Research and/or Development:
Options for the Future of the Bernard Field Station

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"…. important academic benefits …. essential pedagogic component …. less than ideal as an ecological preserve …. significant academic benefits and opportunities …. subject to severe edge effects …. particular ecologic and academic value …. expect depauperate and minimally viable populations …. extremely high academic value …. almost certainly inadequate …. only marginally viable …. unique and increasingly rare …. little or no ecologic value …."

- Selected from the Cohen assessment, 1997.

"It's that all-or-nothing thinking that I just find maddening."

-John Maguire, CGU President, 1994.

Disclaimer

The topic of this paper literally fell into my lap during the February 2008 controversy over the Claremont Consortium plans to build on the Bernard Field Station, before which I knew very little about the property and its history. As co-president of the Harvey Mudd student environmental organization and the student body's representative on the HMC Board of Trustees Physical Plant and Campus Planning Committee, I found myself with interests on both sides of the controversy. Being skeptical of both sides and unconvinced that any group had a clear "best" plan for the Field Station property, I decided to dig into the original documents myself. I found development on the BFS to have a history and political dynamic richer than I could have imagined, and I regret only recently becoming aware of the issue.

For those involved with the Field Station for years the information presented will not be new, but I hope my summary is complete and accurate enough to be useful to those new to the topic.

Some sources wished to remain anonymous, and some documents mentioned within are not specifically cited so as to preserve the privacy of various groups. Everyone I spoke with was quite willing to explain their positions and share information, leaving me optimistic about possibilities for future cooperation.

Any unattributed opinions are my own, as are any mistakes.

Acknowledgments

My thanks are due to the students, faculty, and administrators who provided me with their opinions and analyses. I owe special thanks to Dr. Sue Schenk of Joint Sciences and Professor Nancy Hamlett of Pomona's Biology department for their insights into the opposition side of the 2000-era conflict and the nuances of the positions of those who value the use of the BFS as it is now, to President Maria Klawe of HMC for being open and welcoming to students in discussions of the 2008 controversy, and to Professor Paul Steinberg of HMC for advising this project. I owe apology in advance to the dozens of faculty, students, and administrators who use and work with the BFS whom I was not able to interview. I appreciate in advance their corrections and suggestions.

Introduction

This paper will provide a basic understanding of the Robert J. Bernard Biological Field Station (BBFS or BFS) and the ongoing discussion regarding development of part or all of the BFS. After reviewing the history of the property, I will explore the purposes BFS serves and factors influencing the current state of protection and development planning. Finally, several options for the future of the BFS are examined along with a summary of interested parties. It is hoped that this paper can serve as a "non-partisan" guide, particularly for students.

The Property

The BFS is an 86-acre property immediately to the North of the Claremont Colleges, across Foothill Blvd. from Harvey Mudd College and the Claremont Graduate University.

Claremont University Consortium (CUC) owns most of the property; Keck Graduate Institute (KGI) owns approximately eleven acres in the southwest corner. The BFS contains several native plant and animal communities as well as a non-native open space grassland. Faculty and students of the Claremont currently use the BFS Colleges as a research facility. It is also used for educating school and community groups.

Location and ecology overview maps are shown in Appendix A. An aerial photograph is shown in Appendix B.

History

CUC acquired properties North of Foothill Blvd. in the 1920s. The BFS is a manmade educational facility built by CUC in the 1970s. Controversy over development on the BFS erupted in the late 1990s.

I follow the notes from a report prepared for CUC by the BFS Faculty Advisory Committee during the Environmental Impact Report (EIR) process in the mid-1990s (BFS-FAC 1996) and the history sections of the senior thesis of Yamini Bala, Pitzer College ’00 (Bala 2000).

The BFS property was acquired by CUC through a donation by Ellen Browning Scripps in 1926 as part of the purchase of what are now the Claremont McKenna College (CMC), Pitzer, and HMC campuses and 250 acres of land north of Foothill Blvd. stretching from Indian Hill Blvd. to Mills Ave. This purchase was a major step in the crystallization of the Claremont “Group Plan,” the long-range vision document describing an Oxford-like set of colleges. The land that is now the BFS remained deserted and essentially a wasteland for the next fifty years.

During the 1970s, CUC faced a budget crisis brought on in part by the heavy tax burden of the “North Campus” property, which was not exempted from property taxes as educational land due to lack of use. Although some parcels of the land held under the Scripps Trust had been previously sold, the general integrity of the property had been maintained. In 1975, however, an ad-hoc committee of the CUC Board of Fellows working on land usage decided to sell and lease most of the remaining North Campus property, retaining a small parcel in what is now the eastern BFS for use as an ecology station (Eriksen, year unkown). Robert Bernard, the former secretary to the board who

had helped arrange the Scripps purchase, wrote a letter to the Board of Fellows criticizing these decisions as irresponsible to the legacy of the Group Plan: "Would it not be quite a responsibility to repudiate the judgment and the constancy of purpose and of action of so many informed and capable Board Members by now voting to sell a sizable part of our central campus area or to encumber the balance with structures that would impede, if not nullify campus use?" (Bernard 1975, p. 5). It appears that the Board was doing the best it thought it could given the circumstances – the early1970s were a time of tight finances for CUC but also of what the Chairman of the Pomona Board of Trustees called a "management crisis" in the upper levels of CUC administration (Smith 1974). Bernard's leadership was thus extremely fortunate. Proposals from the faculty, especially Joint Sciences biologist Clyde Eriksen, championed by Bernard, eventually gained the approval of the CUC board, and a $600,000 gift by CMC namesake Donald McKenna's Kennametal Foundation provided the funds for CUC to establish a field station and purchase Scripps College's interest under the trust structure at the time (CUC 1978).

Fencing and coursework on the Field Station began in 1977, at which point the property was granted educational status for tax purposes. The lake, now known as pHake Lake, was constructed in 1978. In a few short years the dilapidated fields were transformed into a scientifically useful habitat of mostly native plants. The BFS Faculty Advisory Committee reported in 1996 that construction of the field station has more than paid off for CUC: the BFS takes minimal annual funding and has provided nearly $1.5 million in tax relief, making it "an extremely productive investment for student learning, faculty research, the financial health of the Colleges, and community education" (BFS-FAC 1996, p. 8). The educational and ecological benefits of the site have fulfilled the

vision of the BFS's creators. This does not mean, however, that parties agree as to the original intent regarding the long-term use of the property, an issue discussed below.

In the late 1990s, controversy erupted over the siting of Keck Graduate Institute (KGI), slated to be Claremont's seventh school, on the Field Station. KGI was created as part of a long-term planning process by CUC that produced a master plan for the North Campus property and was the result of extensive geological and ecological studies. KGI was a controversy in and of itself due to faculty, student, and community concerns over its relationship to the biotech industry and over biotechnology and genetic engineering in general. CUC initially consulted with the BFS Faculty Advisory Committee, which recommended building in the southeast corner of the property, an area of disturbed, non-native grasses.

As part of the approval process for building on the site, CUC wrote an environmental impact report to comply with the requirements of the California Environmental Quality Act (CEQA). This document would prove extremely contentious, as faculty and students protested that it did not adequately account for and mitigate the environmental harms that would occur due to construction of KGI, by that time slated to be built on 11.4 acres in the southwest corner of the BFS. Committees of the city council held a series of meetings to hear comments and approve the EIR, a process that frustrated community members. In the spring of 1999 a group of faculty and Claremont residents formed the non-profit Friends of the Bernard Biological Field Station (FBFS) to oppose the approval of the EIR in a form they found to be flawed. FBFS was particularly dismayed by changes between drafts of the EIR they believed were made by CUC and

the City for political or monetary purposes. An early FBFS press release described the situation:

> Perhaps the most disturbing aspect of the draft EIR is that no mitigation whatsoever is suggested for this habitat loss. An earlier screen-check draft suggested several mitigation recommendations, including preservation of the remainder of the Field Station in perpetuity and purchase of adjacent property to expand the habitat. At an April 6 Claremont Planning Commission meeting, City officials admitted removing the mitigation recommendations, but offered no scientific justification. (FBFS 1999)

Also central to bringing public attention to the issue was the League of Women Voters, which filed comments with the City in opposition to the approval of the EIR.

By summer of 2000 the EIR had been approved and an appeal of the CUC North Campus Master Plan had been denied by the City Council. FBFS filed a CEQA lawsuit on July 21, asking for injunctive relief (a court order to halt the construction processs) against CUC. The group also organized a signature drive for a referendum on the North Campus Master Plan. The lawsuit was settled in February 2001, under an agreement which split the BFS into three parcels: the KGI property as the site of that development, a central portion preserved for fifty years as a research station, and an eastern section open to use as part of the field station but with CUC development rights reserved (FBFS-CUC 2001). The agreement prevents FBFS from filing further lawsuits regarding the KGI project, and a breach of contract by either side results only in the payment of any resulting legal fees (a substantial obstacle for FBFS with its small budget but not necessarily for CUC).

The settlement agreement (from West to East): KGI property / preserved for fifty years / reserved for field station use on temporary basis.

Friends of the BFS signed the agreement believing it was the best they would be able to obtain, but many in the community (including some within the FBFS board) were unsatisfied. Student groups continued to protest, both at the opening of KGI and in front of CUC administrative offices, a particularly confrontational event resulting in eight arrests and students being forcibly removed with bulldozers after chaining themselves to concrete barrels. The event gained national media attention (e.g. "Police Break Up Student Barricade" – *L.A. Times* 3/28/2001).

In the end, KGI decided against building on the BFS site, largely due to the history of delays, and CUC asked the City to repeal the approval of the North Campus Master Plan rather than put the plan to a referendum. Then-CEO Brenda Barnham Hill

stated that “CUC believed that taking the matter of our property rights to the voters would be divisive and not in our or the City’s best interests” (Hill 1999).

In February 2008 CUC’s CEO Robert Walton announced at a staff meeting a plan to move administrative facilities currently located on First St. to the KGI-owned section of the BFS. To finance the purchase of the KGI property, Pomona was to buy CUC’s First St. property, an area into which it had been looking to expand. When this plan became public there was immediate outcry and questioning by various members of the community, and SBFS began organizing petitions and holding informational meetings for the student community. Students and faculty met with several college presidents and Walton, but little progress was made in terms of any sort of consensus – student groups felt CUC’s plan was an end run intended to decide the future of the BFS entirely behind closed doors. However, the issue died down nearly as quickly as it had flared up, as a memo from Walton was circulated immediately after spring break declaring the plan financially untenable and, for the time being, tabled.

