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15 August 2016

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U.S. Fish and Wildlife Service
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John Krause, Associate Biologist
Department of Fish and Wildlife
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Re: Progress Report for 2012 - 2015
Kite Aerial Photography
Special Use Permits #SUP 81640-2012-036, 81640-2013-033

Dear Cheryl and John,

During the 2012 – 2015 permit period I continued my exploration of the South Bay Salt Pond landscape as an activity within the Hidden Ecologies Project. Operating under Special Use Permits from the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife, I have taken aerial photographs of the South Bay landscape using cameras that are lofted by kites. My project is best categorized as an ongoing and relatively informal effort. This document covers tangible accomplishments in the last three years, summarizing Hidden Ecologies activities in aerial photography from August 2012 to December 2015 (hereafter “current permit period”).

The Hidden Ecologies Project tends to be episodic in nature with activities shaped by the intersection of current interests and constrained by available time and restrictions associated with the annual shorebird nesting cycle. As described on my WWW site:

The Hidden Ecologies Project is an ongoing cartographic experiment of architect Cris Benton (and) microbiologist Wayne Fusing Benton's aerial kite photography with Lanier's microcinematography, Hidden Ecologies maps several transitional geographies of the San Francisco Bay including the South Bay salt ponds; Mission Bay; and Lake Merced. Equipped with notebooks, field microscopes, GPS devices, and cameras suspended aloft by kites, the Hidden Ecologies team works in the field to record aspects of our immediate environment that normally lie beyond our usual perception - such as natural landscape features, the invisible composition of micro-communities, or lost cultural histories.

I have now completed my ninth year as holder of Special Use Permits from DENWR and the sixth year with permissions from California Fish & Wildlife. For the last seven years my aerial photography activities have been more explicitly aligned with the needs of the South Bay Salt Pond Restoration Project.

Background

My photographic work in the South Bay has evolved through three phase, each with its own area of emphasis. The work began with a photographic interest in the remarkable colors and textures found in the South Bay landscape. I started by photographing the colors and textures associated with the various salinities of salt ponds. Curiously, while hiking on the ground you can see little of a pond's color or bottom detail due to sky reflection from the pond's surface.



Figure 1. "Color and texture" aerial photographs from the South Bay salt ponds.

I was having a great time bagging new colors, as though trophy animals, when I realized that many of my aerial images contained vestigial remnants of the marsh channels that once served square miles of South Bay marsh. Looking more closely I also found traces of old boat landings, 19th century salt works, and curious patterns left by over a century of dredging and duck hunting. From these traces emerged the second stage of my South Bay photography, one centered on an interest in the landscape's cultural geography.

What began as a photographic romp through a visually compelling landscape slowly shifted toward documenting the landscape's history and deciphering traces of this history evident in my aerial photographs. My aerial images often presented puzzling artifacts. These fueled visits to libraries, map rooms, and local experts. Then, it was back to the field for more photographs. The text of my book [Saltscapes](#) (Heyday Books, 2013) is largely sprung from this phase.

After photographing with an emphasis on cultural geography for several years, I came to appreciate that the landscape was still in transition, and rapid transition at that, as the South Bay Salt Pond Restoration Project gained stride. This realization has lent a sense of urgency to the project and forms the core of my third phase – documenting changes in the landscape associated with the restoration project. This third phase often involves rephotography, a process of photographing the same view at different points in time. The rich comparisons that rephotography offers require baseline photographs taken before landscape changes and an ability to frame a similar view as the landscape progresses through change. This is somewhat challenging with kite-lofted cameras.

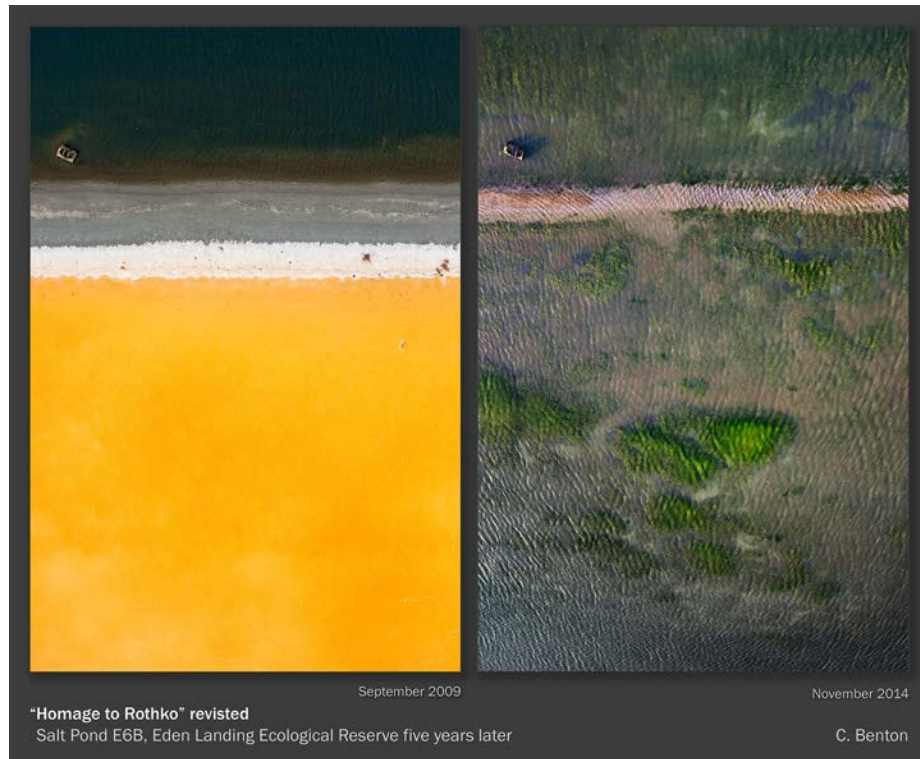


Figure 2. An example of rephotography – an edge detail from Salt Pond E6B captured in 2009 and rephotographed in 2014. Juxtapositions of this sort can make restoration progress delightfully tangible.

