

Background Information on The Entrada Ranch,
A Potential Multi-Disciplinary Education and Research Facility

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Introduction

The Entrada Ranch in southeastern Utah is for sale. This is an absolutely prime red rock location 40 miles north of Moab. The ranch includes arid landscapes and 2.5 miles of the Dolores River several miles upstream of where the Colorado and Dolores Rivers converge. The potential long-term value to the University as a permanent, secure, and remote facility for education, research, and teaching is unparalleled.

The 400-acre ranch occupies flat land on the south side of the Dolores River is completely surrounded by federal Bureau of Land Management (BLM) lands. The ranch controls access to an additional 2,000 acres of BLM lands in 3 different box canyons that open onto ranch lands. The Entrada Ranch has the three most important and essential infrastructure features for any remote facility: excellent road access, electrical power, and culinary water. Originally homesteaded in the late 1860's, the ranch has had a varied history. It appears that the primary use over the past two or more decades has been as a guest ranch. Agricultural activities have been minimal in recent times, with only a modest attempt made to ensure water rights by installing irrigation pipe and raising a native-plant crop. Several houses and storage structures are located on the property. The U.S. Geological Survey (USGS) has a permanent gauging station on site with 50+ years of continuous recordings.

The University of Utah does not have any field stations where our undergraduate or graduate students can go for educational and/or research experiences. The Entrada Ranch could make an ideal location for providing those experiences as well as for the development of new multi-disciplinary and inter-disciplinary programs related to the environment. It also appears that no other university in the Utah System of Higher Education has a field station in southeastern Utah.

A CD containing PowerPoint presentations of the Entrada Ranch, its location and infrastructure, and its hydrological, biological and geological features is attached with this document.

Ownership of the Entrada Ranch

The Entrada Ranch is owned by Mrs. Susan (Rusty) Wheaton. Bruce and Rusty Wheaton arrived from California and purchased the ranch in the early 1990's; they operated it as a guest ranch. Bruce Wheaton passed away recently and now Rusty Wheaton had made the decision to sell the property.

Within the past several weeks, Mrs. Rusty Wheaton declined an offer to sell the Entrada Ranch for approximately \$1.7 million. The reasons for her declining this offer are somewhat unclear, but seem to be related to her land preservation and conservation interests. That declined offer would have put the Entrada Ranch into private hands where it is likely to have been used as an exclusive, private horse ranch. Mrs. Wheaton also indicated that she had declined a second recent offer, this one from a developer who wished to subdivide the property.

Mrs. Rusty Wheaton has now expressed an interest in selling the Entrada Ranch to an academic institution so that it can be preserved for long-term educational and research

uses. She would like to know if the University of Utah has an interest in the ranch. Rusty indicated to us that with a written statement of interest from the University of Utah that she to take the property off the market now. Mrs. Wheaton indicated that she would keep the property off the market for the next 9-12 months as the University explored its interests. At the University level, this time period would provide us with sufficient time to further explore the educational and research potential of the property and surrounding region, a chance for cross-campus multidisciplinary and interdisciplinary discussions within the University on potential uses of the Entrada Ranch, and (assuming interest) time to consider fund-raising, operational, and liability matters.

Mrs. Rusty Wheaton indicated to us that the property is owned free and clear. There are two easements to the property. The first is a USGS easement to access the river flow gauge station that they operate on the ranch. The second is a 'transport though' easement that allows a Mr. Joe Taylor the opportunity to move cows through the ranch on their way to a BLM grazing allocation at the south end of the property. This access has apparently been used only once in the past half dozen years and Rusty indicated that she would try to get this easement removed before the property was sold.

The Entrada Ranch owns water rights to about 500-600 acre-feet of water from the Dolores River. According to irrigation laws of the west, the owners must "prove" their water rights by demonstrating actual use. Accordingly, the Wheatons purchased irrigation pipe and lines to 'raise native plants for seed', but it appears that this agricultural use was not seriously implemented.

Entrada Ranch Infrastructure

Several key aspects of the existing infrastructure at the Entrada Ranch are worth highlighting:

- well-graded road maintained by the county
- 220 VAC electrical power to the ranch
- high quality drinking water from a well
- abundant access to Dolores River water for irrigation and sanitation
- 3 houses that have been used as guest ranch houses
- good road within the ranch proper

Road access. The Entrada Ranch is located about 9 miles off Utah Highway 128 at the Dewey Bridge (ca. 10 miles south of Cisco and ca. 30 miles north of Moab). There is a high quality gravel road directly to the ranch that is maintained by the county. From this county road to the ranch houses, there is a good dirt road. All of these roads can be traveled with a 2-wheel drive vehicle. Within the ranch itself, there is a good road that travels the entire length of the ranch (ca. 3 miles).

Electrical power. It is exceptional that the Entrada Ranch has 220 VAC electrical power delivered by Utah Power. An above ground power line was installed approximately 20 years ago. It is reported that this line has the capacity to supply electricity to the equivalent of several dozen houses. Electricity to the different guesthouses, irrigation pumps, etc. is supplied by underground lines.