Education

The BFS's primary value is as a working biological research laboratory.

The primary use of the BFS is as an educational institution – it functions as an active field laboratory for biology students, who study plant and animal population dynamics and interactions in the various ecological communities (described below). Biologists I spoke with acknowledge that education rather than environment preservation is the primary purpose of the BFS. However, some proponents of developing the property and at least two CUC administrators seemed to believe the main opposition to development on the BFS centered around ecological impact, and, dismissing that, derived a view of the academic value of the BFS based on the ecological value of the site. A more nuanced view requires examining the academic value of the BFS and its ecological value separately while keeping in mind the impact each has on the other. As a research station, the BFS has several distinct advantages: its proximity to the 5C campuses, its urban setting and variety of habitats, and its potential for studying restoration ecology.

The best summary of the educational uses of the BFS and the effects of development is an assessment by Dr. Philippe Cohen, director of Stanford University's 1189-acre Jasper Ridge Biological Preserve, written at CUC's request in 1997 (Cohen 1997). Cohen found that the BFS could provide crucial services to the biology curricula in Claremont, but that problems of management and resources were compounding the problems of size and location (see the section on ecology below) and threatening the BFS's long-term academic value.

In terms of raw numbers of students and faculty using the BFS, Cohen estimated that over 850 students from the 5Cs and CGU in around twenty different courses would

use the field station in subsequent years (Cohen 1997). A report by the BFS Faculty Advisory Committee noted around 2,000 user-days each year from 1983 to 1996 (BFS-FAC 1996). That committee found that around 900 students were using the BFS as part of a course each year, or roughly one in four students on the 5Cs and CGU (BFS-FAC 1996). In 2000, FBFS noted around 4,000 visits per year by Consortium, public school, and community users (FBFS 2000). The BFS is currently being used for research by about a dozen faculty and their advisees, and is visited for classroom use by several hundred students each year (Adolph 2008).

Perhaps the most obvious reason for the amount of education use the BFS receives is its proximity to the campuses. The BFS is literally across the street from HMC and CGU and is within a ten minute walk of almost anywhere on the 5Cs. This makes course work there more feasible and more productive because of lowered transportation costs and increased observation time for experiments (BFS-FAC 1996). Such proximity is uncommon in similar facilities: of the 180 member stations of the worldwide Organization of Biological Field Stations, only 4 are within walking distance of their affiliated academic institution, a trait which Cohen believes is a "rare feature that greatly enhances the value of BFS, despite its [small size and limited ecological value]" (Cohen 1997).

A secondary component of the BFS's location is its security. The BFS is completely fenced, allowing researchers to set up experiments without having to worry about having their data spoiled by humans. The Faculty Advisory Committee summarized the importance of the combination of location and security to safe and productive student research:

> The extended time frame of projects in organismal biology requires both that observational and recording equipment remain in place for days at a time, and that students visit their sites, often at odd times of day. This is simply not possible in an unprotected area that is surrounded by urban development. Expensive equipment gets stolen, and students focusing on collecting data in unpopulated areas near urban development are particularly vulnerable… This is not an unfounded fear – Claremont Colleges students working on class projects as nearby as Mt. Baldy Road have been confronted by people with guns and have had their cars broken into and their properties stolen. (BFS-FAC 1996)

A third aspect of the BFS's academic value is its location within the urban environment of the L.A. basin. The BFS contains one of the largest remaining plots of coastal sage scrub in the county and provides an environment not found on field stations located in more rural or undeveloped areas. Specific topics that urban field stations can provide a good platform for study include migration, impacts from humans, effects of exotic species, pollution and toxicity, colonization, and succession (Rebele 1994). For example, a recent experiment involved growing native and non-native plants in plots of soil with varying concentration of pollutants commonly found in urban runoff to study the effects of pollution on the spread of invasive species (Mikel Grenzner, HMC '07, personal comm.).

A diverse set of experiments can be carried out on the BFS. A quick literature search revealed the following sampling of published papers based on research at the BFS:

- A large flight cage was built to study owls over a three year period. Research observed predation rates on communities of small rodents and the effects of rodent morphology and nocturnal lighting conditions. (Kotler et al. 1988)
- Researchers observed how predation by owls affected microhabitat selection and usage by small desert rodents. (Longland and Price 1991)
- Researchers looked at spectral absorbance of the grass and shrub community at

the BFS and the relation between total light absorption and the composition of the canopy layer of the plant community. (Serrano, Gamon, and Peñuelas 2000)

- Researchers used the BFS as one of three locations to gather data on the effects of water content and leaf area on spectral reflectance. (Sims and Gamon 2003)
- Researchers studied use of habitat in three populations of lizards in different climatic regimes - each population used their habitat in different ways. Individuals were then transported to the BFS, where lizards from all three populations used the BFS habitat similarly. (Asbury and Adolph 2007)

As the proportion of Claremont students using the BFS reported by the BFS Faculty Advisory Committee (one in four) suggests, the BFS is useful for work in introductory biology courses and for research that is not strictly biological in nature. In 1996 about 40% of Pomona's freshman class alone were using the BFS during three-week research projects in their intro biology course (BFS-FAC 1996). As an example of non-biological research, during the summer of 2005 undergraduates from Harvey Mudd and Williams Colleges designed an experiment to sample soil at the BFS and make measurements of lead concentrations in the soil, using Global Positioning System receivers to create geographic information system-indexed data (Rubinstein 2005). The sampling, analysis, and database systems created and tested have been used successfully in the freshman chemistry laboratory class at HMC, in which lead testing on the BFS is a major class project. The BFS is an ideal place for the measurements because of the well-documented history of the site and the heavy historical use of adjacent Foothill Blvd., the famous Route 66. Additionally, faculty in the biology and computer science departments at Harvey Mudd have recently started a non-invasive tracking and monitoring system for

lizards on the BFS. The security of the BFS allows student researchers to leave computer and other electronic equipment in the field around the clock.

The Cohen report provided several suggestions for maintaining and improving the BFS's academic value. Cohen found that BFS was under-funded, lacked a cohesive management structure, and needed a proper data management system (Cohen 1997). The first two have obvious implications; as for data management, proper handling, compiling, and storage of data is necessary for a field station so that researchers can have a clear picture of short- and long-term trends on the property.

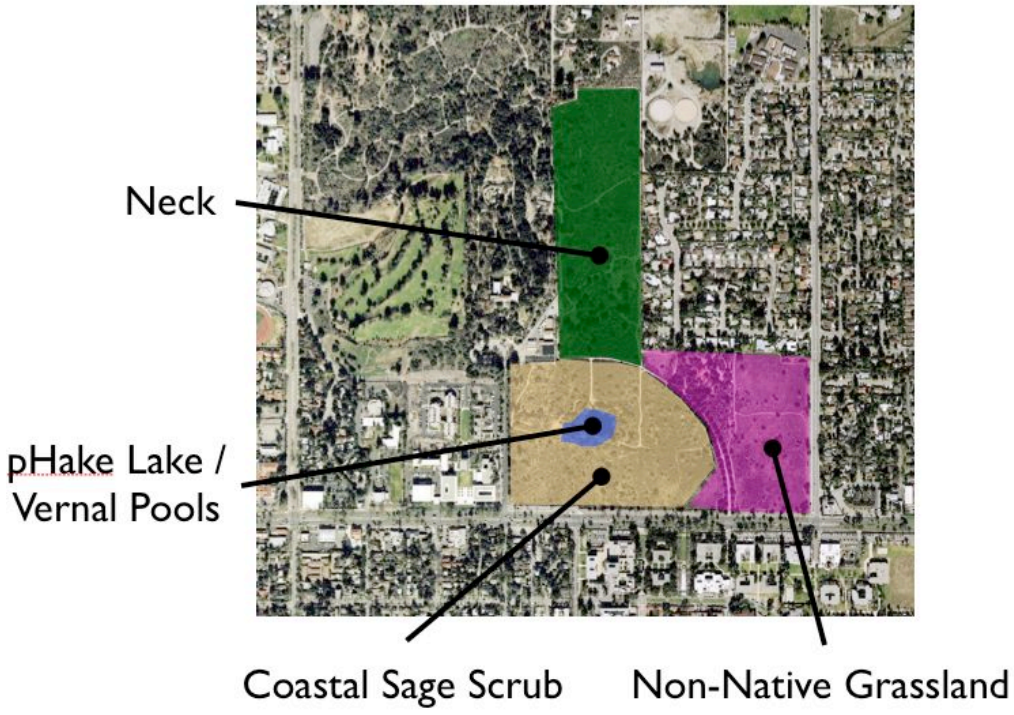
The BFS currently has a full-time manager employed by CUC. Recently, CUC has increased restrictions for obtaining use permits, and use by public schools and other community groups has declined. The Faculty Advisory Committee was disbanded during the creation of KGI and replaced with a seven-college advisory committee. This committee has proved less effective than the previous one, and has not met for over three years. The tension between professors who view the new management system as neglectful and CUC administrators who refuse to consider reverting to the former faculty-led committee is palpable and speaks to the disconnect in how the two parties view the property.

Ecology

The BFS's secondary purpose is as a protected area of an increasingly threatened ecosystem.

The BFS is home to several communities of native plants and animals, some of which are threatened or provide habitat to threatened species. A federally listed endangered species, the Riverside fairy shrimp, exists as an experimental population in some of the vernal pools.

Before discussing the BFS ecosystem specifically, it is important to recognize a few general issues facing ecosystems in urban areas. Biologists view the urban environment as consisting of distinguishable and potentially valuable ecosystems, but ones that are in many ways controlled by human decisions and policies rather than self-regulating (Rebele 1994). The ecological viability of any habitat is highly dependent on its size and shape, with large circular areas being the most conducive to species survival and biodiversity and small and narrow or winding areas being the least likely to support complete ecosystems. Urban habitats, fragmented by sprawl and relegated to the margins of development or unused slivers of land, are thus rarely ideal natural settings.



