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WRD RETIREES

NEWSLETTER 157-S
SUPPLEMENT
November 2012

An organization of retirees of the Water Resources Discipline, U.S. Geological Survey, whose purpose is to keep its members in touch with each other and their former agency.

From the Editor

This is the third Newsletter Supplement, and we are really happy with the contributions. Retiree Clint Nagel, MT, wrote a terrific piece on the history of the gaging station on the Merced River at Happy Isles Bridge near Yosemite, CA. Retiree Pete Scott, FL, sent us photos of training classes that were held in Las Vegas and Golden in the 1960s. One is of a class of WRD USGS future recruiters. In addition to what we have in the main Newsletter about the Boise 2012 Reunion, we have a list of all the attendees and more photos.

Do you have material to share? See "[We Want More Contributions](#)," below.

Thanks!

--Charles

We Want More Contributions!

Please send us your training-class photos, articles, memories about your life in the Survey or anything else. Anything! This is a great way to share them with fellow retirees. If you have access to a scanner, you can scan photos and send them by email. Send us originals, including handwritten material, and we will scan them and return the originals back to you.

You may send the contributions online to wrdretirees@usgs.gov or to me at whozit1130@aol.com. If you have something handwritten or an original that is not scanned, pop it in an envelope and send it to my home address, 2370 Albot Road, Reston, VA 20191. Feel free to call me on my cell phone at 703-609-8271 to discuss your material.

History of the Stream Gage: Merced River at Happy Isles, Yosemite National Park, CA

By Clint Nagel

July 1, 2012

Working for the Water Resources Division has been a privilege throughout my career, even though sometimes I may not have cherished it as such. But I do know it gave me opportunities which never would have presented themselves otherwise. For one it gave me an opportunity to work alongside many people who were dedicated to the field of water science, and I must say there have been some great ones. The agency has had a long and exciting history and I am proud to have been a small part of it.

One of the last privileges I had was being the Field Office Chief of the Sacramento Field Office (SFO). This provided me the opportunity to finish the work of so many people in relocating the gage at Merced River at Happy Isles in Yosemite National Park. It took years of work by many, before me and with me in the USGS and National Park Service, to get this done. But what I wanted to discuss here was not the task of relocation, but the history which I encountered in the process. As you can guess, a gage like Happy Isles within a National Park is a privilege to encounter. There is history here and I'm sure that some of you have experienced a similar interest like this elsewhere.

The Yosemite Valley was first set aside for protection by Congress. The lands were included in a Congressional Bill, which passed both Houses and was then signed into law on June 30, 1864 by Abraham Lincoln. But not as a national park as we know it today, but as an area of land to be entrusted to the State of California. It wasn't until 1890 when the Yosemite area became part of the National Park system. Even then it didn't have the boundaries as we know it to have today. With national parks popping up all across the country, there still wasn't any management system in place which was authorized by Congress to protect these federal lands. It wasn't until August 25, 1916, when President Woodrow Wilson signed into law an act creating the National Park Service (NPS).⁽¹⁾ Nearly a year prior to this event, just five days shy of a year, Mr. Charles Leidl of the USGS established a staff plate on Happy Isles Bridge. A little over one year after the establishment of staff gages at Happy Isles, Mr. F. C. Ebert of the USGS installed one of two automatic water-stage recorders to be used in the Yosemite Valley. The date was November 2, 1916.⁽²⁾



These old pictures of gage construction are scanned copies of the originals taken in September of 1916 by F. C. Ebert. The National Park Service provided materials and labor for the gage (according to documents in the SFO). Construction to house the instrumentation began in September 1916 and was

completed in November of that same year. An interesting point here, the construction of the gage at Happy Isles by the NPS was only a little more than a month after the agency was created, yet four months before Stephen Mather, the NPS's new director, convened a conference in Washington, DC to promote the National Parks and the National Park Service.



