due
September 17	Reserve living and working space for the residents
October 1	Select team members and notify applicants
June 2011	Send project packets with background information to team members and finalize travel arrangements
June 10	Conduct community survey
Friday, July 15	Residents arrive in Lake City
Saturday, July 16	Orientation, site visit, community welcome dinner
Sunday, July 17	Settle in, explore the area
One (7/18-7/23)	Research (interview, read, observe, gather data)
Two (7/24-7/30)	Individual and collaborative envisioning
Three (7/31-8/6)	Individual and collaborative envisioning
Four (8/7-8/12)	Prepare presentations for Artposium
August 12	Artposium reception and keynote speaker
August 13	Artposium presentations and discussion
August 14-15	Pack up and depart
September	Survey community members and Collaboration Team

There is a process to reading the landscape, and it begins with observation. This first step, seeing the landscape, is often followed by an appreciation of its content. Only after putting what we see in context can we make effective decisions about what—if anything—is worth saving.

Richard Francaviglia
Historian

Project Design and Management

Grant Pound, executive director and co-founder of Colorado Art Ranch, will serve as project manager and facilitator. Grant earned a B.S. in Natural Resource Management from the University of Michigan and studied design at the School of Art and Architecture at the University of Idaho. He has utilized both backgrounds in his professional practice of graphic design since 1986. He has worked on projects for GE, Cargill, Kodak, Medtronic, 3M, and General Mills. He has contributed to non-profit collaborations with the Red Cross, Friends of the Boundary Waters, The Nature Conservancy, Turn Off the Violence, and the 14ers Initiative. Grant brings business experience along with an arts sensibility to the project.

Peggy Lawless, co-founder of Colorado Art Ranch, will serve as the project research director. Peggy earned a B.S. degree in Wildlife Biology from the University of Idaho and a Masters in Liberal Studies degree from the University of Minnesota. Over the past 25 years, Peggy has designed and conducted social and market research for ING, GE Capital, and clients of the Lawless Institute. She is currently the director of research for Webroot Software in Boulder.

Kristie Borchers, executive director of the Lake City Downtown Improvement and Revitalization Team, will serve as the local coordinator of the project.

Colorado Art Ranch

History

Colorado Art Ranch is a 501(c)(3) organization with headquarters in Arvada, Colorado. Founded in 2005, the Ranch travels to towns throughout Colorado to fulfill its mission. Colorado Art Ranch has presented interdisciplinary Artposia on a wide range of topics: rivers, mapping in the arts, land use, sexuality, food, and humor. Future Artposia themes include water conservation, dwellings, migration, agri-tourism, aging and death, and energy.

Mission

The increasingly complex challenges of the world require new, creative approaches to problem solving. Colorado Art Ranch believes that the arts, in concert with the sciences, can help solve contemporary land and social

A thesis of this book isn't only that you ameliorate these landscapes technically, ... but that you deal with these landscapes through representation, to reshape people's imagination.

Andrea Urbiel Goldner
Writer reviewing *Reclaiming the American West*

issues. Our programs (1) nurture artists who ask difficult questions through their work, (2) stimulate interdisciplinary collaborations that help envision solutions, (3) connect communities of people who want to make a difference through the arts, and (4) build the creative capital of towns throughout Colorado.

Vision

Colorado Art Ranch envisions a world where creative interdisciplinary thinking is cultivated, valued, and used to solve land and social issues.

Values

Colorado Art Ranch is built on the values of community giving, land stewardship, collaboration, respect for our country's rural heritage, creativity, openness of heart, and laughter.

Colorado Art Ranch does not discriminate on the basis of gender, race, religion, age, national origin, ancestry, creed, pregnancy, marital or parental status, sexual orientation, gender expression, or physical, mental, emotional or learning disability.

Mining landscapes may be ugly to some (conservationists or romanticists, perhaps) or beautiful to others (mining engineers or some artists, perhaps), but that is beside the point. For most people who live in them, these landscapes have simply become part of the visual framework of ordinary everyday life.

Richard Francaviglia
Historian

Hinsdale County

According to the US Census Bureau, Hinsdale County had a population of 840 in 2008, one of the least populated counties in Colorado. The majority (97%) of its 1,069 square miles encompasses public land managed by the U.S. Forest Service, the National Park Service, and the Bureau of Land Management.

Lake City is the only town in Hinsdale County and is one of the largest National Historic Districts in Colorado. With the high percentage of public lands and the pristine mountain scenery, Lake City has become a popular outdoor recreational destination. Reflecting the influx of retirees and second home owners, 61 percent of housing units are reserved for seasonal, recreational, or occasional use. Local government (27%), construction (19%), retail (17%), and accommodation and food services (15%) employ the greatest number of people. Mining accounts for 1 percent of employment.

Relevant highlights of Lake City and Hinsdale County's 2006 Community Plan include:

- Action 7.1.8 Protect watersheds, especially those affected by, or with potential for, mining development.
- Objective 7.5 Promote public understanding and knowledge regarding the local environment.
- Objective 8.1 Develop a balanced approach to public lands management that includes economic reality and a desire to preserve and protect.
- Objective 8.4 Work to protect watersheds from activities and uses that are injurious to them.

The quality of the environment is the very foundation of the local economy. Issues related to environmental protection are community priorities.