The BFS, despite having been built on previously developed land, contains an intense concentration of plant and animal life relative to its urban surroundings. The BFS ecosystem is traditionally broken up into four areas/habitats (shown above, see Appendix D for more detail) (Cohen 1997, RECON 1995, inter alia). **The neck** in the northern section contains Riversidean alluvial fan sage scrub and southern coast live oak riparian forest (riparian due to mainly subsurface flows). The neck contains a high concentration of bird species but is vulnerable to edge effects and invasive species because of its shape (Cohen 1997). The Riversidean sage scrub in this part of the BFS is home to several species listed as sensitive[1] by the state or federal government: coastal western whiptail, yellow warbler, coastal cactus wren, olive-sided flycatcher, Copper's haw, San Diego desert woodrat (RECON 1995). Regional conservation plans were under development for this type of habitat by the U.S. Fish and Wildlife Service (USFWS) and the California

[1] i.e. with population levels low enough to warrant concern but not yet threatened or endangered.

Department of Fish and Game (RECON 1995). Additionally, CDFG considers the live oak forest a priority habitat (RECON 1995).

The **lake and vernal pools** in the southwestern portion of the BFS constitute the area of highest academic value because of the diversity of species and the aquatic environment there (Cohen 1997). The BFS keeps a population of southwestern pond turtle at pHake Lake as part of a California Department of Fish and Game program (the species is a candidate for federal threatened/endangered listing) (RECON 1995). The area around the lake is a southern cottonwood-willow riparian forest (RECON 1995).

The five vernal pools are typical of seasonal water features found in desert, although the pools on the BFS need a manmade supply of water in the form of periodic transfers from the lake (RECON 1995). The pools are home to BFS' population of Riverside fairy shrimp, a federally listed endangered species. The population is experimental, brought to the BFS in 1985 (Claremont Colleges 1999); the species exists in only ten other pools (RECON 1995).

Surrounding the lake and occupying the rest of the BFS south and west of the road (Mills Ave.) is a community of **coastal sage scrub**. Coastal sage scrub ecosystems provide habitat for seventy-five species considered sensitive by state or federal officials (RECON 1995), including the California gnatcatcher, a federally listed endangered species (not observed on the BFS). Coastal sage scrub has been heavily impacted by the development of southern California, and exists at only 10-30% of its former range (Chase et al. 2000). One reason for the massive devastation of the coastal sage scrub ecosystem is that the plant grows on flat or slightly angled ground like the alluvial fan (a structure of

river deposits) at the BFS location, making its habitat a prime target for development. The state of California designed a regional conservation program, the Natural Community Conservation Planning program, around the California gnatcatcher (Chase 2000), but Claremont was not a participant in the program as of 1999 (FBFS 1999). The BFS's coastal sage scrub community is small and only "marginally" viable according to Dr. Cohen's assessment, who notes that the size of the habitat is "almost certainly inadequate for maintaining natural populations of vertebrates, and certainly is inadequate to support even a single medium to large carnivore" (Cohen 1997, p. 4).

The USFWS has not listed any areas of coastal sage scrub as critical habitat, although it is beginning to list both coastal and Riversidean sage scrub habitats for the California gnatcatcher as a result of a decision by the Court of Appeals for the Ninth Circuit (USFWS 2000). It seems unlikely that the BFS would be subject to this listing, as it is small in size and has a high development value, and economic considerations play a role in critical habitat listing under the Endangered Species Act.[2] However, it should be noted that USFWS's framework for protection of sage scrub habitat does not use size as a primary criterion when selecting target parcels of land (Rubinoff 2001).

In terms of educational use, the coastal sage scrub area is not as valuable as other parts of the BFS, since it supports less animal life than other areas and because the community is relatively stable and thus not good for restoration ecology studies (see below) (Cohen 1997). In other places, coastal sage scrub has been studied as a model for studying multiple species as indicators of ecological health rather than on single species

[2] A critical habitat listing imposes severe restrictions on development and human interference.

rareness as is done under the current framework of the Endangered Species Act (Chase et al. 2000).

The final community on the BFS is a section of **non-native grassland** on the section east of the road. This area is of "little or no ecologic value in terms of the community type and the plant species that inhabit it" (Cohen 1997), but is valuable academically because it supports higher concentrations of rodents than other areas of the BFS (RECON 1995) and is the site of several enclosures used to study small animals (Adolph 2008).

Dr. Cohen's assessment of the ecology of the BFS summarizes the current situation as a whole:

> The size and shape of BFS make it less than ideal as an ecological preserve. Its small size, the almost complete absence of biological corridors to other comparable habitat types, and the fragmented condition of existing habitat all call into question the long-term ecological viability of its habitats. .... The growing 'distance' from what is often referred to as pristine or natural should not obscure the significant academic benefits and opportunities provided by BFS. However, it is likely that given the small size of BFS coupled with being surrounded by development or severely altered landscapes, suggests that development on BFS lands will have significant repercussions on the continuing viability of the communities present at BFS while still maintaining its academic values. (Cohen 1997, p.3)

Cohen provides the essential framework for looking at issues of development on the BFS – that it is a laboratory, not a wildlife preserve, and that the species and habitats on the station provide maximum value when used as the subjects of research and community education and only questionable value if preserved for preservation's sake. This is the same framework used by Jack Stark, former president of CMC, in an interview in 2000 – that the purpose of the BFS is essentially "biological" and not "ecological" (Glueck 2001a).

During the planning phase for the North Campus Master Plan, Regional Environmental Consultants (RECON) of San Diego conducted biological and archaeological surveys of CUC's undeveloped properties and provided assessments as to the necessary mitigation measures for any development projects (RECON 1995). RECON identified the portions of the BFS other than the non-native grassland section as "high constraint areas" and recommended acquiring similar habitats to the coastal and alluvial fan sage scrub at an area ratio from 2:1 to 5:1 to the land being developed as well as consulting with CDFG and USFWS regarding possible relocation of the southwestern pond turtles and Riverside fairy shrimp and possibly regarding the coastal sage scrub habitat (RECON 1995). Finding suitable sites of coastal sage scrub for protection is no simple task, both because of the diminishing amount of the plant in existence and because research has shown that successful restoration of the plant is difficult, especially in areas where other plant communities have established themselves (Burger et al. 2003).

In a press release, FBFS criticized the survey work done on the BFS for covering only a short period in the growing season and for dismissing the presence of endangered species over-eagerly (FBFS 1999). RECON surveyed on four dates from mid-May to late-July 1995 (RECON 1995), whereas the growing and flowering season for many species is earlier in the spring or winter when water is more prevalent.

Other Uses

Tertiary purposes of the BFS include providing native open space that is rare in the L.A. basin, facilitating views of the San Gabriel Mountains, and as a Native American spiritual and archeological site.

The BFS provides residents of Claremont and CUC with open space and an unobstructed view of Mt. Baldy and the San Gabriel range. For some perspective on the magnitude of urbanization and the scarcity of open space in the San Gabriel Valley, several historical photographs are presented in Appendix C. Claremont citizens expressed sentiments for the open space and scenic view issues during the debate over the construction of KGI (Glueck 2001a), but it seems unlikely that these issues alone would be enough to mobilize popular opposition against development.

An important and often overlooked party interested in the BFS is the Tongva (Gabrieleño) Native American tribe, the inhabitants of the area around Claremont for hundreds of years. The Tongva hold the BFS as part of their tribal spiritual land, as it was once part of the site of a village located near the Thompson Creek and San Antonio Creek system, a fact verified through old city maps (Bala 2000). Indian Hill, the name of the central thoroughfare in Claremont, recalls the site around the BFS property.

Although a cultural resource monitor from the Tongva will be consulted as part of the settlement between CUC and FBFS, the Tongva were shut out of the assessment and planning process during the KGI development cycle (Bala 2000).[3]

[3] Yamini Bala's thesis discusses issues relating to the Tongva extensively.

Development

The BFS site is prime real estate for expansion by CUC in keeping with the original Group Plan.

CUC intends to expand into the North Campus property with a series of new colleges, continuing along the lines of the Group Plan that has successfully brought about the current Consortium of seven schools. The BFS property represents the largest contiguous block of property left that CUC believes can be turned into new campuses (difficulties with building on the gravel pits east of the 5Cs are discussed below). There is some debate over whether the land in the Bernard and Scripps trust was intended purely for future campuses or whether for a combination of campuses and other "educational institutions," language that appears in documents from throughout the BFS's history (Bernard 1982, Eriksen 1975, inter alia). My personal opinion is that the land was originally intended simply for a series of colleges, but that changing times, needs, and values allow that using part of the land as a field station is compatible with the intent of the donors. A sampling of quotes may help illustrate the various views:

- Clyde Eriksen, founding director of the BFS, provided an outline of faculty views regarding the uses for the land when writing to the CUC board in 1975:

  > As we understand the purpose of the CUC, it is not only to hold land for the establishment of new colleges, but to hold land for the establishment of – and then to administer – certain central services shared by the Claremont Colleges. In our view, the proposed ecology field station can be as valuable in its way as the Honnold Library… Alternatively, those colleges willing to support the field station on a continuing basis could reach an agreement outside the famework of the central services, on the analogy of the Joint Sciences Department. (Eriksen 1975)

- Robert Bernard, who helped negotiate the original purchase of the Scripps land, wrote to Claremont mayor Eleanor Cohen after the BFS inauguration, "I am very

happy that this beautiful area, bought by Miss Scripps for educational use and zoned by the City of Claremont for educational purpose, is now able to fulfil [sic] such a purpose" (Bernard 1980). Bernard also wrote in another letter that the CUC Board of Fellows was "delighted with [the] outcome; it would ensure such a facility for all the colleges and the region" (Bernard 1982, p. 708).

- Joe Platt, CUC president (and founding president of Harvey Mudd College), took a more nuanced view, balancing the use of the field station with a long-term outlook. Platt called the BFS dedication ceremony "the culmination of three dreams: President Blaisdell's and Miss Scripps' dream that The Claremont Colleges would have enough land to meet their needs for centuries, the dream of many of our faculty members that we could have a proper laboratory nearby for ecological studies, [and a way of honoring Bernard]" (Platt 1980).
- During the conflict over the construction of the Keck Graduate Institute, the FBFS floated the idea that the BFS was fulfilling the donors' intent:

> In fact, administrators who have viewed original documents have admitted that the land was bequeathed 'for educational purposes.' 'If the land was intended for educational purposes, then we think that over 900 college students and 300-400 other students each year studying native species and conducting hands-on field research qualifies,' notes Nancy Hamlett, Professor and Chair of Biology at Harvey Mudd College… (FBFS 1999)

- Pomona Biology chair Bill Wirtz added to this sentiment: "But even if the land had been given specifically to 'build on' as some college administrators argue, the donor couldn't have predicted the important role that the land would come to play as part of biology education at the Claremont Colleges" (FBFS 1999).