Drinking water. There is a 10,000-gallon storage tank (in moderate condition) that stores water for all culinary needs. It is fed from a well in Cottonwood Creek Canyon and so the water is of high quality (low alkalinity). The depth of the existing well is 60-100 feet.

Water rights on Dolores River. The Entrada Ranch has annual access to ca. 600 acre-feet of water from the Dolores River. This water is somewhat alkaline but more than adequate for irrigation and sanitary needs (toilets, washing, showers, etc.). At the moment this water supply is not in use because there is no need for this extra water. While an irrigation line was installed several years ago, it has never been used. The irrigation equipment was apparently installed to justify maintenance of river water rights.

Guesthouses. There are three rustic guesthouses with a total capacity for ca. 30 people on the ranch. These houses are rustic, but well cared for. They are complete with kitchens, bedrooms, living rooms, bathrooms, and storage. Of course, these houses are fully equipped and furnished.

Reasons for University Interest in the Entrada Ranch

There are several reasons why the University should aggressively consider this unique opportunity.

Consider our *teaching* mission. The geological, landscape, and hydrological features of the ranch and surrounding area make it a natural venue for undergraduate classes in the College of Mines, College of Social and Behavioral Sciences, and College of Science. The biological, ecological, and environmental features make it a natural setting for students in these same three colleges. The cultural features of the original homestead make it a natural restoration setting for anthropology students in the College of Social and Behavioral Sciences. The aesthetic features and solitude of the river and box canyons make it a natural place for writing and art classes for students in the Colleges of Fine Arts and of Humanities. The location is still near pristine in many ways and the surrounding areas will not be developed if the BLM agrees to specify their lands immediately around the Entrada Ranch for educational and research uses.

Consider our *research* mission. Water in the West will continue to be a major challenge as human populations expand. The University will be conducting research on a variety of water issues and water policies over the next century. There is no doubt about that. Yet we have no permanent facilities where that research can be done or where the teaching can occur! Here, with the Entrada Ranch, we have an unparalleled opportunity to establish a long-term research site to study riparian ecosystems, river hydrology, geological formations, and the interactions between riparian and terrestrial ecosystems.

Consider as well our *outreach* mission to citizens in southeastern Utah and opportunities to interact with federal and state agencies located in the nearby parks and public lands. We cannot imagine a better location in southeastern Utah where the University could foster a more positive relationship with the public by demonstrating our long-term commitment to educational and research projects clearly linked to that part of the state.

The riparian corridors of the arid West are among the most biologically important and sensitive areas in the Colorado Plateau [a region that includes southeastern Utah, western Colorado, and northern Arizona]. They are also the most heavily impacted by human activities and frequently the focus of intense political and legal conflict. The Entrada Ranch includes almost three miles of riparian habitat on one of the major rivers of the Colorado Plateau. This presents the University of Utah with an outstanding opportunity to become a very visible player with respect to basic and targeted science on a topic of vital interest to our region - i.e., the restoration and maintenance of healthy riparian corridors. We are not aware of any other academic institution in our region with control over a comparable resource.

Although not an immediate selling point, the anthropogenic disturbances at the Entrada Ranch are actually a plus. The reason is that they are so characteristic of virtually all rivers in the Southwest that have been accessible to humans over the past 150 years. Parts of the Entrada Ranch bear the scars of all the classic abuses associated with human activity on the Colorado Plateau: historical livestock grazing, small-scale agriculture, and the introduction of exotic plants. The riparian borders of the ranch currently host populations of four of the most troublesome invasive species (*i.e.*, tamarisk, knap-weed, white top, cheat grass) now threatening riparian and rangeland habitats all over the West. This fact gives the site enormous research potential on the biology, ecology, and control of invasive species. This, of course, is an area of environmental biology that is already exploding and one that is certain to only grow more important in the future. The site is located on a stretch of river whose flow is regulated by an upstream dam, something also shared with most other western riparian corridors. This can likewise be considered as a positive, mostly because it invites interdisciplinary studies involving biologists, hydrologists, meteorologists, and geographers. The on-site USGS gauging station is a valuable resource, especially since its measurements have been continuous for half a century and substantially predate the McPhee Dam on the Upper Dolores [100+ miles upstream].

Water is always going to be a major issue in our state and a topic where the University will invest in both teaching and research, if we consider the environment and sustainability to be important issues. We believe this to be the case. Moving quickly now to obtain the Entrada Ranch would provide instant educational and research capacity that would, in turn, make possible a quantum shift in environmental education and research at the University of Utah. Such an opportunity will not likely ever come again.

Educational Opportunities

The educational opportunities at Entrada Ranch would appear to be boundless for liberal education, advanced undergraduate instruction, and for graduate training. Because the ranch spans 3 miles, it affords many opportunities for different landscapes and terrains. Virtually all aspects of University education could find an opportunity at Entrada Ranch. For instance, the vistas, isolated canyons, river, and different ecosystems could be appealing to University art and writing classes [Colleges of Fine Arts and of Humanities]. The diversity of geological and hydrological features at the ranch and surrounding areas will be of tremendous use by different classes offered by the Colleges of Mines and Earth Sciences and of Social and Behavioral Sciences. Substantial portions of the original (1860's) homestead structures and facilities are still present and could be a long-term reconstruction project for students in Anthropology. Lastly, the

biological diversity in the riparian and desert ecosystems at the Entrada Ranch is a treasure for students in the College of Science.

