

A number of other **large-scale bay access issues** arose in the process of researching and recommending projects around the bay. It was generally beyond the scope of this project to delve into details on these issues, but they are addressed here to the extent possible with the main goal of *starting some dialogue*.

VIA EUREKA WATERFRONT

Because most human **bayshore activity** and concentrated potential for improved public access occurs on the Eureka waterfront, the following section is dedicated to bay access improvements in the ‘Victorian Seaport’. A team of local architects – Kash Boodjeh and Martha Jain – helped take a landscape-view look at the Eureka waterfront and applied their training in urban planning to suggest bay access and re-development improvements as they relate to the waterfront and how people access it by auto, by foot or by pedal and as they relate to how the waterfront ‘feels’ to visitors.

All of the proposed bay access improvements discussed below are presented with a focus on creating a **‘vibrant’** waterfront environment that attracts the public, feels safe, and provides for a diversity of uses and experiences – they are also very **conceptual** and need more detailed research. Illustrations are provided in the form of modified aerial photographs and artistic sketches in this section of the *Study* or are referenced in other parts of the document.

Regarding **City policy** for bay trails, the 2001-2006 Capital Improvement Program lists the ‘Humboldt Bay Trail System’ as a priority project (as well as many other pedestrian and bicycle improvements).

VIA1 EUREKA SLOUGH

A northern **gateway and waterfront revitalization** effort is suggested along the Eureka Slough, upstream and downstream of US 101 as a component of a waterfront access system (Figures VI-1 and VI-2). This entry to the City ‘sets the stage’ for the interaction between bay and town. Redevelopment of the former Montgomery Wards site is currently in the planning stages, and ideas for development of a waterfront trail in this area are presented in **Section IVC2**. Ideas for redevelopment of this site include:

- Building **setback** from the bayshore;
- Building design to reflect the **Victorian nature** of the city (preferably not a ‘big-box’ look) and highlight the views of the bay



The evolving waterfront of a ‘Victorian Seaport’.

The City shall establish a coordinated, continuous public access system throughout its coastal zone, consisting of pedestrian walkways, nature walks and bikeways with necessary support facilities...

– 1997 Eureka General Plan



The former Montgomery Wards site could be redeveloped to serve as a northern ‘gateway’ to Eureka and waterfront access.



A bicycle and pedestrian bridge over the Eureka Slough is proposed as part of a non-motorized route between Eureka and Arcata.



The existing piece of Eureka’s waterfront trail ends just west of Blue Ox Millworks and the Eureka Slough.

- and Carson Mansion;
- ‘Gateway’ landscaping appropriate to match the scale of US 101 and proposed site development;
- Development of a **multi-use trail**, extensive landscaping, and day use amenities along the waterfront; and,
- Relocation of the **public boat ramp** to the northern corner of the parcel (or, depending on building design, where it remains accessible by vehicles).

South of US 101 is a parcel recently purchased and partially redeveloped by **Humboldt Bank**. Ideas for further development of this parcel include a waterfront trail (connecting under the US 101 bridge to the former Ward’s site developments, above, and up into McFarlan Gulch, **Section IVC1**) and gateway landscaping. If the existing trailer park is replaced, other site development ideas could include condominium-style residential development, mixed commercial use, and open space that front on or highlight the proximity of the slough and bay.

A suspension or cable stay **bridge** over Eureka Slough for non-motorized travel could connect the city with a proposed bike/multi-use path from Arcata (**Section III E**). An elaborate version of such a bridge will soon be constructed over the Sacramento River in Redding (www.turtlebay.org/new/bridge/index). Such a bridge would not only provide an important enhancement to non-motorized access and travel between the region’s two largest cities and along the bay, but would also provide an attractive element to the city’s northern gateway. If the Northwestern Pacific Railroad bridge over Eureka Slough is retrofitted or otherwise modified to accommodate a ped/bike bridge, the design should be researched in conjunction with development of a Eureka-Arcata ped/bike path. Impacts associated with separate bridge construction would be significant, however.

Blue Ox Millworks plans to develop a ‘Victorian Village’ on the current millworks site and adjacent parcels (SHN, 1998). The existing site concept is for a clustered village to house renovated historic structures that function as separate centers for various handcraft and artisan works of that era. A modified proposal for Blue Ox layout is provided in **Figure VI-3**, where the traditional Victorian grid-style street network is continued from the existing city fabric into the millworks site. This site design would also provide enough bayshore open space for some tidal marsh restoration and footpath development north of the millworks site, where the elevation is higher (from previous fill placement) and views of Arcata Bay and coastal mountains are spectacular.

VIA2 SAMOA BRIDGE AND CARSON MILL SITE

Considerations for improving pedestrian and bicycle travel via the three **Samoa bridges** are proposed in [Section IVA1](#). Modification of or addition to the southeasternmost bridge – especially if such improvements could be linked to the waterfront trail – would provide an excellent route between Old Town and the (nearby but relatively inaccessible by foot) Woodley Island Marina.

A **Humboldt Bay Interpretive Center** could serve both visitors and locals at the convenient waterfront location of the Carson Mill site ([Section VIB](#) and [Figure VI-3](#)). After completion of the *Carson Mill Site Reuse Study* (Planwest, 2001), the City determined it would not act on redevelopment opportunities at the site in the near future due to immediate focus on other areas of the waterfront.

An important aspect of redevelopment in this area is **street configuration** and traffic flow – not only for vehicles, but for bicycles and pedestrians, as well. Waterfront Drive ends at the foot of T Street, just east of the southeasternmost Samoa Bridge, and also is disconnected from the rest of First Street and Waterfront Drive by a two-block segment being planned by the City ([Section IVC4](#)).

VIA3 CARSON MANSION TO THE EUREKA MARINA

Between the Carson Mansion and the Eureka Marina, conditions are excellent for splitting a **pedestrian route** into two types of experiences: one along the bayside (such as the boardwalk and further extension of it), and one route along Second Street on existing and improved (recommended six-foot minimum width) sidewalks. Creation of a cohesive urban ‘loop’ pedestrian route would provide Old Town walkers with access to the rich variety of vistas and experiences offered: bay, marina, architecture, shops, fishing industry, public facilities, and open space.