Field Work during the 2012 – 2015 permit period

During the 2012 to 2015 period of Special Use Permits #81640-2012-036 and #81640-2013-033 I made approximately 40 trips to South Bay Salt Pond Restoration sites and adjacent areas. Thirty-two of these trips produced aerial images with the total for the current permit period of ~18,400 aerial images. Sites photographed included the Eden Landing Ecological Preserve, Station Island, La Riviere Marsh, and the eastern A Ponds.

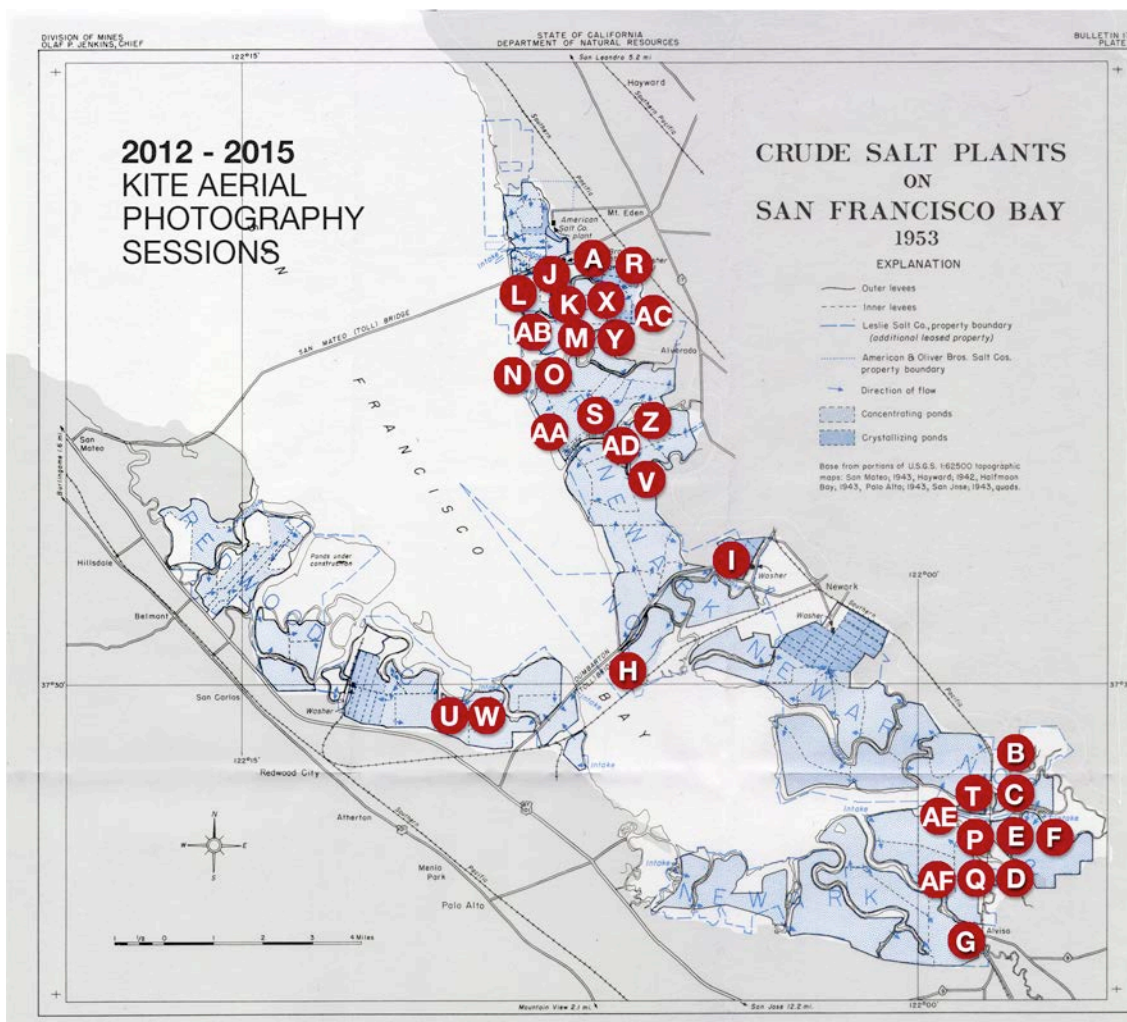


Figure 3. Location map for my 2012 – 2015 aerial photography sessions. You will find an interactive version of this map on a thumbdrive that accompanies this report and on the WWW (http://kapcris.com/kap/2015_Progress_Report/). When viewing the interactive maps, clicking on a session symbol will take you to a gallery page with example images from that session.

Table 1 (following page) provides details, keyed by letter code, for each of the aerial photography sessions noted on the map.