- Donald McKenna, however, had no question as to what he wanted done with the BFS: "I know where I want the New Venture (the Keck school) to be … the current site of the field station. …. in fifty years we are going to have to clean up the area anyway. It is totally dilapidated now…" (qtd. in Farley 1997, p. 1)

Law

Current environmental law provides only minimal hurdles to development; private property law has the potential to limit CUC's uses of the property.

The current American environmental legal framework can provide extremely strong protection to certain species or pieces of land, but will play only a small part in the future of the BFS. I review the Endangered Species Act (ESA), the National Environmental Policy Act (NEPA) and its California counterpart, the California Environmental Quality Act (CEQA), and takings law, which limits government actions that regulate the use of private property.

Endangered Species Act – Passed in 1973, the Endangered Species Act (16 U.S.C. § 1531) protects species at risk of extinction. The Interior and Commerce Secretaries are responsible for compiling lists of endangered and threatened (receiving essentially the same protection) species and designating their critical habitat. The federal government, corporations, and citizens are then prevented from undertaking actions that harm or jeopardize species. The endangered species listing process is complicated and slow, at times needing to be forced along by the Act's citizen lawsuit provision (Percival et al. 2006). Once a species is listed, however, the Act provides near-absolute protection.[4]

[4] The classic illustrative example of this is the landmark case of TVA v. Hill, in which the Supreme Court prevented the closing of a fully constructed dam in Tennessee to protect a three-inch fish, the snail darter. Despite the tremendous potential economic loss, the Court found that the ESA protected the fish, as "the

While the ESA does not protect many species, its uncompromising provisions act as the "pit bull" of environmental regulation to protect significant areas of land and water where listed species are found. For example, the California gnatcatcher is used as such an "umbrella" species to protect the coastal sage scrub ecosystem (Rubinoff 2001).

The ESA would have little effect on development on the BFS at this time. The only federally listed species present is the Riverside fairy shrimp – any development not affecting the vernal pools would be only minimally affected by the ESA (it is conceivable that this population could be raised in a courtyard if a building were built around the pools). The RECON report suggested that moving the population of shrimp to new manmade pools at another location would serve as sufficient mitigation (RECON 1995). This process would require CUC to acquire a permit from the Secretary of the Interior and to prepare a habitat conservation plan with the US Fish and Wildlife Service. USFWS requested surveys during the KGI development cycle as to whether suitable habitat for the endangered California gnatcatcher, the least Bell's vireo, or the southwestern willow flycatcher (none of which are observed at the BFS) might exist, especially in the area around pHake Lake (Claremont Colleges 1999). If any of these species were documented inhabiting the BFS, restrictions under the ESA could become much stricter.

National Environmental Policy Act / California Environmental Quality Act – The National Environmental Protection Act (42 U.S.C. § 4321) and the California Environmental Quality Act (CA Public Resources Code § 21000) influence actions by government agencies by forcing the preparation of environmental impact assessments and

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plain language of the Act, buttressed by its legislative history, shows clearly that Congress viewed the value of endangered species as 'incalculable'" (473 U.S. 153 [1978], p. 187).

thereby consideration of alternatives that reduce environmental impacts. NEPA applies only to federal agencies, but CEQA applies every time the City of Claremont or any other California government/agency issues a permit. For any development approval for the BFS, CEQA would require the City to conduct surveys and prepare an impact study (as was done for the North Campus Master Plan) and to either choose project alternatives that minimize environmental impacts or undertake appropriate mitigation. CEQA is enforced through citizen lawsuits. In the case of the lawsuit in 2000, Friends of the BFS took action not to prevent development on the BFS but rather to force the City to correct parts of the impact studty that FBFS thought were improper (FBFS 2000). Several attorneys I talked to mentioned CEQA's value as a delaying tactic in this sense.

One potential headache for development is the contention in the FBFS lawsuit in 2000 that the City and CUC's actions were insufficient under CEQA because they did not adequately address cumulative effects caused by the Keck development as it related to future development of the North Campus property. FBFS alleged:

> 36. It is neither speculative nor unforeseeable that the current project is simply one phase in the ultimate development of remaining college-held land. Indeed, the final EIR plainly states that the Keck development "is an integral component of The Claremont Colleges' strategic plan" and that "the NCMP project was identified as the next step in the continuation of the Claremont colleges expansion on college-help lands." Moreover, the terms of the final Resolution approving the project further demonstrate that the City, the CUC and the KGI have committed themselves to a larger project.
>
> 37. By reason of the foregoing, the City violated CEQA by approving the Keck development without adequately addressing the environmental impacts associated with the complete build-out of remaining college-held lands… (FBFS 2000, p. 10)

It may be possible for FBFS or others to force CUC to prepare an EIR for possible development of the whole BFS property if incremental development projects are proposed. In other words, the decision as to whether the BFS will remain a field station

for the short-term or for the long-term directly affects the next development project on the property.

Takings – The doctrine of takings arises from the Fifth Amendment, which dictates that "private property [shall not] be taken for public use, without just compensation" (U.S. Const. Fifth Amendment). The courts give substantial leeway to local governments in determining land use and zoning laws, allowing for enactment of laws for the public good even if they restrict some or all uses of private property.[5] The Supreme Court currently uses what it admits is a vague framework based on the following principles: (1) The government cannot completely deprive a private landowner of any uses of their property without compensation (Lucas v. South Carolina Coastal Council, 505 U.S. 1003 [1992]). (2) The government must provide compensation for any permanent physical occupation (Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419 [1982]). (3) Whether the government's actions constitute a taking or not depends on the economic impact on the owner, interference with the owner's distinct, investment-backed expectations, and the character of the government action (Penn Central Transp. Co. v. New York City, 438 U.S. 104 [1978]). Under these rulings, CUC has no absolute right to develop the BFS under any specific plan, and the City can manage what can and cannot be built on the property as long as CUC retains substantial economic use of the property (for example, as a biological research facility).[6]

[5] A summary of these laws as related to environmental issues can be found in Percival et al. 2006, pp. 709-794.

[6] A recent Supreme Court case overturned the standard that the government must "substantially advance [a] legitimate state interest" that was applicable at the time of the FBFS settlement – see Lingle v. Chevron, U.S.A., Inc., 544 U.S. 528 (2005). A significant decision in CA case law is Long Beach Equities v. County of Ventura, 231 Cal.App.3d (1991).

Parties

Parties to the BFS debate have entrenched positions. The current debate is polarized.

The Field Station is of interest to a number of groups within the Claremont Consortium and the City. The current major players are:

- **Claremont University Consortium** – CUC owns the two eastern parcels of land, with KGI owning the western 11 acres. CUC is not monolithic; each school acts as an independent entity. The college presidents balance their trustees, faculty, and students as constituents. CUC itself is governed by a Board of Overseers consisting of the presidents and chairs of the boards of trustees for each school and ten at-large members, and is chaired by CEO Robert Walton. The starting point for new development is generally the Board's New Ventures committee, which periodically calls for proposals for new institutions. CUC sees its goals in the current debate as three-fold: preserving their control over the property, expanding the Consortium in keeping with their founding mission, and respecting the wishes of their donors. KGI has a particular interest in being able to sell its portion of the BFS land – it is unlikely to develop there but wishes to sell the property to offset the property it had to purchase at its current location. All other Consortium institutions were built on land they were gifted. It is important to note that all the presidents of all seven schools and CUC's CEO all attained their positions after the 2001 protests and thus have no direct memory of those events that would influence their actions if more protests were threatened.

- **Claremont faculty** – While only a small fraction of the faculty actively use the field station, general perception among students and faculty is that faculty would oppose development of the Field Station unless it was done as part of a planned compromise solution. The faculties of Pomona, Pitzer, Scripps, and Harvey Mudd passed resolutions opposing any development that would harm the BFS in 1996 (Bala 2000), and there is no reason to believe their attitudes would have significantly changed since then, especially given the rise in concern for environmental issues during the past several years.

- **Claremont students** – Students tend to be supportive of protection of the BFS, often for environmental concerns related to habitat destruction rather than the research interests of their classmates. There is widespread lack of information among students about the history, ecology, and uses of the BFS, likely in large part due to limited student access to the site. Students held protests multiple times between 1997 and 2001 over the siting of KGI on the Field Station (Bala 2000, Glueck 2001b), and the student response to the 2008 development proposal indicates that demonstrations and other actions are still probable. Three important subsets of this group are
    - **Students for the Bernard Field Station** – SBFS has remained an active club since the 2001 controversy, advertising with their "Expect Resistance" bumper stickers at club fairs. The group has around a dozen core members, but many other students are intermittently involved. SBFS

organized students to protest the proposed Pomona/KGI/CUC deal in the spring of 2008, circulating a petition that gathered several hundred signatures in less than a week before the issue was put on hold.

- **Student environmental clubs** – The increased national interest in sustainability and the environment in recent years has manifested itself in student environmental groups at all five undergraduate colleges. These groups have helped create officially sanctioned sustainability committees and helped the schools improve their environmental policies. The newly-signed environmental commitments by several college presidents might be used as leverage against wholesale development of the BFS.
- **Harvey Mudd students** – HMC students were the least involved in the 2001 protests. Records show that only one Mudd student was brought up on disciplinary charges related to the 2001 protest after being named from a photograph; charges were dropped after he showed he was there for journalistic reasons. In fact, Mudd students split from the rest of the 5C student body, wearing mocking "Pave the Field Station" t-shirts. It is unclear what student opinion on the HMC campus will be regarding the latest conflict.

- **Friends of the Bernard Biological Field Station** – FBFS is an active non-profit organization in the Claremont community made of CUC- and non CUC-affiliated individuals. FBFS has the advantage of having the most concentrated group of

individuals with experience from the 2000-era incident, giving them a substantial amount of process knowledge to apply to any new situation.