A proposed eastern link between the bayside and sidewalk routes is a pedestrian/bike **overpass** between two popular downtown/waterfront destinations: the foot of M Street at the Carson Mansion and the Carson Mill site below ([Figure VI-4](#)). The two routes could rejoin on the western end at the foot of C Street. A signed bicycle ‘route’ could be provided along First Street, since traffic is relatively calm, that would transition to a bike/ped path along Waterfront Drive ([Section IIIF](#)). For any new sidewalk development, Portland’s *Pedestrian Design Guide* (1998) provides excellent sidewalk design guidelines.

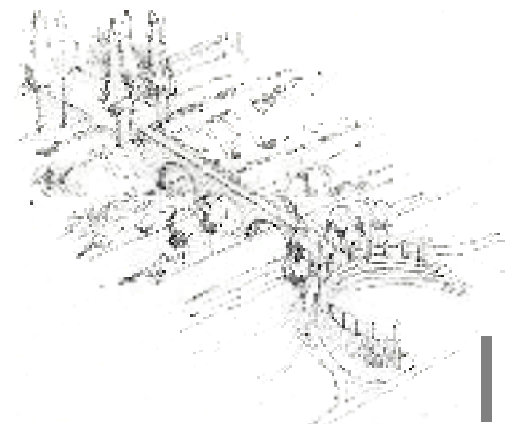
This pedestrian loop route could be marked either with special (small) **signs** along the route, or with markers periodically set in the sidewalk or path (such as those in downtown San Francisco).



A study of alternatives for redevelopment of the Carson Mill Site was recently completed.



Development of sidewalks along Second Street will add to the allure of Old Town and the Carson Mansion.



Development of an overpass would enhance the pedestrian environment along the waterfront.

One component of many ‘inviting’ waterfront environs is **public art**. The Fisherman’s Memorial on Woodley Island at the foot of G Street is one local example. More public art integrated into the street environment – in sidewalks, on buildings, light poles, bike racks, in open spaces – would be welcomed by all. The thriving Humboldt County art community could be invited to participate in sculpture competitions, where public art could be displayed with the option for a benefactor to purchase art for permanent display.



Olympia, Washington’s waterfront, is teeming with public art.

Another popular bay access opportunity is the **Madaket** – the oldest commercial passenger craft in the United States. This boat that provides 75-minute tours of the bay was once a ferry for workers headed from Eureka across Humboldt Bay to Samoa. The Madaket could provide increased ferry services in lieu of improvements to the Samoa Bridges.

Many proposals have been floated for the ‘**balloon tract**’, opposite the Eureka Marina on Waterfront Drive. The illustration in [Figure VI-4](#) suggests yet another idea – again, very general in nature – that incorporates mixed commercial use, slough restoration and open space. The northern edge of the ‘balloon tract’, at the foot of Second Street, is a site of particular interest. At this location, there are views of the Carson Mansion, Wharfinger Marina Building and bay, and of the bustling activity of US 101. Open space development is recommended for this site to preserve and enhance access to these views. A street network that connects with US 101 and the waterfront is recommended – most travelers, local or otherwise, have no idea how close to the bay they are at the junction between Broadway and 4th/5th Streets.

Another component of the ‘balloon tract’ area recommendation is to reconstruct the **historic rail station** building as an intermodal transit center on its former site adjacent to the balloon tract, as is proposed by the Northern Counties Logging Interpretive Association. This center could become a waterfront site of bustling activity. Intermodal centers across the United States are beginning to include many aspects that make them ‘vibrant’ centerpieces of communities ([Section VIII A2](#)).



The Del Norte Pier and nearby Eureka Marsh are underutilized bay access facilities.

VIA4 EUREKA MARSH TO ELK RIVER (CITY) WILDLIFE AREA

The Del Norte Pier and Eureka (formerly ‘Palco’) Marsh are **underutilized** bay access resources. Many people don’t know about these sites, and many that do feel uncomfortable there. Signage from US 101 and some level of redevelopment of the area could help to increase visitor knowledge of and ‘comfort’ with the area. Recommendations for this area include development of mixed commercial use at the foot of Del Norte Street ([Figure VI-5](#)) including businesses

that will attract people at many hours of the day. A sense of ‘vibrancy’ is particularly needed in this area, and continuing south, to help the public feel safe and welcomed to this part of the waterfront.

One important bay access issue for Eureka is the ‘mental and physical barrier’ posed by Broadway/US 101 – situated squarely between Eureka’s western neighborhoods and the bay. Vigo Street would be a suitable bay-elevation site for a ped/bike overpass across Broadway/US 101 to provide safe and easy access from the neighborhoods to the bay (Figure VI-5). Such a site and structure would have to be researched in more depth to determine suitability of placement on the bluff above, considering geologic stability and neighborhood placement. Other potential sites for pedestrian overpasses include Del Norte Street, Truesdale Avenue, and Henderson Street. If the Henderson Street intersection is redesigned, this consideration should be included in project studies.

One of Eureka’s highest waterfront **access priorities** is the connection of the Eureka Marsh and Elk River Wildlife Area (and existing associated trail segments). Refer to Section IVC6 for a more detailed discussion of this area.

The large numbers of people who visit the **Bayshore Mall** on a daily basis should be provided with access to the bay, immediately adjacent to the popular shopping destination. Though the mall is physically close to the bay and the City owns parcels to the west and north, there is no bay access currently provided. Original agreements from the purchase of these parcels state that access will be provided. Sections IVC5 and IVC6 provide more specific recommendations for access improvements in this area.

One opportunity might be to develop a **physical connection** between the mall and the bay. Figure VI-5 illustrates a ‘pathway’ connection through the mall to the bay. This could be accomplished by a combination of signage and landscaped pedestrian routes. At the very least, signed public access, with appropriate access control structures, lighting, and other improvements, should be improved from the mall parking lot to the Eureka Marsh and to and around Parcel 4.

Behind the mall is ‘**Parcel 4**’, an undeveloped bay-front parcel on which the City would like to develop waterfront commercial activity. It is suggested that, whatever waterfront-dependent development occurs on this site, that it be compatible with and developed to facilitate public access. Depending on the type of development, this site could feel more comfortable to the public, as most who visit the area now note that they feel unsafe there. If it is developed, the railroad corridor will need to be crossed by commercial/auto traffic, and non-motorized access could be planned at the same time.