Table 1. 2012-15 KAP sessions in South San Francisco Bay listed in chronological order

key	medium	year	location	camera	model	count	geo ref
A	Digital	2012_09	Mt. Eden Creek & Salt Pond E12	Canon	550D	699	✓
B	Digital	2012_09	Salt Ponds A23 & A22	Canon	550D	331	✓
C	Digital	2012_11	Drawbridge, Ponds A23 & A22	Canon	550D	433	✓
D	Digital	2013_04	Salt Ponds A17, A16, & NCM	Canon	550D	675	✓
E	Digital	2013_04	Salt Pond A17	Canon	550D	506	✓
F	Digital	2013_04	Salt Pond A17	Canon	550D	737	✓
G	Digital	2013_04	Salt Pond A16, Guadalupe Slough	Canon	550D	372	✓
H	Digital	2013_04	Dumbarton Point	Canon	550D	353	✓
I	Digital	2013_04	La Riviere Marsh	Panasonic	LX3	346	
J	Digital	2013_10	Salt Pond E12 construction	Canon	550D	557	✓
K	Digital	2013_10	Salt Ponds E9, E13 & E14	Canon	550D	847	✓
L	Digital	2013_11	Salt Ponds E9 & E14	Canon	550D	635	✓
M	Digital	2013_11	Save the Bay hydroseeding E14	Panasonic	LX3	312	
N	Digital	2013_12	Whale's Tail Marsh	Canon	550D	154	
O	Digital	2013_12	Whale's Tail Marsh	Canon	550D	261	
P	Digital	2014_01	Alviso Flat, A13, weep	Canon	550D	600	✓
Q	Digital	2014_01	Alviso Flat	Canon	550D	247	✓
R	Digital	2014_03	Mt. Eden Creek Marsh, E8X	Canon	550D	374	
S	Digital	2014_04	Alameda Creek Flood Control	Canon	550D	195	✓
T1	Digital	2014_07	Drawbridge	Canon	550D	969	✓
T2	Digital	2014_07	Salt Pond A21	Canon	550D	969	✓
U	Digital	2014_08	Bedwell Bayfront Park	Canon	EOS-M	862	✓
V	Digital	2014_08	Coyote Hills (north side)	Canon	EOS-M	638	✓
W	Digital	2014_09	Bedwell Bayfront Park	Canon	EOS-M	222	✓
X1	Digital	2014_09	Eden Landing, E12 & bridge	Canon	EOS-M	996	✓
X2	Digital	2014_09	Eden Landing, E8X, E9	Canon	EOS-M	996	✓
Y	Digital	2014_09	Eden Landing, E9, E12, E13	Canon	EOS-M	714	✓
Z1	Digital	2014_09	Union City, Salt Pond E6B	Canon	EOS-M	762	✓
Z2	Digital	2014_09	Union City, Alvarado Salt Works	Canon	EOS-M	762	✓
AA	Digital	2014_10	Whale's Tail Marsh, E1, E2	Canon	EOS-M	797	✓
AB	Digital	2014_10	Eden Landing, Oliver Salt Works	Canon	EOS-M	997	✓
AC	Digital	2014_11	Eden Landing, right flank marsh	Canon	EOS-M	889	✓
AD	Digital	2014_11	Union City, E6C, ASW	Canon	EOS-M	720	✓
AE	Digital	2015_03	A21, Drawbridge	Canon	EOS-M	811	✓
AF	Digital	2015_05	Alviso, A13, A15, weep	Canon	EOS-M	407	✓

Dissemination activities during the 2012 – 2015 permit period

In addition to taking photographs I have enjoyed opportunities to present the work in various formats. Here is a quick summary for the current permit period.

Book

In early 2013 Mary Selkirk provided an introduction to Malcolm Margolin of Heyday Books in Berkeley. From this sprang a book project that was completed within the year. The result, Saltscapes: the Kite Aerial Photography of Cris Benton, was launched at an event hosted by the Exploratorium in December 2013. The book centered on my aerial photographs with sections devoted to various sub themes (color & texture, cultural geography, current day salt production, the South Bay Salt Pond Restoration Project, etc.). It was issued in an all-color, 9" x 12" format that presented the landscape to good advantage, an extravagance made possible by support from the Cargill Corporation. The book, presentations it engendered, and the inimitable enthusiasm of Malcolm Margolin for its content all comprise a form of public outreach for the South Bay Salt Pond Restoration Project.

Invited Presentations

This has been another active period in terms of presenting Hidden Ecologies activities through both formal and informal channels. I enjoy speaking about the South Bay and rarely pass an opportunity to do so. Each of my presentations includes substantial coverage of your South Bay restoration efforts and the context in which they occur. This narrative joins exhibits and press coverage as a form of public outreach for the project. Informal presentations have included tours of SBSPRP grounds, often for visiting scholars at the Exploratorium and annual lectures to Berkeley High School photography students and documentary photography classes at UC Berkeley. More formal presentations include:

Interrogating the Landscape, Evening Colloquium, **Headland Center for the Arts**, Marin Headlands, October 2015.

Kite Aerial Photography, Exploratorium After Dark, **Exploratorium**, San Francisco, April 2015.

Saltscapes, Author's Dinner, **Berkeley Public Library Foundation**, Berkeley, California, February 2015.

Structure and Formation, **Helios** (Exploratorium), Los Gatos, California, August 2014.

Saltscapes, **Livermore Library**, Livermore, California, July 2014.

The South Bay Landscape, **Bay Conservation and Development Commission**, San Francisco, California, June 2014.

