

**Marin Conservation League
Walk Into (Conservation) History # 17
RUSH CREEK OPEN SPACE PRESERVE**

**Rush Creek Marsh, Pinheiro Ridge, Cemetery Marsh, and Bahia
Saturday, March 28, 2015**



Dru Parker

Walk Leaders

Nona Dennis

Director, Marin Conservation League

Susan Stompe

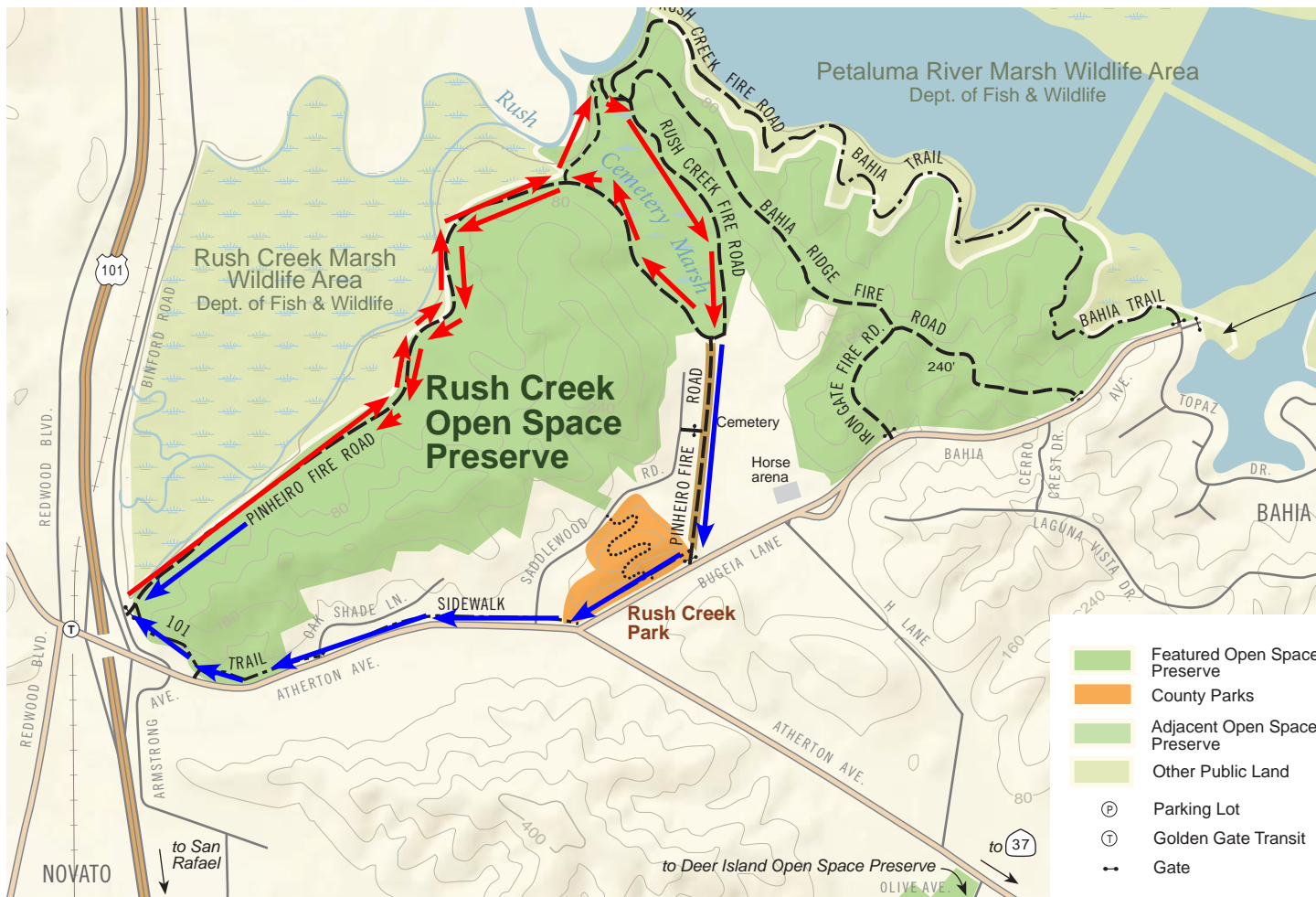
Director, Marin Conservation League

Gail Wilhelm

Past Marin County Supervisor



Protecting Marin Since 1934



marincountyparks.org

The route for Option A is shown in red. Option B is shown in blue.