OPPORTUNITIES



The Eureka Marsh is situated between two of Eureka’s waterfront shopping centers: Old Town and the Bayshore Mall.



Existing trails north of the Bayshore Mall are little known.



‘Parcel 4’ behind the Bayshore Mall is a little known site for potential bay access improvements.

There is an opportunity to develop a segment of **bluff-top** trail from Wabash Avenue to the Ocean View Cemetary that affords views of the bay. Fort Humboldt and the Ocean View Cemetery have bluff-top properties that could potentially allow trail development and further bay access. The bluff-top of Fairfield Street has opportunities for resting parks, vista benches and bike lanes.

Section IIIA outlines a **proposal** for trail, trailhead and streetscape improvements to the Truesdale Vista Point and Elk River Wildlife Area trailhead areas. This proposed trail should ultimately connect to the south as a further extension of the California Coastal Trail. It may be necessary for the trail to cross the railroad corridor, in which case more research is needed regarding a pedestrian crossing of the railroad. Given that the railroad corridor between Eureka and King Salmon is being undermined and/or buried by surf action, it is recommended that the railroad corridor be relocated slightly to the east and the trail be developed on the existing right-of-way, combined with effective erosion control (**Section IVD1**). Also, the existing Elk River railroad bridge does not likely meet seismic standards – and if it needs to be replaced or upgraded, a trail bridge or cantilever design should be included in that retrofit.



A Humboldt Bay Interpretive Center could house wildlife exhibits, like this popular exhibit of injured shorebirds at Monterey Bay Aquarium.

VIB HUMBOLDT BAY INTERPRETIVE CENTER

With so much attention to improving access to and **education** about Humboldt Bay, the concept of a new bay-wide interpretive center could not be overlooked.

VIB1 EXISTING INTERPRETIVE FACILITIES

Two **small existing interpretive centers** on the north and south ends of Humboldt Bay serve a limited number of locals and visitors. At the north end, the Arcata Marsh & Wildlife Sanctuary center focuses on marsh ecology and avian populations and acts as a base for docent-led tours and informational lectures. The new Humboldt National Wildlife Refuge center southwest of College of the Redwoods will serve mostly as an office and visitor rest facility with some interpretation of avian populations and slough ecology.

VIB2 A NEW INTERPRETIVE CENTER

A larger, **bay-focused** interpretive center could be complimentary to the two established centers and focus particularly on bay and estuary ecology; cultural and natural history of the region; commercial uses of the bay; local watershed restoration activities; watershed research

and monitoring; and house shorebird and aquarium exhibits. Such a centrally-located interpretive center could also serve as a information clearinghouse, where visitors could not only learn about regional recreation opportunities, but also book trips or make reservations on site.

The central bay location, status as the north coast's population center, and accessibility for both locals and visitors make **Eureka** a preferred location for such a facility. Several sites in Eureka were considered: two sites near Eureka's Elk River Wildlife Area — Pound Road and the parcel north of the wastewater treatment facility; a City-owned parcel southwest of the Eureka Marina; the 'balloon tract'; and the Carson Mill site.

The **Carson Mill Park** is recommended as a preferred site for an interpretive center because it is:

- **Adjacent to the bay** and bay-front open space;
- At the **junction** of two state highways;
- Close to downtown and **Old Town**; and,
- Adjacent to other **public facilities and attractions**, such as Adorni Center, County Library, proposed boating safety center, and Woodley Island Marina.

A secondary site choice would be near the **Eureka Marina**, with site similar characteristics and proximity to more Eureka neighborhoods, but farther from other public facilities and the highways. In the interim, the downstairs portion of the Wharfinger Building on this site is going unused, and could serve as a small interpretive facility if its location was well publicized. This size of a facility would not be large enough to provide significant additional interpretive services.

Arcata-based consulting firm Planwest evaluated multiple possibilities for **redevelopment** of the Carson Mill site, including the concept of a waterfront interpretive center. Planwest developed an idea for the proposed interpretive center that could be a multi-purpose facility providing information about a variety of unique local interests. The City determined, however, that with other waterfront redevelopment in the works, projects on this site would not receive priority in the near future.

VIB3 NATIONAL ESTUARINE RESEARCH RESERVES

There is **potential** for Humboldt Bay to participate in the National Estuarine Research Reserves (NERR) System, administered by the National Oceanic and Atmospheric Administration. According to their website (www.ocrm.nos.noaa.gov/nerr):



Interpretive center displays, like this one in the Elkhorn Slough Interpretive Center, could cover a range of topics about Humboldt Bay.



Educational programs are an important part of the South Slough NERR in Coos Bay, Oregon.

The NERR system protects more than one million acres of estuarine habitat, conducts essential research and provides a variety of educational opportunities... Each reserve is a “living laboratory” in which scientists conduct research and educators communicate research results. Reserve staff members work with local communities and regional groups to address natural resource management issues, such as nonpoint source pollution, habitat restoration and invasive species. Through integrated research and education, the reserves help communities develop strategies to deal successfully with these coastal resource issues.

There are currently 25 reserves in the NERR System, of which only four are located on the west coast. The closest NERR to Humboldt Bay is the **South Slough Reserve** on Coos Bay, in Charleston, Oregon. Coos Bay is a similar environment to Humboldt Bay ecologically and commercially, and has an established, successful NERR and interpretive facility (www.southsloughestuary.com). The South Slough Reserve contains 4,770 acres of upland forests, freshwater wetlands and ponds, salt marshes, tidal floats, eelgrass meadows and open water habitats. Major activities at the reserve include wetland restoration efforts, ecological research and monitoring (such as the International Brant Monitoring Program), as well as K-12 and adult education. Educational programs focus on school age children, interested members of the general public, university students and researchers, and policy makers (such as elected officials and regulatory agencies involved in coastal decision-making).



The South Slough NERR manages the International Brant Monitoring Program.