Saltscapes, Literary Feast, **Lafayette Library and Learning Center**, Lafayette, California, March 2014.

Saltworks and Shorelines: A Visual and Social History of the San Francisco Bay, **Shaping San Francisco lecture series**, Eric Quezada Center for Culture and Politics, San Francisco, California, March 2014.

Saltscapes, Headlines Lecture Series, **Oakland Museum of California**, Oakland, California, February, 2014.

Saltscapes, Building Science Colloquium, **UC Berkeley**, Berkeley, California, January 2014.

Saltscapes (book launch), Conversations About Landscapes, **Exploratorium**, San Francisco, California, December 2013.

Pole Aerial Photography, Exploratorium After Dark, **Exploratorium**, San Francisco, California, November 2013.

Saltscapes, 7th Annual Heyday Harvest: the Art of Heyday, **California Historical Society**, San Francisco, California, October 2013.

Saltscapes, Hacking Photography & Video, **Open Show**, San Francisco, California, July 2013. Selected for an encore presentation in Open Show Best of 2013, January 2014

It is perhaps worth noting that my South Bay images are used not only to illustrate my lectures but also in presentations about the South Bay by a wide range of speakers.

Exhibits

Long before my current emphasis on landscape study, my aerial photography involved a quest for images “compositionally worthy of display.” It is still unquestionably satisfying to mount exhibits of my work. During the current permit period I have mounted several exhibits of my South Bay work with installations at the Exploratorium and UC Berkeley having (relatively) permanent status.,

On Approach, **SFO Museum**, Gallery T-2, San Francisco, California, September to November 2015 – a solo exhibit of twenty-four 13” x 19” mounted prints.

Open studio, **Headland Center for the Arts**, Marin Headlands, California, July 2015, October 2015, and March 2015 – each session exhibited several dozen 9” x 12” prints of work in progress in the South Bay and the Headlands.

Saltscapes, **College of Environmental Design**, UC Berkeley, Berkeley, California, permanent, August 2013 – a matrix of fifty 8” x 10” prints in the CED Dean’s office.

Above and Below: Stories from Our Changing Bay, the **Oakland Museum of California**, Oakland, California, August 2013 to February 2014 – contributed several large prints of South San Francisco Bay including a 43-foot wide panorama.

Tinkering Studio, the **Exploratorium**, Pier 15, San Francisco, California, permanent, August 2013 –display of a hand built KAP apparatus and sixty aerial images in the Tinkering studio cabinets.

Sea Change, **Hayward Shoreline Interpretive Center**, July to September 2013 – two 30” x 40” mosaic prints as part of a group show organized by the Women’s Environmental Artist Directory.

Saltscapes, the **Exploratorium**, Pier 15, San Francisco, California, permanent, April 2013 – a matrix of fifty 9” x 12” prints as part of a new biology exhibit area.

Articles about the South Bay work

In addition to direct dissemination via the book, presentations, and exhibits, my South Bay work is also profiled in articles that often reference the ongoing South Bay Salt Pond Restoration Project. Examples include:

Eliot, Krissy, “Go Fly a Kite! Or, Zen and the Art of Kite Maintenance”, **California Magazine** (online), August 2016.,

Varian, Caity, “South Bay Salt Pond Photography”, **Save the Bay** (online), July 2015.

Klier, M. P., “High Sodium: Salt Pond Photos from Kite Level”, **Sierra Magazine** (online), October 2014 (excerpt in print version).

Taylor, Tracey, “Cris Benton: Seductive images of a landscape in transition”. **Berkeleyside**, (online), May 2014.

Labong, L. M., “Cris Benton captures South San Francisco’s Colorful Saltscapes”, **7x7 Magazine**, June 2014.

Kilston, Lyra, “The Surreal Grandeur of San Francisco’s Little-Known Salt Fields”, **Wired** (online), RAW Files, March 2014.

Wilkinson, K. and Petrich, M., **The Art of Tinkering**, Weldon Owen / Exploratorium, San Francisco, California, February 2014, pp, 32-35.

Baker, Kenneth, “Saltscapes: the Kite Aerial Photography of Cris Benton”, **San Francisco Chronicle**, 7 February 2014.

Slatkin, Beth, “The Bay Area’s Mr. Kite”, **Bay Nature** (online), December 2011.

“Flying Low Reveals Bay’s True Colors: Cris Benton’s Kite Aerial Photography”, **Estuary News**, Vol. 20, No. 6, December 2011.

Aldhous, Peter, “Beauty of a devastated Californian landscape seen from a kite”, Culture Lab, **New Scientist** (online), June 2011 (note: I tried to veto this headline but it didn’t work).

Goldstein, Robert, “Kite Aerial Photography Can Give Conservation a View from Above”, **Conservation Maven** (online), April 2010.