Today's Route

Today's nearly level Walk proceeds along Pinheiro Fire Road, skirting the base of Pinheiro Ridge and bordering Rush Creek Marsh. The walk will continue to the North Levee Trail and follow it around the northeast end of Cemetery Marsh to meet Rush Creek Fire Road. The return to the beginning has two options: 1) complete the loop around Cemetery Marsh and return by way of Pinheiro Fire Road; or 2) continue on North Rush Creek Fire Road to the One-Oh-One Trail along Bugeia Lane and Atherton Avenue. Total distance is about three-and-a-half miles for Option 1 and three miles for Option 2.

Optional Walks: To view the Bahia area in the Preserve and the Petaluma River Marsh Wildlife Area and wetlands owned by Marin Audubon Society, drive to the end of Bahia Ave. (ample street parking). Follow Bahia Shoreline Trail all the way to Rush Creek Fire Road, turn left at Cemetery Marsh onto Bahia Ridge Fire Road, and return to parking via Bahia Ave. Roads and trails are multi-use, but dogs must be on leash.

About this Walk

Today's walk explores one of the most popular Marin County Open Space Preserves. Easily accessed from several entry points and moderate in elevation change, the 522-acre preserve is visited by walkers, equestrians, and bike riders alike. It affords sweeping views of Mt. Burdell and the network of wetlands of the Petaluma River Marsh Wildlife Area to the north, where thousands of shorebirds and waterfowl congregate each fall and winter. According to the MCOSDs' web description, "this is one of the best birding locations in the North Bay; a conservative list shows 196 regularly occurring species. . . The

bordering wetlands are teeming with waterfowl and shorebirds all winter, while the oak studded ridge has a great assemblage of land-birds.”

The Preserve, plus Rush Creek Marsh and Petaluma River wetlands, which are owned and managed by the California Department of Fish and Wildlife, comprise several distinct topographic units: **Pinheiro Ridge, Rush Creek Marsh, Cemetery Marsh, Bahia Ridge, and Petaluma Marsh Wildlife Area.**

From the north view, the most obvious feature in the Preserve is Pinheiro Ridge, which ranges in elevation from 270 to 318 feet and forms a northerly portal to Novato east of Hwy 101. Pinheiro Ridge’s north-facing oak-wooded slopes stand in sharp contrast to the flat marsh plain of the Rush Creek Marsh that adjoins it. The northern side and top of the ridge have changed little since the days when the Pinheiro family managed a small herd of heifers on their ranch. Because the ridge is not traversed by any maintained trails, it supports many native wildlife and wildflowers. The south-facing side of the ridge, hidden from this view, was developed as part of a dedication agreement that allowed 89 homes to be built along Atherton Ave. and Bugeia Lane.

The eastern end of Pinheiro Ridge drops down to a valley that contains the Bahia Valley Memorial Cemetery and “Cemetery Marsh.” Directly adjacent are facilities of the Novato Horseman’s Association. Cemetery Marsh is separated from Rush Creek Marsh by a levee and tide gates. To the east, beyond Cemetery Marsh, the oak-covered Bahia Ridge lies roughly

perpendicular to Pinheiro Ridge and terminates in a series of small inlets bordering the Petaluma River wetlands. This eastern end of the preserve offers expansive views across the Petaluma River delta to Sonoma County and beyond.

History of Pinheiro Ridge and Rush Creek Marsh

Pinheiro Ridge

The Pinheiro Ridge area was once a part of Rancho Novato, acquired by John W. Atherton in 1873. In the 1970s, the property consisted of 433 acres under the jurisdiction of Marin County but within the Novato Sphere of Influence. Pinheiro Ridge was being used for moderate year-round grazing by about 40 heifers – “moderate” as evidenced by the lack of erosion, the health of the grassland, and the absence of invasive thistles.