The South Slough Reserve has a **visitor center** with office space, a meeting room and a small exhibit space. The reserve maintains trails and boat facilities. Padilla Bay, Washington, is another example of a NERR with a strong focus on interpretation and education (inlet.geol.sc.edu/PDB/home.html).

The NERR program offers **planning, research, acquisition and restoration grants**. If Humboldt Bay was established as a NERR, the interpretive facility and research center could be established at the Carson Mill Site. The interpretive facility would provide a hub for the Humboldt Bay trails system and act as a draw for visitors, research fellows, and locals. The research arm of the NERR could be designed in collaboration with HSU and provide much-needed research support.

VIC CAMPING ON HUMBOLDT BAY

Many visitors traveling through or staying in the Humboldt Bay area are camping along their journey, but have little in the way of opportunity to **pitch a tent** in the bay region. The few small campgrounds around Humboldt Bay are not well-developed for tent camping and two of them are not easily found by travelers.

Existing campgrounds – a KOA Campground on US 101 between Eureka and Arcata, a County Park on the Samoa Peninsula, and a small community park in Manila – generally serve RVs and do not offer satisfying experiences for the tent camper. The nearest tent-friendly campgrounds are in State Parks along the Van Deuzen River and Avenue of the Giants to the south and at Clam Beach County Park and Redwood National and State Parks to the north.

Two **existing campsites with the greatest potential** for campground improvements are the Samoa County Boat Ramp on the Samoa Peninsula and Manila Community Park. These sites offer bay views and are managed by the County and Manila Community Services District, respectively. There are a few other sites that may have potential for new campground development.

VIC1 SAMOA BOAT RAMP COUNTY PARK

This County Park consists of a large, paved parking lot with a boat ramp, restrooms, trash receptacles and a few picnic/barbeque sites. Camping occurs around the **perimeter of the parking lot**, which is not a very attractive or comfortable camping environment. A permit fee system is currently in use and a campground host lives onsite. Availability of this site for camping is little known to either visitors or locals.

In addition to serving recreational motorboats and fishing boats, this site also serves **paddlers** and is a recommended site for improvement as a ‘water trail’ facility in [Section IIID4.1](#).

A portion of the paved area could be removed to **create campsites** and a small day-use picnicking area interspersed with native dune landscaping. Buffering the camping area from wind (such as with myrtle or shore pine plantings) should be considered in any site improvements. A kiosk – and potentially interpretive signing – could also enhance attractiveness of the site ([Section IIIC](#)).

References to the improved campground should be included in **regional visitor publications** and maps as well as on roadway directional signs ([Section IIIC1](#)).

VIC2 MANILA COMMUNITY PARK & COMMUNITY CENTER

There are **two sites** suitable for campsite development in the Manila area. The Manila Community Services District (MCSD) currently owns and manages both sites.

The Community Park is **adjacent to the bay** just east of SR 255, and



The Samoa Boat Ramp County Park currently provides camping but could be significantly improved.



Manila Community Park also currently provides minimal camping facilities that could potentially be expanded.

affords excellent vistas and birdwatching opportunities (Section IIID4). The park maintains a few sites for RV camping on the north-west end. These sites are partially paved and adjacent to a parking lot and mowed field, offering little privacy for tent campers. There is an onsite host, bathrooms and picnic area associated with the community park. The campsite area is just steps away from the bay, but is virtually unused and unknown to tourists and locals.

It is recommended that the existing sites be **converted to tent sites**. The current RV driveways could simply be used as parking for tent sites. Installation of tent pads away from the parking would define a new camping area and raise sites off the ground to combat moisture problems during the winter months. Native plantings, similar to restoration already completed at the park, could be interspersed with tent sites to create privacy and visual appeal.

Addition of roadway directional signs, a kiosk at the park entrance, and interpretive signs along the bay would also enhance **visitor attraction** and knowledge of the site (Section IIIC). Potentials for paddle boat improvements at this park are described in Section IVA2.

VIC3 OTHER SITE CONSIDERTIONS

The following sites were considered for campground development, but are not recommended or need further research:

- The MCSD may develop a **group campsite** adjacent to the Manila Community Center and the Community Beach and Dunes trail system, west of SR 255. Large groups could have the potential to impact sensitive dune habitat if not controlled properly. Appropriate signing and interpretive information could help to raise awareness and limit impacts (Section IIIC). In addition, to impact concerns there are issues of desirability of the site in general. In the summer months there has been reports of mosquito problems, making the site a less desirable spot to enjoy bay resources.
- **BLM's former Mad River Slough and Dunes Area** - This area offers great coastal access but little opportunity for peaceful overnight visitation. In addition to the uneven, rolling topography that would make development difficult, the site is also adjacent to a number of potentially incompatible uses such as the gun club and buggy club.
- **City of Arcata** - The City has recognized the desire for tent camping close to Arcata and the bay. A number of possibilities have been researched, however issues regarding transient use of the area have been raised as a concern with development of a dedicated campground.

- **Eureka's Elk River Wildlife Area** - The Elk River area provides excellent opportunities for bay viewing, however the site is inappropriate for development of overnight use due to conflicts and general incompatibility with the existing wastewater treatment facility and nearby industrial uses.
- **Field's Landing** - In this area, opportunities are limited. One potential site, the Harbor District parcel/Sterret site ([Section IVD3](#)), is close to the freeway and offers little potential for development of peaceful overnight accommodations.
- **HBNWR** - Camping at the Refuge was briefly considered, but is out of the scope of Refuge objectives.
- **South Spit** - Management of this area is soon to change. The spit could offer an excellent opportunity for a new campground site, which should be explored during the development of a management plan for the area ([Section VD8](#)).

VIC4 A HOSTEL ON THE BAY

Though the region is an **international traveling destination**, the Humboldt Bay area is currently lacking a hostel facility. The Wilson Creek Hostel, near the mouth of the Klamath River, is the nearest hostel and receives a great deal of use throughout the year.

Hostels serve **travelers of all ages and nationalities**, and provide lodging for those who might otherwise not stop over in the area due to a lack of affordable overnight options. Hostels also typically provide a clearinghouse of activity information for patrons.

Eureka and/or Arcata should have *at least* one hostel between them. Other areas around the bay that have in recent years considered for hostel development are Manila and the Table Bluff lighthouse complex.