General support of the South Bay Salt Pond Restoration Project

From the beginning of my South Bay project I have donated image use to the Don Edwards National Wildlife Refuge and the California Department of Fish & Wildlife. Indeed, this has been a most reasonable condition of my Special Use Permits. Beyond this I have also had a policy of donating image use in support of the restoration project when use is requested by other government entities, news media, or non-profit organizations. I find my images welcomed and used by many agencies related to the South Bay projects including:

Association of Bay Area Governments
Bay Nature Institute
Bay Trail Project

Oakland Museum of California
Phil Williams and Associates
Point Reyes Bird Observatory

California Department of Fish & Wildlife	Resource Legacy Fund
California Natural Resources Agency	San Francisco Bay Wildlife Society
College of Environmental Design	San Francisco Bay Joint Venture
Conservation Maven	San Francisco Estuary Institute
Contra Costa Clean Water Program	San Francisco Estuary Partnership (Estuary News)
Drachen Foundation	San Joaquin Regional Rail Commission
Don Edwards SF Bay National Wildlife Refuge	Santa Clara County Creeks Coalition
East Bay Regional Park District	Save the Bay
The Encyclopedia of Life Sciences	The Sierra Club
The Exploratorium	Skidaway Institute of Oceanography
Friends of the San Francisco Estuary	Union of Concerned Scientists
Golden Gate Audubon Society	University of Wisconsin (Whyfiles)
Hayward Shoreline Interpretive Center	Urban Creeks Council
KQED San Francisco	US Geological Survey
LBNL Joint Genome Institute	US Fish & Wildlife Service
National Science Foundation	Water Resources Center Archives

I am proud of these pro bono donations of image use and delighted to find my images appearing regularly in public relations, project documentation, and ongoing environmental science projects. I am sometimes directly involved in preparing images for specific uses and at other times simply find them in use. For instance, this week I discovered several of my aerial images used (with credit) in a pleasant video segment produced by the Exploratorium in 2014.

I have also photographed aspects of the restoration project in direct response to management requests.

Subject	Locations	Request	See session
Infrastructure at baylands edge	Union City wastewater treatment plant	Bourgeois	Z2
Eden Landing Phase II	Salt Ponds E1 & E2 Salt Pond E6C	Bourgeois	N, O, AA, AD
Eden Creek marshes	Eastern side of Eden Landing Ecological Reserve	Krause	A, R, AC
Restoration project construction sites	A17 Flow control structure E12 Flow control structure E13 Flow control structure Oliver Salt viewing platform	Bourgeois Krause Krause Krause	D, E J, R, X1, Y, AB Y AB
Save the Bay hydroseeding	E14 levee	Ball	M
Drawbridge trespass evidence	Drawbridge	Heroux	T2
Station Island ponds	Salt Ponds A21 & A22	Morris	C, T1, T2, AE

When I applied for my original permit Clyde Morris commented that it might be interesting if I examined Salt Ponds A20 and A21 flanking Drawbridge since they were the first ponds exposed to tidal flow after decades of impoundment. I have continued aerial coverage of this site with

photography sessions in July 2014 and March 2015, with images captured but not yet processed for addition to the A21 time series set. As time allows I will try to add to this series in the future.



Figure 4. An image from my most recent session above Salt Pond A21 (March 2015)

Image documentation

My 2006 proposal for a Special Use Permit promised that the project would yield “a collection of archival images conveying the condition and geometry of several sites within the Refuge over multiple seasons and years. The image set will include plan photographs, oblique photographs, fish-eye photographs, stitched panoramic photographs, and virtual reality panoramas. The archives will be in digital form and available in high resolution.” I promised to convey these in “a CDR containing a catalog of lower resolution images and representative images at high resolution.” In previous progress reports I have attached CD-ROM discs containing image files and supporting documents. It is now ten years later and shifts in computer media have led me to adopt USB thumbdrives for document submittal. Thumbdrives are faster, more broadly accepted and have greater storage capacity.

Accompanying this report you will find a USB thumbdrive containing galleries from the 35 aerial photography sessions completed during the current permit period as well as digital copies of supporting documents. The gallery pages contain representative images from each of the 2012 – 2015 sessions with approximately 1,200 images included. To use the thumbdrive, locate the file `index.html` in the top level directory and load it into your WWW browser of choice. This will present a map of the sessions (similar to Figure 3) on which each of the session locations is a clickable link. Clicking on any of the session markers will take you to a thumbnail gallery of images from that session. The thumbnail images are clickable as well and will lead to larger versions of the image. Also on the thumbdrive are even larger versions of the images at 1200 pixels for the maximum dimension. These larger files are found in folders named `./larger_images` within the subfolder for each session found in the folder: `/2012_2015_Sessions`.

Regarding the use of images from these files, I endeavor to keep records of where and how these copyrighted images are used. US Fish & Wildlife, California Fish & Wildlife, and other non-profit entities associated with the South Bay Salt Pond Restoration Project are welcome to use these images in publications associated with the project with credit to C. Benton. Please contact me

directly to arrange permission for use by other entities or publications. If you would like higher resolution files or alternative images just drop me a line.

The content of the thumbdrive is also available online. For the 2012 – 2015 KAP Sessions see:

http://kapcris.com/kap/2015_Progress_Report/ (case sensitive)

In recent years I have used a system for collecting GPS track logs with the camera as it flies. These are then processed to embed location data in all image files from the session. I have geotagged over 85% of this year's submission. The GPS track logs are also useful for visualizing the area photographed during a specific session. I manage my images in Adobe Lightroom, which now includes a feature for mapping images locations. I have used this to create maps showing detailed image locations for each of the sessions for which GPS data are available. Summary maps (sample below) are included in each session gallery, generally as the last image in the gallery. More detailed maps are available on request.