Until the weekly recorder was installed, staff plate readings were read twice a day. A couple of reasons for the continuous recorder installation was that there was a powerhouse located just upstream of the gage. Regulation was causing erratic and hard to determine daily mean flows in the river. Also the extreme diurnal fluctuations which occur during spring runoff from April to June were too great. The fluctuation at times was so great that the flow during the warm part of the day might be as much as 50% greater than the flow a few hours before and after. One or two readings per day just weren't providing the accuracy of flow which was needed.

An interesting note about the powerhouse, it was constructed in 1902 by the state Board of Commissioners in order to provide power to the Valley Floor. It appears that a bridge existed at the Happy Isles location as far back as 1883 and was named Tis-sa-ack Bridge. This was the documentation "as it appeared in Capt. George M. Wheeler's 'Topographical Map of the Yosemite Valley and Vicinity'." In fact, in 1886 James M. Hutchings reported that the road was commonly known as Tis-sa-ack Avenue Road. It was believed by the early settlers of the time that "Tis-sa-ack" was the Yosemite Indians' name for Half Dome. By 1909, the bridge actually became known as Power House Bridge. The acting superintendent of the park at that time described it as a wooden structure being 86 feet in length. This old bridge did not stay in place much longer, but it can be seen in the old pictures taken by F. C. Ebert in 1916. In 1920, the Park Superintendent Washington Bartlett Lewis described the bridge to the Director of the National Park Service as a "*prehistoric type*" of bridge in a "*very marked state of decay*." In 1921 it was replaced, only to be replaced again downstream in 1928. ⁽³⁾ This was the bridge which became known as the Happy Isles Bridge and it is a stone-faced concrete arch bridge which stands today.

Meanwhile back at the gage, construction was completed in November of 1916. It was a beautiful wooden log structure about 14 feet square with a gazebo-like shelter sitting over the housing and stilling well. The stilling well was built with what we presumed to be local rock to form the outer foundation. In 1918, the stilling well was lined with concrete and in 1925 the weekly recorder was replaced with a continuous recorder. It is believed that the old powerhouse was removed in 1919, but not too soon afterwards, a fish hatchery was constructed in 1927.

As I was looking into the history of the gage, I found a May 20, 1952 document prepared by Revoc C. Briggs, who was then the District Engineer for the USGS. It was addressed to Dr. Carl P. Russell, who was the Superintendent of Yosemite National Park. The intent of the document was to summarize the USGS involvement within the valley floor of Yosemite National Park. According to USGS records, USGS involvement began in July of 1904 on several streams in the valley. During these early years, the USGS had seven gaging stations on the Merced River and its tributaries within the valley. Each gage has a page of description in this summarization. Of course, not all were fully operational recording gages. Some were just staff plate readings with infrequent measurements. Today there are just two fully operational gages on the valley floor: Merced River at Happy Isles and Merced River at Pohono Bridge. The latter also became operational in 1916. I want to thank Revoc C. Briggs for documenting the USGS work and involvement within the park. It in itself is an important document in linking the USGS's involvement of streamgaging in the valley floor.

The Happy Isles gage remained unchanged in most respects for these early years, at least as far as records and documents indicate. In 1957, however, the cover for the recorder in the gazebo was replaced with a different design with the installation of a talking exhibit. All of this was done in order to modernize and take advantage of public outreach. In October 1965, the gage became part of the Hydrologic Benchmark Network where discreet as well as continuous water quality data had been collected periodically by a variety of USGS and NPS personnel alike.

Unfortunately, on March 26, 1975, the original gazebo was destroyed by a fallen tree and removed. The exhibit at that time was also damaged and was replaced with a new display. However, the gazebo was not replaced. My personal take on this is that there are probably logical reasons for not replacing that structure, but the result of not replacing it caused problems for months and years to come. One problem was heat buildup in the subsequent displays and the housing thereafter. The beautiful gazebo, however, was gone. It had lasted for nearly 60 years. After the destruction of the gazebo, a period of time followed which can be best characterized as a search for maximizing the best outreach potential that can withstand the elements. It wasn't until July 31, 1980 that reconstruction of the housing and rehabilitation of the gage was complete. But it was short lived in respect to gage history. As early as May 1991, there were attempts to rehabilitate the display and modernize the instrumentation and gage again, especially after the bridge was damaged by the January 2, 1997 flood. There was much documentation from the late 1990's to 2010 concerning the trials and tribulations of gage relocation and revitalization. Finally the new Happy Isles gage was relocated and an open house occurred on October 6, 2010. The old stilling well gage site known as Merced River at Happy Isles was in operation for 94 years.