VID HUMBOLDT BAY GUIDEBOOK

Modeled after the State Coastal Conservancy's *San Francisco Bay Shoreline Guide*, a Humboldt Bay Public Access Guidebook could be a comprehensive, **user-friendly guide** to public access opportunities, natural and cultural history of Humboldt Bay. It could highlight attractions and access points around the bay, while also providing a clear historical account of the landscape and its inhabitants.

The guidebook could be an **interpretive tool** for residents and visitors who want to explore and understand the rich diversity and access opportunities of the bay. Colorful stories and descriptions of

culture, geographic influences, weather patterns and wildlife would bring additional meaning to the bay. The guide could identify historical points of interest or where folks could enjoy a leisurely walk along the shoreline. It could suggest specific routes of travel and recommend areas for picnicking, wildlife viewing and other recreational activities.

Ideally, the guidebook could contain a separate, foldable **map** (or maps) of the bay, noting such features as public facilities, trailheads, points of interest, tidal information and natural/cultural landmarks. It would highlight the California Coastal Trail and other trail systems within the region, and would identify recommended urban walking routes, bike lanes and water trail locations.

With **little interpretive information currently available** to the public about the bay, a guidebook would be a resource for locals and visitors to use and enjoy. Humboldt Bay would no longer be just a view from the car – it would be an information-rich place that many more people will come to know and love.



Concerns about impacts from dogs on coastal habitat are growing.

VIE DOG PARKS

At first mention, this concept often meets with a chuckle – most are either unfamiliar with the concept or feel that these special **places for dogs to roam free** are only needed in metropolitan areas. However, with increasing pressure on Humboldt County land managers to both protect coastal habitat *and* provide for recreation, dog impacts on coastal resources are becoming more of an issue.

‘Dog parks’ are becoming **very popular** in other California communities. There are apparently a range of types and sizes, however they all provide a dog-friendly recreation environment. One popular dog park that receives very heavy use in Golden Gate Park is approximately 100m x 100m, fenced to 3 or 4’ high, and has a water faucet. [Section IIIA2](#) recommends a potential dog park site near Eureka’s Elk River Wildlife Area.

Further research is needed about planning dog parks, but several dog parks should potentially be developed in the region. The communities of Eureka and Arcata should each have a dog park accessible to community members on foot. One or more should be located near ocean beaches (perhaps on the Samoa peninsula) as an alternative for beachgoers.

VIF A BAY RIDGE TRAIL SYSTEM

The majority of the forested ridges surrounding Humboldt Bay are **privately owned** by two local forest product companies, the Pacific Lumber Company (PALCO) and Simpson Timber Company. Other than the heavily-used Arcata Community Forest, and limited public access to the BLM Headwaters Forest Reserve, few opportunities exist for public access to the forested ridgeline behind the north coast's population center around Humboldt Bay. Further, there is a strong desire to access these areas by locals and visitors because these ridges are in the summer "sun belt".

During the public scoping process for the **Headwaters Forest Reserve** Management Plan completed in the summer of 2000, there was substantial input that the public would like increased long-distance trail access along the ridgeline behind Eureka. The input suggested that the Headwaters Reserve should somehow be included in the trail system, linking public and private lands to create a ridge top trail network.

There is an example of a large-scale ridge trail system in northern California. The **Bay Area Ridge Trail** is a visionary 400-mile multiple-use trail connecting recreational areas and preserved open space along the ridgelines surrounding San Francisco Bay. Currently, more than half of the trail is complete and in use. More information on the trail system can be viewed on internet at www.ridgetrail.org/trail/descrip.htm.

The **recreational access program** of forest product industry giant Weyerhaeuser Company, was researched. This program allows recreational public access to private forestlands as long as it is compatible with company operations. The program accommodates hiking, picnicking, fishing, running, bicycling, bird-watching, photography, and horseback riding as suitable, depending on location. A permit-fee system is in place for most areas to help deter vandalism, dumping, and other illegal activities, and to cover security costs.

Weyerhaeuser's **comprehensive public access program** is well formulated and could be used as a base development model for future plans within the bay region. More information about this program can be viewed on the internet at www.weyerhaeuser.com/citizenship/landaccess/default.asp.

Currently, neither **PALCO or Simpson Timber Company** have implemented such a program or expressed interest in increasing public access to the ridgeline forestlands. Current laws in California do not limit liability for companies with "open gate policy" as they do in Washington State (Simpson Timber Co., 2001), but there are protections for private landowners who grant trail easements. Both compa-



There is a great deal of public interest in improving access to lands in the "sun belt" above Humboldt Bay, especially by mountain bikers and equestrians.



Recommended design for multi-use trails with paving include an unpaved shoulder for those who don't want a paved surface.

nies have existing programs that allow some public access to road systems with limited permitting. However, local private landholders are likely reluctant to improve public access because of potential risk factors and liability, which include:

- Fire danger;
- Garbage and related impacts at forest access gates;
- Erosion;
- Marijuana cultivation; and,
- Unsafe wildlife contact, such as with mountain lions.

It should also be noted that timber-related **environmental issues** are highly politicized in the region. Although public access opportunities on private timberlands are said to be greater now than in the past, private landowners are generally not inclined to increase access and scrutiny of land management practices due to community tensions regarding forestry issues.

Public access along the upper reaches of the Humboldt Bay watershed can only be developed with the **consent of the timber companies and other private landowners**. All of the constraints and issues can be dealt with if there is a desire to do so. Liability laws can protect private landowners and permit systems can work. If the timber companies can find a way to fit this in their plans and management, it could provide an excellent stimulus to the local economy and create a linkage to waterfront trail systems of Humboldt Bay.

VIG TRAIL DEVELOPMENT STANDARDS

The following information includes a few trail and trail-related facility design concepts for **local trail planners**, since multiple-use trail design is not yet a commonplace practice in the region. On a state level, it is recommended that **standards** for multiple-use and Coastal Trail construction be developed, so local and regional trail planners have guidelines to work from and so that regulatory and management agencies have a consistent reference to utilize for trail planning.