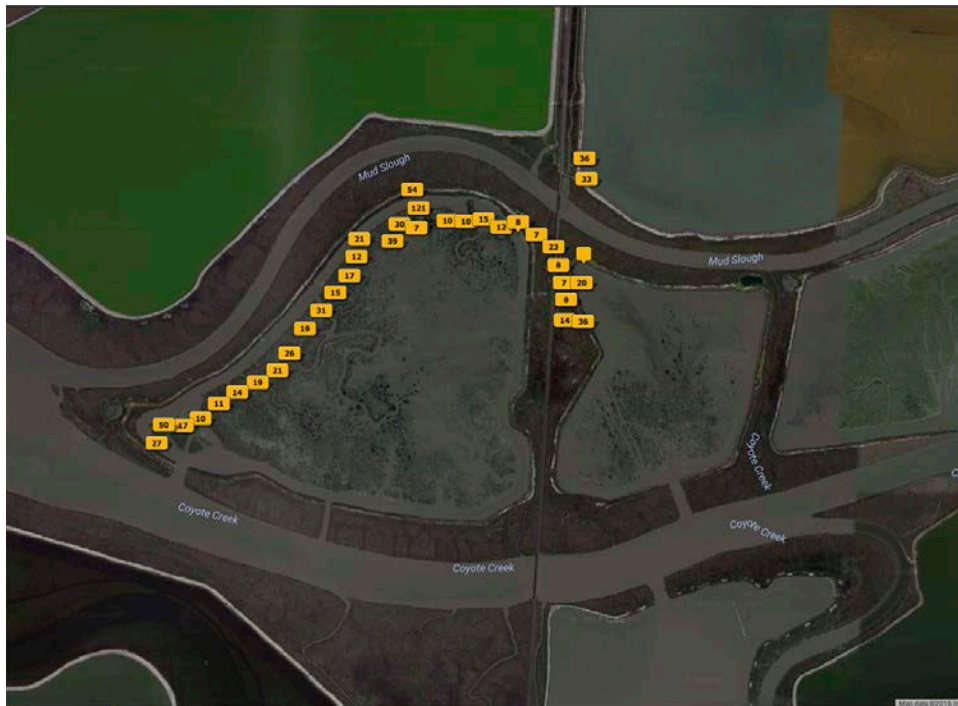


Figure 5. An example session map showing the GPS log data for images taken during the session. Each yellow (or red) rectangle contains a number representing the number of images taken at the markers' location. This example is from my March 2015 session at Salt Pond A21.

I also maintain an informal WWW site describing my South Bay activities. My Hidden Ecologies WWW site provides image samples from more recent sessions and is a generally good place to track my work in the South Bay.

<http://arch.ced.berkeley.edu/hiddenecologies/>

As with my South Bay the photography, this WWW site has been on hiatus for over a year and is long due for an update. It is my hope that I will return to active posting in the near future.

Future work

Of late I have been finding myself at a crossroads regarding the South Bay work. Up until July 2012 this was my evening and weekend pursuit. At that point I retired from the university (after 33 years of teaching). With retirement came the opportunity to think about placing my work from the South Bay. The last few years have been a rewarding period with the book at Heyday, two exhibits at the Exploratorium, photographs in the Oakland Museum's Above & Below show, and other projects listed in this report. Allow me to share a few observations.

1. My South Bay photography has diminished in the last couple of years.

I find myself on an unintended hiatus in terms of actually photographing the salt ponds (see figure 6 histogram). While I am pleased with the scope of the gallery pages in this report I also note that I had but two sessions in the South Bay in 2015 and that I have not photographed there since March 2015.

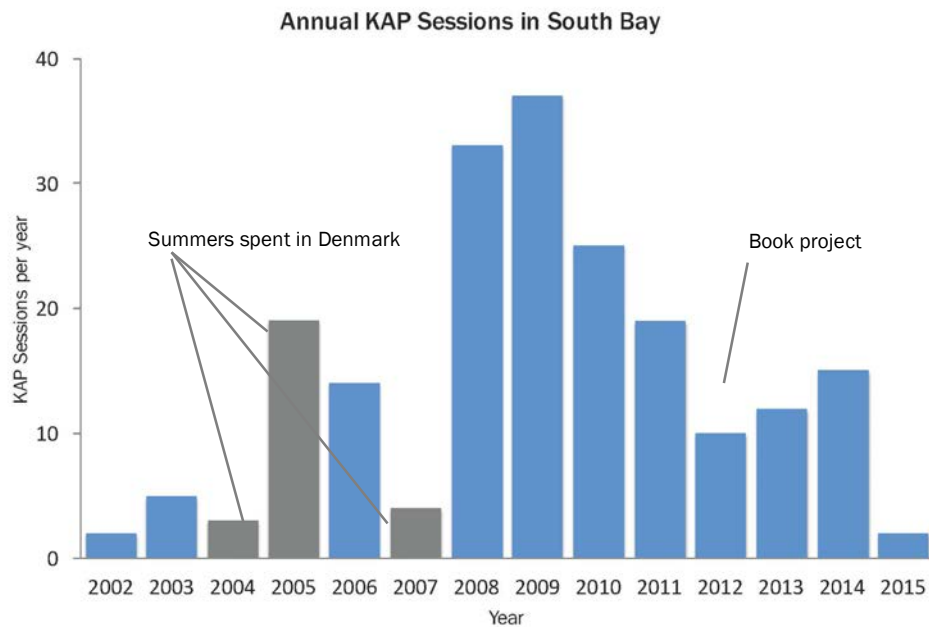


Figure 6. Sessions in the South Bay yielding aerial photographs (by year). Over these ten years I have staged 200 aerial photography sessions in the South Bay.

