

Unlikely Partnerships

This paper provides an overview of graduate level studios and electives that pedagogically provide a platform for interdisciplinary, collaborative, work while searching for new paradigms of pedagogy, collaboration, sustainable design, and stewardship. This work simultaneously frames both teaching and research and conceptually serves both faculty and students alike from a multi-disciplinary standpoint. Pedagogically, this forward looking and flexible perspective positions students to be more adequately prepared for the rapidly changing demands of the profession, industry, and emerging client concerns for more comprehensive, integrated design solutions in a shorter time frame with economic savings. Perhaps most importantly these collaborations instill in students the value of “leaving a place better than you found it” and the importance of “giving back.”

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UNLIKELY PARTNERSHIP NO. 1

Established in 1872, Yellowstone is America’s first national park. Covering 2.2 million acres in Wyoming, Montana, and Idaho, it is home to a large variety of wildlife including grizzly bears, wolves, bison, and elk. Preserved within Yellowstone National Park are Old Faithful and a collection of the world’s most extraordinary geysers and hot springs, and the Grand Canyon of the Yellowstone. The human history of the Yellowstone region goes back more than 11,000 years. It has an annual budget of \$37 million and 860 employees. Yellowstone’s 3 million visitors spend \$ 345 million each year - and support over 6300 jobs in the local economy.

Yellowstone’s busy development hubs, auto parking lots, widened roads, expanding asphalts and structures erected to handle the crush of tourism have produced troublesome footprints. Their presence, experts say, not only detracts from Yellowstone’s aesthetic grandeur, but short-sightedness has trampled sensitive geothermal areas, run roughshod over wildlife habitat and sullied vistas that the crown jewel sanctuary was set aside specifically to protect. Yellowstone’s grid of development needed an overhaul and how it can be done to accommodate rising numbers of people while paradoxically lessening environmental impact was a demanding challenge.

“As the park faces the National Park Service Centennial in 2016, we need to consider how this area (Mammoth – Yellowstone National Park North



Entrance) should change as visitation increases. How can the visitor experience be enhanced through the proposals you will create? How will the resources receive protection as the thermal features change almost daily? The Charrette will provide new ideas to be evaluated through future comprehensive planning. We look forward to the conclusion of your efforts on Friday. Enjoy the week and thank you so much in advance for your hard work and dedication to Yellowstone's future."

Constituents of this partnership include the National Park Service (Yellowstone National Park), the private sector (JLF & Associates of Bozeman, Montana + 15 professional architecture, planning, and landscape offices from around the country), and the academy (School of Architecture at Montana State University). This partnership has spanned some ten years with the ongoing aspiration of generating a new model/paradigm for looking at one of the country's greatest resources - Yellowstone National Park.

BEGINNINGS

Paul Bertelli, a member of the Yellowstone Park Foundation, Design Principal at JLF & Associates in Bozeman, Montana, and graduate of the School of Architecture at Montana State University approached the school with the proposition of forging a partnership between Yellowstone National Park, JLF, and the School of Architecture with the intent of bringing assistance and assets to the park that are unavailable to them.

An ambition to bring collaborative assets, high quality professional design services, research opportunities, and place students in a professional environment was viewed as a win | win situation that was a form of outreach themed around the idea of "giving back" to a system that is grossly underfunded endangering its cultural, environmental, historical, and physical assets that as Ken Burn's remarks is "... America's Best Idea".

Figure 1: Sunrise at Old Faithful. Photograph by Audrey Hall.

With all three constituents committed to exploring uncharted territories monthly meetings were scheduled in JLF's office in Bozeman beginning in 2005. After two and one half years, dozens of meetings, strategizing, concessions, etc, Superintendent Suzanne Lewis agreed to endorse the first of three charrettes with the intent of seeking greater visions and establishing new methods of exploring the future of the park than have been historically provided.

PEDAGOGICAL STRATEGY

Pedagogically, the intent was to have students be involved in all aspects of a complex collaborative strategy with multiple players to serve the greater good for a national treasure. To facilitate this ambition Professor Brittingham offered six graduate electives and three graduate option studios that were essential to the outcome of the Lake, Old Faithful, and Mammoth Charrettes. Preceding each charrette students spent five days in the Yellowstone Archive Facility located in Gardiner, Montana.