Since state guidelines or standards have not actually been set for multi-use trails, often trail design will be dictated by those agencies involved in the funding or jurisdiction of trails. Sometimes this situation can result in ‘**overkill**’ designs for multi-use trails, which can unnecessarily increase design time and cost – for instance if an agency is used to operating from standards set for road or highway design.

Anticipated trail users must be a primary consideration in trail design, as noted in the *Final Report* by the Regulatory Negotiation Committee on Accessibility Guidelines for Outdoor-Developed Areas:

Many trails are used as non-motorized transportation facilities. Users



Multiple-use trails can safely be integrated into city street networks, like this one in San Diego.

may include bicyclists and skaters as well as pedestrians. The accessibility guidelines for outdoor-developed areas apply to these trails. However, bicyclists and skaters have design needs which exceed the minimum guidelines for trails. A trail designed only to meet the proposed accessibility guidelines for trails may not be adequate, and possibly hazardous for bicyclists or skaters.

Basically, a multiple-use trail is a ‘human-scaled’ road, and should be designed and planned for as such. More detail is provided in [Section VIG2](#), below, regarding recommended widths and surfaces, however some general ‘**rules-of-thumb**’ apply.

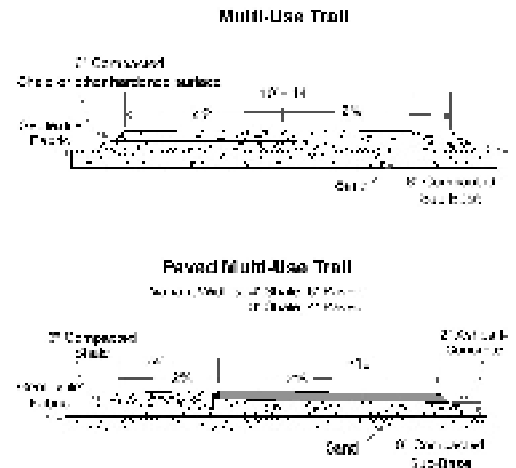
- According to federal bikeway standards (and to facilitate comfortable space for trail interactions), a minimum of 4’ width should be provided in *each direction of travel* – 5’ to 7’ in each direction is preferable if space allows and trail use is expected to be even moderately heavy in the future.
- Appropriate sight-distance and trail curvature guidelines are provided by bikeway standards (but are not the same for footpaths).
- Where a trail gains or loses elevation, ADA standards (see below) permit gradients above 8.33% for short distances. Pullouts and level rest stops can help smooth multiple-use interactions.
- If a trail is to be paved, it is recommended that a 4’ unpaved shoulder (or adjacent path) be provided for walkers or equestrians who do not wish to use a paved surface.
- Access control structures that prevent vehicular access can be tricky: they need to reduce access of vehicles (including motorcycles), but facilitate access of planned trail users (equestrians, bicyclists, and so forth). Any access control structure that is designed to facilitate horse or bicycle access will unfortunately also allow motorcycle access.

VIG1 CURRENT REFERENCES

The California Department of Parks and Recreation, the California Conservation Corps, and College of the Redwoods created a trail design manual in 1991, *Trail Maintenance and Construction Course*, which serves as an excellent guide for wildland trail system development around the state. This manual has limited applicability to community multiple-use trail design, however, particularly when urban or highway design standards are involved.

The Open Space and Trails Program of Pitkin County, Colorado, *Trails Design and Management Handbook*, is widely used by trail builders and managers across the country (the program’s website is www.openspacepitco.com).

The Rails-to-Trails Conservancy recently reprinted the popular *Trails*



Some design components of a recommended typical multi-use trail with a paved and unpaved surface.



Removable ‘bollards’ are a standard way to keep vehicles off of trails but provide for other trail users and emergency vehicle access.

for the 21st Century: Planning, Design and Management Manual for Multi-Use Trails. This book discusses the planning, design and management of trails.

Caltrans' **Bikeway Planning and Design Chapter** of its *Highway Design Manual* is the standard for bike paths and lanes, and can be found on the web at www.dot.ca.gov/hq/oppd/hdm/chapters/t1001.htm.

VIG2 SURFACE AND WIDTH

Commonly, the **first questions** asked during trail planning are “what kind of surface will the trail have and how wide will it be?”

Trail surface type and width should be determined based on expected **trail user groups and use levels**, and what type of surface and width are appropriate for the area. In general, the type of surfacing will encourage use by a particular visitor group: native soil or sand (potentially mixed with some gravel) for hikers and equestrians, crusher fines (see below) for mountain bikes, and pavement for road bikes and in-line skaters. If a walking path is determined to be incompatible for mountain bike and equestrian use and the trail will be signed as such, the trail doesn't need to be built to encourage those uses. Another use-specific consideration is the ‘noise’ or ‘crunch’ created by rough surfaces that can disturb birds – an important issue if birdwatching will be a significant component of trail use.



Many trail managers are beginning to utilize non-petroleum based surfacing -- hardness and cost are similar to asphalt.

Existing **soil type**, drainage issues (below) and climate should also be considered when selecting a surfacing material. Native soils may not be able to withstand minimal impact from hiking only and may require additive hardening materials or some mixture of rock. For trail users to access Humboldt Bay area trails year-round, some sort of surface hardening will likely be necessary to facilitate access and maintain drainage contours longer. Since surface-hardening will allow a broader range of access, if this is not desired, widths, signage and access control structures can be utilized to discourage unwanted user groups.

For instance, the proposed Elk River trail and Waterfront Drive path (Sections IIIA and IIIF) are both on the relatively urban Eureka waterfront, and both are proposed to become segments of the California Coastal Trail, which should accommodate a variety and high volume of use. Both segments are proposed to be, on average, twelve to fourteen feet wide – however, for the natural setting of the Elk River, a natural surface is proposed, and for the urban setting of Waterfront Drive, a paved surface is proposed. If the Coastal Trail becomes more contiguous in the future and is used more as a long-distance route, it may become appropriate to pave the Elk River section in the future, for which the width will already exist.