- **City of Claremont** – The City appears to have three major interests: ensuring that development on the BFS is in line with the city's master plan, ensuring positive relations with CUC, and being responsive to the electorate. I am unsure as to any specific positions of city councilmembers or the mayor, but anecdotal evidence suggests that city leaders would follow the wishes of the Colleges, and city planners have stated as much off the record in the past. Mayor Peter Yao has recently stated both appreciation for the value of the BFS to the City but also that CUC "[has] every right to build on [the] land as long as it is for educational purposes" (qtd. in McDonald 2008, p. 12).

- **Claremont residents** – In the 2000-era controversy several dozen residents showed up to the relevant city council meetings (Glueck 2001b). Claremont residents approved a 2006 levy to purchase and protect Johnsohn's Pasture, an area adjacent to the Claremont Wilderness Park in the foothills. Beyond that it is unclear how members of the public would react to new referenda regarding the BFS. One factor driving some public opinion is a perception that the BFS is elitist in that the general public is normally not admitted onto the property (Glueck 2001a).

- **Claremont users** – Teachers and students in the Claremont school system are active users of the BFS, although these programs are apparently smaller than they have been in previous years.

The current debate over the BFS, as exemplified in the recent controversy over the possible CUC facilities building construction on the KGI property, tends to devolve into a black and white, polarized argument between CUC administrators and student groups and other proponents of protecting the field station in its current state. There is good reason for this, as CUC believes it has the law, time, money, and decision-making power on its side, while the students and others believe they have significant legal and public relations clout to postpone and delay any construction, thereby keeping the BFS as-is. Neither side has good motivation to show a willingness to retreat from their hard-line positions, especially given the history of distrust on both sides. Talking with both administrators, biologists, and students, however, has led me to believe that nearly all parties realize that the current proposal-protest-retreat model is inadequate for achieving any party's goals and that development scenarios exist under which every party stands to gain from their current situation.

Alternatives

A range of sensible options for future use of the BFS exists. Many options could improve the satisfaction of all parties.

There are many options outside the all-or-nothing framework these discussions tend to devolve into. What follows is a list of several development scenarios, which is intended to spur conversation and is not exhaustive.

(a) Status quo – CUC can leave the land on the North Campus property alone for now and reassess when the 50-year clock on the settlement agreement has run out. While this option has the fewest short-term consequences for CUC, it would be a poor strategy for the consortium. By 2050 the field station will be nearly seventy-five years old, with a more substantial record of educational and ecological use. More species found on the BFS may become endangered given the current rate of development in the region. This would be advantageous for thos in favor of preserving the BFS, and there will have been more opportunities in that time for FBFS and students to work with government agencies and other outside groups. The Claremont electorate may become more environmentally conscious because of climate change. Any of these factors could limit CUC's ability to control the development process.

(b) Develop the entire BFS site – If the long-term goals of CUC absolutely require several new campuses on the BFS site, it would be in the consortium's best interest to plan for the eventual development of the entire site now. Incremental development will hurt the academic viability of the portions that remain due to their decreasing

areas and edge effects, but with proper planning this could be mitigated so that the undeveloped space is not wasted in the interim**.** Under this scenario, campus footprints should be based on non-ecological factors, as splitting habitats would not be a long-term concern.

(c) Develop the BFS site and create a field station in an alternate location – This option is appealing to those who would like both to develop and avoid destroying Claremont's field research programs and upsetting those who value the BFS for ecological reasons. Administrators commonly use the framework that a richer, more ecologically sound site off campus will be of more use to researchers. The idea has potential, but Claremont would lose the unique advantages of an immediately accessible station. One possibility is a piece of land owned by Pomona College on Mount Baldy Road next to the Claremont Wilderness Park. However, this site is small, located in a canyon with a less interesting biological community than the BFS, has been the site of crimes against researchers in the past, and cannot be completely fenced. Biology faculty I spoke with universally reject the Pomona-owned canyon site as a viable field station. Other such locations would likely meet similar scrutiny, especially due to the proximity/ease of use issues.

(d) Preserve all of the BFS permanently – CUC could decide to protect the BFS as a research facility permanently or semi-permanently. This option would be highly desirable in terms of the academic usage of the BFS, but limits CUC's ability to expand. There is also a question of whether this tarnishes CUC's reputation in terms

of "donor intent," but it seems that a substantial investment in on-site research facilities and oversight (as would be both necessary and warranted under this scenario) could turn the BFS into an "educational institution" as valuable as any new college might be. As I previously discussed, the longer the BFS is around as a field station and the more money invested in it, the more difficult it will be to change the path of development in the future. Plans that set aside any part of the BFS for an extended period of time necessitate investment if the property is to be valuable in the short-term.

(e) Control usage more strictly via the City – FBFS or other interested parties could use referenda or elections to bring the issue of development on the BFS back into the political realm. As I discussed above, the city could zone the property or prevent certain types of permits in ways that would limit development on the BFS. While the consequences of such actions would not be permanent, they would represent a substantial political power play on the part of development opponents – even in 2001, CUC did not have to face the expansion of the political process surrounding development to the entire voting constituency of the city. Again, it is unclear where exactly the City Council and mayor stand on the issues, although it seems unlikely they would move against the wishes of CUC at this point in time. Preventing development on the property would not be antithetical to the overall goals of the city, however, as acquisition and protection of open spaces containing habitat for sensitive species is in line with Goal 5-1 and Policies 5-1.1-5-1.9 of the City's Master Plan (City of Claremont 2006).

(f) Develop campuses on alternate sites – Two CUC-owned properties come to mind as possible sites for expansion: the Claremont Golf Course, located to the west of the BFS and north of the Claremont School of Theology, and the "pit," an open area to the east of the 5Cs. Administrators in the 1990s and today find these to be less desirable than the BFS site, the golf course because of its distance from central facilities on the 5Cs proper, and the pit because of expenses related to filling the site and making it stable. The distance to the golf course is an obstacle, but the severity of the obstacle depends on the type of institution to be built there. Despite KGI's limited interaction with the other Claremont schools, it is fully functional at its current site south of the main 5C campus and has no intentions of moving. A graduate institute located at the golf course site could be integrated into the 5C + CGU community if sufficient effort were made to allow easy pedestrian traffic flow. Removing the golf course would upset members of the community that use it and result in a loss of revenue. As for the pit, filling the low-lying areas would be costly, but even so private firms have found it worthwhile for development projects in the past (Glueck 2001a) and CUC plans to use the entire area and develop the land eventually. The pit is also constrained by height restrictions on buildings in its northeast corner due to the flight path of the runway at Cable Airport. Both the pit and the golf course are less ecologically constrained than the BFS (RECON 1995).

(g) Pay to preserve the BFS site – It might be possible to find donors or conservation organizations to buy out KGI and CUC's stake in the property and preserve the BFS

in its current state while continuing to allow research. For example, the Nature Conservancy and other land trusts often work with private land-holders to either purchase property or obtain conservation easements (guarantees written into the land title) for lands they feel are ecologically significant. This scenario seems unlikely due to the high value of the land both to CUC and to developers and the low ecological value of the BFS, but is suggested to spur thinking about possible sources of funding for enhancing the research program on the BFS. This scenario is also undesirable because of the loss of CUC control of the site and thus a loss of flexibility for long-term options (possibly affecting both administrators and faculty).

(h) Develop part of the field station, excluding the central portion – CUC could chose to develop the sections of the BFS not covered under the settlement agreement now, either with individual facilities as was proposed in early 2008 or with full college campuses. This would allow KGI to sell its land[7] and allow CUC to expand if it feels the time is ripe to do so. However, because of the mismatch between the habitats on the BFS and the sectioning of land under the settlement agreement this option is ecologically less desirable. In other words, the settlement sectioning should be renegotiated to reflect ecological boundaries within the field station. Preserving only the central portion would also almost certainly lead to the eventual development of the entire property, as that section is not likely to be a viable field station in itself. A better option would be to explore development including that parcel:

[7] A secondary factor relating to development of just the KGI portion of the property is a fault that runs east-west in the northern part of that parcel, restricting what structures can be built there.

(i) Develop part of the field station, possibly including the central portion – This scenario is more difficult in the short-term, as it would require renegotiation of the settlement agreement between CUC and FBFS, but would lead to the most positive long-term solutions. With the settlement-protected parcel available for development in whole or in part, development that mitigates environmental impact is more likely. As Cohen notes, "Certainly, almost any devlopment will tend to accelerate tendencies toward ruderal [low-value] habitat conditions. However, the potential for such degradation is not uniformly spread across BFS" (Cohen 1997, p. 8). For example, further encroachment upon the neck section would be proportionally more devastating than developing the same area in one of the southern corners of the BFS, but using the whole neck for a new campus might be the safest way to build on an area of land that size. Cohen recommended that CUC "Confine any development, as much as possible, to the western portion of the CSS community. / Avoid any activities and development that might adversely impact pHake Lake. / Avoid development that tends to make the southern block of BFS narrow or linear in shape" (Cohen 1997, p. 8). Cohen's recommendations preserve the lake and the eastern part of the field station because of their higher academic values.

Within this scenario is substantial flexibility to allow the satisfaction of all parties. Biologists and researchers would have a workable field station, CUC would have both new institutions and the BFS to satisfy a maximal use of the property consistent with the vision of the donors, CUC would retain control over the land, and the very long-term use of the property would not be set in stone. It would also allow for more strategic management of the ecological resources of the field station, such as

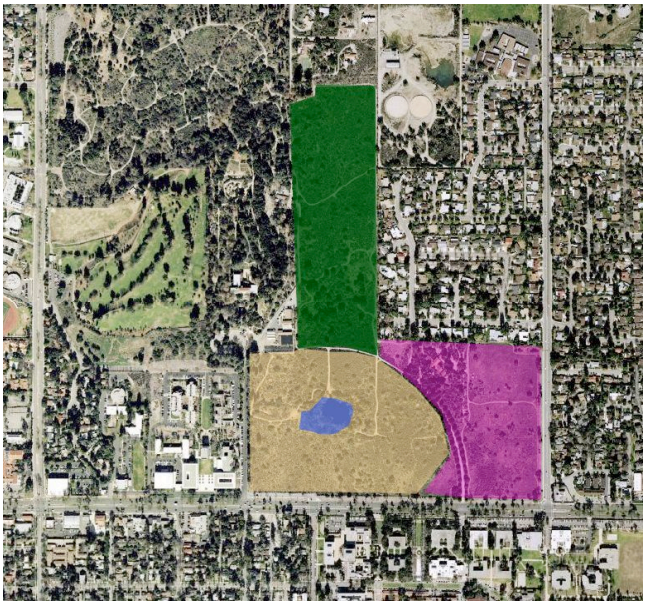
modifying or moving pHake Lake to put it in the safest or most academically useful location.