The picture of the new gage at Happy Isles is located on the left bank just upstream from the old stilling well, which was on the right bank. The new gage was dedicated on October 6, 2010. USGS instrumentation is visible through the window shown below. The other window enclosure has three screens showing information from the USGS, NPS and the Weather Service. The Weather Service has some instrumentation on the roof along with a USGS webcam that sends an image every five minutes. You may use the following address to visit this "live" site. <http://ca.water.usgs.gov/webcams/happyisles/>

What started back in 1915 as a series of staff plates near an old bridge has resulted in nearly 100 years of streamflow record. It is probably one of the more familiar or well-known streamflow gages in the country. Of course, this is not the oldest gage in the history of the USGS. Merced River at Happy Isles is not even the oldest gage in the boundaries of Yosemite National Park. Rio Grande at Embudo should always have that distinction as the most historical USGS stream gage. I have been lucky to have been one of the many technicians who have serviced that gage as well. But in a few years, Happy Isles will have its 100 year birthday. There are many gages across this country with just as much historical record. We should take advantage by honoring those gages with historical record whether they are in a National Park or not. We should also honor all of the personnel who have maintained and operated those gages through the years, especially in this era of cutbacks and lost funding. But how much value does a stream gage have in our beloved National Parks? Priceless.

I truly hope that all WRD personnel, technicians and hydrologists alike, who have ever visited a gage in this type of setting, will appreciate the history, the dedication and the experience of those who have gone on before us. I dedicate this article to them.

If there is anyone out there who has more history of this gage or other gages within Yosemite Valley or of the people that I have mentioned, please let me know. I will send all information to the Sacramento Field Office to be included in their files. You can send it direct to the Sacramento Field Office as well, but I would like to be informed too. My email address is: clint_nagel@yahoo.com. I guess you could say I am a little partial and sentimental about the work done here. I guess you could also say it is hard to let go.

References:

- (1) The National Parks: America's Best Idea by Dayton Duncan and Ken Burns, 2009
- (2) A letter with a series of summarizations of the account of work by the USGS's involvement in Yosemite National Park by Revue C. Briggs, District Engineer of the USGS, May 20, 1952
- (3) The "Historic American Engineering Record, Old Happy Isles Bridge, Yosemite National Park, HAER No. CA-104" as compiled by historian Richard H. Quin of the National Park Service in the summer of 1991
- (4) Other facts and dates as found in the record stored within the Sacramento Field Office, Sacramento California

WRD Training Photos
From Golden and Las Vegas

by Pete Scott, Brandenton, Florida

Pete tells us, "Both of these photos are pre-training center. The one from 1968 was taken at the Holland House Hotel in Golden. This seminar was held there several years by the Surface Water Branch. The one from 1967 is outside the Star Dust Hotel in Las Vegas. Much better location than Building 53! We were all WRD Recruiters from Rocky Mountain and Pacific Coast Regions. Remember those Regions?"