Development proposals for Pinheiro Ridge date back at least to the early 1970s. According to one story, there was a proposal to scrape off the top for use as fill in the construction of Hwy 101 Novato bypass. By mid decade the property had been optioned for the purpose of developing a subdivision “accentuating open space, the natural setting, and views.” The Novato General Plan would allow a minimum of 211 and a maximum of 783 residential units. A mid-point of 350 units was used



Cemetery Marsh

as the basis for an Environmental Assessment prepared for the City of Novato in 1976 to evaluate the constraints to the development, including a branch of the Mt. Burdell fault running through the site and the intention to minimize removal of trees.

A 1978 Environmental Impact Report examined the specific impacts of developing the 383-acre parcel, plus a low-lying 50-acre parcel, as a rural residential community of 315 homes. The strong focus would be on an equestrian life style. Among other recreational elements, the plan featured a community equestrian center and staging area in the southwest corner of the property that called for filling 15 acres of wetland.

Other residential development was proceeding on the east side of Novato. By 1978, the Bahia and Bahia Vista sites were already developing. 288 units had been built, and ultimate build-out of 1,500 units was projected. Also nearby were the early developing neighborhoods of Atherton Avenue and Black Point Community.

Between 1978 and 1995, when the Marin County Open Space District actually acquired the majority of the Ridge, many events transpired (below). In the final

settlement, the earlier plan for 315 homes had been pared down to an 89-lot subdivision on the south flank of the Ridge, leaving the remaining land to be dedicated to open space.

MCOSD acquired Cemetery Marsh in 1986, and expanded that area to 50 acres in 1991, at the same time obtaining emergency access easement through the cemetery. In 1996 the Preserve totaled 334 acres. It was designated a "Sensitive Wildlife Area" at that time in view of the diverse wildlife it supported.

Rush Creek Marsh

More than 100 years ago, Rush Creek Marsh occupied the southwest corner of a continuous band of pickleweed salt marsh, drained by deep tidal sloughs, stretching from the Petaluma River to Mt. Burdell, and south to the vicinity of

Open Space trailhead —Rush Creek Marsh in background



Olive Ave. Major changes began with the construction of Northwest Pacific Railroad in the early twentieth century, which isolated segments of salt marsh to the west. In 1914, a tide dam was placed in the main stem of Rush Creek, converting the pickleweed plain to the south into grazing land. A levee may also have been built north-

ward across Basalt Creek, and a levee was placed across the north end of Cemetery Marsh.

The most dramatic change came in 1920, when almost all of the marsh plain that drained into Black John Slough, including Rush Creek Marsh, was diked off for grazing. The loss of tidal flow caused Black John Slough to silt in, which impeded drainage of Rush Creek Marsh area. Mosquitoes became a serious problem as a result of changing salinities and restricted circulation, which required ditching to drain the former marsh area. In the early 1970s, Highway 101 and Binford Rd frontage road were constructed along the western edge of the marsh.

Altogether, the result was an unmanaged seasonal wetland with a water regime that was not controlled to enhance habitat, improve

water salinity, or control mosquitoes. Salinities varied from fresh to hyper-saline. And as the area dried, it gradually subsided by three to four feet, allowing even more mosquitoes to breed in standing pools. In 1983, the Mosquito Abate-

ment District constructed new tide gates and culverts to improve circulation and breached an old levee.

Rush Creek Marsh Enhancement Plan (RCMEP)

The main drive to initiate acquisition and



Gail Wilhelm

enhancement of the Rush Creek area came in 1982. Spearheaded by Supervisor Gail Wilhelm, the County began a cooperative effort to preserve and restore the agricultural and wetland values of the Black John Slough area. The collaboration included, among others, MCOSD, the Wildlife Conservation Bd., State Coastal Conservancy (SCC), CSA # 25, and Flood Control Zone #1. This extensive funding package for land acquisition and site enhancement was considered exceptional in the range of involvement of landowners, local, regional, and state agencies, and interested conservation organizations and individuals.