During these visits students worked directly with park staff researching every contributing factor specific to charrette locations. Research areas included, but were not limited to, timelines, trails and road infrastructure, climate data, geothermal data, fire data, flora and fauna data, precedents, historic mapping data, master plan history, topographic mapping overlays, cultural interpretative history, parking, site photos, etc. Gathered information was compiled into professional charrette briefs that were delivered to invited professionals in advance of each charrette. Depending on the semester students either developed their own solution to the charrette brief as a team, participated as a team member during the charrette, or both.

THE PLACES AND THE PROBLEMS: LAKE, OLD FAITHFUL, AND MAMMOTH

Consider: At Lake Hotel tourists no longer arrive at the front of the guest lodge along Yellowstone Lake as architect Robert Reamer intended. Instead, they pull into an unattractive parking lot behind the hotel that prevents them from even seeing the lake. In the same vicinity, dozens of historical cabins that played a crucial role in Yellowstone's contribution to trout conservation are falling apart.

At Old Faithful, parking lots are nearly as large as the geothermal dimensions Of Old Faithful Geyser itself. On any busy summer day, the scene around the world's most venerable thermal fountain is more like stadium crowds flocking to a sporting event or amusement park.

At Mammoth Hot Springs, all traffic currently passes through the heart of the development, creating congestion and safety hazards that detract from the otherwise tranquil setting of historic Fort Yellowstone and the travertine terraces flanking park headquarters.

In all three cases pedestrian and vehicular are problematic, many existing cultural and historical assets are in disrepair and unused, visitor orientation is severely compromised, safety with respect to wildlife corridors is challenging, areas for the creation of future development is vague, visitor shelter is inadequate, etc.

TEAMS

Over the course of the partnership Professor Brittingham invited fifteen regional, national, and international design firms specializing in the disciplines of urban planning, architecture, and landscape design to participate in three five-day

design charrettes. From the first charrette at Lake Yellowstone that attracted Mithun and Bohlin Cywinski from Seattle, Mosaic Architecture from Helena, Montana, and Verdone Landscape Architects and Carney Architects of Jackson Hole it won attention of firms even farther afield. At Old Faithful OLIN Studio from Philadelphia, LDa Architects from Cambridge, Massachusetts, Smith Group of Phoenix, Fentress Bradburn from Denver, and Intrinsic from Bozeman joined in. And in the third installment at Mammoth, PRODUCT Architects from Chicago was complemented by El Dorado from Kansas City, Henneberry Eddy and Walker Macy from Portland, Oregon, and Living Places Design Studio from Bozeman.

One or two graduate students from the School of Architecture as well as a member of the American Society of Architectural Illustrators (all friends of the School of Architecture) joined each team. Many of the participating firms were friends of the School of Architecture, professional colleagues of Professor Brittingham, or were simply contacted via “cold call” for their professional expertise. It goes without saying that the lure of perhaps the most widely known national park on the planet was an “easy sell”.

CHARRETTE ORGANIZATIONAL STRATEGY

As previously mentioned charrette information packages were delivered to all participants prior to their arrival at Yellowstone. Charrettes focused on challenges and opportunities in the Lake, Old Faithful, and Mammoth areas. Each charrette was themed around stewardship of the land and required balancing resource preservation with responsible development and re-development, sustainable practices, enhanced visitor experiences, and education.

Welcome dinners preceded the first workday of each charrette and all accommodations and meals were provided for all participants. Park Rangers and department staff conducted field tours of the project areas. These tours were complemented with one and one half days of staff presentations.

Typically teams and participants arrived on a Sunday afternoon, settled into their rooms, and met one another at the welcome dinner where Superintendent Lewis delivered opening remarks. Monday and half of Tuesday were reserved for information downloads by various Park staff and Park Rangers with the real design work beginning on Tuesday afternoon after lunch. Several process critiques with Park staff and Park Rangers were scheduled during the working days. Teams would work well into the night on Tuesday, Wednesday, and Thursday with PowerPoint presentations beginning after breakfast on Friday. Following the presentations was a light lunch where closing remarks from Superintendent Suzanne Lewis, Paul Bertelli from JLF & Associates, and Professor John C Brittingham from the School of Architecture at Montana State University were made.