(j) Combination with the proposed Graduate Institute of Environmental Design - One possible combination of development and continued field station use is laid out in a 2008 proposal to the CUC Committee on New Ventures by several Claremont faculty outlining a graduate school focusing on environmental engineering, entrepreneurship, and policy. The proposal[8] (Faulstich et al. 2008) combines an educational institution based around the current national and global emphasis on environmental issues (following Claremont's longstanding tradition of creating zeitgeist-reflecting institutions) with an expanded investment in and use of the BFS. The school itself would help fill a consortium-wide deficiency in environmental studies and present a novel approach to combining techniques and frameworks from the private, public, and non-profit sectors. The proposal intends that development be confined to the northern section of the non-native grassland section of the BFS, the site of the now defunct college infirmary. The New Ventures committee is currently considering this proposal along with a handful of others for possible further study and development.

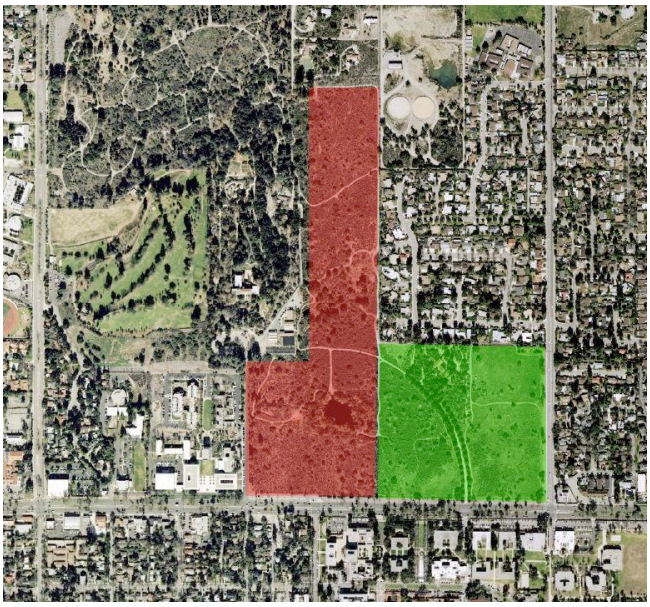
Maps showing various development scenarios are shown on the following pages.

[8] A copy of the proposal is available from the author or the HMC Center for Environmental Studies.

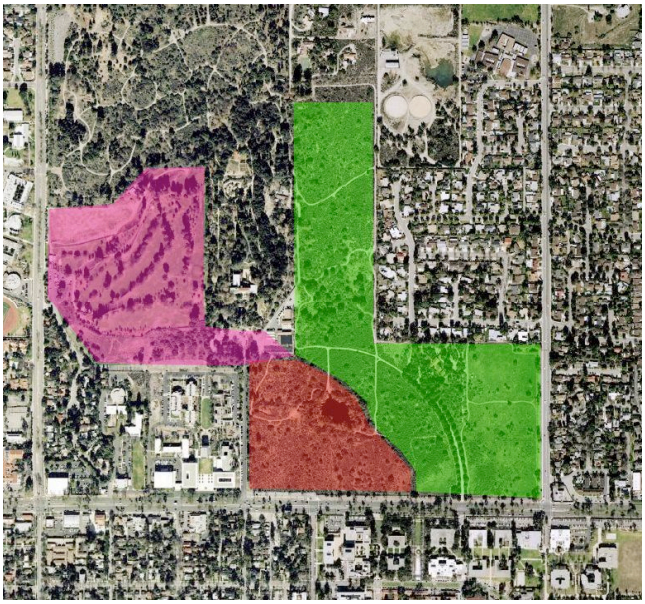
Map (a) – The division of the BFS as per the current settlement agreement. Red is the KGI property, blue is the section preserved for fifty years, yellow is the CUC-owned section used as part of the field station



Map (b) – The four main biological communities of the BFS. Green is the neck area, tan coastal sage scrub, blue the lake, and pink main non-native grasslands. Note how the boundaries in map (b) do not align with those in map (a).



Map (c) – A possible development scenario including the neck area. Red is developed, green is preserved field station. Developing the neck makes little sense without a connection down to Foothill Blvd. The substantial problem with this setup is maintaining a viable-sized field station.



Map (d) – A scenario that preserves the neck and a corridor to the NNG area and provides an area larger than the KGI proposal for development. Also shown is what the addition of the golf course would look like if developed (pink). The difficulty in preserving the neck in a scenario like this is preventing it from becoming completely fragmented.

Map (e) – My my interpretation of the Graduate Institute of Environmental Design proposal, with a road connecting to Mills Ave (the N-S road on the eastern edge of the property). One difficulty of a scenario like this is providing access through the field station between the new school and the rest of the Consortium.

Conclusions: Process

A more open and carefully considered process for choosing among alternatives for the future of the BFS is needed.

My research has not led me to any conclusions about what the fate of the BFS should be. What I am convinced of is the need to develop a process for settling disagreement between various sides and establishing a well-reasoned and long-term plan for the property. The absence of such a process hurts all sides, as it eats away at the chances for a successful long-term field station as well as for getting the most value out of complete development of the property.

First, it is essential that parties on all sides of the issue separate out the circumstances and options regarding the BFS today with the concerns related to KGI that fueled opposition in the late 1990s. KGI has been built, and its particular institutional values have little bearing on the practical need to dispose of their land. Separating the practical concerns for an academic field station and new campuses from the moral and emotional issues surrounding KGI is a critical step for relieving some of the historical bad blood felt by both development proponents and opponents.

For its part, CUC should be more receptive to student and faculty input about the BFS. A good first step would be the re-establishment of the BFS Faculty Advisory Committee. At a minimum this would lead to better management of the property for the immediate future, and it does not seem to me that such a committee would create any new permanence to the BFS or wield undue power over the CUC planning process, as has been suggested.

CUC should directly address the BFS question in the near future as it begins to expand into other properties such as the pit. CUC recently sold a large portion of the pit to Pitzer and CMC to expand their athletic facilities. By doing this, they have taken an important long-term development alternative off the table. Several such incremental decisions could seal the fate of the BFS as a research facility for all practical purposes. If CUC has no intention of maintaining any sort of field station, there is no better time than the present to admit this. If however CUC is willing to listen to options that include a long-term field station, as is its current public stance, then it should get serious about soliciting proposals and coming up with a process for doing so before it is too late.

Some members of the opposition to building on the BFS, specifically students, have failed to maintain a constructive line of dialog. Opposition by student groups for the sake of being anti-establishment or anti-development, for example, is neither helpful nor productive. Rhetoric such as that from a protest play in 2001 – "Your corrupt corporate arsenal is powerless against the voice of the people" (Glueck 2001a) – does not convey a serious tone and only serves to antagonize administrators. This is not to say that students should not retain mass demonstration as a weapon in their arsenal, as it certainly seems to have been effective in the past, but rather to suggest that a focus be made on negotiation before time and circumstance corner the students into a position where protest is their only means of being heard. SBFS appeared to take a more reasoned and practical approach in their discussions with Bob Walton and other CUC officials during the 2008 controversy, but the group was still occasionally sidetracked by discussions over reforming the CUC governance structure.

I cannot judge those who were present during the 2001 protests, but the BFS situation now does not appear to be one of marginalization or of simple power politics, as it was framed then. It seems to me that student expectations as to their role in the CUC decision-making process cannot be justified without a more concerted and perennial effort to organize around the issue.

To conclude, I believe that more and renewed effort is necessary by both CUC and those who would preserve the field station, and that, given the potential of even the limited list of options presented above, such effort would be worthwhile.