MCOSD took the lead in title searches, land surveys, and land appraisals. Each property owner was contacted. MALT coordinated negotiations

for acquisition of conservation easement on agricultural properties. The County real estate department made offers to land owners and began negotia-



tions. The Wildlife Conservation Bd. began negotiations with the developers. The California Department of Fish and Wildlife (then Fish and Game), San Francisco Bay Conservation and Development Commission (BCDC), and SCC all supported the effort enthusiastically. MCOSED was seen as the logical manager.

The RCMEP, prepared by Philip Williams and Associated (PWA) in 1985, was under consideration throughout the remainder of the 1980s. Everyone endorsed it. The goals were multi-purpose: 1) Protect marsh wildlife and plants; 2) retain winter storm-water runoff; 3) allow some continued agricultural use (cattle grazing) on selected parcels; 4) control mosquitoes; and 5) provide public recreation, including walking, picnicking, nature study, fishing, and photography.

PWA's Plan was to enhance 260 acres of seasonal marsh and restore tidal action to Cemetery Marsh. The plan was completed but never implemented as proposed. It was held up in the mid 1980s, in part, by unsuccessful negotiations with one land owner who controlled a critical parcel. It was also considered to be too ambitious.

The PWA plan was replaced in 1998 with a plan for a more modest system by Questa Engineers. It would improve the gate system from Black John Slough south, to ensure adequate flood storage in winter months and increase tidal influence into low areas that did not drain and into higher areas that were dry and hyper-saline. The result would be a managed wetland.

Enhancement Plan implemented

To successfully implement the Rush Creek/Cemetery Marsh Enhancement Project, the Marin Audubon Society, headed by Barbara Salzman, obtained Administrative Civil Liability funds from two sources, and grants from the Marin County Department of Public Works and the MCOSED, the State Coastal Conservancy, the Wildlife Conservation Board, U.S. Fish and Wildlife Service San Francisco Bay Program, and the Marin Community Foundation. The project consisted of excavating channels to improve circulation within the two marshes and replacing several tide gates. Construction was completed in 1999, and the ecosystem was returned to a managed tidal marsh.

The 230-acre Rush Creek marsh is owned by the California Department of Fish and Wildlife, and the 50-acre Cemetery Marsh is owned by the MCOSED. Both of these marshes are managed by the MCOSED as part of the Rush Creek Open Space Preserve. Identified as the "Rush Creek Watershed," the Rush Creek wetlands are managed for flood control as well as for mosquitoes and wildlife by the County Department of Public Works. Winter stormwater from Northeastern Novato is directed into either Rush Creek, which then flows into Black John Slough and eventually into the Petaluma River, or into the Deer Island Basin and Simmons Slough.



Blue Oak (Quercus douglasii).

Bahia

The Bahia and Bahia Vista area of the Preserve began developing in the late 1960s. The central feature of the development was a lagoon with docks for small craft. Throughout the 1980s and 90s, environmentalists had sought to preserve most of Bahia – 654 acres – including rare blue oak woodland (*Quercus douglasii*) and salt marsh in the Petaluma River wetlands. According to "Baylands Tidings" (2002), Bahia includes 333 acres of diked salt marsh, about 18 acres of seasonal wetlands, 6 acres of ephemeral channels, multiple coves created by spurs that extend to the water, and 214 acres of blue oak forest, a species that generally occupies the dry foothills of central California. It is the only known location where blue oak grows adjacent to salt marsh.

In 2000, a proposal for 424 more residences at Bahia had won the approval of the Novato City Council. But Bahia became the final straw for residents who wanted more control over growth. A referendum in spring of 2001 resulted in a landslide 2/3 vote overthrowing the Council's decision, and Marin Audubon Society (MAS),



The Bahia development, circa 1971.

photos from shorpy.com



with the help of Baylands Advocates,

reached an agreement to purchase the site for \$18 million. Eventually, with massive efforts by MAS, Baylands Advocates and citizens, the Bahia Acquisition Project received the necessary funds to acquire 639 acres of wetlands and associated uplands, from Marin County Open Space District, Supervisors, Marin Community Foundation, State Coastal Conservancy, and non-state contributions from hundreds of individual donors and private foundations. In 2003 the Marin County Open Space District took title to 174 acres of the blue oak woodland east of and adjacent to the District-owned Cemetery Marsh. California Department of Fish and Wildlife holds title to 410 wetland and associated upland acres. The MAS retained ownership of 55+ acres of wetlands and associated uplands on peninsulas adjacent to the Petaluma River. Public use is allowed under all ownerships.