The Entrada Ranch has the potential for serving as a location for both short-term (e.g., weekend) and long-term (e.g., weeks) educational experiences. There are already many University classes that offer educational experiences throughout southern Utah that could focus their activities at Entrada Ranch and/or in the surrounding region. For example, there are desert ecology and ornithology field classes in Biology and geomorphology and hydrology classes in Geology that could immediately benefit from access to a location such as the Entrada Ranch. At the moment, limited overnight lodging capacities and an inability to develop long-term *protected* teaching opportunities are a major constraint on our educational mission. The Entrada Ranch overcomes such constraints. Having an Entrada Ranch setting where students could go for 'writing' camps, for example, would add a new dimension that would greatly enrich the undergraduate experience. To us, the undergraduate opportunities in specific disciplines as well as for interdisciplinary education seem boundless and well worth exploring.

We have developed initial lists of the undergraduate and graduate classes from just two departments (Biology and Geology/Geophysics) that could use the Entrada Ranch for educational purposes. Obviously with further exploration, we could identify classes in many other departments as well. In short, the Entrada Ranch could likely serve 200-500+ students per year. In addition, there is no doubt that other universities within the state as well as across the nation would jump at the opportunity to have access to the land and facilities at the Entrada Ranch. One only has to drive through Moab in the spring and summer to see the university vans from many distinguished universities across the country taking their students to southern Utah for geological and biological field trips.

With some further thought and consideration, it would be possible for a University-wide committee to better describe the instructional opportunities that would be afforded if the University made the Entrada Ranch available as an educational resource.

Research Opportunities

The Entrada Ranch provides some rather unusual and perhaps unique opportunities for research. First, it is located in a geologically- and biologically-diverse part of the state. Second, it is centrally located so as to have immediate access and control of sufficient terrain to support many different kinds of research experiences, including watershed-scale studies, manipulative experimental studies, population-level studies, landscape-process studies, and restoration studies.

As the University explores reasons for 'why' to get involved in the Entrada Ranch, it is important to consider three factors that constrain many aspects of field-based research: guarantee of long-term access to a site, the ability to protect instruments and experiments at a field site from vandalism and disturbance, and the capacity to provide logistical facilities so that researchers can work and stay in the field. Each of these essential needs is met at the Entrada Ranch. This not only increases the immediate potential for externally funded research and graduate training, but also simultaneously opens the door for long-term studies that might span decades and provide the basis for benchmark advances in environmental science.

It is clear that externally funded research could develop and prosper at the Entrada Ranch. Researchers from many different colleges on campus would find opportunities, ranging from hydrologic studies to ecosystem studies. Interdisciplinary research bridging natural and physical sciences seems a very real possibility. We are at an interesting time in the development of science at the national level. Long-term programs such as the National Ecological Observatory Network (NEON, <http://neoninc.org>) and the Consortium of Universities for the Analysis of the Hydrological Cycle (CUAHSI, <http://www.cuahsi.org>) are developing and it is conceivable the Entrada Ranch could serve as one of their long-term research stations.

The BLM as an Essential Neighbor

The public lands surrounding the Entrada Ranch are a treasure and in much better shape than we would have imagined. They are likewise an essential element in the long-term viability of any educational and research entity that might be established at this locality. Virtually all the hydrologic inputs (river, surface and subsurface ground water) to the ranch as well as nearly every organism that crawls, flies or blows onto the place, will originate on these public lands. Most of the long-term monitoring and research projects at the Entrada Ranch Field Station would, of necessity, have to factor in the BLM lands and their management. The three box canyons associated with the ranch are terrific assets. They are natural replicates on one level, but with significant differences otherwise. Control of access to the canyons by the field station, while a real plus, could not prevent negative impacts to their watersheds and biota were there significant degradation of the mesas and benches above their rims.

Failure to secure a satisfactory agreement on the future use of the neighboring BLM lands could impact the overall utility of the Entrada Ranch. We see no substitute for a binding legal agreement with the BLM on how these lands are to be managed in connection with the objectives and mission of the Entrada Ranch Field Station. It is very likely that the BLM would be interested in setting aside these neighboring lands for research and educational purposes. We imagine that this will require a MOU at minimum. This is an area where we might want to tap the expertise of the Stegner Center in the College of Law.

There are two related grazing issues: 1) Where, when and how much grazing will there be on the BLM lands surrounding the Entrada Ranch - at the moment there is little; 2) How to eliminate the "trailing easement" that Mr. Joe Taylor currently holds across the Entrada Ranch. Of course, both issues could be addressed at once if the Taylor allotment were retired. The Grand Canyon Trust has purchased a number of allotments on the Colorado Plateau in recent years. However, given current interest in "sustainable grazing" on public lands, there is something to be said for an arrangement that would permit limited, carefully regulated grazing to continue on some of the adjacent BLM land.