2006 Community Plan

References

- Ahern, Jack. 2005. Theories, methods and strategies for sustainable landscape planning. In *From landscape research to landscape planning: aspects of integration, education and application*, ed. Tress, Bärbel, Gunther Tress, Gary Fry, and Paul Opdam, 119-131. New York: Springer.
- Antrop, Marc. 2005. From holistic landscape synthesis to transdisciplinary landscape management. In *From landscape research to landscape planning: aspects of integration, education and application*, ed. Tress, Bärbel, Gunther Tress, Gary Fry, and Paul Opdam, 27-50. New York: Springer.
- Art & Science Collaborations, Inc. www.asci.org
- Berger, Alan. 2002. *Reclaiming the American West*. Princeton, NJ: Princeton Architectural Press.
- Carruthers, Beth. 2006. Mapping the terrain of contemporary ecoart practice and collaboration. Canadian Commission for UNESCO. Center for Land Use Interpretation. <http://www.bethcarruthers.com/culturalcurrency/Art-InEcology.pdf> (accessed November 10, 2009).
- Catney, Philip, and David Lerner. 2009. Managing multidisciplinary: Lessons from SUBR:IM. 2009. *Interdisciplinary Science Reviews* 34, no. 4: 290-308.
- Colorado Division of Reclamation, Mining & Safety. <http://mining.state.co.us>.
- Csikszentmihalyi, M. 1999. Implications of a systems perspective for the study of creativity. In *Handbook of Creativity*, ed. Sternberg, R.J. Cambridge: Cambridge University Press.
- Ferriera, Helena Sousa, and André Botequilha Leitão. 2005. Integrating landscape and water-resources planning with focus on sustainability. In *From landscape research to landscape planning: aspects of integration, education and application*, ed. Tress, Bärbel, Gunther Tress, Gary Fry, and Paul Opdam, 143-159. New York: Springer.
- Four Corners Planning. 2005. Memorandum: Lake City and Hinsdale County Community Profile. May 5, 2005.
- Four Corners Planning. 2005. Memorandum: Lake City and Hinsdale County Vision Statement and Core Values. May 5, 2005.
- Four Corners Planning. 2006. Lake City/Hinsdale County Community Plan. January 9, 2006.

- Francaviglia, Richard. 1991. *Hard Places: Reading the Landscape of America's Historic Mining Districts*. Iowa City: University of Iowa Press.
- Headwaters Economics, 2007. A SocioEconomic Profile: Hinsdale County, Colorado. November 30, 2007. www.headwaterseconomics.org.
- Lewis, John. 2005. Challenges of interdisciplinarity for forest management and landscape perception research. In *From landscape research to landscape planning: aspects of integration, education and application*, ed. Tress, Bärbel, Gunther Tress, Gary Fry, and Paul Opdam, 83-94. New York: Springer.
- Limerick, Patricia, Joseph Ryan, Timothy Brown, and Allen Comp. 2005. *Cleaning Up Abandoned Hardrock Mines in the West: Prospecting for the Future*. Boulder, CO: Center of the American West.
- Mining Association of Canada. 2007. Towards sustainable mining: Progress report 2007. Ottawa, Ontario: Mining Association of Canada. www.mining.ca
- Mineral Information Institute. www.mii.org
- Morris, Norma, and Jeremy Hebden. 2008. Evolving collaborations: A self-referential case-study of a social/natural sciences collaborative project. *Science Studies* 21, no. 2: 27-46.
- Pearce, Celia, Sara Diamond, and Mark Beam. 2003. BRIDGES I: Interdisciplinary collaboration as practice. *Leonardo* 36, no. 2: 123-128.
- Rhoten, Diana, Erin O'Connor, and Edward Hackett. 2009. The act of collaborative creation and the art of integrative creativity: Originality, disciplinarily and interdisciplinary. *Thesis Eleven* 96: 83-108. <http://the.sagepub.com/cgi/content/abstract/96/1/83> (accessed January 2, 2010).
- Ruiz, Julie, and Gérald Domon. 2005. Integrating physical and human dynamics in landscape trajectories. In *From landscape research to landscape planning: aspects of integration, education and application*, ed. Tress, Bärbel, Gunther Tress, Gary Fry, and Paul Opdam, 67-81. New York: Springer.
- Sawyer, Keith. 2007. *Group Genius: The Creative Power of Collaboration*. New York: Basic Books.
- Schor, Horst and Donald Gray. 2007. *Landforming: An Environmental Approach to Hillside Development, Mine Reclamation and Watershed Restoration*. Hoboken, NJ: John Wiley & Sons.
- Sharachchandra, Lélé, and Richard Norgaard. 2005. Practicing interdisciplinarity. *BioScience* 55, no. 5: 967-975.

Tress, Bärbel, Gunther Tress, and Gary Fry. 2005. Defining concepts and the process of knowledge production in integrative research. In *From landscape research to landscape planning: aspects of integration, education and application*, ed. Tress, Bärbel, Gunther Tress, Gary Fry, and Paul Opdam, 13-26. New York: Springer.

Tress, Bärbel, Gunther Tress, and Gary Fry. 2005. Ten steps to success in integrative research projects. In *From landscape research to landscape planning: aspects of integration, education and application*, ed. Tress, Bärbel, Gunther Tress, Gary Fry, and Paul Opdam, 241-257. New York: Springer.

Wilderness Society. 2000. Economic profiles for Colorado counties: Hinsdale County. www.wilderness.org.

Wright, Alexa, and Alf Linney. 2006. The art and science of a long-term collaboration. Paper presented at New Constellations, March 17-19, in Sydney, Australia. http://www.ucl.ac.uk/conversation-piece/Wright_Linney%20N_Cpaper.pdf (accessed December 15, 2009).