The story of MAS's successful efforts to restore tidal marsh at Bahia is a saga in itself, with many twists and turns over a period of several years! The Bahia lagoon and entry channel had silted in,

Bahia property to be sold

Marin Audubon Society agrees to buy acreage from developer

By Mark Prado
IJ reporter

The 654-acre Bahia property in Novato, which has been the subject of emotionally charged debates and a ballot referendum, will be purchased by the Marin Audubon Society if the organization can come up with \$18.3 million by March 1.



Marin IJ, Sept. 12, 2001.
Pictured are hydrologist Jeffrey Haltiner and Marin Audubon Society President Barbara Salzman.

and battles raged over whether dredging should be permitted. Suffice to say, under Marin Audubon's leadership, PWA prepared the design for restoration of the area to tidal marsh, a project which was completed in 2008.

The Bahia tract's shallow waters of diked baylands are especially important as foraging and resting habitat for dabbling and diving ducks, including northern pintail, mallard, Canada goose, greater and lesser scaup, canvas-

back, American wigeon, cinnamon teal, northern shoveler, and ruddy duck. The parcel's intertidal mudflats provide foraging habitat for migratory shorebirds—15 species have been observed on-site. The federally endangered salt marsh harvest mouse and Ridgway's rail (formerly California clapper rail) inhabit the wetlands, as do special

status species like the northern harrier, San Pablo song sparrow, and salt marsh yellowthroat.

Petaluma Marsh Wildlife Area
Rush Creek and Bahia Wetlands Units south of Black John Slough are two important units among the ten that make up the Petaluma Wildlife Area. Both Units directly adjoin the Rush Creek OSP and offer outstanding opportunities to view a diverse mix of terrestrial and wetland-related wildlife.

According to Josh Collins, San



David Hofmann, Flickr Creative Commons



Peter Birch, Flickr Creative Commons

Clockwise from left:

Shooting Star (Dodecatheon hendersonii)

Common Snowberry (Symphoricarpos albus)

White-tailed kite (Elanus leucurus)

Black-tailed jackrabbit (Lepus californicus)

Northern Pintail drake (Anas acuta)

San Pablo Song Sparrow (Melospiza melodia)