SEMINAR IN SURFACE-WATER HYDROLOGIC ANALYSIS
 WATER RESOURCES DIVISION U.S. GEOLOGICAL SURVEY
 DENVER, COLORADO, OCTOBER 21-NOVEMBER 1, 1968



Webber	D. Thomas	Hines	Petersen	Jenkins	Mann
Tate	Childers	Riggs	Aldridge	Hubbard	
Bloxham	Limerinos	Scott	M. Thomas		

2012 Boise Reunion Attendees

Charlotte Ackerman	Jim Fulton	Beverly MacCarty
Dan Ackerman	Kerry Garcia	Bill Mann
Andy Anderson	Marta Garcia	Helene Mann
Mary Anderson	Linda Geiger	Pat McAlwee
Joyce Anttila	Doug Glysson	Scott McFarlane
Pete Anttila	Erin Glysson	VaDonna McKim
Alice Appel	Dan Gockel	James Meckel
Dave Appel	Elaine Gockel	Janis Meckel
Allan Arntson	Rick Goss	Ernie Meeder
Zelda Bailey	Sharon Goss	Charles Nethaway
Dotty Bast	Patricia Hammond	Bonnie Nicholas
Tom Bast	Robert Hammond	Jim Nicholas
Barb Bengston	Ellie Hanson	Ivalou O'Dell
Craig Bentley	Ron Hanson	Bruce Parks
Joyce Biesecker	Mark Hardy	Sheryl Parks
Jim Blakey	Bill Harenberg	Darcy Person
Paula Blakey	Jean Harenberg	Fred Peter
Merritt Blalock	Sandy Hindall	Kathy Peter
Mindy Blalock	Steve Hindall	Jack Pickering
Bob Blazs	Millard Hiner	Walt Rennick
David Boldt	Sharon Hiner	Gary Rogers
Bill Boning	Craig Hutchinson	Janet Rogers
Shirley Boning	Tai Hutchinson	Lorna Schmid
Dolores Borland	Ivan James	Jean Schoen
Pat Borland	Sara James	Robert Schoen
Richard Bow	Benjamin Jones	Darryl Serio
Richard Bow, Guest 1	Mae Jones	Marv Sherrill
Richard Bow, Guest 2	Gail Kalen	Rosann Sherrill
John Briggs	Gail Keeter	John Singer
Libby Buchett	Karen Kenyon	Micki Singer
Bob Burchett	Kyli Kenyon	Deb Spahr
Annette Campbell	Carleene Kjelstrom	Marty Stewart
Bill Carswell	Luther Kjelstrom	Gloria Stiltner
Linda Carswell	Darwin Knochenmus	Robilea Swindell
David Click	Linda Knochenmus	Dick Swisshelm
Laurel Click	Bob Knutilla	Sheri Swisshelm
Derrill Cowing	Shirlee Knutilla	Judy Thompson
Mary Jean Cowing	Jim Kratz	Ruth Thornberg
Patty Damon	Hal Langford	Ruth Thornberg Guest
Isabelle des Fontaines	A. Kay Lehmann	Pat Tucci
Glenn Doonan	Jerry Lindholm	Alan Tucker
Jerry Duncan	Muffy Lindholm	Betty Tucker
Saundra Duncan	Judy Lindskov	Daphne Wahl
Dick Engberg	Ken Lindskov	Janice Ward
Barb Eychaner	Steve Lipscomb	Jack Weeks
Jim Eychaner	Dick Luckey	Judy Weeks
Jerry Feese	Pat Luckey	Clarence Welborn
Randy Field	Alan Lumb	Bill Werkheiser
Betty Fitzpatrick	Carolyn Lumb	
Dan Fitzpatrick	Alan Lumb Guest	
Herb Freiburger	Dave Lystrom	
Pat Freiburger	Karen Lystrom	

2012 Boise Reunion Photos



Mary and Andy Anderson in a park in Downtown Boise



Shirley Boning, Robert and Jean Schoen welcoming Rick Goss after his release

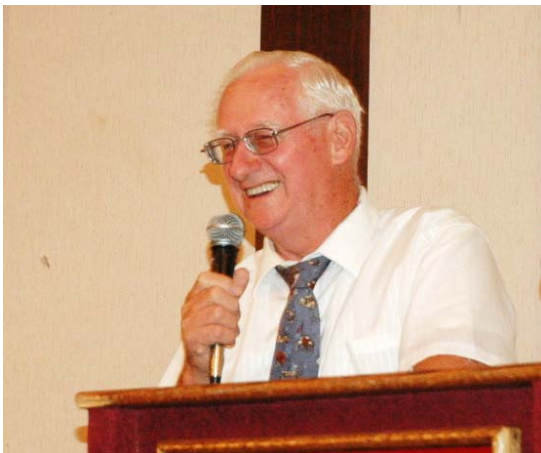


Retiree Dick Luckey, on the Wine Tour, looks over some grapes ready for wine making

Business Meeting



Reunion Gala



World Center for Birds of Prey



Trish Nixon and her Eurasian owl-eagle "Wallie," demonstrate to WRD Retirees at the World Center for Birds of Prey outside of Boise.