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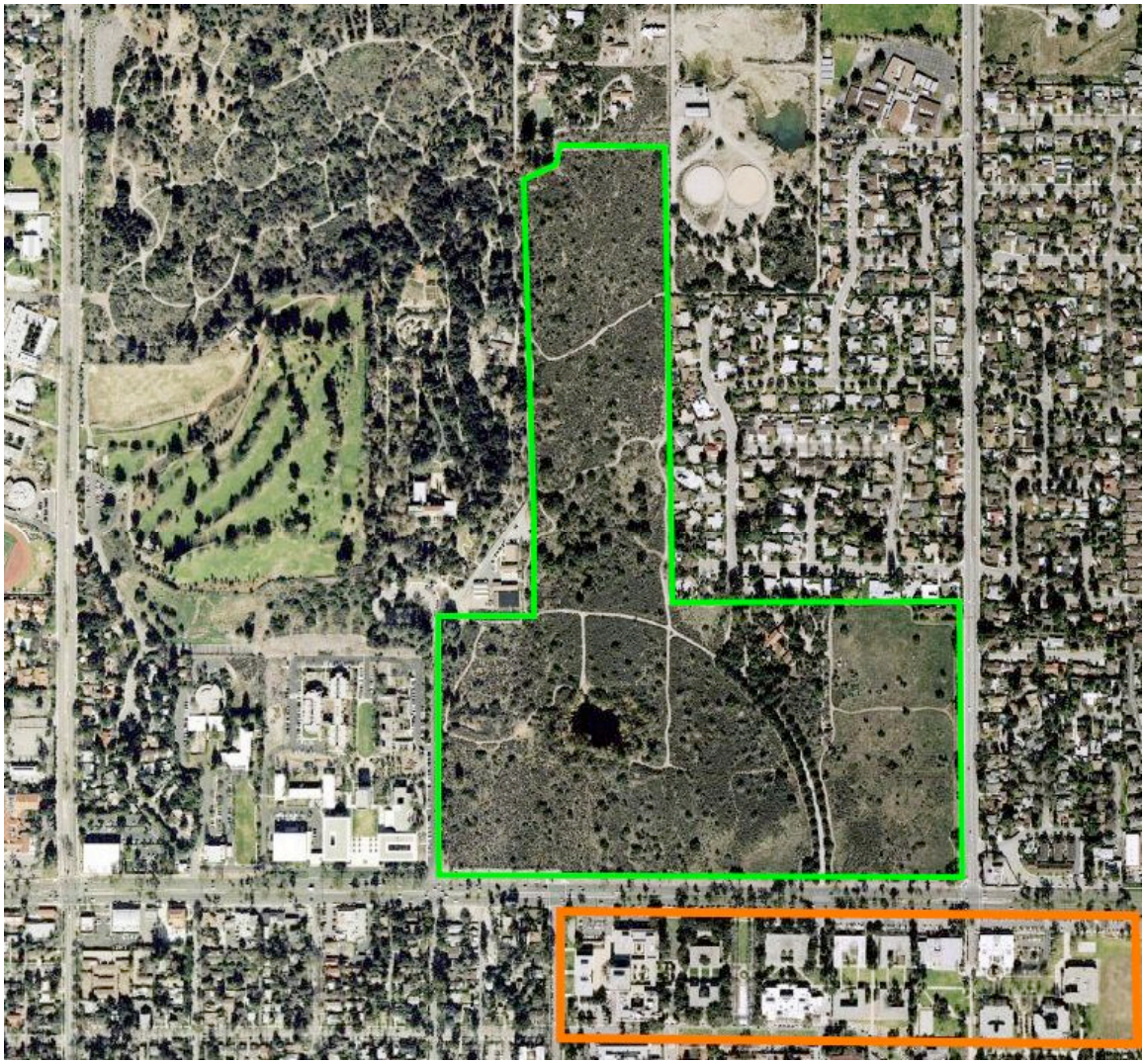
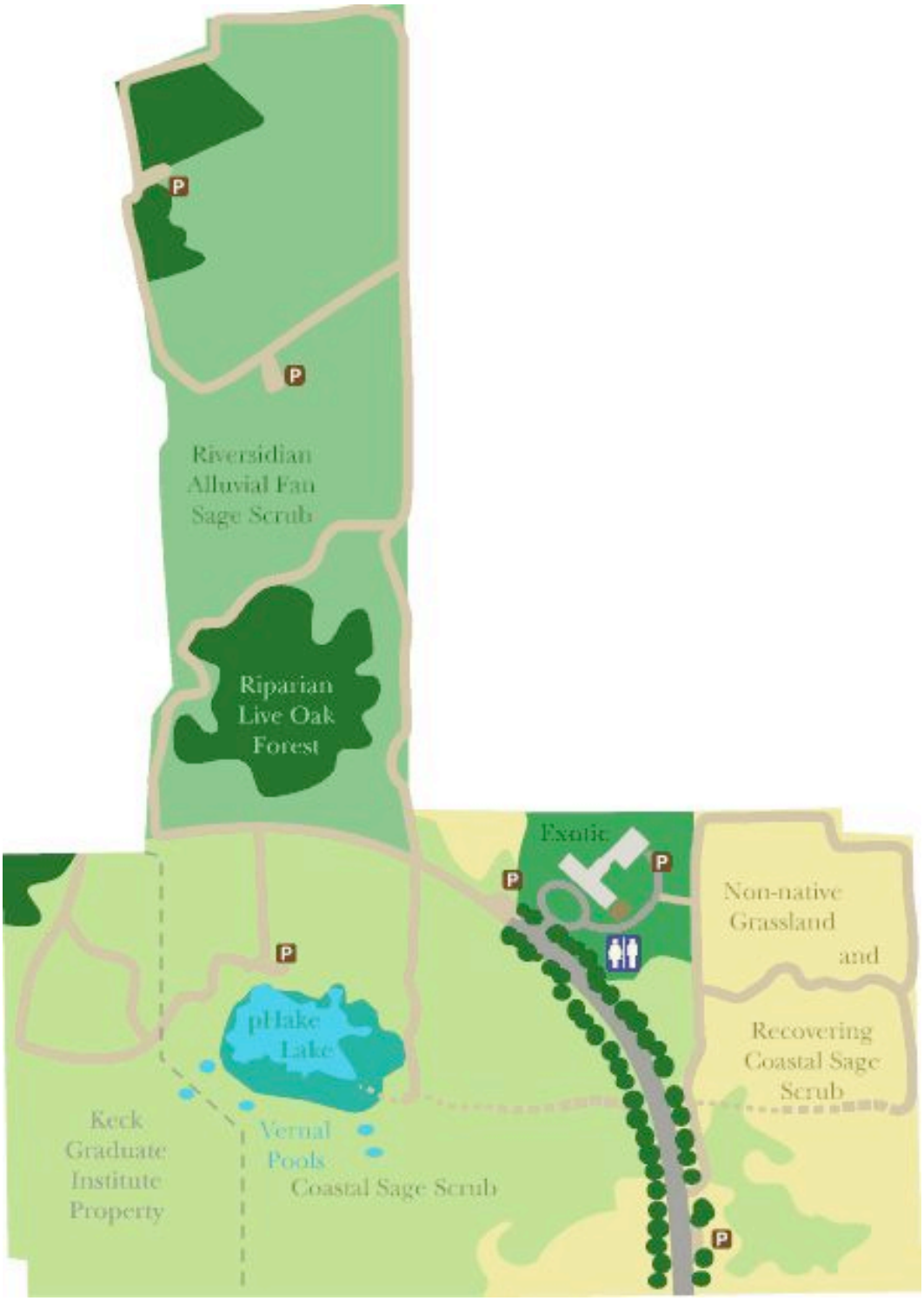
[*] The author can provide copies of some of these and other relevant documents – samuel[dot]eisenberg[at]gmail[dot]com

Appendix A: Maps



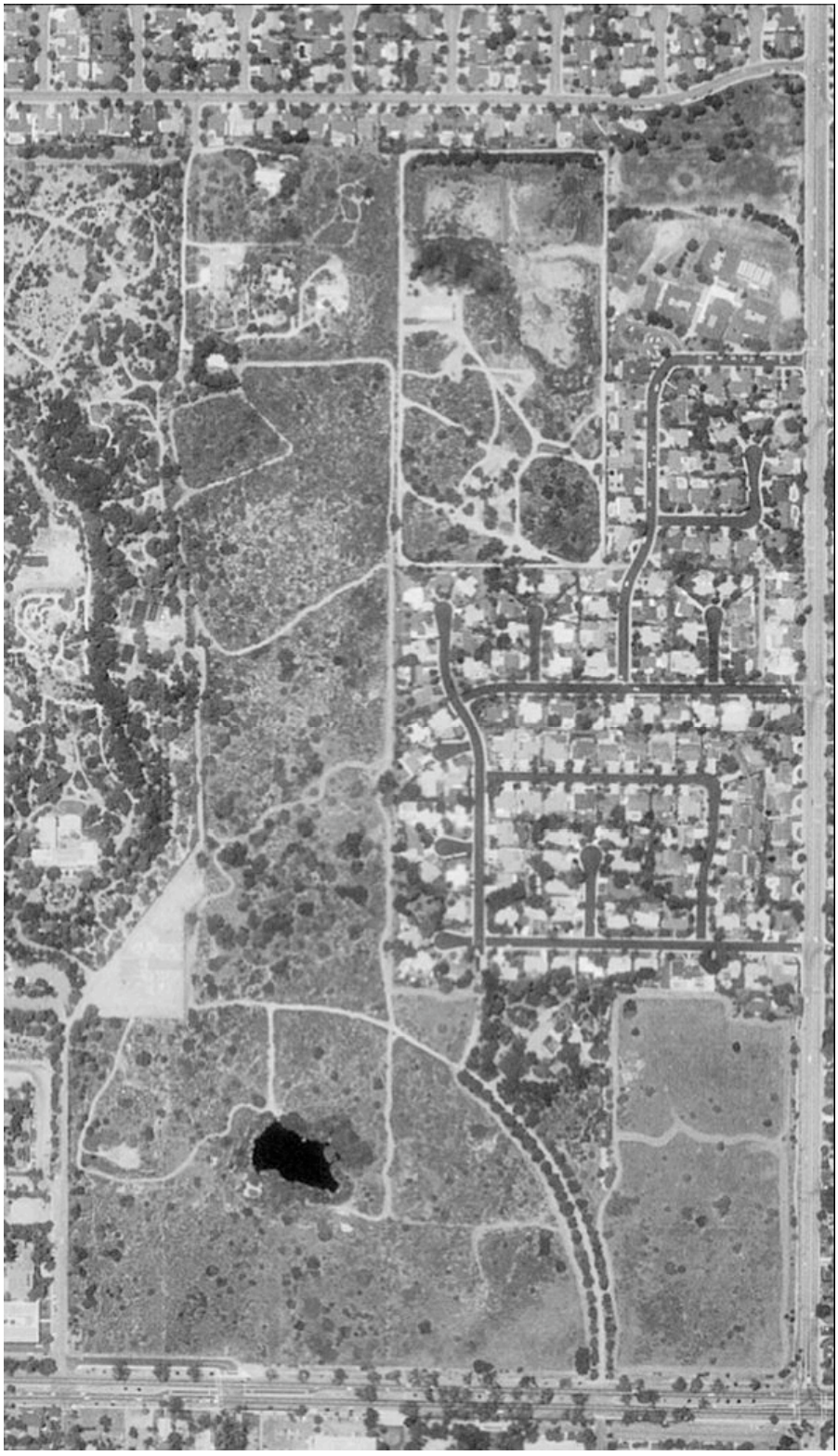
BFS and vicinity. The boundaries of the BFS are in green. Harvey Mudd is outlined in orange. The three major streets are Indian Hill Blvd., Foothill Blvd., and Mills Ave. The Claremont Golf Course is to the west of the BFS.