As I pause now to take stock there are, undoubtedly, many contributing factors to the tapering off of my South Bay photography. The book diverted a fair bit of time away from actively shooting. I have allowed my Special Use Permit to expire. I have started a few other projects and some of these have

taken the front burner. For instance, I have spent a year as an Affiliate Artist at the Headland Center for the Arts and started a new landscape study there examining coastal defense works. And yet, while the coastal defense project is interesting, I miss the South Bay work and fret a bit that my salt pond hiatus is causing gaps in documenting the South Bay transitions. In retrospect, I find that the Headlands landscape is already well documented and is managed as a relatively static landscape whereas the South Bay project areas have fewer archival sources and are experiencing rapid rates of change.

2. I have concluded that I should rekindle my South Bay photography.

Toward that end I have decided to put some of the Headlands work on hold in order to schedule increased activity in the SBSRP areas as a volunteer. In essence, I intend to make the South Bay my principal project over the next year.

I very much enjoy several aspects of the South Bay work: hikes, photography, presentations, and learning about the restoration project. Other aspects are a bit more tedious: image post-processing / archiving (over three hours at the computer for each hour in the field) and report writing. Still, I always imagined my longitudinal study of the South Bay in transition as spanning 20 years or more and quite committed to continuing it.

3. I am seeking sponsorship and/or an institutional context for the work.

In thinking things through I find that funding, while clearly desirable, is secondary to a few other issues. My work in the Headlands was rewarding in large part because I shared the experience, and results, with a larger community of artists. Knowing that I would be presenting my work regularly to an interested and challenging audience served as motivation. Regular opportunities to talk informally about aspects of the work were quite valuable. It would be ideal if I could find the equivalent of an Artist Residency in the South Bay. One possibility is Facebook, which has a rather nice Artist in Residence program and is certainly located in an appropriate setting. I also note that other USF&W refuges in the United States have Artist in Residence programs. Or perhaps knocking on the door of the Google Earth folks will eventually produce results.

Sponsorship of my South Bay photography would encourage me to concentrate on the work. More importantly, sponsorship legitimizes the project when approaching new contacts. At times others can perceive kite aerial photography as more frivolous than serious. Sponsorship gives me a narrative of sorts to help explain who I am and what I am doing. My 2003 sabbatical as an Artist-in-Residence at the Exploratorium was invaluable in this way at the nascent stage of the South Bay work. Support would also encourage my continued South Bay documentation in a disciplined way. As the tardiness of this report suggests, I find myself procrastinating a bit too easily as a volunteer. Having deliverables for a sponsor would help fend off other projects that divert my attention from the South Bay.

If the SBSRP management team has suggestions or ideas for supporting my work either through funding or possible alliances with other South Bay players, I would most welcome the guidance.

Upcoming REQUEST for continuation of SPECIAL USE PERMIT

I will submit an online request for continuation of the Special Use Permit for the Hidden Ecologies kite aerial photography activities. In the coming year I would like to concentrate on getting baseline photographs of the Eden Landing Phase II and Ravenswood project areas. In terms of areas already in transition, it would be nice to continue my Island Pond series, document changes at the Knapp

Tract, photograph the E12 / E13 ponds as they equilibrate, photograph E9's continued progress, and change in the A7, A16, New Chicago Marsh area. I am, of course, interested in suggestions of what might be useful to the SBSRP effort and propose that we schedule a meeting in the early fall to discuss suggestions you might have.

Sincerely,



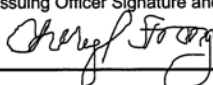
A handwritten signature in black ink that reads "Charles C. Benton". The script is cursive and fluid, with the first name "Charles" and last name "Benton" clearly legible.

Charles C. Benton
Professor Emeritus
UC Berkeley

Enclosure: 16Gb thumbdrive with image files and supporting documents

cc: John Bourgeois, Ariel Ambruster

APPENDIX B: Recent Permits

	UNITED STATES DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE Don Edwards San Francisco Bay National Wildlife Refuge 9500 Thornton Ave, Newark, CA 94560 510/792-0222 SPECIAL USE PERMIT	Station No. to be Credited Permit No. 81640 - 2013-033
		Date October 29, 2013
		Period of Use (inclusive) From October 29, 2013 To January 31, 2015
Permittee Name Charles C. Benton, 510/642-0669 fax: 510/643-5607		Permittee Address Hidden Ecologies Project Dept. of Architecture, UC Berkeley 232 Wurster Hall, #1800 Berkeley, CA 94720-1800
Purpose (specify in detail privilege requested, or units of products involved) Renewal of permit 2012-036 for kite aerial photography in support of Refuge restoration and management projects.		
Description (specify unit numbers: metes and bounds, or other recognizable designations) Access to Refuge including Alviso and Ravenswood pond complexes, Bair and Greco Islands, La Riviere Marsh, Mayhew's Landing, Dumbarton Marsh, New Chicago Marsh, Warm Springs vernal pool area, and ponds managed by Cargill (Coyote Hills, Mowry, Newark as arranged with Cargill) and any area open to public use on the Don Edwards San Francisco Bay NWR subject to the attached special conditions.		
Amount of fee \$0 if not a fixed payment, specify rate and unit of charge: <input checked="" type="checkbox"/> Payment Exempt - Justification: Photographs beneficial to Refuge <input type="checkbox"/> Full Payment <input type="checkbox"/> Partial Payment - Balance of payments to be made as follows:		
Record of Payments N/A		
Special Conditions See Continuation Sheet		
This permit is issued by the U.S. Fish and Wildlife Service and accepted by the undersigned, subject to the terms, covenants, obligations, and reservations, expressed or implied herein, and to the conditions and requirements appearing on the reverse side.		
Permittee Signature 		Issuing Officer Signature and Title  Refuge biologist