ETHIC

The over arching ethic associated with all of this work is “giving back for the greater good.” Yellowstone’s own mantra of “protecting and preserving” the resources entrusted to their care, ensuring that decisions are based on sound science and research and the voices of all stakeholders are heard, is the backbone for this inspiring partnership. JLF’s recognition that the highly successful nature of their office is in fact dependent on the park is striking testimony to their commitment to the partnership. The notion that professional offices and illustrators from all over the country were willing to underwrite their travel expenses and donate one week of billable hours demonstrates the incredible power and draw

that the park commands. Montana State University is a land grant institution. As a land grant institution it has, from inception, been committed to giving back to the people of Montana. Community engagement is one of the many ways that MSU students, faculty, staff and alumni accomplish this part of the institutional mission. Teaching and providing a venue for students' ethical involvement within the context of their community and place is an invaluable lesson during the early part of their career.

FUNDING STRATEGY

Each charrette was fully funded by the Yellowstone Park Foundation. The Foundation works closely with the National Park Service to identify Yellowstone's immediate needs and long-term funding challenges. It is a non-profit organization whose mission is to protect, preserve and enhance Yellowstone National Park. They rely solely on the generosity of private individuals, foundations, and corporations to support projects and programs that are beyond the financial capacity of the National Park Service. Funding also included the publication costs associated with the professional briefs and outcome books. As previously stated, all teams and participants underwrote their own expenses for travel to and from the charrette venues.

EFFECT | OUTCOME

All digital and physical products of the work conducted at Lake, Old Faithful, and Mammoth were delivered to Professor Brittingham prior to team and participant departure. During the ensuing months Professor Brittingham synthesized all work generated during the charrette, designed, and published a full color book documenting the process and event. These publications were typically 125-150 pages in length and were disseminated to all charrette participants and to the park.

During the fall of 2007, the spring of 2010, and the fall of 2011, Professor Brittingham designed and published the work of the Lake Yellowstone, Old Faithful, and Mammoth Charrettes, documenting the collaborative partnership between JLF and Associates, Yellowstone National Park, the School of Architecture at Montana State University, and all invited professionals. The outcomes were "gifted" to the park and were instrumental in the development of their comprehensive master-planning efforts. The estimated value of this collective effort is in the millions and created a dynamic collaborative process.

UNLIKELY PARTNERSHIP NO. 2

The second unlikely partnership was comprised of the Historic Big Island of Hawaii Kukai'au Ranch, the non-profit Kohala Center located in Waimea, and the academy. In this studio students worked collaboratively with faculty and students from the schools of business, and agriculture to develop a self-sustaining ranch and education center that would protect the land in perpetuity. Additionally, students worked with native plant cultural historians, conservation based ranching experts, conservation based development experts, conservation easement attorneys, the Kukai'au owners, ranch staff, etc.

This collaborative proposal was diversified in approach and themed around a contemporary vision of the ahupua'a. The ahupua'a is an ancient land division tactic that secured resources for the people of Hawai'i. Ahupua'a honors the Hawaiian peoples' right to have equal potential for self-sustenance through access to diversified land and resources. This defining cultural characteristic has been degraded by years of dependence on tourism and the wholesaling of

some of the most productive land on the planet. The proposal for sustaining the Kukai'au hinges on a contemporary interpretation of the Hawaiian tradition of the ahupua'a where the resource shared is intellectual capital. The knowledge created by working with local, state, national, and international agencies is used on the ranch and shared with the greater community of the Hawaiian Islands.

The proposal included a cattle management plan, forestry management plan, forestry management plan, resource management plan, government assistance plan, community enrichment plan, conservation easements and resultant tax benefits, a not-for-profit research institute, education and outreach, historic preservation and resultant tax advantages, Hawaiian homelands agriculture and housing, and more. Work performed by the students has been conservatively valued at \$250,000 by the owners' attorneys.

BEGINNINGS

Having successfully worked with the Kohala Center on a previous occasion Professor Brittingham was contacted by Matt Hamabata who is the acting President and Chief Executive Officer of the 501(c) 3 center for research and education that respectfully engages the Island of Hawaii as the world's most vibrant research and learning laboratory. The Kohala Center recognizes the Island of Hawaii's natural and cultural assets—and the challenges to those assets—as intellectual assets. By building partnerships that connect island-based, regional, national, and international expertise, The Center carefully engages those assets to build teaching and research programs that serve island communities and enhance island environments. And given Hawaii Island's unique physical and socio-economic characteristics, those programs also benefit the world as a whole: local knowledge and local solutions have global impact.