Surfacing types vary widely, and will depend on the site. Crushed shale (with an appropriate amount of fines) has been a favored surface type for NRS and State Parks in recent years, since it forms a natural but very hard surface – it can be limited in availability, however. There is increasing interest in exploration of alternative, **non-petroleum-based surfaces** where paving is desired. Some options include:

- Resin-based materials that, when used correctly, produce very hard surfaces that blend in with the native soil surface;
- Re-used materials, such as tires or other by-products appropriate for multi-use trail surfaces; and,
- Other porous surfacing mechanisms that facilitate drainage but provide a durable surface.

An **eight-foot wide trail** is just barely enough width for two bicyclists to safely pass each other. A very general preferred design for (single-corridor) multiple-use trails consists of the following elements:

- Fourteen foot width, including ten or twelve feet of hard surface and two to four feet of soft surface for trail users who do not need or want a paved surface (e.g. equestrians and joggers);
- A solid base that prevents future degradation of the surface and reduces the need for long-term maintenance;
- A gently crowned or outsloped surface that provides the appropriate level of drainage for the site and the surfacing type without causing trail use difficulties;
- Proper drainage to ensure long-term stability of the trail surface and minimized habitat degradation; and,
- Enough setback from fences or other structures nearby to avoid creation of a ‘trail tunnel’.

Development of **more than one trail in a given corridor** (such as a paved trail near an unpaved path) should be considered if sufficient width exists. Multiple trails should be signed to indicate appropriate uses. Advantages of multiple trails include:

- Conflict reduction among user groups by separation of equestrians and hikers from in-line skaters or road cyclists;
- Improved management of future trail congestion;
- Improved user experience; and,
- Increased aesthetic appeal.

Disadvantages of multiple trails in one corridor include:

- Potentially higher maintenance costs; and,
- Higher construction costs.

VIG3 AMERICANS WITH DISABILITIES ACT STANDARDS

The Americans with Disabilities Act (ADA) gives civil rights protection to individuals with disabilities. ADA regulation and compliance is **complex**, however bay access facilities are potentially addressed under several of the five “Titles” of the Act including “Title II, Public Services” and “Title III, Public Accommodations and Commercial Facilities”. Under “Title V, Miscellaneous”, the U.S. Access Board is required to issue minimum guidelines for appropriate accessible designs to meet ADA standards. These guidelines are *recommendations* used by the U.S. Department of Justice and the federal and state Departments of Transportation to create *standards* enforceable under the ADA. These ADA Standards for Accessible Design, known as ADAAG, have been completed and accepted for a variety of situations. Specific standards have not yet been adopted for Public Rights-of-Way.

Specific ADA standards have been adopted and incorporated into State Building Codes, so that new buildings and other structures must comply with the ADA. In the case of sidewalks and trails, **no specific standards have been adopted** and construction standards for these features vary widely. This makes designing such improvements difficult, even if meeting the spirit of the Act is the designer’s goal.

Recognizing that full accessibility standards have not been completed, access projects – whether building new facilities or improving existing ones – should adhere to the *spirit of full accessibility* in design and construction. While this may increase costs, accommodating people with disabilities meets the needs of a broad section of the population, including families using strollers, and where appropriate, in-line skaters, skateboarders, and other wheeled users. In particular, fully-accessible trails also serve the large population of elders whose vision, hearing, agility, and mobility may have decreased as well as children who may not be able travel far or judge hazards accurately. A fully-accessible design also helps to ensure a facility’s longevity into the future when use levels will likely increase.

Several **groups** are working to ensure that trails and other non-motorized facilities are developed with full access in mind:

- Beneficial Designs (www.beneficialdesigns.com),
- Whole Access of Redwood City, California (www.wholeaccess.org);
- Accessible Environments, Inc. of Berkeley, California; and,
- Humboldt Access Project of Eureka, California.

A few reference resources include:

- The 1999 Federal Highway Administration’s *Designing Sidewalks and Trails for Access*;
- The 2001 Public Rights-of-Way Access Advisory Committee’s *Building a True Community: Final Report*; and,
- The 1999 Regulatory Negotiation Committee on Accessibility Guidelines for Outdoor-Developed Areas *Final Report*.

VIG4 BRIDGES AND BOARDWALKS

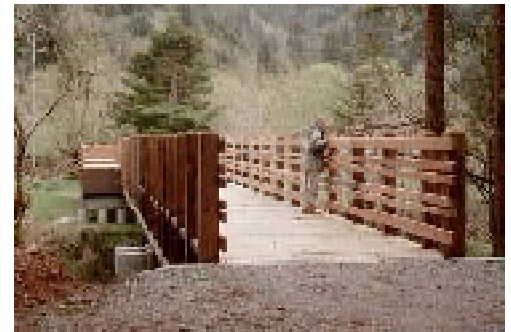
Bridges and boardwalks are **diverse** in type, design, and site-specific design needs. Most trails addressed in this document are multi-use in nature, so most structures may have load-bearing requirements in close alignment with rural road bridge structures (if vehicular maintenance access is necessary). It is recommended that bridges and boardwalks be of adequate width to serve projected future trail traffic, and most should be a minimum of ten feet in width to reduce potential trail user conflicts.

A primary consideration around the bay is that structures will need to be made from **corrosion-resistant materials**. For medium- and large-scale bridges, wood glue-lam, concrete, composite, or other material that does not corrode is recommended. Concrete bridges tend to be bulky and expensive to construct, and wood has a limited lifespan. Composites – essentially fiberglass – are being used by many trail managers because they are pre-made, corrosion resistant, light, strong, low maintenance, attractive, and available on relatively quick timelines. Most composite bridge designs, however, need to be less than 100’ in length (at this time). One website with information about composite building materials is <http://composite.miningco.com/msubappsinf.htm>, and a case study site can be found at <http://composite.miningco.com/library/weekly/aa102797.htm>. Two companies that specialize in pedestrian composite bridges are:

- Strongwell, Hayward, (510) 538-8556 or www.strongwell.com/Special/template.htm; and,
- ET Techtonics, Philadelphia, (800) 854-0957.

A **combination of materials** can be utilized as well: wood or steel substructure with composite materials (such as ‘Trex’) decking for increased longevity. Non-abrasive and non-chemically treated railings and decking should be used to improve safety and reduce pollution.