Special Conditions (continued) - Permit # 81640-2011-043

1. Permittee or designee must carry a copy of permit when on Refuge lands and the research / study proposal. Permittees and designees will place the attached placard on the dashboard of all vehicles while on the Refuge.
2. Work will be conducted in a manner that minimizes disturbance to wildlife and habitat. Permittee will stay on roads, trails and major salt pond levees. No entry into marshes is permitted. Access to Ponds N1, N2, N3, A20, A21 and Drawbridge are allowed throughout the year. Access to tidal marshes near these ponds, New Chicago Marsh, Dumbarton Marsh, Eastern Outer and Eastern Middle Bair Island, Greco Island and La Riviere Marsh is only allowed from September 1st through January 31st. Access will not occur within 2 hours of high tide at the Refuge on those days that the tide is higher than 6.5 feet as measured at the Golden Gate Bridge. Access to Bair and Greco Islands is allowed by boat and land access only on existing upland levees. Ponds with nesting terns, snowy plovers, avocets, and gulls will be avoided from April 1 to Sept 15. These ponds include RSF2, R1, R3, R4, N2A, A6, A7, A8, A10, A11, A12, A13, A16, A22 and A23; M4, M1 and M2. If no nesting birds on utilizing these ponds (as per FWS or SFBBO) then access is permitted.
3. One (1) refuge barrel lock key (#0137) is loaned to the permittee and will be returned within two weeks of the termination of this permit or a late fee of \$50.00 per key will be assessed. Lost keys will result in a fine of \$100.00 per key. Key given 13 May 2008.
4. For safety purposes, applicant must have at least 2 people present when accessing Drawbridge. Applicant must obtain permission from Union Pacific Railroad to gain access to their track at Drawbridge.
5. Please contact the Environmental Education Center in Alviso when accessing A16 or A17, 408-262-5513. Please get in touch with Moffett Field (NASA) when accessing the new bay trail segment.
6. Permittee or designee must contact Cargill (Pat Mapelli 510 676-8738) prior to driving on levees that Cargill still operates and maintains (Mowry, Newark, and Coyote Hills areas).
7. Permittee will not interfere with ongoing Dept. of Agriculture-Wildlife Services predator management activities. Permittee will not interfere with work by Cargill Salt Division or Refuge visitors using public trails.
8. Permittee may not drive on levees for 3-5 days after a moderate rain or under conditions that may damage the levee.
9. Access to the marsh will not be allowed during the California clapper rail breeding season, 1 February to August 31. Foot access to salt marsh habitat is prohibited except on PG&E boardwalks, railroad grades, and similar structures. All work will be done in a manner that minimizes habitat destruction and wildlife disturbance. Noise must be minimized to prevent wildlife disturbance. Exceptions to this must be cleared by Refuge biologists prior to access.
10. Permittee will record sightings of burrowing owls and will immediately report any active burrows to Refuge Biologists.
11. Permittee will immediately report all sightings of feral cats, dogs, red fox, or active raven and hawk nests (on PG&E towers) observed on the Refuge. Fox dens will not be approached or searched.
12. Data will be shared with the Refuge and partners on a regular basis during the permit period. A final report or summary of work will be sent to the refuge manager upon completion of the research.
13. The U.S. Fish and Wildlife Service and the Don Edwards San Francisco Bay National Wildlife Refuge will be acknowledged in any report, publication, or communication resulting from this bird count. A copy of any reports or publications from this data will be sent to the Refuge.
14. Contact Ivette Loreda before entering Warm Springs vernal pool unit: ivette_loredo@fws.gov, 510-377-5956.



State of California - The Natural Resources Agency
DEPARTMENT OF FISH AND GAME
Post Office Box 47
Yountville, California 94599
(707) 944-5500
<http://www.dfg.ca.gov>

ARNOLD SCHWARZENEGGER, Governor
JOHN MCCAMMAN, Director



January 26, 2010

Mr. Charles C. Benton
Professor of Architecture, UC Berkeley
1663 Scenic Avenue
Berkeley, CA 94709

Dear Mr. Benton:

Subject: Permission for Access - Eden Landing Ecological Reserve, Alameda County

You are hereby given permission to access the Eden Landing Ecological Reserve for aerial photography conducted with kites which may be used to document site conditions and support the South Bay Salt Ponds Restoration Project. Please coordinate access with our staff as noted below, to ensure no adverse effects will occur on wildlife species of concern. Access to the property shall be limited to activities related to maintenance and expires on December 31, 2010. Vehicle access shall be limited to existing levee roads. Camping on the ecological reserve is prohibited. The Department of Fish and Game requests copies of all files and images. Information should be submitted to:

John Krause, Associate Biologist
Department of Fish and Game
Post Office Box 2949
San Anselmo, CA 94979
jkrause@dfg.ca.gov

If you have any questions, please contact Mr. Krause at (415) 454-8050; or Ms. Laurie Briden, Senior Wildlife Biologist, at (209) 948-7347.

Sincerely,


for Charles Armor
Regional Manager
Bay Delta Region

Conserving California's Wildlife Since 1870