The Kohala Center has developed great expertise in, and derives great comfort from, building partnerships, working with island and scientific communities, and supporting the development of effective teaching and research programs. The Center currently works with Hawaii Community College, the University of Hawaii at Hilo and Manoa, Brown University, Cornell University, the School of Architecture at Montana State University, The Andrew W. Mellon Foundation, the Redlands Institute, the School of Forestry and Environmental Studies at Yale University, the U.S. Office of Naval Research, the U.S. National Oceanic and Atmospheric Administration, the University of California at Santa Barbara, and the University of Washington at Friday Harbor, among many others.

In addition to designing research projects with its university and research agency partners, The Kohala Center fulfills all the typical functions of a research institute, including: (a) accessing viable research sites, (b) providing logistics support, (c) locating suitable accommodations, (d) accessing appropriate laboratory space, (e) offering grant writing and grant management services, (f) managing foundation and government relations, (g) developing major donor relations, and (h) providing fiscal services. In its work with its partners, The Kohala Center prides itself in "taking care of anything and everything that can get in the way of good research and good teaching."

The proposed field of study for this collaborative project was the cultural, economic, environmental, historical, and social sustaining of the historic 10,000-acre Kukai'au Ranch. The ambition of developing a long-range plan to assist the Kukai'au in becoming a self-sustaining ranch and education center to support the community and protect the land in perpetuity was the primary goal. As with



Yellowstone, pedagogically, the intent was to have students be involved in all aspects of a complex collaborative strategy with multiple players to serve the greater good.

TEAM

Due to the nature of investigation Professor Brittingham understood that additional expertise from within the university would be needed for a successful project and the Schools of Agriculture and Business were folded into the process. Professor Myleen Leary from the School of Business and six of her graduate students joined the team along with Thomas Bass from the School of Agriculture who is a livestock environment specialist.

In preparation for the project, Brittingham, Leary, and 6 graduate architecture students traveled to the ranch in order to experience the land first hand, to speak with those familiar with the area, and get a feel for where the owners and stakeholders of the ranch would like to take it in the future. It was very important to gain an understanding of the relationship between the people and land in Hawaii.

Consulting with the team during the site visit was a variety of friends and consultants that The Kohala Center provided. They included Molokai Ranch Manger Jack Spruance who advised the design team with his expertise in the cattle industry as well as local bio-intensive farming experts. In addition, native Hawaiian experts from the U. S. Forest Service oriented the team to native tree species, flora, and fauna. Greg Hendrickson, a nationally recognized conservation easement attorney, provided a ½ day seminar in the areas of conservation easements and native Hawaiian agricultural subdivisions.

DESIGN STRATEGY

Based upon the groups' experience in Hawaii, it was determined the ranch would best be served by breaking the project up into six areas of focus: cattle, forestry, resources, government assistance, community, and education. The areas were each addressed by an architecture and business student. Additionally, the six pairs met frequently so that all areas would, in collaboration, fulfill the vision for the ranch. During these meetings Leary and Bass also joined the team.

FUNDING STRATEGY

Both the School of Architecture at Montana State University and the Kohala Center funded this studio. The students' and Professor Brittingham's airfare and ground transportation were provided for by a graduate studio field trip allowance. The School of Business provided Professor Leary's airfare. The Kohala Center additionally provided lodging, and coordination of the site visit.

Upon completion of the project the Kohala Center covered all expenses for Professor Brittingham and two graduate architecture students to return to the island and present their proposal. Deliverables included a PowerPoint presentation, hard copies of the presentation, and a fifty-page sustainable growth plan for the Kukai'au Ranch. The collaborative work was presented to the owners, stakeholders, attorneys, and friends and staff of the Kohala Center.

UNLIKELY PARTNERSHIP NO. 3

The third partnership included the Grand Canyon River Heritage Coalition (GCRHC), Grand Canyon National Park, and the academy all in support of submitting a proposal for the California Architectural Foundation William Turnbull +

Figure 2: Kukaiau Ranch. Photograph by John C. Brittingham.

Arid Lands Institute “Drylands Design: An Open Ideas Competition for Retrofitting the American West”. Additional advisors included historians, river guides, interpretative experts, ecologists, water specialists, etc. The outcome of the studio, titled SLOW FLOW, is a phased remediation proposal for Grand Canyon National Park’s South Rim, its 5 million annual visitors (projected to be doubled by 2050), employees, residents, their collective annual water consumption, and the cost of that consumption. Each scale of the proposition is defined by a top down/bottom up strategy mitigating the water-energy nexus that strives to inspire dissemination and conservation through education, exposure of systems, and enhanced visitor experience. The proposal received national and international recognition.