2012 Boise Reunion



WRD Retirees prepare for a “Raft Tour” on the first day of the 2012 Boise Reunion

Birds of Prey Amphitheatre





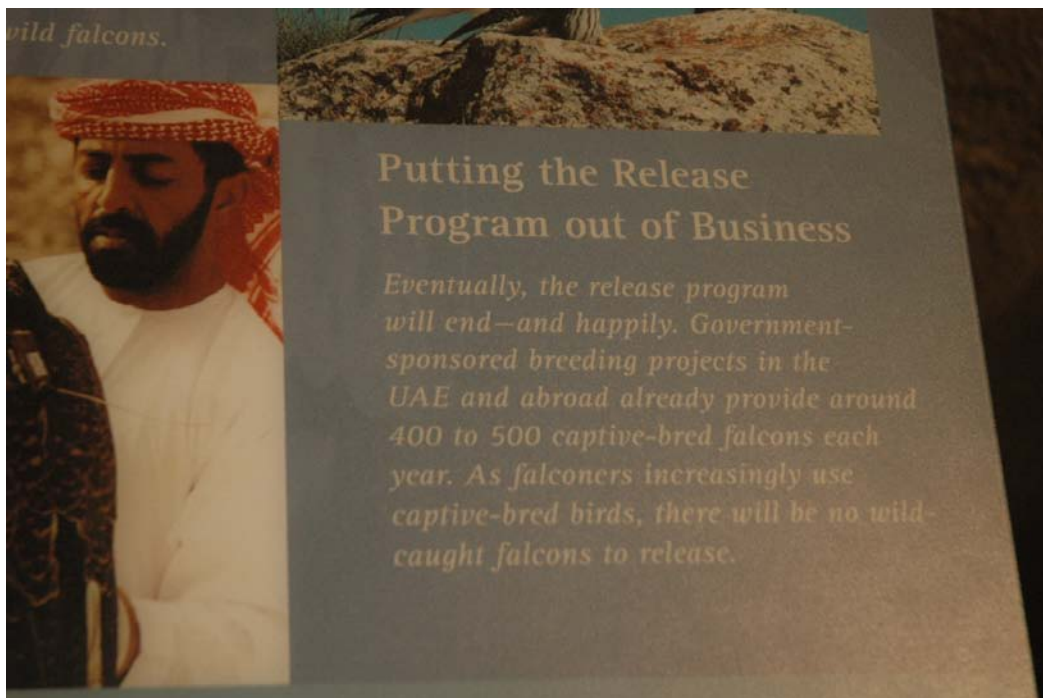


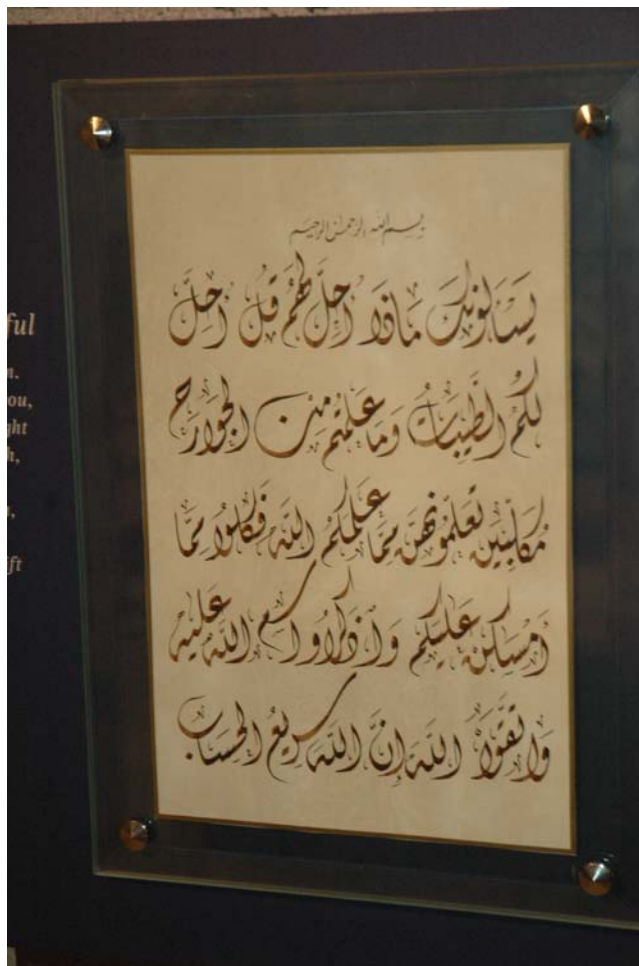
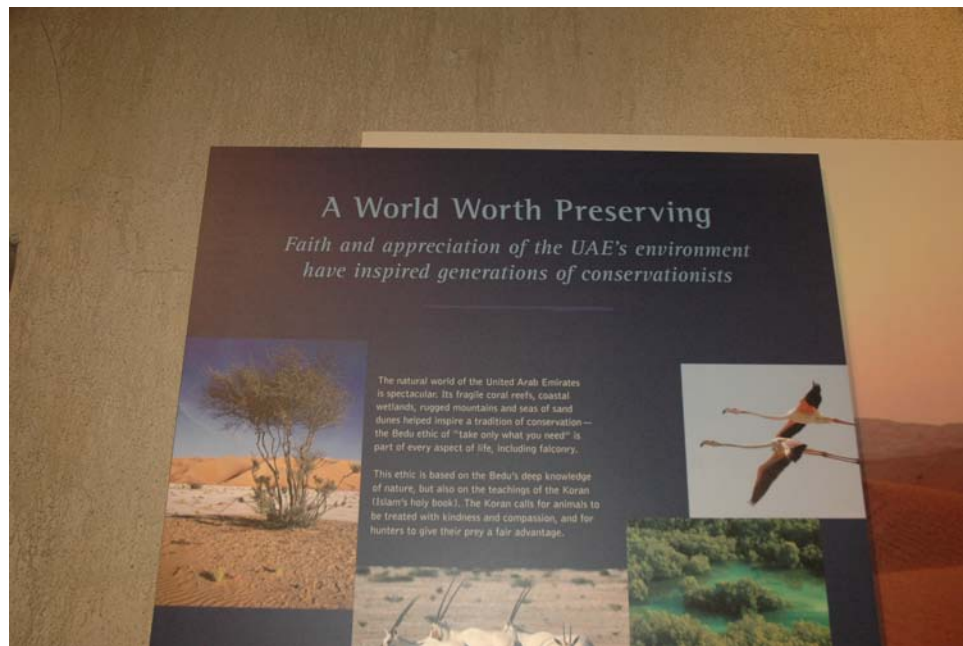