Google Maps



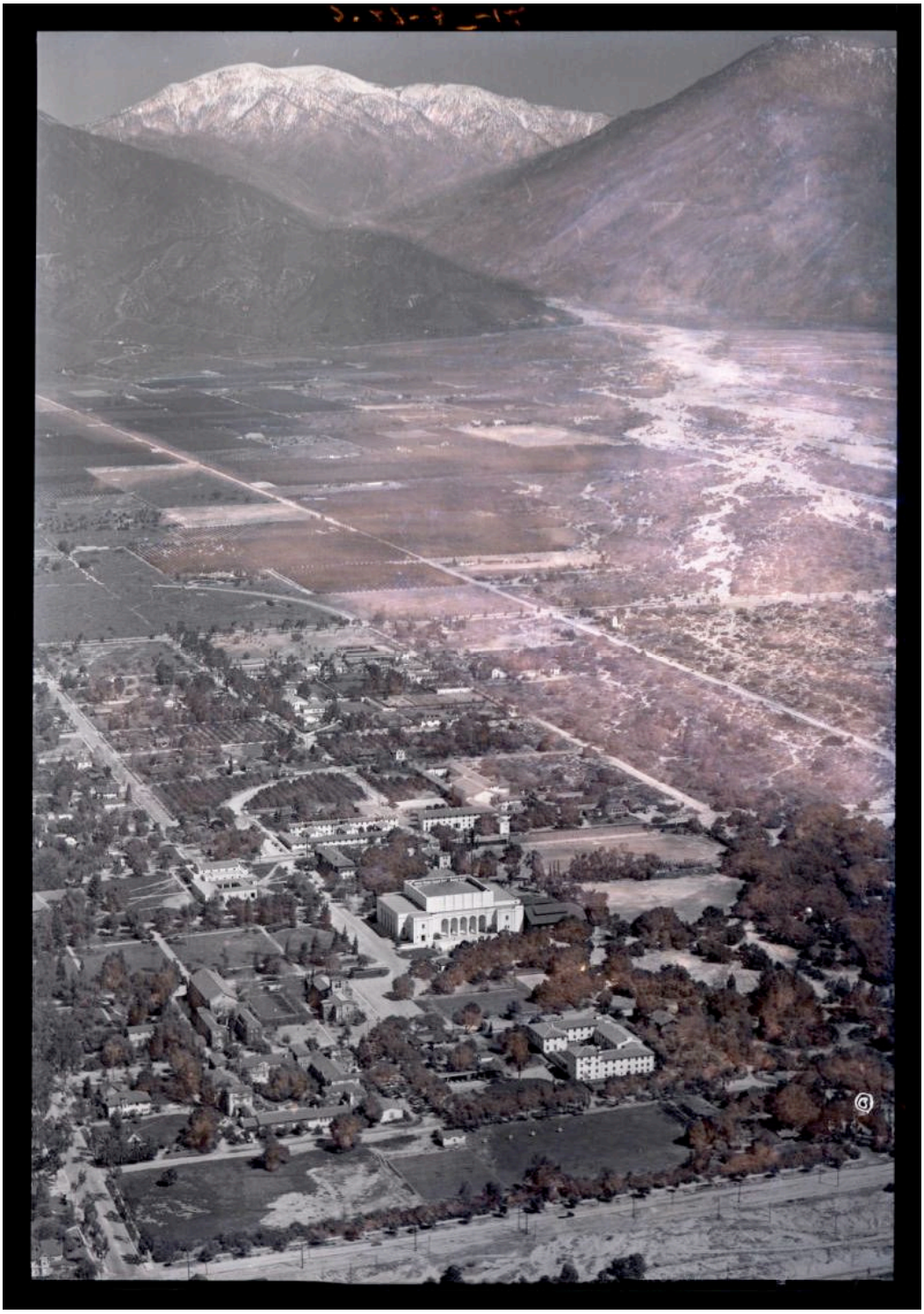
From the official BFS website: http://www.bfs.claremont.edu/maps/commmap.html
Designed from maps in the North Campus Master Plan Draft EIR, 1999.

Appendix B: Aerial Photograph



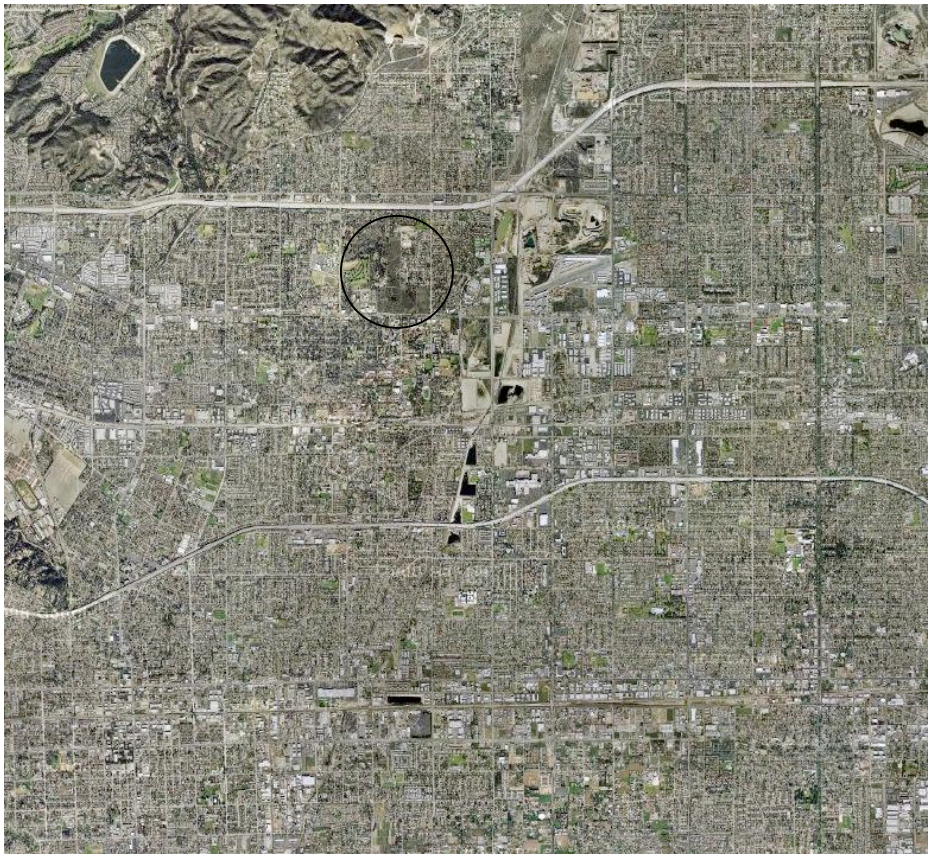
June 1994. Image courtesy of the U.S. Geological Survey.

Appendix C: Historical Images



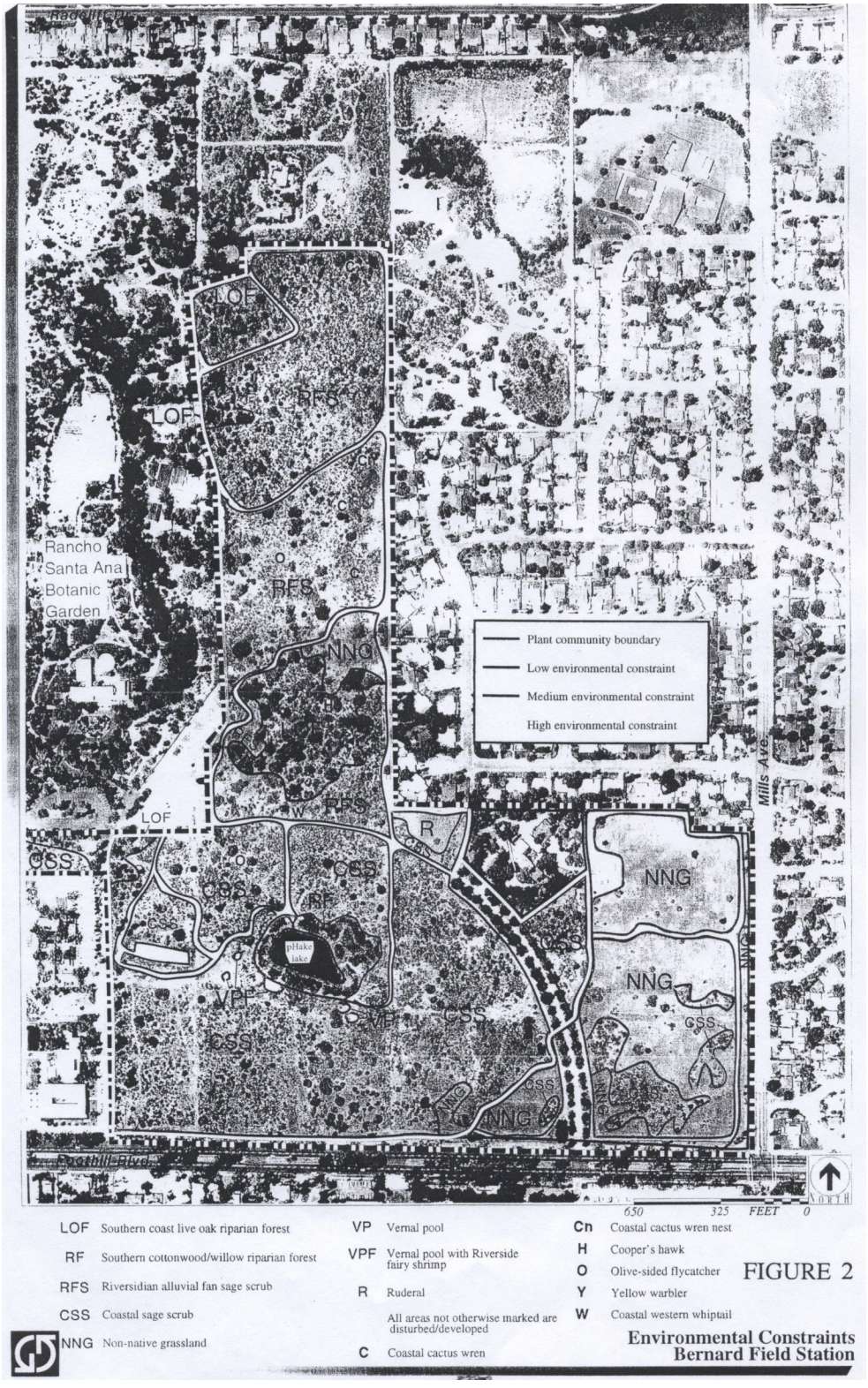
Pomona College and Mt. Baldy, 1938. San Antonio Creek is shown in flood, before the dam was built. Claremont The BFS is at center-left of the frame. Colleges Digital Library (CCDL) - ccdl.libraries.claremont.edu

The BFS and the HMC campus, looking southward, 1960. Note how the BFS is barren and ecologically undeveloped. The remnants of the orchard are on the eastern (left) part of the photograph. CCDL.



Aerial view of Claremont, 2008. The BFS is circled. Google Maps.

Appendix D: Ecological Map



From RECON 1995.