flythebirdpath, Flickr Creative Commons



Bob Grace



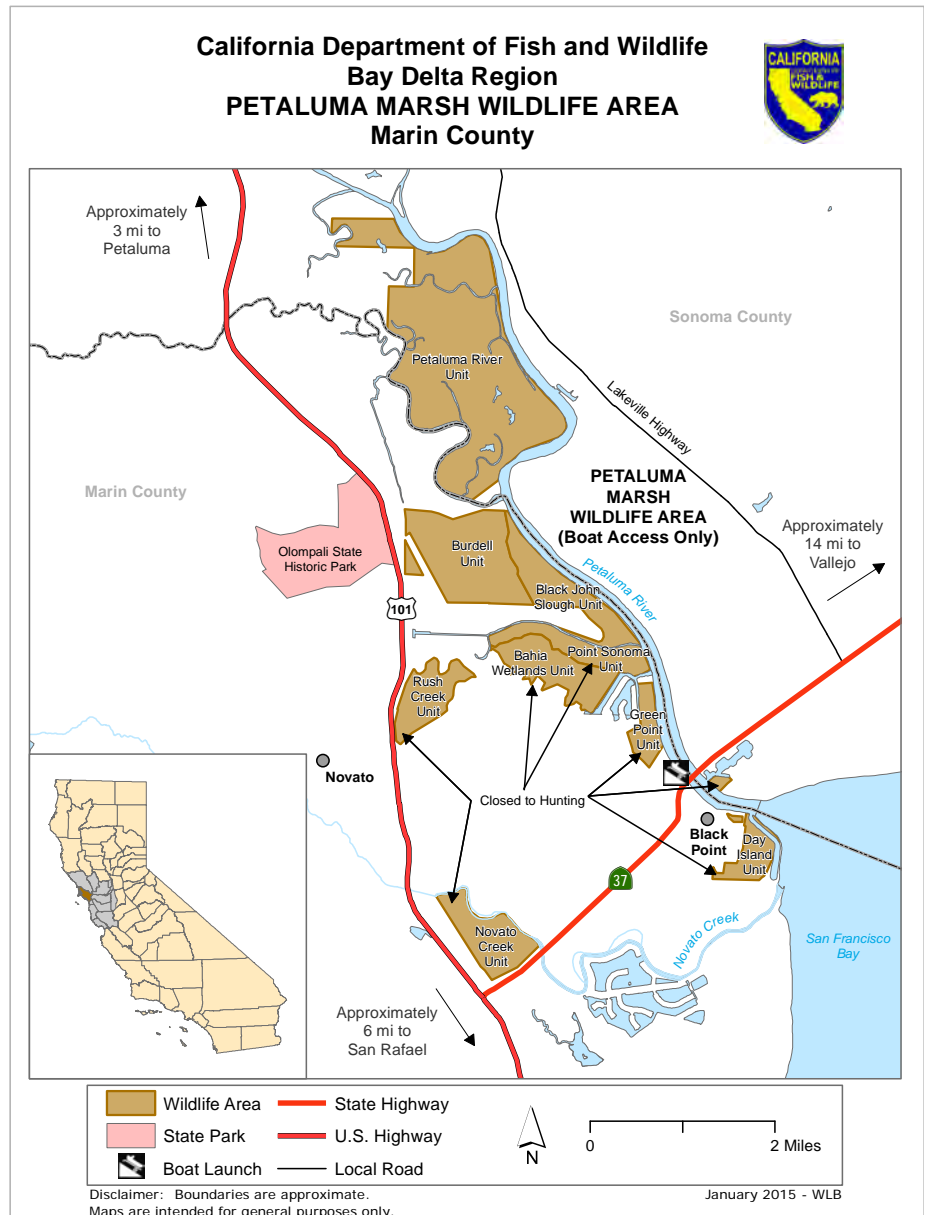
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Francisco Estuary Institute, “The Petaluma River Wildlife Area (PRWA) consists of a variety of discontinuous parcels of tidal marshlands of different ages and physiography along the western side of the Petaluma River, totaling 4,191 acres.” (See map).

The Petaluma River Unit, at the northern end, is the largest and least disturbed example of ancient tidal marshland in California and includes the only examples of undisturbed high-order tidal marsh drainage systems that were historically typical of tidal marshland in much of the region. Habitats include tidal salt marsh, mudflats, brackish marsh, coastal oak woodlands, and coastal scrub habitats. Marsh areas support pickleweed, cordgrass, alkali bulrush, and saltgrass. The upland habitat supports deer, raccoons, jackrabbits, and foxes, among others. Migratory bird species use the area most heavily during the fall and winter months, but many can be found year round.



MCL welcomes your suggestions for future Walks—call us at 415.485.6257 or email us at mcl@marinconservationleague.org.

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Join Marin’s most effective advocate for Marin’s natural places and receive advance notice of Walks Into (Conservation) History, reduced prices on our Business-Environment Breakfasts, invitations to our summer picnic and holiday party, our bi-monthly Newsletter and advance notice and analysis of pending issues that affect Marin County. Memberships start at only \$35 per year.

Join at marinconservationleague.org.

MCL Walks into Conservation History

Permanent protection of land does not happen easily; every piece of parkland and open space that the public can now enjoy in Marin came at a price in human effort and persistence as well as in funds from many different sources.

To commemorate its 75th Anniversary in 2009, Marin Conservation League initiated a series of Walks into the park and open space lands that have come to define almost 50 percent of Marin's landscape. This year is MCL's 81st anniversary, and we continue to commemorate the visionaries who recognized many decades ago that Marin's significant natural lands and waters and cultural heritage would not survive for future generations unless they were permanently protected.

Since its founding in 1934, MCL, working with many other organizations and thousands of individuals, has played a significant role in many of these stories. The Walks have been generously funded by the following, who donated to MCL's History Book Fund in 2009:

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Notes