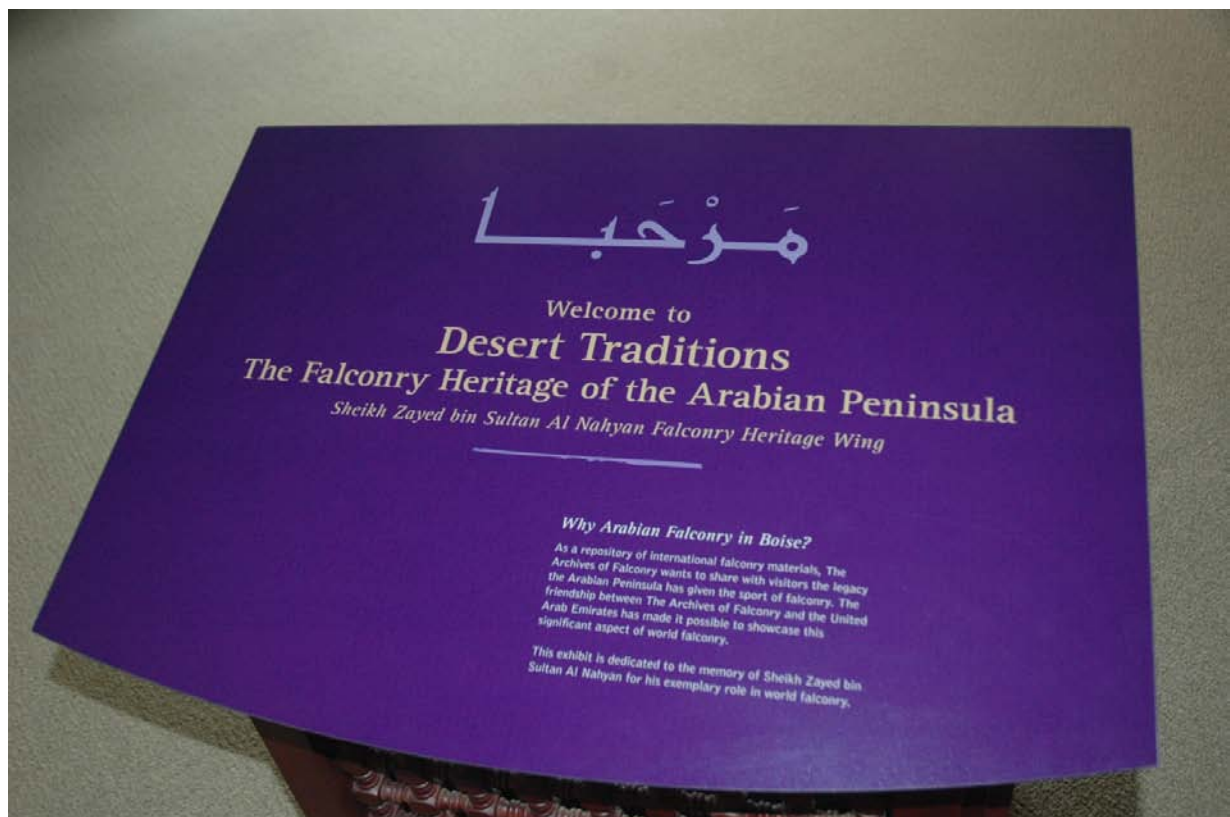


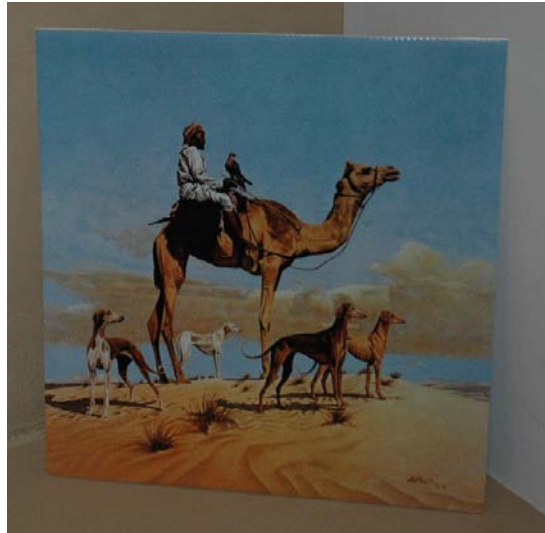


The Diorama from the Arabian Desert At the Birds of Prey









When we were detoured by yet another of the many wildfires in the Northwest

Celebration Park by the Snake River

Prehistoric rock carvings and practice handling prehistoric speers known as atlatls.



Prehistoric Carvings at Celebration Park



Carvings estimated to be from 15,000 B.C.