BEGINNINGS

This project came about quite opportunistically on the heels of Yellowstone National Park cancelling a project two months before the scheduled start date. Having already considered working with additional national parks Professor Brittingham was put in contact with the GCRHC by a close friend that had considerable knowledge of the Grand Canyon and the organizations that work there.

Coincidentally, one of the students enrolled in this option studio was the son-in-law of the newly appointed Superintendent of Grand Canyon National Park, Dave Uberuaga. Equally coincidental was the timely announcement of California Architectural Foundation William Turnbull + Arid Lands Institute “Drylands Design: An Open Ideas Competition for Retrofitting the American West.” In addition, research colleagues in the Department of Ecology had active projects in the Grand Canyon.

To say the least, having access to so many constituencies associated with the Grand Canyon in such a short period of time was a fortuitous piece of considerable luck.

ORGANIZATIONAL STRATEGY

A series of meetings were scheduled with Grand Canyon National Park, GCRHC, etc. Professor Brittingham and the graduate students travelled to Grand Canyon and were afforded the opportunity to spend three days on the river and a subsequent four days at the south rim as guests of the NPS. Upon returning to Montana the team spent an intensive research phase understanding the Colorado River Basin, its watersheds, Major John Wesley Powell’s infamous expedition down the mighty Colorado River, water regulation, and water law in the West, etc. This research phase was topical and divided among the students to quickly “divide and conquer” a greater understanding of the many issues at play in the Turnbull competition and issues surrounding the Colorado River in the Grand Canyon. It was then agreed that the studio would submit one collaborative entry to the competition.

THE PROJECT

The project, titled SLOW FLOW is a phased remediation proposal for Grand Canyon National Park’s South Rim, its 5 million annual visitors (projected to double by 2050), employees, residents, their annual water consumption, and the cost of that consumption. Each scale of the proposition is defined by top down | bottom up strategy mitigating the water-energy nexus that strives to inspire dissemination and conservation through education, exposure of systems, and enhanced visitor experience.



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The multivalent approach and scale begins with re-texturing the landscape of the existing watersheds at the South Rim. The introduction of inexpensive and easily implemented gabion walls as a set of architectonic strategies works to slow the flow of water.

Enhanced water retention, vegetation, habitat, visitor experience through water consciousness, and connection to the resource are omnipresent themes. Phase 1 re-textures the land. Phase 2 re-choreographs the existing land-use through an understanding of environment, infrastructure, and means of transport.

The political, social, physical, and visual foundations for this proposal were inspired by Major John Wesley Powell’s watershed map of 1878. By coupling a system of top-down policy implementation at a macro scale and bottom-up education strategies at a micro scale, the project proposes to rework the existing infrastructure of the South Rim’s water usage and program placement by utilizing the existing hydro-geography to enable creativity in finding local water and energy alternatives. The goal was to educate, and captivate, the millions of people from all over the world who visit Grand Canyon every year, about strategic water conservation in hopes that the ideas will spread on a global level.

CONCLUSION

As for the students at MSU you cannot put a value on what they have been part of because it is unique. Enlightening to students are the regulations that planners, architects, and landscape architects in Yellowstone, Hawaii, and the Grand Canyon must confront. Recognizing the needs of rare and imperiled species, sustainability, adaptive re-use, historic preservation, conservation of the land, fiscal responsibility, etc, in a collaborative environment with professionals takes a classroom learning experience to a whole new level. Instilling early on in students’ professional lives that “leaving a place better than you found it,” the importance of “giving back,” and the value of working in a collaborative environment is an invaluable ethic and is perhaps our highest charge as educators.

Figure 3: Horseshoe Bend Grand Canyon. Google images.

ENDNOTES

1. Yellowstone Superintendent Suzanne Lewis.
2. Western Art and Architecture, “A Yellowstone Charrette” by Todd Wilkenson, Fall | Winter 2011.
3. Yellowstone Superintendent Suzanne Lewis.
4. Western Art and Architecture, “A Yellowstone Charrette” by Todd Wilkenson, Fall | Winter 2011.
5. kohalacenter.org/about.
6. kohalacenter.org/about.