New technologies in boardwalk construction are helping to reduce impacts associated with construction. ‘Pin’ foundations are designed for low impact, simple to use, removable, and can be maintained



If constructed properly, bridges can accommodate multiple users while adding to the attractiveness of the site.

from above-ground. Information is available online at www.pinfoundations.com.

Bridges and boardwalks should be at least the **same width as the trail corridor** so the flow of trail traffic is not constricted. Consideration should be given to having ‘pullout’ observation area(s) where visitors can linger without creating barriers to through traffic. These sites are also ideal locations for interpretive displays, benches or viewing scopes as scenic overlooks.

VIG5 RAIL-WITH-TRAIL SPECIFICATIONS

Though a common response to the idea of trails in active railroad corridors is one of doubt, currently there are over 60 active rail-with-trails (RWTs) in the US and numerous more in the planning stages. In the FHWA’s 2001 Final Draft of *Rails-with-Trails: Best Practices Report*, findings include:



Thousands of miles of rail-trails exist around the country.

- RWTs ‘are just as safe as other trails’;
- A wide range of successful designs exist;
- About one third of trail managers believe railroad officials are supportive of the RWT; and,
- The vast majority of RWTs are insured through existing government coverage similar to other trails.

Of the 61 rail-with-trails assessed in the *Draft Best Practices Report*:

Over 70 percent (43 trails) of RWTs utilize fencing and other barriers such as vegetation for separation from adjacent active railroads and other properties. Barriers include fencing (34 percent), vegetation (21 percent), grade (16 percent), and drainage ditch (12 percent). The fencing style varies considerably, from chain link to wire, wrought iron, vinyl, steel picket, and wooden rail. The remaining 30 percent of RTWs are separated by an average distance of 6 m (20 ft) from the centerline of the track.

In California, the Public Utilities Commission has set specific minimum setback requirements for any facilities (including trails). These requirements state that the edge of any given structure must be **8.5’ (2.6 m) from the centerline** of an active railroad on a straightaway and 9.5’ (2.9 m) on a curve (FHWA, 2001).

VIG6 OTHER CONSIDERATIONS

VIG6.1 Drainage

Ensuring that a trail is properly drained is probably the most critical design consideration to **maximize trail longevity** and minimize resource degradation. ‘Outboarding’ or ‘crowning’, depending on the site, is always recommended (versus ‘inboarding’ and concentration

of runoff). Getting the water off of the trail as soon as possible reduces concentration and erosive potential.

Standing water on a trail will cause users to avoid the trail and create resource damage along trail edges. Native soil types and the amount of rainfall should be taken into consideration when planning a trail route. High rainfall and poorly drained soils in this climate necessitate consideration of alternative trail routes or construction design with an elevated trail bed that allows groundwater flow beneath. Trail planning should include site visits during rainy weather to ensure an adequate design and proper drainage prescriptions.

Multi-use trails are often built **slightly above an existing surface area** as the result of the addition of sub-base, base, and surfacing materials. This “building up” construction process may require the placement of trail cross-drains and other drainage features. During construction of drainage features, the characteristics of the surrounding upslope and downslope terrain need to be carefully considered to minimize water related impacts: backwater build-up (damming), downslope erosion, and the creation of unintended wetland features.

VIG6.2 Fencing

A fence on one or both sides of a trail is often an important way to ensure that trailgoers (and their stock or dogs) **stay on the trail**. With proper fencing techniques, habitat and adjacent landowner impacts can be avoided. Fences near trails should always be set back as far as possible from the trail and should be as short as possible.

If fencing absolutely needs to be imposing or otherwise high, it should be set back as far as possible and its effect reduced with landscaping. **‘Fence tunnels’** can cause trailgoers to feel ‘trapped’ and can create an ‘alley’ feel – in other words, can create a place where the goal of creating a safe environment can actually backfire. Aesthetic fencing (possibly combined with attractive vine-type plants and other landscaping) can be constructed for landowners with sensitive aesthetic needs.

Fencing materials should be selected by considering **aesthetic appeal and function** simultaneously. The material should also ‘fit’ the surrounding environment. Fencing materials and fence design can include thematic elements like shipping chain, concrete-formed ‘pilings’ or other such materials along a city bayside trail or path.

The need for fencing can often be addressed by planned placement of **hedg**es, native berries, dense native shrubs, and so forth, or by routing trails on hillslopes where egress up or downhill is difficult.



Appropriate fencing can enhance the overall character of a trail corridor.



Type and design of fences can positively or negatively affect the attractiveness of a trail corridor.

VIG6.3 Equestrian Trails

Equestrians need acceptable **width and overhead clearance**, including a minimum of 3' - 4' from trail centerline to fences, vegetation, and possibly other users. Trailgoers on horseback need 10' overhead clearance at all times. Steps should be avoided in general, but if necessary, can be designed to facilitate horse access if step runs are equivalent to half the length of a horse (approximately four- to five-foot runs). Equestrians also need truck and trailer (similar to recreational vehicle) and hitching accommodations in parking lots and water troughs.



Equestrians need special trail design considerations.

VIG6.4 Trail Corridor Layout and Landscaping

When possible, trail routes should follow **mild bends and turns** to reduce the 'straight' road or highway effect. Earthen berms, depressions, placed boulders, and landscape sculptures can be designed into the trail corridor in conjunction with pullouts, rest areas, interpretive displays, and scenic vistas. Vegetation can serve both aesthetics and functional purposes.

Native species should be used for vegetation and landscaping plans, particularly in rural or natural areas. In urbanized areas, ornamental plantings should never include invasive species, such as broom, ivy, pampas grass, heather, and the like. The local chapter of the California Native Plant Society can be consulted if there are questions about use of appropriate vegetation. The need to control invasive plants immediately after trail construction is high for the native plant establishment period, and then, intensive efforts can then be relaxed.

VIG6.5 Additional Amenities

Many **other design considerations** can help trails be even more enjoyable places. Benches placed at regular intervals provide a relaxing stop for the young and old, for picnickers and for birdwatchers. Nature observation stations or blinds help provide educational opportunities that can reduce impacts to wildlife. Bike racks at trailheads allow visitors to cycle to a trail and continue on by foot. These are common amenities that should be included in most trail designs, however different areas often attract particular uses that warrant special consideration of other needs.